



## Electronics Corporation of Tamil Nadu Limited

### Corrigendum

#### Corrigendum No.1 to the Tender Document

Supply, Installation and Commissioning of Microsoft Software, Anti-Virus, Computer Stationery, IT Consumables, Apple Products, Server & related items, Biometric Systems, SSL, Digital Signature certificates, Cisco or Equivalent Products, Linux Products, Information Kiosks, High End Plotters & Scanners, IP Camera, Firewall and Laptop to Government Departments on Rate Contract basis

#### Tender Ref.

**ELCOT/Proc/OT/33450/RC Tender-  
Group B/2021-22**

## Electronics Corporation of Tamil Nadu Limited

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## CORRIGENDUM TO THE TENDER DOCUMENT

The following Corrigendum to the Tender Document is hereby issued:-

S. No	Title of the Clause	Existing Clause	To be read as
1.	Page no. 11 Clause 2 (5) e-Tender Schedule - <b>Tender Fees</b>	Tender Fee of Rs.10,000/- (Rupees Ten Thousand only) plus applicable taxes	Tender Fee of Rs.11,800/- (Rupees Eleven Thousand and Eight Hundred only) inclusive of GST18%
2.	Page No. 11 Clause No. 2 (6) e-tender schedule- <b>Earnest Money Deposit(EMD)</b>	The EMD Amount of Rs. 5,00,000/- (Rupees Ten Lakhs Only) should be paid electronically through the Bidder's respective internet banking enabled account via NEFT / RTGS to the account of ELCOT.	<p>The EMD Amount of <b>Rs. 2,00,000/- (Rupees Two Lakhs Only)</b>for those who are bidding for One categoryor <b>Rs. 5,00,000/- (Rupees Five Lakhs Only)</b> for those who are for Multiple Categories(More than one) should be paid electronically through the Bidder's respective internet banking enabled account via NEFT / RTGS to the account of ELCOT.</p> <p>The bidder seeking EMD exemption for MSME/NSIC/SSI, must submit the valid supporting document for the relevant category. Units having either permanent SSI Registration Certificate prior to implementation of MSMED Act, 2006 or valid Entrepreneurs Memorandum Part-II issued by the Directorate of Industries &amp; Commerce or UdyogAadhar Memorandumare exempted from payment of EMD.</p> <p>The tenders without Earnest Money Deposit or Valid MSME/NSIC/SSI certificate / UdyogAadharfor exemption of EMD will be summarily rejected.</p>
3.	Page No. 8 Letter of Undertaking		Revised Letter of Undertaking format is enclosed.

S. No	Title of the Clause	Existing Clause	To be read as
4.	Page No.17 Clause 4.1 <b>Eligibility</b>	OEM or Authorised distributor / Dealer are only eligible to Bid. OEM should authorize minimum 2 partners (If OEM bids directly then authorising minimum 2partners is not applicable). The term “Bidder” refers to OEM or Authorised distributor/ dealer.	OEM or Authorised distributor / Dealer are only eligible to Bid. The term “Bidder” refers to OEM or Authorised distributor/dealer.
5.	Page No. 17 Clause 4.1 (1) <b>Eligibility- Legal Entity for Bidder / Bidder’s existence in India</b>	The Bidder shall be a Company registered in India under the Indian Companies Act 1956 / Partnership Firm / Sole Proprietorship Firm and existing for atleast past 3 years as on 31.03.2021.  <b><u>Documentary proof to be submitted</u></b> The Bidder shall provide the Certificate of Incorporation for Registered Companies, Partnership Deed for Partnership Firms / GST or Service Tax Registration Certificate for Sole Proprietorship Firms.	The Bidder shall be a Company registered in India under the Indian Companies Act 1956 /Societies Act/ Partnership Firm / Sole Proprietorship Firm and existing for atleast past 3 years as on 31.03.2021.  <b><u>Documentary proof to be submitted</u></b> The Bidder shall provide the Certificate of Incorporation for Registered Companies/ Societies, Partnership Deed for Partnership Firms / GST or Service Tax Registration Certificate for Sole Proprietorship Firms.
6.	Page No. 17 Clause 4.1 (2) <b>Eligibility- Legal Entity for OEM / OEM existence in India</b>	OEM shall be a Company registered in India under the Indian Companies Act 1956 and existing for atleast past 3 years as on 31.03.2021  <b><u>Documentary proof to be submitted</u></b> OEM shall provide the valid Certificate of	The OEM shall be a Company registered in India under the Indian Companies Act 1956 / Partnership Firm / Sole Proprietorship Firm and existing for atleast past 3 years as on 31.03.2021 for all Categories except for <b>B1, B4, B5 &amp; B12.</b>  <b><u>Documentary proof to be submitted</u></b> The OEM shall provide the

S. No	Title of the Clause	Existing Clause	To be read as
		Incorporation.	Certificate of Incorporation for Registered Companies, Partnership Deed for Partnership Firms / GST or Service Tax Registration Certificate for Sole Proprietorship Firms.
7.	Page No. 18 Clause 4.1 (3) Eligibility Criteria - <b>OEM's manufacturing presence in India</b>	<p>The OEM should have their manufacturing facility in India for atleast past 3years.</p> <p>The OEM should have executed a single purchase order of their manufactured product for a minimum value as per S.No.7 of Eligibility Criteria to any Government Department/ Organizations/ PSU's/ Nationalized Banks in India directly or through dealer/distributors on or before 31.03.2021</p>	<p>The OEM's Manufacturing in India is not applicable for the Software related products pertaining to the categories B1, B2, B8, B10.</p> <p>The OEM (except for the categories B4, B5, B6, B7, B9, B12, B13, B14 &amp; B15 in Clause 4.2 Eligibility Criteria Annexure) should have their manufacturing facility in India for atleast past 3years.</p> <p>For the Categories B4, B5, B6, B7, B9, B12, B13, B14&amp; B15in Clause 4.2 – Eligibility Criteria Annexure, OEM or Authorized Dealer of OEM should have a registered office in India to provide after sales service support in Tamil Nadu. <b>The certificate to this effect should be submitted.</b></p> <p>However, the Bidder should comply to General Financial Rules(GFR) and amendments thereon on Restrictions on Public Procurement from countries which share a land border with Indian grounds of defence of India.</p> <p>The OEM should have executed a single purchase order of their manufactured product in compliance with General Financial Rules(GFR) and amendments thereon, for a minimum value as per S.No.7 of Eligibility Criteria to any Government Department/ Organisations/ PSU's/</p>

S. No	Title of the Clause	Existing Clause	To be read as
			Nationalized Banks in India directly or through dealer/distributors on or before 31.03.2021
8.	Page No. 18 Clause 4.1 (5) <b>Eligibility Criteria</b> Existence in the field of IT products supply	The Bidder should have 3 or more years of existence in the field of IT products supply as on 31.03.2021	The Bidder should have 3 or more years of existence in the field of IT products supply as on 31.03.2021 <b>except for the Category B8 SSL, Digital Signature Certificates.</b>  <b>For B8 SSL, Digital Signature Certificates Category,</b> The Bidder should have 1 or more years of existence in the field of IT products supply as on 31.03.2021
9.	Page No. 19 Clause 4.1 (8) <b>Eligibility Criteria - Service Centres</b>	The Bidder should have at least one service centre in each region (North, East, South and West as given in the Tender Document) with a total of minimum 10 service centres in the State. The service centre may be run by Manufacturer or Franchise or authorised distributors/ dealers	The Bidder (except for the Category B4 IT Consumables, B8 SSL, Digital Signature Certificates) should have atleast one service centre in each region (North, East, South and West as given in the Tender Document) with a total of minimum 10 service centres in the State. The service centre may be run by manufacturer or Franchise or authorized distributors/ dealers  <b>For B4 IT Consumables&amp; B8 SSL, Digital Signature Certificates Category,</b> the Bidder should have at least one service centre within Tamil Nadu.
10.	Page No. 20 Clause 4.1(9) <b>Eligibility Criteria – Certification Licenses</b>	OEM should have certified Manufacturing facility. The OEM should have ISO 14001:2015 certified for handling hazardous products and authorised dealer should have ISO9001:2015	OEM should have ISO14001:2015 certified for handling hazardous products and authorised dealer should have ISO9001:2015 <b>except for the Categories B1, B2, B4, B8, B10.</b>  Indian BIS Certification for the mandated products to be submitted.

S. No	Title of the Clause	Existing Clause	To be read as
		<p>Indian BIS Certification for the mandated products to be submitted.</p> <p>For Firewall category the Bidder should possess 27001</p>	<p>For Firewall category the Bidder should possess 27001</p>
11.	<p>Page No. 18 Clause 4.1 (8) Eligibility Criteria - <b>Product Validity</b></p>	<p>The Bidder should submit the brochure for the quoted products.</p> <p>The brochure of the quoted products should be available in OEM website till the validity of this tender or until the issuance of last purchase order for the product vide this tender, whichever happens later.</p>	<p>The Bidder should submit the brochure for the quoted Products <b>(except for the Categories B1, B2, B3, B4, B8 &amp; B10)</b>.</p> <p>The brochure of the quoted products<b>(except for the Categories B1,B2, B3, B4, B8 &amp; B10)</b> should be available in OEM website till the validity of this tender or until the issuance of last purchase order for the product vide this tender, whichever happens later.</p>
12.	<p>Page no. 32 Clause 7.5.3 Price Bid Evaluation</p>	<p>The bidder who becomes lowest for all the main items under each category will be called as L1 bidder for that Category.</p> <p><b>Bidder shall quote for all the items in a Category. Partial bid is not allowed within a Category, whereas Partial bid is allowed between Categories. Bidder shall ensure that they have quoted the CAMC charges as listed in Annexure-2.16 without fail. Failing which the bid is liable for</b></p>	<p>Partial bid is not allowed for the categories B1, B5, B10 &amp; B11. The bidder who becomes lowest for all the items under these categories will be called as L1 bidder for those Categories. However, the bidder should ensure that the prices are quoted for the corresponding accessories relevant to the items quoted.</p> <p>Partial bid is allowed for the categories B2, B3, B4, B6, B7, B8, B9, B12, B13, B14&amp; B15. Bidder shall ensure that they have quoted the CAMC charges as listed in Annexure-2.16 without fail. Failing which the bid is liable for rejection.</p>

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		<p><b>rejection.</b></p> <p><b>Partial Bid is allowed within the category of computer stationery and IT Consumables.</b></p>	
13.	Page no. 41 Clause 9.2 Sample Submission	<p>a) For each item quoted in the Tender, the samples should be submitted to ELCOT at the time of bidding indicating the make, model number and brochures / specification of the items for testing by ELCOT as per Appendix-3 (Sample Submission Form) of the Tender.</p> <p>b) The bidders have to submit the samples at the time of bidding from the date of submission of Bids unless any specific time given by ELCOT in writing.</p> <p>c) If the samples are not delivered within the time limit specified in the Tender, it would be treated as non-responsive to the Tender conditions and the Bid is liable for rejection.</p> <p>d) Technical compliance report for each sample should be given <b>by the bidder and the OEM</b>, by filling up the Hardware compliance sheet provided in the e-tender portal along with the Make and Model.</p>	<p>(a), (b), (c) and (e) – deleted.</p> <p>For categories, <b>B1, B2, B3, B4, and B8&amp; B10 are exempted from Sample Submission clause.</b></p> <p>(d) Technical compliance, General Certification and OS compliance reports for each make and model of the quoted products against each bidding category (<b>B5, B6, B7, B9, B11, B12, B13, B14, B15</b>) should be submitted <b>by the OEM duly signed by authorised person &amp; by the authorised dealer/partner</b>, by filling up the Hardware compliance sheet provided in the e-tender portal along with the Make and Model.</p> <p>e) Sample evaluation is part of technical bid evaluation. The samples need to be submitted by the bidder as and when called for by ELCOT in a short time notice of 2-3 days as per Appendix-3 (Sample Submission Form) of the Tender.</p> <p>f) The brochure submitted by the Bidder should be hosted in the OEMs website and made available till the validity of this tender or until the issuance of last purchase order for the product vide this tender, whichever happens later.</p>

S. No	Title of the Clause	Existing Clause	To be read as
		<p>e) Sample evaluation is part of technical bid evaluation.</p> <p>f) The brochure submitted by the Bidder should be hosted in the OEMs website and made available till the validity of this tender or until the issuance of last purchase order for the product vide this tender, whichever happens later.</p>	<p><b><u>Addition to the Clause 9.2</u></b></p> <p>g) <b>Special Concessions for ELCOT approved products:</b> If the Samples of the tender specification has already been tested and approved by ELCOT in earlier tenders, then the Bidder need not submit those products for sample evaluation. The bidder shall provide the reference of the tender number and test reports.</p> <p>h) ELCOT reserves the right to call for samples again if need arises and to call for any other sample of any other item at any point of time.</p>
14.	<b>Page No. 674</b> Price Bid Annexure 2.16 CAMC for Group B		Category B8 & B10 to be removed.
15.	<b>Page No. 8</b> Letter of Undertaking		Revised Letter of Undertaking format is enclosed.
16.	<b>Page No. 75</b> <b>A1.4 Hardware Compliance</b>	<b>A1.4 Hardware Compliance</b>	<p>A1.4 Hardware Compliance/ Software compliance appropriately</p> <p>For Software items the Make and Model may be read as software product code at all related clauses mentioned in the tender document.</p>
17.	<b>Page No. 144 –</b> <b>A1.5 Bidder Compliance</b>	<b>A1.5 Bidder Compliance</b>	<p>In case if OEM/OSD bids directly then OEM Compliance to be submitted. If OEM/OSD authorised partner bids then both the OEM and Bidder compliance to be submitted.</p> <p>The Bidders offer( Make and Model) should also accompanied with OEM’s offer for the quoted products</p>
18.	<b>Page No. 197 – B5</b> Apple Products –	iPad 10.2” Wifi + Cellular 128GB Storage	Removed



S. No	Title of the Clause	Existing Clause	To be read as
	<b>Item Code : 33450-B5-001</b>		
19.	<b>Page No. 200</b> – B5 Apple Products – <b>Item Code: 33450-B5-004</b>	iPad Pro 12.9” Wifi + Cellular 512GB Storage	Removed
20.	<b>Page No. 615-</b> Item Code : 33450- B5-012	<b>Item Description :</b> Smart Keyboard for iPad (8th generation)	<b>Item Description :</b> Smart Keyboard for iPad (9th generation)
21.	<b>Item Code : 33450-B5-001</b>  iPad 10.2” Wifi 64 GB Storage		New Item is added. <b>Item Code : 33450-B5-001</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B5 – Apple products</b>
22.	<b>Item Code : 33450-B5-004</b>  iPad 10.2” Wifi + Cellular 256 GB Storage		New Item is added. <b>Item Code : 33450-B5-004</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B5 – Apple products</b>
23.	<b>Item Code : 33450-B5-010</b>  iPad Pro 12.9” Wifi + Cellular 128 GB Storage		New Item is added. <b>Item Code : 33450-B5-010</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B5 – Apple products.</b>
24.	<b>Item Code : 33450-B5-011</b>  Mac Book Pro 14” with 512 GB SSD		New Item is added. <b>Item Code : 33450-B5-011</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B5 – Apple products</b>
25.	<b>Item Code : 33450-B5-012</b>  MacBook Pro 16”		New Item is added. <b>Item Code : 33450-B5-012</b> Specification Cum Bidder compliance is enclosed in

S. No	Title of the Clause	Existing Clause	To be read as
	with 512 GB SSD		<b>Annexure-A- Category B5 – Apple products</b>
26.	<b>Item Code : 33450-B5-023</b> Brief - 14” bag		New Add on item is added
27.	<b>Item Code : 33450-B5-024</b> Brief - 16” bag		New Add on item is added
28.	<b>Page no. 208- B6- Server and related items</b> <b>Item Code: 33450-B6-002</b>  <b>Item Description:</b> Tower Server Model : 1	<b>Parameter:</b>  End Of Life & End Of Support  This server should not become End Of Life for another two years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost	<b>Parameter:</b>  End Of Life & End Of Support  This server should not become End Of Life for another three years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost
29.	<b>Page no. 212- B6- Server and related items</b> <b>Item Code: 33450-B6-004</b> <b>Item Description:</b> Rack 1U Model : 1	<b>Parameter:</b>  Raid Controller On board SATA controller which supports RAID: 0/1/5/10 2GB Flash Cache  Hard Disk Drive 3 x 1 TB 6G SATA 7.2K LFF or Higher, Server should also support additional SSD, SAS Drive  System Fans Hotplug fan required	<b>Parameter:</b>  Raid Controller On board SAS/SATA controller which supports RAID: 0/1/5/10 2GB Flash Cache  Hard Disk Drive 3 x 1 TB 6G SATA 7.2K SFF/LFF or Higher, Server should also support additional SSD, SAS Drive".  System Fans Hot/ cold plug fan required

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		Bays 8 bays or higher	Bays 4 Bays incase of LFF / 8 bays incase of SFF or higher
30.	<b>Page no. 214-</b> B6- Server and related items <b>Item Code:</b> 33450- B6-005  <b>Item Description:</b> Rack 2U Model : 1	<b>Parameter:</b>  Raid Controller On board SATA controller which supports RAID: 0/1/5/10 with 2GB RAID Cache  System Fans Hot plug fan required	<b>Parameter:</b>  Raid Controller On board SAS/SATA controller which supports RAID: 0/1/5/10 2GB Flash Cache  System Fans Hot/cold plug fan required.
31.	<b>Page no. 216-</b> B6- Server and related items <b>Item Code:</b> 33450- B6-006  <b>Item Description:</b> Rack 2U Model : 2	<b>Parameter:</b>  Raid Controller On board SATA controller which supports RAID: 0/1/5/10 with 2GB Cache	<b>Parameter:</b>  Raid Controller On board SAS/SATA controller which supports RAID: 0/1/5/10 2GB Flash Cache
32.	<b>Page no. 218-</b> B6- Server and related items <b>Item Code:</b> 33450- B6-007 <b>Item Description:</b> Rack 4U Model:1	<b>Parameter:</b>  Form Factor / Cabinet Type 4U Rack Mountable	<b>Parameter:</b>  Form Factor / Cabinet Type 4U/3U Rack Mountable
33.	<b>Page no. 219-</b> B6- Server and related items <b>Item Code:</b> 33450- B6-008 <b>Item Description:</b> Rack 1U (AMD)	<b>Parameter:</b>  Hard Disk Drive 3 x 1 TB 6G SATA 7.2K LFF or Higher, Server should also support additional SSD, SAS Drive  Bays 8 bays or higher	<b>Parameter:</b>  Hard Disk Drive 3 x 1 TB 6G SATA 7.2K SFF/LFF or Higher, Server should also support additional SSD, SAS Drive  Bays 4 Bays incase of LFF / 8 bays incase of SFF or higher
34.	<b>Page no. 221-</b> B6- Server and related items	<b>Parameter:</b> Processor 1 x EPYC 7252 (8-Core)	<b>Parameter:</b> Processor 1 x EPYC 72F3 (8-Core) processor

S. No	Title of the Clause	Existing Clause	To be read as
	<p><b>Item Code:</b> 33450-B6-009</p> <p><b>Item Description:</b> Rack 2U (AMD)</p>	<p>processor or above, upgradable upto two processors</p> <p>End Of Life &amp; End Of Support This server should not become End Of Life for another two years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost</p>	<p>or above, upgradable upto two processors</p> <p>End Of Life &amp; End Of Support This server should not become End Of Life for another three years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost</p>
35.	<p><b>Page no. 227-</b> B6-Server and related items</p> <p><b>Item Code:</b> 33450-B6-012</p> <p><b>Item Description:</b> High End Server Model:3</p>	<p><b>Parameter:</b> End Of Life &amp; End Of Support</p> <p>This server should not become End Of Life for another two years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost</p>	<p><b>Parameter:</b> End Of Life &amp; End Of Support</p> <p>This server should not become End Of Life for another three years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost</p>
36.	<p><b>Page no. 231-</b> B6-Server and related items</p> <p><b>Item Code:</b> 33450-B6-014</p> <p><b>Item Description:</b> Rack 4U Model:1 - T</p>	<p><b>Parameter:</b> Processor 2 X Intel Gold 5115 (10 Core) Processor or above , upgradable upto Four processors</p> <p>End Of Life &amp; End Of Support</p> <p>This server should not</p>	<p><b>Parameter:</b> Processor 2xIntel® Gold 5215 (10 core) Processor or above Upgradable upto four processors</p> <p>End Of Life &amp; End Of Support</p> <p>This server should not become End</p>

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		become End Of Life for another two years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost	Of Life for another three years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost
37.	<p><b>Page no. 233-</b> B6- Server and related items  <b>Item Code:</b> 33450-B6-015</p> <p><b>Item Description:</b>  Rack 2U Model 2 - T</p>	<p><b>Parameter:</b>  Processor  2xIntel® Gold 5115 (10 core) Processor or above  Upgradable upto two processors</p> <p>Industry Standard Compliance  PCIe3.0 Compliant, PXE Support, USB 3.0 Support</p> <p>End Of Life &amp; End Of Support</p> <p>This server should not become End Of Life for another two years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost</p>	<p><b>Parameter:</b>  Processor  2xIntel® Gold 5215 (10 core) Processor or above  Upgradable upto four processors</p> <p>Industry Standard Compliance  PCIe 3.0 Compliant, PXE Support, USB 2.0/3.0 Support</p> <p>End Of Life &amp; End Of Support</p> <p>This server should not become End Of Life for another three years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost</p>
38.	<p><b>Page no. 235-</b> B6- Server and related items  <b>Item Code:</b> 33450-B6-016</p>	<p><b>Parameter:</b>  Processor  4 X Intel Gold 6148 (20 Core) Processor or above, upgradable upto Four processors</p>	<p><b>Parameter:</b>  Processor  4 X Intel Gold 6248 (20 Core) Processor or above</p>

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	<p><b>Item Description:</b> RACK - 2U- 4 Processor -T</p>	<p>End Of Life &amp; End Of Support</p> <p>This server should not become End Of Life for another two years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost</p>	<p>End Of Life &amp; End Of Support</p> <p>This server should not become End Of Life for another three years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost</p>
39.	<p><b>Page no. 237-</b> B6- Server and related items <b>Item Code:</b> 33450- B6-017 <b>Item Description:</b> Rack 4U Model : 2 - T</p>	<p><b>Parameter:</b> Processor 2 X Intel Gold 6138 (20 Core) Processor or above , upgradable upto Four processors</p> <p>End Of Life &amp; End Of Support</p> <p>This server should not become End Of Life for another two years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost</p>	<p><b>Parameter:</b> Processor 2 X Intel Gold 6230 (20 Core) Processor or above , upgradable upto Four processors</p> <p>End Of Life &amp; End Of Support</p> <p>This server should not become End Of Life for another three years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost</p>
40.	<p><b>Page no. 239-</b> B6- Server and related items <b>Item Code:</b> 33450- B6-018 <b>Item Description:</b></p>	<p><b>Parameter:</b> Processor 1 x Intel® Silver 4110 (8 core) Processor or above, upgradable upto two processors</p>	<p><b>Parameter:</b> Processor 1 X Intel Silver 4208 (8 Core) Processor or above , upgradable upto two processors"</p>

S. No	Title of the Clause	Existing Clause	To be read as
	Rack 2U Model : 1 - AT	<p>Memory 1 x 16 GB DDR4 RDIMM scalable up to 768 GB using RDIMM or 1.5 TB using LRDIMM with 2 Processors. Proposed memory should have ECC support. Selection of RDIMM or LRDIMM is based on customer preference.</p> <p>End Of Life &amp; End Of Support</p> <p>This server should not become End Of Life for another two years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost</p>	<p>Memory 1 x 16 GB DDR4 RDIMM scalable up to 768 GB using RDIMM or 1TB using LRDIMM with 2 Processors. Proposed memory should have ECC support. Selection of RDIMM or LRDIMM is based on customer preference.</p> <p>End Of Life &amp; End Of Support</p> <p>This server should not become End Of Life for another three years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost</p>
41.	<p><b>Page no. 241-</b> B6- Server and related items <b>Item Code:</b> 33450-B6-019</p> <p><b>Item Description:</b> Rack 2U Model : 1 - BT</p>	<p><b>Parameter:</b> Processor 1 x Intel® Silver 4110 (8 core) Processor or above, upgradable upto two processors</p> <p>Memory 2 x 16 GB DDR4 RDIMM scalable up to 768 GB using RDIMM or 1.5 TB using LRDIMM with 2 Processors. Proposed memory should have ECC support. Selection of RDIMM or LRDIMM is based on</p>	<p><b>Parameter:</b> Processor 1 X Intel Silver 4208 (8 Core) Processor or above , upgradable upto two processors"</p> <p>Memory 2 x 16 GB DDR4 RDIMM scalable up to 768 GB using RDIMM or 1 TB using LRDIMM with 2 Processors. Proposed memory should have ECC support. Selection of RDIMM or LRDIMM is based on customer preference.</p>

S. No	Title of the Clause	Existing Clause	To be read as
		customer preference.  End Of Life & End Of Support  This server should not become End Of Life for another two years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost	End Of Life & End Of Support  This server should not become End Of Life for another three years and End Of Support for another seven years from the date of LOA. In case end of support is announced, Equivalent or improved configuration should be provided without any additional cost
42.	<b>Item Code : 33450-B6-020</b>  Desktop Ryzen 5		New Item is added. <b>Item Code : 33450-B6-020</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
43.	<b>Item Code : 33450-B6-021</b>  Desktop Ryzen 7		New Item is added. <b>Item Code : 33450-B6-021</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
44.	<b>Item Code : 33450-B6-022</b>  AMD Core - R3 Mini PC		New Item is added. <b>Item Code : 33450-B6-022</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
45.	<b>Item Code : 33450-B6-023</b>  AMD Core - R5 Mini PC		New Item is added. <b>Item Code : 33450-B6-023</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 –</b>



S. No	Title of the Clause	Existing Clause	To be read as
			<b>server and related items</b>
46.	<b>Item Code : 33450-B6-024</b> Blade chassis shall be 19" rack mountable		New Item is added. <b>Item Code : 33450-B6-024</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
47.	<b>Item Code : 33450-B6-025</b> Storage Blade		New Item is added. <b>Item Code : 33450-B6-025</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
48.	<b>Item Code : 33450-B6-026</b> Half Height Server - 2 CPU		New Item is added. <b>Item Code : 33450-B6-026</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
49.	<b>Item Code : 33450-B6-027</b> Full Height Server - 4 CPU Capable		New Item is added. <b>Item Code : 33450-B6-027</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
50.	<b>Item Code : 33450-B6-028</b> Wireless Access Point indoor		New Item is added. <b>Item Code : 33450-B6-028</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
51.	<b>Item Code : 33450-B6-029</b> Wireless Access Point Outdoor		New Item is added. <b>Item Code : 33450-B6-029</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 –</b>

S. No	Title of the Clause	Existing Clause	To be read as
			<b>server and related items</b>
52.	<b>Item Code : 33450-B6-030</b> Wireless LAN Controller -On premise		New Item is added. <b>Item Code : 33450-B6-030</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
53.	<b>Item Code : 33450-B6-031</b> Dedicated AAA Server Appliance		New Item is added. <b>Item Code : 33450-B6-031</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
54.	<b>Item Code : 33450-B6-032</b> Layer 2 Access Switch (24 Port)		New Item is added. <b>Item Code : 33450-B6-032</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
55.	<b>Item Code : 33450-B6-033</b> Core Switch 24 Port		New Item is added. <b>Item Code : 33450-B6-033</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
56.	<b>Item Code : 33450-B6-034</b> Software defined WAN		New Item is added. <b>Item Code : 33450-B6-034</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A</b>
57.	<b>Item Code : 33450-B6-035</b> WAN Optimizer		New Item is ad- <b>Category B6 – server and related items</b> ded. <b>Item Code : 33450-B6-035</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 –</b>

S. No	Title of the Clause	Existing Clause	To be read as
			<b>server and related items</b>
58.	<b>Item Code : 33450-B6-036</b> TOR (Spine) Switch 12 Port		New Item is added. <b>Item Code : 33450-B6-036</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
59.	<b>Item Code : 33450-B6-037</b> TOR (leaf) Switch 32 Port		New Item is added. <b>Item Code : 33450-B6-037</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
60.	<b>Item Code : 33450-B6-038</b> DC ORCHESTRATOR		New Item is added. <b>Item Code : 33450-B6-038</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B6 – server and related items</b>
61.	<b>Page No.245</b>  <b>Item Code:</b> 33450-B7-002  <b>Item description:</b> Linux based Aadhaar Enabled Biometric Attendance Systems integrated with STQC Certified Finger Print Scanner	<b>Parameter:</b>  Interfaces/Connectors a) 1x RS-232 (RJ45 connector for console/Serial port) b) USB Device -1 c) USB Host-1  Communication Module A) LAN 10/100/1000 BASE-T (Ethernet) B) DUAL SIM CARD with 3G & 4G data support. C) Wi-Fi IEEE 802.11b/g/n Drop Test 3-4 Feet Drop test	<b>Parameter:</b>  Interfaces / Connectors a) 1x RS-232 (RJ45 connector for console/Serial port) b) USB Port(2.0 or above)- 2 nos.  Communication Module A) LAN 10/100/1000 BASE-T (Ethernet)/Wi-Fi IEEE 802.11b/g/n B) DUAL SIM CARD with 3G & 4G data support.

S. No	Title of the Clause	Existing Clause	To be read as
62.	<p><b>Page No.247</b></p> <p><b>Item Code:</b> 33450-B7-003</p> <p><b>Item description:</b> Finger Print Enrolment Device (4+4+2 Fingers) with STQC Certified</p>	<p><b>Parameter:</b></p> <p>Operating System: FED should be compatible with all Operating Systems (Windows and all OS) of the Desktops and all</p> <p><b>Enrolment</b> If the quality of acquired finger print is lesser than 60% of the desired quality , the system should reject the fingerprint. Further , system should allow for a maximum of3 attempts to capture fingerprint, and if still the quality level is lower than the desired , the system should prompt the operator to take manual prints.</p> <p><b>Mandatory Features</b> (i) Capture forensic grade high resolution fingerprints of all ten fingers (ii) Use latest technologies to minimize noise and capture high quality fingerprints (iii) The device should also have default fingerprint reader functionality for querying the FED (iv) FED software for ensuring instant data transfer and interoperability (NAFIS application for ensuring Interoperability and accurate data transfer from FED station to NAFIS via</p>	<p><b>Parameter:</b></p> <p>Operating System: FED should be compatible with Windows &amp; Linux Operating Systems of the Desktops</p> <p>Removed</p> <p><b>Mandatory Features</b> (i) Capture forensic grade high resolution fingerprints of all ten fingers (ii) Use latest technologies to minimize noise and capture high quality fingerprints (iii)The Device should support fingerprint reader functionality when the query is submitted. (iv) Fingerprint live-scan collection to confirm to the specification sets for performance standards on Fingerprint image scanners for resolution, geometric image accuracy, modulation transfer function , signal-to-noise ratio, grayscale range, grayscale linearity , an grayscale uniformity (v) The fingerprint ridge pattern (nail to nail) shall be clearly visible</p>

S. No	Title of the Clause	Existing Clause	To be read as
		state/UT headquarter) (v) Fingerprint live-scan collection to confirm to the specification sets for performance standards on Fingerprint image scanners for resolution, geometric image accuracy, modulation transfer function , signal-to-noise ratio, grayscale range, grayscale linearity , an grayscale uniformity (vi) The fingerprint ridge pattern (nail to nail) shall be clearly visible (smudge-free) with differentiable ridges and valleys for the entire area around the core and delta	(smudge- free) with differentiable ridges and valleys for the entire area around the core and delta
63.	<b>Page No.249</b>  <b>Item Code:</b> 33450-B7-004  <b>Item description:</b> PALM Print Device Specification (Palm and 10 Fingers) with STQC Certified	<b>Parameter:</b>  Certifications FBI IAFIS IQS Appendix-F, IP 54 compliance, FCC, CE, UL, BIS / ISO-60950-1, RoHS  Image Quality FBI IAFIS IQS CTIS-RS-0010(V7) Appendix F certified  Scanner Size Tenderer as specify	<b>Parameter:</b>  Certifications FBI IAFIS IQS Appendix-F, IP 54 compliance, FCC, CE, UL, BIS / ISO-60950-1, RoHS, STQC  Image Quality FBI IAFIS IQS CJIS-RS-0010(V7) Appendix F certified  Scanner Size Active platen area size should capable of capturing different palm sizes
64.	<b>Page No.251</b>  <b>Item Code:</b> 33450-B7-005  <b>Item description:</b>	<b>Parameter:</b>  Active Platen Area 18 * 12.8 MM  Operating Temperature	<b>Parameter:</b>  Active Platen Area 14 * 12.8mm or Higher  Operating Temperature

S. No	Title of the Clause	Existing Clause	To be read as
	Single Fingerprint reader with STQC certified	0 deg to 45 deg	0 deg to 45 deg or better
65.	<p><b>Page No.261</b></p> <p><b>Item Code:</b> 33450-B7-012</p> <p><b>Item description:</b> Linux Based Bio Metric System (Non Aadhaar) - with Face Recognition 500 User</p>	<p><b>Parameter:</b></p> <p>Power Supply 12V: 3A</p>	<p><b>Parameter:</b></p> <p>Power Supply 12V :1.5 A or higher</p>
66.	<p><b>Page No.262</b></p> <p><b>Item Code:</b> 33450-B7-013</p> <p><b>Item description:</b> Linux Based Bio Metric System (Non Aadhaar) - with Face Recognition 1000 User</p>	<p><b>Parameter:</b></p> <p>Power Supply 12V: 3A</p>	<p><b>Parameter:</b></p> <p>Power Supply 12V :1.5 A or higher</p>
67.	<p><b>Page No.265</b></p> <p><b>Item Code:</b> 33450-B7-015</p> <p><b>Item description:</b> LINUX Tablet based Biometric Attendance Systems Long range Face 3000 User (2 meters)</p>	<p><b>Parameter:</b></p> <p>Type Integrated Android Tablet based and Single Fingerprint Scanner Device</p> <p>Camera 2MP Binocular Camera</p>	<p><b>Parameter:</b></p> <p>Type Integrated Linux Tablet based and Single Fingerprint Scanner Device</p> <p>Camera 2MP Binocular Camera or higher</p>
68.	<p><b>Page No.266</b></p> <p><b>Item Code:</b> 33450-B7-016</p> <p><b>Item description:</b> LINUX Tablet based Biometric Attendance</p>	<p><b>Parameter:</b></p> <p>Type Integrated Android Tablet based and Single Fingerprint Scanner Device</p>	<p><b>Parameter:</b></p> <p>Type Integrated Linux Tablet based and Single Fingerprint Scanner Device</p>

S. No	Title of the Clause	Existing Clause	To be read as
	Systems Long range Face 1000 User	Camera 2MP Binocular Camera	Camera 2MP Binocular Camera or higher
69.	<b>Item Code : 33450-B7-022</b> Finger print scanner - (A)		New Item is added. <b>Item Code : 33450-B7-022</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B7 – Biometric systems</b>
70.	<b>Item Code : 33450-B7-023</b> IRIS Scanner - (A)		New Item is added. <b>Item Code : 33450-B7-023</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B7 – Biometric systems</b>
71.	<b>Item Code : 33450-B7-024</b> Web Camera - (A)		New Item is added. <b>Item Code : 33450-B7-024</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B7 – Biometric systems</b>
72.	<b>Item Code : 33450-B7-025</b> GPS Device - (A)		New Item is added. <b>Item Code : 33450-B7-025</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B7 – Biometric systems</b>
73.	<b>Item Code : 33450-B7-026</b> Finger Print Enrolment Device (4+4+2 Fingers) - (A)		New Item is added. <b>Item Code : 33450-B7-026</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B7 – Biometric systems</b>
74.	<b>Item Code : 33450-B7-027</b> Single Digit finger print scanner - (A)		New Item is added. <b>Item Code : 33450-B7-027</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B7 –</b>

S. No	Title of the Clause	Existing Clause	To be read as
			<b>Biometric systems</b>
75.	<b>Item Code : 33450-B7-49</b> Commissioning and testing for a range of 25-100 users		New Add on Item is added. <b>Item Code : 33450-B7-49</b>
76.	<b>Item Code : 33450-B7 –50</b> CAT 6 LAN Cables with Conduit Pipe with laying charges per meter		New Add on Item is added. <b>Item Code : 33450-B7-50</b>
77.	<b>Item Code : 33450-B7-51</b> Optional Power Back up for 12V, 3A mini UPS for minimum 3-4 Hours backup		New Add on Item is added. <b>Item Code : 33450-B7-51</b>
78.	<b>Page no. 277- B8 – SSL, Digital Signature Certificates</b> <b>Item Code:</b> 33450-B8-001 <b>Item Description:</b> Class-3 Digital Signature Certificates	<b>Item Code:</b> 33450-B8-001 <b>Item Description:</b> Class-3 Digital Signature Certificates	Removed
79.	Page no. 277- B8 – SSL, Digital Signature Certificates <b>Item Code:</b> 33450-B8-002 <b>Item Description:</b> Cryptographic Token	<b>Item Code:</b> 33450-B8-002 <b>Item Description:</b> Cryptographic Token	<b>Item Code:</b> 33450-B8-002 <b>Item Description:</b> Cryptographic Token One time issue
80.	<b>Page no. 278- B8 – SSL, Digital Signature</b>	<b>Item Code:</b> 33450-B8-003	Removed



S. No	Title of the Clause	Existing Clause	To be read as
	<p>Certificates</p> <p><b>Item Code:</b> 33450-B8-003</p> <p><b>Item Description:</b> Server Certificate (Secure Sockets Layer- SSL)</p>	<p><b>Item Description:</b> Server Certificate (Secure Sockets Layer- SSL)</p>	
81.	<p><b>Page no. 278-</b> B8 – SSL, Digital Signature Certificates</p> <p><b>Item Code:</b> 33450-B8-004</p> <p><b>Item Description:</b> Form Signing SDK and Encryption SDK</p>	<p>Item Code: 33450-B8-004</p> <p>Item Description: Form Signing SDK and Encryption SDK</p>	<p>Item Code: 33450-B8-004</p> <p>Item Description: Form Signing SDK and Encryption SDK One Time</p>
82.	<p><b>Page no. 279-</b> B8 – SSL, Digital Signature Certificates</p> <p><b>Item Code:</b> 33450-B8-005</p> <p><b>Item Description:</b> Form Signing SDK</p>	<p><b>Item Code:</b> 33450-B8-005</p> <p><b>Item Description:</b> Form Signing SDK</p>	<p><b>Item Code:</b> 33450-B8-005</p> <p><b>Item Description:</b> Form Signing SDK One Time</p>
83.	<p><b>Page no. 279-</b> B8 – SSL, Digital Signature Certificates</p> <p>Item Code: 33450-B8-006</p> <p>Item Description: Encryption SDK</p>	<p><b>Item Code:</b> 33450-B8-006</p> <p><b>Item Description:</b> Encryption SDK</p>	<p><b>Item Code:</b> 33450-B8-006</p> <p><b>Item Description:</b> Encryption SDK One Time</p>
84.	<p><b>Page no. 279-</b> B8 – SSL, Digital Signature Certificates</p> <p><b>Item Code:</b> 33450-B8-007</p> <p><b>Item Description:</b> Class-3 Digital</p>	<p><b>Item Description:</b> Class-3 Digital Signature Certificate for Signature - Individual</p>	<p><b>Item Description:</b> Class-3 Digital Signature Certificate for Signature - Individual with One Year validity</p>

S. No	Title of the Clause	Existing Clause	To be read as
	Signature Certificate for Signature - Individual		
85.	<p><b>Page no. 279-</b> B8 – SSL, Digital Signature Certificates</p> <p><b>Item Code:</b> 33450-B8-008</p> <p><b>Item Description:</b> Class-3 Digital Signature Certificate for Encryption - Individual</p>	<p>Item Code: 33450-B8-008</p> <p>Item Description: Class-3 Digital Signature Certificate for Encryption - Individual</p>	<p>Item Code: 33450-B8-008</p> <p>Item Description: Class-3 Digital Signature Certificate for Encryption - Individual with One Year validity</p>
86.	<p><b>Page no. 279-</b> B8 – SSL, Digital Signature Certificates</p> <p><b>Item Code:</b> 33450-B8-009</p> <p><b>Item Description:</b> Class-3 Digital Signature Certificate for Signature - Organization</p>	<p>Item Code: 33450-B8-009</p> <p>Item Description: Class-3 Digital Signature Certificate for Signature - Organization</p>	<p>Item Code: 33450-B8-009</p> <p>Item Description: Class-3 Digital Signature Certificate for Signature - Organization with One Year validity</p>
87.	<p><b>Page no. 279-</b> B8 – SSL, Digital Signature Certificates</p> <p><b>Item Code:</b> 33450-B8-010</p> <p><b>Item Description:</b> Class-3 Digital Signature Certificate for Encryption - Organization</p>	<p>Item Code: 33450-B8-010</p> <p>Item Description: Class-3 Digital Signature Certificate for Encryption - Organization</p>	<p>Item Code: 33450-B8-010</p> <p>Item Description: Class-3 Digital Signature Certificate for Encryption -Organization with One Year validity</p>
88.	<p><b>Page no. 279-</b> B8 – SSL, Digital Signature Certificates</p>	<p>Item Code: 33450-B8-011</p> <p>Item Description: Class-3 Digital Signature</p>	<p>Item Code: 33450-B8-011</p> <p>Item Description: Class-3 Digital Signature Certificate COMBO for</p>

S. No	Title of the Clause	Existing Clause	To be read as
	<p><b>Item Code:</b> 33450-B8-011</p> <p><b>Item Description:</b> Class-3 Digital Signature Certificate COMBO for Organization (Signature + Encryption)</p>	Certificate COMBO for Organization (Signature + Encryption)	Organization (Signature + Encryption) with One Year validity
89.	<p><b>Page no. 279-</b> B8 – SSL, Digital Signature Certificates</p> <p><b>Item Code:</b> 33450-B8-012</p> <p><b>Item Description:</b> Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain</p>	<p>Item Code: 33450-B8-012</p> <p>Item Description: Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain</p>	<p>Item Code: 33450-B8-012</p> <p>Item Description: Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with OV for 1 year validity</p>
90.	<p><b>Page no. 279-</b> B8 – SSL, Digital Signature Certificates</p> <p><b>Item Code: 33450-B8-013</b></p> <p><b>Item Description:</b> Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain</p>	<p><b>Item Code: 33450-B8-013</b></p> <p><b>Item Description:</b> Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain</p>	<p><b>Item Code: 33450-B8-013</b></p> <p><b>Item Description:</b> Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1 (Server) + 2 (Domains)) for 1 year validity pack.</p>
91.	<p>Page no. 279- B8 – SSL, Digital Signature Certificates</p> <p><b>Item Code: 33450-B8-014</b></p> <p><b>Item Description:</b> Wildcard SSL Certificate</p>	<p><b>Item Code: 33450-B8-014</b></p> <p><b>Item Description:</b> Wildcard SSL Certificate</p>	<p><b>Item Code: 33450-B8-014</b></p> <p><b>Item Description:</b> Wildcard SSL Certificate with OV for 1 year validity</p>
92.	<p><b>Item Code : 33450-B8-012A</b></p>		<p>New Item is added.</p> <p><b>Item Code : 33450-B8-012A</b></p>

S. No	Title of the Clause	Existing Clause	To be read as
	Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with DV for 1 year validity		Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with DV for 1 year validity
93.	<b>Item Code : 33450-B8-012B</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with EV for 1 year validity		New Item is added. <b>Item Code : 33450-B8-012B</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with EV for 1 year validity
94.	<b>Item Code : 33450-B8-012C</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with OV for 2 years validity		New Item is added. <b>Item Code : 33450-B8-012C</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with OV for 2 years validity
95.	<b>Item Code : 33450-B8-012D</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with DV for 2 years validity		New Item is added. <b>Item Code : 33450-B8-012D</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with DV for 2 years validity
96.	<b>Item Code : 33450-B8-012E</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with EV for 2 years validity		New Item is added. <b>Item Code : 33450-B8-012E</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with EV for 2 years validity

S. No	Title of the Clause	Existing Clause	To be read as
97.	<p><b>Item Code: 33450-B8-013A</b></p> <p>Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+2 (Domains)) for 1 year validity pack</p>		<p>New Item is added. <b>Item Code: 33450-B8-013A</b></p> <p>Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+2 (Domains)) for 1 year validity pack</p>
98.	<p><b>Item Code: 33450-B8-013B</b></p> <p>Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+2 (Domains)) for 1 year validity pack</p>		<p>New Item is added. <b>Item Code: 33450-B8-013B</b></p> <p>Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+2 (Domains)) for 1 year validity pack</p>
99.	<p><b>Item Code: 33450-B8-013C</b></p> <p>Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+2 (Domains)) for 2 years validity pack</p>		<p>New Item is added. <b>Item Code: 33450-B8-013C</b></p> <p>Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+2 (Domains)) for 2 years validity pack</p>
100.	<p><b>Item Code: 33450-B8-013D</b></p> <p>Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+2 (Domains)) for 2 years</p>		<p>New Item is added. <b>Item Code: 33450-B8-013D</b></p> <p>Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+2 (Domains)) for 2 years validity pack</p>

S. No	Title of the Clause	Existing Clause	To be read as
	validity pack		
101.	<b>Item Code: 33450-B8-013E</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+2 (Domains)) for 2 years validity pack		New Item is added. <b>Item Code: 33450-B8-013E</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+2 (Domains)) for 2 years validity pack
102.	<b>Item Code: 33450-B8-013F</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+3 (Domains)) for 1 year validity pack		New Item is added. <b>Item Code: 33450-B8-013F</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+3 (Domains)) for 1 year validity pack
103.	<b>Item Code: 33450-B8-013G</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+3 (Domains)) for 1 year validity pack		New Item is added. <b>Item Code: 33450-B8-013G</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+3 (Domains)) for 1 year validity pack
104.	<b>Item Code: 33450-B8-013H</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with		New Item is added. <b>Item Code: 33450-B8-013H</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+3 (Domains)) for 1 year validity pack

S. No	Title of the Clause	Existing Clause	To be read as
	EV (1(Server)+3 (Domains)) for 1 year validity pack		
105.	<b>Item Code: 33450-B8-013I</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+3 (Domains)) for 2 years validity pack		New Item is added. <b>Item Code: 33450-B8-013I</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+3 (Domains)) for 2 years validity pack
106.	<b>Item Code: 33450-B8-013J</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+3 (Domains)) for 2 years validity pack		New Item is added. <b>Item Code: 33450-B8-013J</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+3 (Domains)) for 2 years validity pack
107.	<b>Item Code: 33450-B8-013K</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+3 (Domains)) for 2 years validity pack		New Item is added. <b>Item Code: 33450-B8-013K</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+3 (Domains)) for 2 years validity pack
108.	<b>Item Code: 33450-B8-013L</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server		New Item is added. <b>Item Code: 33450-B8-013L</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+4 (Domains)) for 1 year

S. No	Title of the Clause	Existing Clause	To be read as
	Multi Domain with OV (1(Server)+4 (Domains)) for 1 year validity pack		validity pack
109.	<b>Item Code: 33450-B8-013M</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+4 (Domains)) for 1 year validity pack		New Item is added. <b>Item Code: 33450-B8-013M</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+4 (Domains)) for 1 year validity pack
110.	<b>Item Code: 33450-B8-013N</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+4 (Domains)) for 1 year validity pack		New Item is added. <b>Item Code: 33450-B8-013N</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+4 (Domains)) for 1 year validity pack
111.	<b>Item Code: 33450-B8-013O</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+4 (Domains)) for 2 years validity pack		New Item is added. <b>Item Code: 33450-B8-013O</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+4 (Domains)) for 2 years validity pack
112.	<b>Item Code: 33450-B8-013P</b>  Server Certificate (Secure Sockets Layer- SSL) Single		New Item is added. <b>Item Code: 33450-B8-013P</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV



S. No	Title of the Clause	Existing Clause	To be read as
	Server Multi Domain with DV (1(Server)+4 (Domains)) for 2 years validity pack		(1(Server)+4 (Domains)) for 2 years validity pack
113.	<b>Item Code: 33450-B8-013Q</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+4 (Domains)) for 2 years validity pack		New Item is added. <b>Item Code: 33450-B8-013Q</b>  Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+4 (Domains)) for 2 years validity pack
114.	<b>Item Code: 33450-B8-014A</b>  Wildcard SSL Certificate with DV for 1 year validity		New Item is added. <b>Item Code: 33450-B8-014A</b>  Wildcard SSL Certificate with DV for 1 year validity
115.	<b>Item Code: 33450-B8-014B</b>  Wildcard SSL Certificate with EV for 1 year validity		New Item is added. <b>Item Code: 33450-B8-014B</b>  Wildcard SSL Certificate with EV for 1 year validity
116.	<b>Item Code: 33450-B8-014C</b>  Wildcard SSL Certificate with OV for 2 years validity		New Item is added. <b>Item Code: 33450-B8-014C</b>  Wildcard SSL Certificate with OV for 2 years validity
117.	<b>Item Code: 33450-B8-014D</b>  Wildcard SSL Certificate with DV for 2 years validity		New Item is added. <b>Item Code: 33450-B8-014D</b>  Wildcard SSL Certificate with DV for 2 years validity
118.	<b>Item Code: 33450-B8-014E</b>		New Item is added. <b>Item Code: 33450-B8-014E</b>

S. No	Title of the Clause	Existing Clause	To be read as
	Wildcard SSL Certificate with EV for 2 years validity		Wildcard SSL Certificate with EV for 2 years validity
119.	<b>Item Code: 33450-B8-007A</b> Class-3 Digital Signature Certificate for Signature - Individual with 2 Years validity		New Item is added. <b>Item Code: 33450-B8-007A</b> Class-3 Digital Signature Certificate for Signature - Individual with 2 Years validity
120.	<b>Item Code: 33450-B8-008A</b> Class-3 Digital Signature Certificate for Encryption - Individual with 2 Years validity		New Item is added. <b>Item Code: 33450-B8-008A</b> Class-3 Digital Signature Certificate for Encryption - Individual with 2 Years validity
121.	<b>Item Code: 33450-B8-009A</b> Class-3 Digital Signature Certificate for Signature - Organization with 2 Years validity		New Item is added. <b>Item Code: 33450-B8-009A</b> Class-3 Digital Signature Certificate for Signature - Organization with 2 Years validity
122.	<b>Item Code: 33450-B8-010A</b> Class-3 Digital Signature Certificate for Encryption - Organization with 2 Years validity		New Item is added. <b>Item Code: 33450-B8-010A</b> Class-3 Digital Signature Certificate for Encryption - Organization with 2 Years validity
123.	<b>Item Code: 33450-B8-011A</b> Class-3 Digital Signature Certificate COMBO for Organization (Signature +		New Item is added. <b>Item Code: 33450-B8-011A</b> Class-3 Digital Signature Certificate COMBO for Organization (Signature + Encryption) with 2 Years validity

S. No	Title of the Clause	Existing Clause	To be read as
	Encryption) with 2 Years validity		
124.	<b>Item Code : 33450-B9-047</b> Data Center Application Centric Infrastructure (ACI)		New Item is added. <b>Item Code : 33450-B9-047</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B9 – Cisco or Equivalent Products</b>
125.	<b>Item Code : 33450-B9-048</b> Data Center Network Automation (DCNM)		New Item is added. <b>Item Code : 33450-B9-048</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B9 – Cisco or Equivalent Products</b>
126.	<b>Item Code : 33450-B9-049</b> Data Center Network Assurance and Insights (DC Network Day-2 Operations)		New Item is added. <b>Item Code : 33450-B9-049</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B9 – Cisco or Equivalent Products</b>
127.	<b>Item Code : 33450-B9-050</b> Application Resource Mangement & Workload Optimization		New Item is added. <b>Item Code : 33450-B9-050</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B9 – Cisco or Equivalent Products</b>
128.	<b>Item Code : 33450-B9-051</b> Application Performance Management		New Item is added. <b>Item Code : 33450-B9-051</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B9 – Cisco or Equivalent Products</b>
129.	<b>Item Code : 33450-B9-052</b> Nexus Leaf Switch - Copper		New Item is added. <b>Item Code : 33450-B9-052</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B9 – Cisco</b>

S. No	Title of the Clause	Existing Clause	To be read as
			<b>or Equivalent Products</b>
130.	<b>Item Code : 33450-B9-053</b>  Nexus Leaf Switch - Fiber		New Item is added. <b>Item Code 33450-B9-053</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B9 – Cisco or Equivalent Products</b>
131.	<b>Item Code : 33450-B9-054</b>  Nexus Fixed Spine Switch		New Item is added. <b>Item Code : 33450-B9-054</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B9 – Cisco or Equivalent Products</b>
132.	<b>Item Code : 33450-B9-055</b>  SD - WAN Controller		New Item is added. <b>Item Code : 33450-B9-055</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B9 – Cisco or Equivalent Products</b>
133.	<b>Item Code : 33450-B9-056</b>  Type 1 - Branch Router		New Item is added. <b>Item Code : 33450-B9-056</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B9 – Cisco or Equivalent Products</b>
134.	<b>Item Code : 33450-B9-057</b>  Type 2 Branch Router		New Item is added. <b>Item Code : 33450-B9-057</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B9 – Cisco or Equivalent Products</b>
135.	<b>Item Code : 33450-B9-058</b>  Head-End Router		New Item is added. <b>Item Code : 33450-B9-058</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B9 – Cisco or Equivalent Products</b>

S. No	Title of the Clause	Existing Clause	To be read as
136.	<b>Item Code : 33450-B9-059</b> SD-WAN Controller – II		New Item is added. <b>Item Code : 33450-B9-059</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category B9 – Cisco or Equivalent Products</b>
137.	<b>Page no.395</b> <b>Category B10- Linux Products</b>	<b>Category B10- Linux Products</b>	Revised Linux products items are added.
138.	<b>Page No. 404-</b> B12 – High End Plotters & Scanners  <b>Item code: 33450-B12-SP001 –</b>  <b>Item Description</b> A4 ADF 8ppm Portable Scanner	<b>Parameter</b>  Energy efficient: Energy star, BIS	<b>Parameter</b>  Certification: BIS
139.	<b>Page No. 405-</b> B12 – High End Plotters & Scanners  <b>Item code: 33450-B12-SP002 –</b>  <b>Item Description: A4</b> Flatbed with ADF 20 PPM Scanner	<b>Parameter</b>  Scanning Speed: 20 PPM - BW/Colour or Higher  Daily Volume: 1500sheets and above  Certification: Energy star , BIS	<b>Parameter</b>  Scanning Speed: 20 PPM in Black & 10 PPM in Colour or higher  Daily Volume: Duty Cycle:800 Sheets and above  Certification: BIS
140.	<b>Page No. 406-</b> B12 – High End Plotters & Scanners  <b>Item code: 33450-B12-SP003 –</b>  <b>Item Description: A4</b> ADF 30PPM Scanner	<b>Parameter</b>  Interface: USB, Ethernet 10/100 Mbps  Certification: Energy star, BIS	<b>Parameter</b>  Interface: USB, Ethernet 10/100 Mbps( Internal & External)  Certification: BIS
141.	<b>Page No. 407-</b> B12 – High End	<b>Parameter</b>	<b>Parameter</b>

S. No	Title of the Clause	Existing Clause	To be read as
	<p>Plotters &amp; Scanners</p> <p><b>Item code:</b> 33450-B12-SP004 -.</p> <p><b>Item Description:</b> A4 Flatbed with ADF40 PPM Scanner</p>	<p>Interface: USB, Ethernet 10/100 Mbps</p> <p>Certification: Energy star , BIS</p>	<p>Interface: USB, Ethernet 10/100 Mbps( Internal &amp; External)</p> <p>Certification: BIS</p>
142.	<p><b>Page No. 408-</b> B12 – High End Plotters &amp; Scanners</p> <p><b>Item code:</b> 33450-B12-SP005</p> <p><b>Item Description:</b> A4 ADF 60PPM Scanner</p>	<p><b>Item Description:</b> A4 ADF 60PPM Scanner</p> <p><b>Parameter</b> Interface: USB, Ethernet 10/100 Mbps</p> <p>ADF capacity: ADF 80 sheets and above</p> <p>Certification: Energy star, BIS</p>	<p><b>Item Description:</b> A4 ADF 60PPM Scanner with CCD/CIS</p> <p><b>Parameter</b> Interface: USB, Ethernet 10/100 Mbps (Internal &amp; External)</p> <p>ADF capacity: 60 Sheets and above</p> <p>Certification: BIS</p>
143.	<p><b>Page No. 409-</b> B12 – High End Plotters &amp; Scanners</p> <p><b>Item code:</b> 33450-B12-SP006</p> <p><b>Item Description:</b> A4 ADF 60 PPM Scanner with CCD</p>		Removed
144.	<p><b>Page No. 410-</b> B12 – High End Plotters &amp; Scanners</p> <p><b>Item code:</b> 33450-B12-SP007 –</p> <p><b>Item Description:</b> A4 ADF 70 PPM Scanner</p>	<p><b>Parameter</b> Interface: USB, Ethernet 10/100 Mbps</p> <p>ADF capacity: ADF 100sheets and above</p>	<p><b>Parameter</b> Interface: USB, Ethernet 10/100 Mbps( Internal &amp; External)</p> <p>ADF capacity: 80 Sheets and above</p>
145.	<p><b>Page No. 411-</b> B12 – High End</p>	<b>Parameter</b>	<b>Parameter</b>

<b>S. No</b>	<b>Title of the Clause</b>	<b>Existing Clause</b>	<b>To be read as</b>
	<p>Plotters &amp; Scanners</p> <p><b>Item code:</b> 33450-B12-SP008 –</p> <p><b>Item Description:</b> A3 ADF 60 PPM Scanner with Network</p>	<p>Interface: USB, Ethernet 10/100 Mbps</p> <p>Certification: Energy star , BIS</p>	<p>Interface: USB, Ethernet 10/100 Mbps( Internal &amp; External)</p> <p>Certification: BIS</p>
146.	<p><b>Page No. 412-</b> B12 – High End Plotters &amp; Scanners</p> <p><b>Item code:</b> 33450-B12-SP009 –</p> <p><b>Item Description:</b> A3 Flatbed with ADF 70 PPM Scanner</p>	<p><b>Parameter</b></p> <p>Certification: Energy star , BIS</p>	<p><b>Parameter</b></p> <p>Certification: BIS</p>
147.	<p><b>Page No. 414-</b> B12 – High End Plotters &amp; Scanners</p> <p><b>Item code:</b> 33450-B12-SP011 –</p> <p><b>Item Description:</b> A0-36"LED monochrome plotter and color scanner</p>	<p><b>Parameter</b></p> <p>Print Type: Laser monochrome printer</p> <p>OS Compliance: Windows and Linux compliance by OEM</p>	<p><b>Parameter</b></p> <p>Print Type: LED / Laser monochrome Printer</p> <p>OS Compliance: Windows</p>
148.	<p><b>Page No. 415-</b> B12 – High End Plotters &amp; Scanners</p> <p><b>Item code:</b> 33450-B12-SP012 –</p> <p><b>Item Description:</b> A1 24" inch Plotter (color)</p>	<p><b>Parameter</b></p> <p>Ink Type: All colours pigment ink</p> <p>OS Compliance: Windows &amp; Linux compliance by OEM</p> <p>Certification: Energy star , BIS</p>	<p><b>Parameter</b></p> <p>Ink Type: Pigment / Dye ink</p> <p>OS Compliance: Windows</p> <p>Certification: BIS</p>
149.	<p><b>Page No. 416-</b> B12 – High End Plotters &amp; Scanners</p>	<p><b>Parameter</b></p> <p>OS Compliance: Windows</p>	<p><b>Parameter</b></p> <p>OS Compliance: Windows</p>

S. No	Title of the Clause	Existing Clause	To be read as
	<b>Item code:</b> 33450-B12-SP013 – <b>Item Description:</b> A0 – 36 " Inkjet Plotter &Color Scanner	& Linux compliance by OEM  Certification: Energy star , BIS	Certification: BIS
150.	<b>Item Code : 33450-B12-SP015</b>  A4 ADF 25PPM Scanner		New Item is added. <b>Item Code : 33450-B12-SP015</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A-Category-B12- High End Plotters &amp; Scanners</b>
151.	<b>Item Code : 33450-B12-SP016</b>  A4 ADF 40PPM Scanner		New Item is added. <b>Item Code : 33450-B12-SP016</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A Category-B12- High End Plotters &amp; Scanners</b>
152.	<b>Item Code : 33450-B12-SP017</b>  A3 ADF 90 PPM Scanner		New Item is added. <b>Item Code : 33450-B12-SP017</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A-Category-B12- High End Plotters &amp; Scanners</b>
153.	<b>Item Code : 33450-B12-SP018</b>  A2+ overhead flat bed scanner		New Item is added. <b>Item Code : 33450-B12-SP018</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A-Category-B12- High End Plotters &amp; Scanners</b>
154.	<b>Item Code : 33450-B12-SP019</b>  A0 – 36 " inch Plotter (color)		New Item is added. <b>Item Code : 33450-B12-SP019</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category-B12- High End Plotters &amp; Scanners</b>



S. No	Title of the Clause	Existing Clause	To be read as
155.	<b>Item Code : 33450-B12-MFD-020</b> A4 -18 PPM -MFD Mono Copier/Printer/Scanner with Network and wireless with memory		New Item is added. <b>Item Code : 33450-B12-MFD-020</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category-B12-High End Plotters &amp; Scanners</b>
156.	<b>Item Code : 33450-B12-MFD-021</b> A4 -25 PPM - MFD Mono Copier/Printer/Scanner/Fax/D/N/ with ADF and Wifi with memory		New Item is added. <b>Item Code : 33450-B12-MFD-021</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category-B12-High End Plotters &amp; Scanners</b>
157.	<b>Item Code : 33450-B12-MFD-022</b> A4 -16 PPM -MFD Colour Copier/Printer/Scanner/Network/Wi-Fi with memory		New Item is added. <b>Item Code : 33450-B12-MFD-022</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category-B12-High End Plotters &amp; Scanners</b>
158.	<b>Item Code : 33450-B12-MFD-023</b> A4 -25 PPM -MFD Colour Copier/Printer/Scanner/Network and wireless and ADF with memory		New Item is added. <b>Item Code : 33450-B12-MFD-023</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category-B12-High End Plotters &amp; Scanners</b>
159.	<b>Item Code : 33450-B12-LP-024</b> Laser Printer - A4 - 20 PPM Mono with Network,Duplex with memory		New Item is added. <b>Item Code : 33450-B12-LP-024</b>  Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category-B12-High End Plotters &amp; Scanners</b>
160.	<b>Item Code : 33450-B12- LP -025</b> Laser Printer - A4 - 25 PPM Mono with		New Item is added. <b>Item Code : 33450-B12- LP -025</b>  Specification Cum Bidder compliance is enclosed in

S. No	Title of the Clause	Existing Clause	To be read as
	Duplex, Network & Wi-Fi with memory		<b>Annexure-A- Category-B12- High End Plotters &amp; Scanners</b>
161.	<b>Item Code : 33450-B12- LP -026</b> Color Laser Printer - A4 - 20 PPM with Network and Duplex and wireless with memory		New Item is added. <b>Item Code : 33450-B12- LP -026</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category-B12- High End Plotters &amp; Scanners</b>
162.	<b>Item Code : 33450-B12- LP -027</b> Color Laser Printer - A4 - 25 PPM with Network and Duplex,WiFi with memory		New Item is added. <b>Item Code : 33450-B12- LP -027</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category-B12- High End Plotters &amp; Scanners</b>
163.	<b>Item Code : 33450-B12-MFD-028</b> A4 -35 PPM - MFD Mono Copier/Printer/Scanner//D/N/ with ADF and wifi		New Item is added. <b>Item Code : 33450-B12-MFD-028</b> Specification Cum Bidder compliance is enclosed in <b>Annexure-A- Category-B12- High End Plotters &amp; Scanners</b>
164.	<b>Category B13- IP Camera</b>		Existing IP Camera items are removed. Revised Specifications of IP camera items are added.
165.	<b>Page No.478</b> <b>Category B14- Firewall</b> <b>Item Code:</b> 33450-B14-001 <b>Item Description:</b> Next Generation Firewall cum SDWAN Router - Category -1 (Suitable for upto 300 Users)	It should handle TCP, UDP, HTTP traffic and Should support 64K or above Packet Size  Should support 12 Nos. of 1GE RJ45 Ports, 12 nos of 1GE SFP interface and Should support 12 or above WAN Ports	It should handle TCP, UDP, HTTP traffic and Should support 64 byte or above Packet Size.  Should support 12 Nos. of 1GE RJ45 Ports, 12 nos of 1GE SFP/SFP+ interface and Should support 12 or above WAN Ports

S. No	Title of the Clause	Existing Clause	To be read as
166.	<p><b>Page No.480</b>  <b>Category B14-Firewall</b></p> <p><b>Item Code:</b> 33450-B14-002</p> <p><b>Item Description:</b>  Next Generation Firewall cum SDWAN Router - Category -2 (Suitable for upto 100 Users)</p>	It should handle TCP, UDP, HTTP traffic and Should support 64K or above Packet Size	It should handle TCP, UDP, HTTP traffic and Should support 64 byte or above Packet Size
167.	<p><b>Page No.481</b>  <b>Category B14-Firewall</b></p> <p><b>Item Code:</b> 33450-B14-003</p> <p><b>Item Description:</b>  Next Generation Firewall cum SDWAN Router - Category -3 (Suitable for upto 50 Users)</p>	It should handle TCP, UDP, HTTP traffic and Should support 64K or above Packet Size	It should handle TCP, UDP, HTTP traffic and Should support 64 byte or above Packet Size
168.	<p><b>Page No.483</b>  <b>Category B14-Firewall</b></p> <p><b>Item Code:</b> 33450-B14-004</p> <p><b>Item Description:</b>  Next Generation Firewall cum SDWAN Router - Category -4 (Suitable for upto 25 Users)</p>	It should handle TCP, UDP, HTTP traffic and Should support 64K or above Packet Size	It should handle TCP, UDP, HTTP traffic and Should support 64 byte or above Packet Size
169.	<p><b>Page No.484</b>  <b>Category B14-Firewall</b></p>	It should handle TCP, UDP, HTTP traffic and Should support 64K or above Packet Size	It should handle TCP, UDP, HTTP traffic and Should support 64 byte or above Packet Size

S. No	Title of the Clause	Existing Clause	To be read as
	<p><b>Item Code:</b> 33450-B14-005</p> <p><b>Item Description:</b> Data Center Firewall cum SDWAN Core Router - Category -1 (Suitable for upto 5000 Users)</p>		
170.	<p><b>Page No.486</b> <b>Category B14-Firewall</b></p> <p><b>Item Code:</b> 33450-B14-006</p> <p><b>Item Description:</b> Data Center Firewall cum SDWAN Core Router - Category -2 (Suitable for upto 2500 Users)</p>	It should handle TCP, UDP, HTTP traffic and Should support 64K or above Packet Size	It should handle TCP, UDP, HTTP traffic and Should support 64 byte or above Packet Size
171.	<p><b>Category B14-Firewall</b> <b>Item Code :33450-B14 – 010</b></p> <p>10 user Upgrade for item code 33450-B14 – 007</p>		New Add on Item is added - <b>33450-B14 – 010</b>
172.	<p><b>Page no. 496-</b> B15-Laptop –</p> <p><b>Item code:</b> 33450-B15-001</p> <p><b>Item Description:</b> Laptop Intel Pentium / AMD</p>	<p><b>Parameter:</b></p> <p><b>Battery Life -</b> Standard Rechargeable 4 or 6 cell Li-Ion (40WHr) with minimum 3 hours backup</p>	<p><b>Parameter:</b></p> <p><b>Battery Life –</b> Standard Rechargeable 3 or more cell Li-Ion (40WHr) with minimum 3 hours backup</p>
173.	<p><b>Page no. 496-</b> B15-Laptop –</p> <p><b>Item code:</b> 33450-</p>	<p><b>Parameter:</b></p> <p><b>Memory</b> 8 GB DDR4 SDRAM @</p>	<p><b>Parameter:</b></p> <p><b>Memory</b> 8 GB DDR4 SDRAM @ 2666</p>

S. No	Title of the Clause	Existing Clause	To be read as
	B15-001 <b>Item Description:</b> Laptop Intel Pentium / AMD	2666 MHz or Higher. Expandable up to minimum 32 GB with minimum one free slot	MHz. Expandable support up to minimum 16GB with minimum one free slot
174.	<b>Page no. 497-</b> B15-Laptop – <b>Item code:</b> 33450-B15-002- <b>Item Description:</b> 13.3" Laptop with i5 G series Processor, SSD	<b>Parameter:</b> <b>Memory</b> 8 GB DDR4 RAM (2666 MHz) - expandable upto 32 GB with minimum 1 free Slot (Onboard RAM not acceptable)	<b>Parameter:</b> <b>Memory</b> 8 GB DDR4 RAM (2666 MHz) - expandable upto 16 GB with minimum 1 free Slot (Onboard RAM not acceptable)
175.	<b>Page no. 500-</b> B15-Laptop – <b>Item code:</b> 33450-B15-004- <b>Item Description:</b> 14" Laptop with i3 G series Processor	<b>Parameter:</b> <b>Memory</b> 8 GB DDR4 SDRAM @ 2666 MHz or Higher. Expandable up to minimum 32 GB with minimum one free slot	<b>Parameter:</b> <b>Memory</b> 8 GB DDR4 SDRAM @ 2666 MHz. Expandable up to minimum 16GB with minimum one free slot
176.	<b>Page no. 501 -</b> B15-Laptop – <b>Item Code:</b> 33450-B15-005- <b>Item Description:</b> 14" Laptop with i5 G series Processor, SSD	<b>Parameter:</b> <b>Memory</b> 8 GB DDR4 SDRAM @ 2666 MHz or Higher. Expandable up to minimum 32 GB with minimum one free slot	<b>Parameter:</b> <b>Memory</b> 8 GB DDR4 SDRAM @ 2666 MHz. Expandable up to minimum 16GB with minimum 1 free Slot
177.	<b>Page no. 504 -</b> B15-Laptop – <b>Item Code:</b> 33450-B15-007 <b>Item Description:</b> 14" Laptop with i5 G series Processor, HDD	<b>Parameter:</b> <b>Memory</b> 8 GB DDR4 RAM (2666 MHz) - expandable upto 32 GB with minimum 1 free Slot (Onboard RAM not acceptable)	<b>Parameter:</b> <b>Memory</b> 8 GB DDR4 RAM (2666 MHz) - expandable upto 16 GB with minimum 1 free Slot (Onboard RAM not acceptable)
178.	<b>Page no. 512-</b> B15-Laptop –	<b>Parameter:</b>	<b>Parameter:</b>

S. No	Title of the Clause	Existing Clause	To be read as
	<b>Item Code:</b> 33450-B15-013 <b>Item Description:</b> 14" Laptop with AMD Ryzen 7 Processor	<b>Processor</b> AMD Ryzen 7 - 7570 U or better	<b>Processor</b> AMD Ryzen 7-5700 U or higher
179.	<b>Page no. 512-</b> B15-Laptop – <b>Item code:</b> 33450-B15-013 <b>Item Description:</b> 14" Laptop with AMD Ryzen 7 Processor	<b>Parameter:</b>  <b>Memory</b> 16 GB DDR4 SDRAM (2666 MHz) - expandable upto 16 GB with minimum 1 free slot (Onboard RAM not acceptable)	<b>Parameter:</b>  <b>Memory</b> 16 GB DDR4 SDRAM (2666 MHz) - expandable upto 32 GB with minimum 1 free slot (Onboard RAM not acceptable)
180.	<b>Page no. 514-</b> B15-Laptop – <b>Item Code:</b> 33450-B15-014 <b>Item Description:</b> Light weight Laptop with i5 G series Processor	<b>Parameter:</b>  <b>Weight</b> Less than 1.25 Kg including battery	<b>Parameter:</b>  <b>Weight</b> 1.5Kg or less than including battery
181.	<b>Page no. 515-</b> B15-Laptop – <b>Item code;</b> 33450-B15-015 <b>Item Description:</b> 15.6" Laptop with i3 G series Processor, SSD	<b>Parameter:</b>  <b>Battery life</b> Standard Rechargeable detachable Li-Ion (40 WHr) battery with minimum 9 hours backup	<b>Parameter:</b>  <b>Battery Life</b> Standard Rechargeable detachable Li-Ion (40 WHr) battery with minimum 5 hours backup
182.	<b>Page no. 517-</b> B15-Laptop – <b>Item code:</b> 33450-B15-016 <b>Item Description:</b> 15.6" Laptop with i5 G series Processor, SSD	<b>Parameter:</b>  <b>Processor</b> Intel Core™ i5-1115 G4 Processor or better	<b>Parameter:</b>  <b>Processor</b> Intel® Core™ i5-1135G7 processor (2.4 GHz base frequency, up to 4.2 GHz frequency with Intel® Turbo Boost Technology, 8MB cache, 4 cores)
183.	<b>Page no. 503 to 518-</b> B15- Laptop – <b>Item code:</b> 33450-	<b>Ports</b>  USB - 3 Nos., or higher with atleast one 3.0, RJ45,	<b>Ports</b>  USB - 3 Nos., or higher with atleast one 3.0, RJ45, VGA/HDMI / Mini

S. No	Title of the Clause	Existing Clause	To be read as
	B15-006 to33450-B15-017	VGA, HDMI / Mini Display / Display Port, Mic, Speaker.(If VGA Port is not given, converter for converting from HDMI/Display Port to VGA is to be provided)	Display / Display Port, Mic, Speaker. if mini display port is available converters for mini display to VGA, Mini display to HDMI should be provided If HDMI port is available then necessary converter for converting HDMI to mini display , HDMI to VGA should be provided
184.	<b>Item Code : 33450-B15-022</b> 14" Laptop with i7 - (A)		New Item is added. <b>Item Code : 33450-B15-022.</b>  Specification cum Bidder compliance is enclosed as <b>Annexure – A-Category B15 - Laptop</b>
185.	<b>Item Code : 33450-B15-023</b> Surface Go2 M3/4/64		New Item is added. <b>Item Code :33450-B15-023.</b>  Specification cum Bidder compliance is enclosed as <b>Annexure - A-Category B15 - Laptop</b>
186.	<b>Item Code : 33450-B15-024</b> Surface Go 2 M3/8/128		New Item is added. <b>Item Code : 33450-B15-024.</b>  Specification cum Bidder compliance is enclosed as <b>Annexure - A-Category B15 - Laptop</b>
187.	<b>Item Code : 33450-B15-025</b> Surface Pro 7 i5/8/256		New Item is added. <b>Item Code : 33450-B15-025.</b>  Specification cum Bidder compliance is enclosed as <b>Annexure - A-Category B15 - Laptop</b>
188.	<b>Item Code : 33450-B15-026</b> Surface Pro 7 i7/16/256		New Item is added. <b>Item Code : 33450-B15-026.</b>  Specification cum Bidder compliance is enclosed as <b>Annexure - A-Category B15 -</b>

S. No	Title of the Clause	Existing Clause	To be read as
			<b>Laptop</b>
189.	<b>Item Code: 33450-B15-027</b> 14' Laptop with i5-(A)		New Item is added. <b>Item Code : 33450-B15-027.</b> Specification cum Bidder compliance is enclosed as <b>Annexure - A-Category B15 - Laptop</b>
190.	Hardware Compliance for the Categories B4,B5,B6,B7,B8,B9,B10,B12,B13,B14, B15		Hardware Compliance or the Categories B4, B5, B6, B7, B8, B9, B10, B12, B13,B14, B15 is attached as <b>Annexure D</b>
191.	Price Bid for the Categories B4,B5,B6,B7,B8,B9,B10,B12,B13,B14, B15		Price Bid for the Categories B4,B5,B6,B7,B8,B9,B10,B12,B13, B14, B15 is attached as <b>Annexure E</b>

**Note:**

- The above Corrigendum is applicable to all other clauses which contain the respective terms in the tender document.
- Duly signed compliance sheet for each item quoted should be submitted separately by the Bidders and their respective OEM's and the format for the compliance is enclosed as Annexure B
- For both OEM and Bidders, undertaking letters for technical compliance should be enclosed in technical bid. The format is enclosed as Annexure C.

**-SD/-**

**General Manager (Proc) FAC**



**Eligibility Criteria Annexure**

**4.2 Eligibility Criteria Annexure**

S.No	Item Description	Existing		To be read as	
		Average Annual Turnover (in Rs)	Single Order Value (inRs.)	Average Annual Turnover (in Rs)	Single Order Value (inRs.)
1.	Microsoft Software	2 Crores	20 Lakhs	1Crore	5 Lakhs
2.	Anti-Virus	1 Crore	5 Lakhs	50 Lakhs	2 Lakhs
3.	Computer Stationery	1 Crore	5 Lakhs	50 Lakhs	2 Lakhs
4.	IT Consumables	1 Crore	5 Lakhs	50 Lakhs	2 Lakhs
5.	Apple Products	2 Crores	20 Lakhs	2 Crores	20 Lakhs
6.	Server & related items	5 Crores	50 Lakhs	2Crores	25 Lakhs
7.	Biometric Systems	1 Crore	10 Lakhs	1 Crore	10 Lakhs
8.	SSL, Digital Signature certificates	40 Lakhs	-	40 Lakhs	-
9.	Cisco or Equivalent Products	2 Crores	20 Lakhs	2 Crores	20 Lakhs
10.	Linux Products	1 Crore	10 Lakhs	50Lakhs	5 Lakhs
11.	Information Kiosks(or similar products like Desktop)	2 Crores	20 Lakhs	1Crore	10 Lakhs
12.	High End Plotters & Scanners	1 Crore	10 Lakhs	50Lakhs	10 Lakhs
13.	IP Camera and its relevant accessories	3 Crores	30 Lakhs	2Crores	10 Lakhs
14.	Firewall	5 Crore	50 Lakhs	2Crores	10 Lakhs
15.	Laptop (or Desktop/All-in-one/Mini PC)	5 Crore	50 Lakhs	2Crores	20 Lakhs

## Letter of Undertaking

To  
The Managing Director  
Electronics Corporation of Tamil Nadu Limited  
692 Anna Salai, Nandanam, Chennai-600035

Sir,

**Sub:** Undertaking for participating in ELCOT's Procurement Tender - Reg.  
**Ref:** **Tender No. ELCOT/Proc/OT/33450/RC Tender-Group B/2021-22**

I/We ----- have gone through fully the Terms and Conditions, Scope of Work and Specification and will abide by them as laid down (Tender Documents, Technical bid and Price Bid)

I/We ----- hereby confirm that our Company was not blacklisted by any State Government/ Central Government/ Public Sector Undertakings during the last three years. We also hereby confirm that our EMD/SD was not forfeited by any State Government / Central Government / Public Sector Undertakings during the last three years due to our non-performance, non-compliance with the tender conditions etc.

I/We ----- hereby declare that all the particulars furnished by us in this Tender are true to the best of my/our knowledge and we understand and accept that if at any stage, the information furnished is found to be incorrect or false, we are liable for disqualification from this tender and also are liable for any penal action that may arise due to the above.

I/We -----ensure that the Year of Manufacturing for the products supplied vide this tender is 2020 or later.

I/We ----- certify that no refurbished components are used in the manufacturing and supply of tendered items. The licences for the operating systems and other software to be installed under this contract are certified as genuine and valid.

S.No	Category	Category Quoted	Makes of all products quoted
1.	Microsoft Software		
2.	Anti-Virus		
3.	Computer Stationery		
4.	IT Consumables		
5.	Apple Products		
6.	Server & related items		

7.	Biometric Systems		
8.	SSL, Digital Signature certificates		
9.	Ciscoor Equivalent Products		
10.	Linux Products		
11.	Information Kiosks		
12.	High End Plotters & Scanners		
13.	IP Camera		
14.	Firewall		
15.	Laptop		

I/We \_\_\_\_\_ certify that we are liable and responsible for any disputes arising out of Intellectual Property Rights.

**In case of violation of any of the conditions above, I/We .....understand that I/ We are liable to be blacklisted by ELCOT for a period of three years.**

Yours faithfully  
for \_\_\_\_\_  
Name, Signature  
Designation  
Seal

### **Annexure - B**

#### **Bidder compliance sheet**

<b>Item Code</b>	<b>Item Description</b>	<b>Qty</b>

<b>Parameter</b>	<b>Specification</b>	<b>As per Brochure</b>	<b>Bidders offer</b>	<b>Bidder compliance (Yes/no)</b>

#### **OEM compliance sheet**

<b>Item Code</b>	<b>Item Description</b>	<b>Qty</b>

<b>Parameter</b>	<b>Specification</b>	<b>As per</b>	<b>OEM</b>	<b>OEM</b>

		<b>Brochure</b>	<b>offer</b>	<b>compliance (Yes/no)</b>
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**Annexure - C**

**Undertaking letter from Bidder :**

We M/S. \_\_\_\_\_ have given undertaking letter from OEM for the model quoted by us for the parameters which are not mentioned in the datasheet for the various categories quoted by us in the Group B tender - 33450-OT .

If any of the information given by us or by our OEM is not meeting the tender condition and specification or found incorrect at any stage during the entire contract period, then the PO issued will be cancelled for the non complied item and we accept any action taken by ELCOT management for the respective category in Group B tender.

**OEM Undertaking Letter:**

We M/S. \_\_\_\_\_ have given undertaking letter for the model quoted by our bidder M/S. \_\_\_\_\_ for the different categories declaring that the product meets the tender condition and technical in the Group B tender - 33450-OT .

If any of the information given by us or by our bidder is not meeting the tender condition relevant to OEM and specification or found incorrect at any stage during the entire contract period, then we agree to provide the available model which meets the specifications without any additional cost. In case, if we don't have the product meeting the required specification, then we accept for any action taken by ELCOT management for the respective category in Group B tender.

We hereby confirm that the Make and Model of the product quoted for this tender by our authorized Bidder has not been blacklisted by any of the Government/ Government Agencies across India in past three years.

**Annexure A**

**Category B5 – Specifications cum Bidder Compliance - Apple Products**

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B5-001</b>	iPad 10.2-inch , Only Wi-Fi -64 GB	<b>1 No.</b>

<b>Parameter</b>	<b>Specification</b>	<b>As per Brochure</b>	<b>Bidders offer</b>	<b>Bidder compliance (Yes/no)</b>
Display	10.2-inch (diagonal) LED-backlit Multi-Touch display with IPS technology			
Resolution	2160x1620-pixel resolution at 264 pixels per inch (ppi)			
SIM Slots	N/A			
Operating System	iPadOS 15			
Processor	A13 Bionic chip with 64-bit architecture Neural Engine			
Memory	64GB			
Camera	8MP Wide camera			
	12MP Ultra Wide camera			
Features	Digital compass, Wifi, iBeacon micro-location, Touch ID, Three-axis gyro, Accelerometer, Barometer, Ambient light			

	sensor			
Battery	Built-in 32.4-watt-hour rechargeable lithium-polymer battery			
Accessories	Lightning to USB-C Cable, 20W USB-C Power Adapter			

Code	Item Description	Qty
33450-B5-004	iPad 10.2-inch , Wi-Fi + Cellular -256 GB	1 No.

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Display	10.2-inch (diagonal) LED-backlit Multi-Touch display with IPS technology			
Resolution	2160x1620-pixel resolution at 264 pixels per inch (ppi)			
SIM Slots	Nano-SIM			
Operating System	iPad OS 15			
Processor	A13 Bionic chip with 64-bit architecture Neural Engine			
Memory	256 GB			
Camera	8MP Wide camera			
	12MP Ultra Wide camera			
Features	Built-in GPS, Wifi, Digital compass, iBeacon micro-location, Touch ID, Three-axis gyro, Accelerometer, Barometer,			

	Ambient light sensor.			
Battery	Built-in 32.4-watt-hour rechargeable lithium-polymer battery			
Accessories	Lightning to USB-C Cable, 20W USB-C Power Adapter			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B5-010</b>	iPad Pro 12.9" Wifi + Cellular 128 GB Storage	<b>1 No.</b>

<b>Paramater</b>	<b>Specification</b>	<b>As per Brochure</b>	<b>Bidders offer</b>	<b>Bidder compliance (Yes/no)</b>
Display	12.9 inches Liquid Retina XDR display.			
Resolution	2732x2048 -pixel resolution at 264 pixels.			
SIM Slots	Nano-SIM			
Operating System	iPad OS			
Processor	Apple M1 chip, 8-core CPU with 4 performance cores and 4 efficiency cores, 8-core GPU, 16-core Neural Engine.			
Memory	128GB			
Camera	12-megapixel camera, TrueDepth			
	12MP Ultra Wide camera.			
Features	Built-in GPS, Wifi, Digital compass, iBeacon micro-location, Face ID, LiDAR Scanner, Three-axis gyro, Accelerometer, Barometer, Ambient light sensor,			

Battery	Built-in 40.88-watt-hour rechargeable lithium-polymer battery.			
Accessories	USB-C Charge Cable (1 metre), 20W USB-C Power Adapter.			

Code	Item Description	Qty
33450-B5-011	MacBook Pro 14.2" with 512 GB SSD	1 No.

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Display	14.2-inch (diagonal) Liquid Retina XDR display			
Processor	Apple M1 Pro chip, (8-core CPU with 6 performance cores and 2 efficiency cores 14-core GPU, 16-core Neural Engine)			
Memory	16GB unified memory			
Storage	512GB SSD			
Battery	70-watt-hour lithium-polymer battery			
Wireless	802.11ax Wi-Fi 6 wireless networking			
BlueTooth	Bluetooth 5.0 wireless technology			
Camera	1080p FaceTime HD camera			
Key Board	Backlit Magic Keyboard			
Operating System	macOS			



<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B5-012</b>	MacBook Pro 16.2" with 512 GB SSD	<b>1 No.</b>

<b>Parameter</b>	<b>Specification</b>	<b>As per Brochure</b>	<b>Bidders offer</b>	<b>Bidder compliance (Yes/no)</b>
Display	16.2-inch (diagonal) Liquid Retina XDR display			
Processor	Apple M1 Pro chip (10-core CPU with 8 performance cores and 2 efficiency cores, 16-core GPU, 16-core Neural Engine)			
Memory	16GB unified memory			
Storage	512GB SSD			
Battery	100-watt-hour lithium-polymer battery			
Wireless	802.11ax Wi-Fi 6 wireless networking			
BlueTooth	Bluetooth 5.0 wireless technology			
Camera	1080p FaceTime HD camera			
Key Board	Backlit Magic Keyboard			
Operating System	macOS			

**Category B6 – Specifications cum Bidder Compliance – Server and its related items**

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B6-020	Desktop Ryzen 5	1 No

<b>Parameter</b>	<b>Tender Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Processor	AMD Ryzen 5 4600G (3.7 GHz upto 4.2 GHz, 8 MB Cache,6 cores) or higher			
Memory	8 GB DDR4 SDRAM @ 2666 MHz or higher Expandable upto 16 GB with atleast one free slot.			
MotherBoard (Intel/Gigabyte/ASUS/MSI/OEM)	1.Min 2 PCI/PCI Express Slots. 2.Integrated Graphics Controller 3.10/100/1000 Mbps Network Card 4. Min 6 USB Ports with at least two with 3.0, 2 Additional USB Ports, 5.VGA / Display port, 6.HDMI, 7.RJ45, 8.Audio 3.5mm. Internal speakers and support to Ext speakers of min 2 watts.			
Monitor	19" TFT ( $\pm$ 0.5 inch) TFT/ Wide LED Color Monitor. Resolution 1366 X 768 or higher.			
Hard Disk Drive	Min 1TB SATA HDD, 5400 RPM or higher			

Keyboard	USB – Membrane Keyboard			
Mouse	USB – Optical Mouse			
Operating System	Pre loaded Linux			
General Certification	Hazardous - RoHS, Energy efficient - Energy star, Safety - CE / UL, Environment – EPEAT and TCO Certification for Monitor (Copies should be enclosed)			
OS Compliance	Windows & Linux compliance by OEM			

Code	Item Description	Qty
33450-B6-021	Desktop Ryzen 7	1 No

Parameter	Tender Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Processor	AMD Ryzen 7 4700G (3.6 GHz upto 4.4 GHz, 8 MB Cache, 8 cores) or higher			
Memory	16 GB DDR4 SDRAM @ 2933 MHz or higher Expandable upto 32 GB with atleast one free slot.			

MotherBoard (Intel/Gigabyte/ASUS/MS I/OEM)	1. Min 3 PCI/PCI Express Slots. 2. Integrated Graphics Controller, 3. 10/100/1000 Gbe Network Card 4. Min 6 USB Ports with at least two with 3.1, VGA / Display port, HDMI, , 3.5mm Universal audio jack for headphone/mic. 1 Audio line in, 1 audio line out Internal speakers and support to Ext speakers of min 2 watts.			
Monitor	19" TFT ( $\pm 0.5$ inch) TFT/ Wide LED Color Monitor. Resolution 1366 X 768 or higher.			
Hard Disk Drive	Min 1TB SATA HDD, 5400 RPM or higher			
Keyboard	USB – Membrane Keyboard			
Mouse	USB – Optical Mouse			
Operating System	Pre loaded Linux			
General Certification	Hazardous - RoHS, Energy efficient - Energy star, Safety - CE / UL, Environment – EPEAT and TCO Certification for Monitor (Copies should be enclosed)			
OS Compliance	Windows & Linux compliance by OEM			

Code	Item Description	Qty
33450-B6-022	AMD Core - R3 Mini PC	1 No

Parameter	Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Processor	AMD Ryzen™ 3 4300GE, 3.50 GHz, 6MB Cache, 4 Cores			
Memory	4 GB DDR4 SDRAM @ 2666 MHz or higher Expandable upto 16GB with atleast 1 free slot			
Mother Board (Intel/Gigabyte/ASUS/MSI/OEM)	1*M.2 Slots, SATA Slots, Integrated Graphics Controller, & Min 6 USB Ports with at least two with 3.0, VGA , Display port/ HDMI , RJ45, Audio in /out			
Hard Disk Drive	Min 500GB SATA, 5400 RPM or higher			
Monitor	19" TFT (± 0.5 inch) TFT/ Wide LED Color Monitor. Resolution 1366 X 768 or higher.			
Network Interface	Integrated Ethernet 10/1000/1000 MBps, Wifi 802.11 b/g/n/ac, Bluetooth 5.0			
Keyboard	USB – Membrane Keyboard			
Mouse	USB – Optical Mouse			

General Certification	BIS, Hazardous - RoHS, Energy efficient - Energy star, Safety - CE / UL			
Cabinet type	Vesa Mount type - Micro Form factor			
Security	Kensington lock			
Weight	Less than 1.5 kg			
OS Compliance	Windows & Linux compliance by OEM			
operating system	Pre loaded Linux			

Code	Item Description	Qty
33450-B6-023	AMD Core - R5 Mini PC	1 No

Parameter	Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Processor	AMD Ryzen™ 5 4600GE, 3.30 GHz, 11MB Cache, 6 Cores			
Memory	8 GB DDR4 SDRAM @ 2666 MHz or higher Expandable upto 16GB with atleast 1 free slot			
Mother Board (Intel/Gigabyte/ASUS/MSI/OEM)	1*M.2 Slots, SATA Slots, Integrated Graphics Controller, & Min 6 USB Ports with at least two with 3.0, VGA , Display port/ HDMI , RJ45, Audio in /out			

Hard Disk Drive	Min 1TB SATA, 5400 RPM or higher			
Monitor	19" TFT ( $\pm$ 0.5 inch) TFT/ Wide LED Color Monitor. Resolution 1366 X 768 or higher.			
Network Interface	Integrated Ethernet 10/1000/1000 MBps, Wifi 802.11 b/g/n/ac, Bluetooth 5.0			
Keyboard	USB – Membrane Keyboard			
Mouse	USB – Optical Mouse			
General Certification	BIS, Hazardous - RoHS, Energy efficient - Energy star, Safety - CE / UL			
Cabinet type	Vesa Mount type - Micro Form factor			
Security	Kensington lock			
Weight	Less than 1.5 kg			
OS Compliance	Windows & Linux compliance by OEM			
operating system	Pre loaded Linux			

Code	Item Description	Qty
33450-B6-024	Blade chassis shall be 19" rack mountable	1 No

Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
The enclosure Should support full height/width and half height/width blades in the same enclosure, occupying a max of 10RU rack height, it should support minimum <b>8 half height/width</b> blades per blade chassis or <b>4 Full Height/ Width</b> . It should also be capable to taking a Storage Blade with capability to assign it as DAS/ SAN to individual Blade Servers			
<b>Power</b>			
The enclosure should be populated fully with power supplies of the highest capacity & should be energy efficient.			
The power subsystem should support N + N / N+1 power redundancy (where N is greater than 1) for a fully populated chassis			
<b>Cooling</b>			
Each blade enclosure should have a cooling subsystem consisting of redundant hot pluggable fans or blowers			
<b>Blade Support</b>			
Should support built-in management software in redundancy			
Should provide single management console for all the blade servers across multiple chassis.			
<b>Chassis connectivity</b>			
The chassis should be provided with redundant modules for connectivity			
<b>Converged Module</b>			



Chassis should be configured with a pair of redundant converged modules with each module having atleast 4*32Gbps Uplink for FC connectivity to core SAN Switches and 4*10G SR SFP+ for connectivity to Core Ethernet Switches			
Chassis should support aggregation of multiple enclosures to consolidate data centre network connections, reduce hardware and to scale network bandwidth across multiple enclosures. the interconnects can be internal or external in either case the interconnects should be provided in redundancy. All the modules/switches for chassis interconnectivity should be in redundancy.			

Code	Item Description	Qty
33450-B6-025	Storage Blade	1 No

Specifications	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
The Storage Blade shall be capable of accommodating atleast 40 SFF drives in Full Height/Double Width form factor			
Should have redundant 12G SAS IO connectivity to each Server			
Shall support provisioning as a DAS/ JBOD to the individual Servers or as a Virtual Storage using SDS like Storevirtual VSA, Vmware VSAN etc			

Blade shall be populated with minimum of 5 nos. of 1.8 TB SAS 10k rpm disks			
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Code	Item Description	Qty
33450-B6-026	Half Height Server - 2 CPU	1 No

Specifications	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Each blade shall have two numbers of latest Intel Xeon Scalable Processors (Intel® Xeon® 6230 processor family or higher) with Min. 20 cores per processor each having Min. 2.1 GHz processor speed.			
Intel chipset compatible with the offered processors.			
Min. 24 DIMM slots for Memory, and the Server should be populated with 640 GB RAM using DDR4 DIMM's operating at 2933 MT/s (depending on processor model) or higher			
ECC protection, online mirror memory			
2 x 2.4 TB 10k rpm SAS Drives			
SAS Raid Controller with RAID 0/1			
The server should be configured with minimum of 1 x Dual port 25Gbps Converged network adapter			

Each Blade should have redundant network Connectivity to Redudandant Chassis Interconnect modules.			
Server must support minimum 2 or maximum 3 mezzanine slots (3 x16 pcie 3.0) with connectivity cards as required to meet the bandwidth requirement specified			
Minimum of 1* internal USB 3.0 port ,1* internal SD card slot			

Code	Item Description	Qty
33450-B6-027	Full Height Server - 4 CPU Capable	1 No

Specifications	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Each blade shall have two numbers of latest Intel Xeon Scalable Processors (Intel® Xeon® 6230 processor family or higher) with Min. 20 cores per processor each having Min. 2.1 GHz processor speed. It shall be upgradeable to 4 Processors			
Intel chipset compatible with the offered processors.			
Min. 48 DIMM slots for Memory, and the Server should be populated with 1024 GB RAM using DDR4 DIMM's operating at 2933 MT/s (depending on processor model) or higher			
ECC protection, online mirror memory			
2 x 480 GB RI SATA SSD upgradeable to 4 disks			
SAS Raid Controller with RAID 0/1			

The server should be configured with minimum of 1 x Dual port <b>25Gbps</b> Converged network adapter			
Each Blade should have redundant network Connectivity to Redudandant Chassis Interconnect modules.			
Server must support minimum 2 or maximum 6 mezzanine slots (6 x16 pcie 3.0) with connectivity cards as required to meet the bandwidth requirement specified			
Minimum of 1* internal USB 3.0 port ,1* internal SD card slot			

Code	Item Description	Qty
<b>33450-B6-028</b>	Wireless Access Point indoor	1 No

<b>WIFI Standard and Radio Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
IEEE 802.11ax (WIFI 6) dual radio with features such as OFDMA,MU-MIMO, Data rate more than 1.2Gbps at 5 Ghz radio and more than 500 Mbps at 2.4 Ghz radio ,Transmit Beamforming,Total of 15 or above SSID's per AP			
Should support existing WIFI Standards such as 802.11a/802.11b/802.11g/802.11ac/802.11n/802.11AX certified Day one.			
Atleast 2x2:2 MU-MIMO at 5 Ghz radio Atleast 2X2:2 MU-MIMO at 2.4 Ghz radio and Dedicated BLE and Zigbee Radio for IOT			
Should support 20 Mhz, 40 Mhz, channels (5GHz radio) and 20mhz, (2.4GHz radio)			

Should comply with the notifications related with EIRP, Output power ,power spectral density issued by Wireless Planning and Coordination Wing under the Ministry of Communications			
Should support band steering and client match or equivalent, AP should support cloud and on-prime management solution from Same OEM			
<b>Antenna Specifications</b>			
Internal or external omni directional antennas with antenna gain of minimum 3 dBi in 2.4 Ghz radio and 5 Ghz radio			
<b>Power</b>			
Should support direct DC power and Power Over Ethernet			
<b>Physical Interfaces</b>			
(b) 1 x 10/100/1000 Mbps Ethernet (RJ-45) Port			
(b) DC input			
(c) Console port			
<b>Environmental Specification</b>			
Operating Temperature: 0° celsius to 45° celsius Humidity:5 % to 93 % non-condensing			
<b>Security Features and Authentication</b>			
WPA-PSK,WPA-TKIP,WPA2 AES,WPA3,802.11i,Dynamic PSK,OWE			
Should have WIDS and WIPS.			
Should have facility for Rogue AP Detection and prevention			
Should have ARP Spoofing Detection Facility and Man-in- the-middle attack prevention method			

Should have Built in Firewall and application visibility and control using DPI with (3000 Signatures) day one and capable of configuring security policies and QOS based on AVC			
Support for 802.1X authentication			
<b>Certification from WIFI Alliance</b>			
WIFI Certified 6 (AX),WIFI Certified a,WIFI Certified ac,WIFI Certified b,WIFI Certified g,WIFI Certified n and WPA3 Certification			
<b>Physical Security and Mounting</b>			
Secure bracket for Ceiling or wall mount ,locking mechanism and mounting kit from same OEM			
<b>Event Logging</b>			
Shall support per-client event log records association, authentication and DHCP activities for easy diagnosis			
<b>Diagnostics</b>			
LED Indicators for status check			
Support for SNMP version v1,v2,v3			
Should support packet capture in LAN and WLAN interfaces			
<b>Equipment Type Approval</b>			
Should have obtained Equipment Type Approval for the Wireless Access Point from the Wireless Planning and Coordination Wing under the Ministry of Communications			
<b>IEEE Standards</b>			
Should support standards 802.11k,802.11r,802.11v,802.1Q			
<b>Mode of Operation</b>			
Should work as stand-alone wireless access point and hardware on premise controller based access point			

<b>Quality of Service</b>			
Should support individual QOS and security profile based on AVC DPI outcome			
<b>Warranty and Support</b>			
Five year hardware warranty with on-site advance replacement by OEM directly within 24 hours			
The vendor shall provide software fixes and updates to the access point available as part of the warranty			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B6-029</b>	Wireless Access Point Outdoor	1 No

<b>WIFI Standard and Radio Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
IEEE 802.11ax (WIFI 6) dual radio with features such as OFDMA,MU-MIMO, Data rate more than 2Gbps at 5 Ghz radio and more than 500 Mbps at 2.4 Ghz radio ,Transmit Beamforming,Total of 15 or above SSID's per AP			
Should support existing WIFI Standards such as 802.11a/802.11b/802.11g/802.11ac/802.11n/802.11AX certified Day one.			
Atleast 4X4:4 MU-MIMO at 5 Ghz radio Atleast 2X2:2 MU-MIMO at 2.4 Ghz radio and Dedicated BLE and Zigbee Radio for IOT			
Should support 20 Mhz, 40 Mhz, channels (5GHz radio) and 20mhz, (2.4GHz radio)			

Should comply with the notifications related with EIRP,Output power ,power spectral density issued by Wireless Planning and Coordination Wing under the Ministry of Communications			
Should support band steering and client match or equivalent, AP should support cloud and on-premise management solution from Same OEM			
<b>Antenna Specifications</b>			
Internal or external omni directional antennas with antenna gain of minimum 3 dBi in 2.4 Ghz radio and 5 Ghz radio			
<b>Power</b>			
Should support direct DC power and Power Over Ethernet			
<b>Physical Interfaces</b>			
(a) 1 x 100/1000 Mbps Auto Negotiation Ethernet (RJ-45) Port with POE 802.3at compliant			
(b) DC input			
(c) Console port			
<b>Environmental Specification</b>			
Operating Temperature: 0° celsius to 55° celsius Humidity: 10 % to 90 % non-condensing, IP66/67 Cerrtified day one			
<b>Security Features and Authentication</b>			
WPA-PSK,WPA-TKIP,WPA2 AES,WPA3,802.11i,Dynamic PSK,OWE			
Should have WIDS and WIPS.			



Should have facility for Rogue AP Detection and prevention			
Should have ARP Spoofing Detection Facility and Man-in-the-middle attack prevention method			
Should have Built in Firewall and application visibility and control using DPI with (3000 Signatures) day one and capable of configuring security policies and QOS based on AVC			
Support for 802.1X authentication			
<b>Certification from WIFI Alliance</b>			
WIFI Certified 6 (AX),WIFI Certified a,WIFI Certified ac,WIFI Certified b,WIFI Certified g,WIFI Certified n and WPA3 Certification			
<b>Physical Security and Mounting</b>			
Secure bracket for Ceiling or wall mount ,locking mechanism and mounting kit from same OEM			
<b>Event Logging</b>			
Shall support per-client event log records association, authentication and DHCP activities for easy diagnosis			
<b>Diagnostics</b>			
LED Indicators for status check			
Support for SNMP version v1,v2,v3			
Should support packet capture in LAN and WLAN interfaces			
<b>Equipment Type Approval</b>			
Should have obtained Equipment Type Approval for the Wireless Access Point from the Wireless Planning and			

Coordination Wing under the Ministry of Communications			
<b>IEEE Standards</b>			
Should support standards 802.11k,802.11r,802.11v,802.11Q			
<b>Mode of Operation</b>			
Should work as stand-alone wireless access point and hardware on premise controller based access point			
<b>Quality of Service</b>			
Should support individual QOS and security profile based on AVC DPI outcome			
<b>Warranty and Support</b>			
Five year hardware warranty with on-site advance replacement by OEM directly within 24 hours			
The vendor shall provide software fixes and updates to the access point available as part of the warranty			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B6-030	Wireless LAN Controller -On premise	1 No

<b>Architecture</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
WLAN Controller should be rack mountable.It should be supplied with 256 AP licenses.It should not be a cloud solution and all the hardware and software systems should be available on premises.			
Support for high availability cluster, active-active or active-passive			
Should support Access points with WIFI Standards such as 802.11ax,802.11ac,802.11a,802.11b,802.11g,802.11n			
<b>Network and Logging Features</b>			
Should have real time monitoring,historical reporting			
Should support SNMP version 1,2 and 3			
Should support syslog event logging			
Should collect information regarding client device data			
Should maintain logs which includes all activities performed by the users like login, any configuration changes made on the system, device deletion, device authorization, RF Performance & WIPS, security parameters, Black listed user or devices log out etc., historic logs shall be stored in external syslog server or NMS.			
The dashboard features of the controller should be available in the standalone NMS Software			

Should support uploading of all logs to external Syslog Server in LAN/WAN on real-time and scheduled basis			
<b>Power Supply &amp; Fan</b>			
Should have redundant power supply			
Should have field replaceblefantray with multiple fans			
<b>Performance and Capacity</b>			
Should support for 256 Access points			
Should support more than 8000 concurrent devices and users.			
<b>Interface</b>			
4 x 1G RJ45 port and 2 x 10G SFP+ slots day one			
Should have one console port			
<b>Security</b>			
Should have support for WIDS/WIPS , ARP Spoofing Detection and prevention			
WIPS solution should detect & prevent an Ad-hoc connection as well as windows bridge			
The WIPS solution should able to detect and prevent common RF attacks like HotSpot, FATA-jack, OMER A etc.			
Wireless LAN solution shall be capable of identifying sources of WIFI and NON- Wifi interferences and output should be displayed in minimum 5 different UI Charts to make it easy for trouble shooting.			
Should have support for Rogue AP Detection and prevention, Honeypot AP's detection, misconfigured AP's detection.			
Should have built in firewall with 40G throughput , 2Million concurrent sessions and capable of creating and enforcement of policies.			

Controller should support deep packet inspection for all user traffic across Layer 4-7 network to analyses information about applications usage, peak network usage times for all access points from day one.			
WLAN solution should prevent students to use their Laptops and systems as DHCP server, as this can bring entire network down.			
WLAN system must be able to blacklist users who intended to disconnect other users from AP using free software's like netcutetc day one.			
Shall support secure management interfaces, including SSH/SSL access to CLI/Web User Interface			
The Controller / OS should support Common Criteria certificate EAL3 / NDcPP Day one			
Should provide location tracking of a Rogue AP / User device			
Should support "Walled Garden" or equivalent feature for Guest Network			
Should be able to intergrate with Active Directory, freeradius, windows NPS and other radius servers for authentication,authorization and accounting.			
Should support external splash page for captive portal authentication			
Should support integration with SMS gateway server to send Wi-Fi OTP details via SMS to guest users by a dedicated AAA Server with bandwidth limiting and quota enforcement for each user based on usage and time lines.			
<b>Dashboard Features</b>			

Should have GUI based dashboard for troubleshooting and diagnosis, Access point management, configuration, Authentication,cluster management,security services			
Solution Should have heatmapper facility ,anomaly analysis part of NMS			
Should display the controller health and the AP's health.			
Should have Role based user access view			
Solution Should have Custom graphs of key information as part of NMS			
Solution Should have Network view feature as part of NMS			
Should have DPI based Network Application visibility and control view feature with top application and user details			
Should have packet capture feature on the client interfaces and other uplink interfaces			
Should display Overall summary of the access point clients attached			
Should display Device Listing of the attached devices			
Should display the top performing radios,RF domain memberships,statistics			
Automatic discovery of WLAN Infrastructure			
Should be able to search for clients by username or MAC Address			
Solution Should show the access point location details based on floor plan diagram with SNR,connection speed,signal strength as part of NMS			

Should provide real-time charts/log showing interferers per access point, on a per- radio, per-channel basis.			
Should log and display radio and connectivity problems.Should be able to see applications by user			
Should be able to track RF performance,capacity and application-level statistics			
<b>QOS</b>			
Should support per user QOS and security services			
Should support monitoring quality of experience of different UCC applications like Skype, Microsoft Teams, Cisco Webex, Zoom etc and prioritize them over other application traffic.			
Should allow configuration of time schedules for enabling disabling group of AP's SSID in the hostels			
<b>IEEE Standards</b>			
Support of 802.11w,802.11r,802.11k,802.11v			
<b>Operating Temperature</b>			
0° to 40° Celsius			
<b>Warranty and Support</b>			
Five year hardware warranty with on-site advance replacement by OEM directly within 24 hours			
The vendor shall provide software fixes and updates as part of the warranty			
All Required licenses to be quoted and supplied day one.			

All the licenses quoted should be perpetual and applied centrally on primary controller. All the features and signatures including WIPS available at the time of expiration of license should continue to work. Renewal of licenses should be required only for new features and updates/releases announced by the OEM after the contract expires			
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Code	Item Description	Qty
33450-B6-031	Dedicated AAA Server Appliance	1 No

	AAA Server ( Hardware Appliance from Same OEM)	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
<b>Servers</b>	Should support approach that combines AAA, NAC, BYOD and Guest Access by incorporating identity, health, physical/device information, and conditional elements into one set of policies.			
	Must have ability to scale to up to 10000 devices per VM appliance			
	Solution must be Agnostic to existing wired, wireless and VPN network in place today.			
	Shell protected by CLI providing configuration for base appliance settings.			
	Appliance must provide disk or file encryption.			



	Ability to mix and match virtual and hardware appliances in one deployment.			
	Platform must be deployable in an out-of-band model and support for clustering with N+1 redundancy model.			
	Flexibility to operate all features/functions on any appliance in the cluster.			
<b>Functionality</b>	Web-based, interface that includes several productivity tools such as a configuration wizard and preconfigured policy templates.			
	Support any type of networking equipment (wired, wireless, VPN) and a variety of authentication methods (802.1X, MAC auth, Web auth).			
	Ability to take advantage of a phased implementation approach by starting with one element of access management (role based) and later incorporating added security measures (endpoint health).			
	Must incorporate a complete set of tools for reporting, analysis, and troubleshooting. Data from access transactions can be organized by customizable data elements and used to generate graphs, tables, and reports. Must correlate and organize user, authentication, and device information together.			

Solution must have fully integrated support for Microsoft NAP allowing health and posture checks on Windows endpoints without the need to install an agent.			
AAA server should have device profiling, Authentication, Authorization, Authorization and Guest functionality for 5500 concurrent devices from day 1 to enforce context aware policies.			
It must provide functionality like Android should get different access and Iphone will get different access.			
If any additional license would require to provide profiling functionality, it should be perpetual.			
AAA server must support both functionality RADIUS server for client device authentication and TACACS+ for network device authentication and logging from day 1.Overlay component can be added to achieve both functionality.			
All external facing interfaces are programmable, which means APIs are available to extend the system to support different authentication protocols, identity stores, health evaluation engines and port and vulnerability scanning engines.			
The solution Must be an easy-to-deploy			

hardware platform that utilizes identity based policies to secure network access and includes an integrated set of capabilities bundled under one policy platform:			
• Built-in guest management and device/user onboarding			
• Web based management interface with Dashboard			
• Reporting and analysis with custom data filters			
• Data repository for user, device, transaction information			
• Rich policies using identity, device, health, or conditional elements			
• Deployment and implementation tools.			
Must support flexible licensing model based on required functionality (i.e. Profile, Onboard, Posture, Guest Access).			
Correlation of user, device, and authentication information for easier troubleshooting, tracking etc.			
AAA framework must allow for the complete separation of Authentication and Authorization sources. For example, authentication against Active Directory but authorize against an external SQL database.			

Authentication or authorization support for LDAP, AD, Kerberos, Token Server, SQL compliant database			
Should support multiple methods for device identification and profiling such as:			
Integrated, network based, device profiler utilizing collection via SNMP, DHCP, HTTP, AD, ActiveSync			
Endpoint audit via NESSUS or NMAP scanning			
Policy creation tools:			
• Pre-configured templates			
• Wizard based interface			
• LDAP browser for quick look-up of AD attributes			
• Policy simulation engine for testing policy integrity			
Policy model should support incorporation of several contextual elements including identity, endpoint health, device, authentication method & types, and conditions such as location, time, day, etc.			
Support the following enforcement methods:			
VLAN steering via RADIUS IETF attributes and VSAs			
VLAN steering and port bouncing via SNMP			

	Access control lists – both statically defined filter-ID based enforcement, as well as dynamically downloaded ACLs.			
	Roles or any other vendor-specific RADIUS attribute supported by the network device.			
	Agent-based enforcement – bouncing a managed interface and sending custom messages. Also, control access to different networks via whitelist and blacklist. License as per requirement.			
	Must be able to join multiple Active Directory domains to facilitate 802.1x PEAP authentication.			
	Must support complex PKI deployment where TLS authentication requires validating client certificate from multiple CA trust chain. Must also support AAA server certificate being signed by external CA whilst validating internal PKI signed client certificates.			
<b>Reliability / Performance</b>	Appliances have ability to be clustered in any combination via local and remote network connections providing unlimited scale, redundancy, and access load balancing.			
	Platform must be deployable in an out-of-band model and support for clustering with N+1 redundancy model.			
	Failure of master node should not impact the ability for backup appliances to continue			

	servicing authentication traffic.			
	Must support several deployment modes including centralized, distributed, or mixed.			
	Core product should have been available in the market for at least 4 years.			
<b>BYOD</b>	Self-service workflow built on an industry leading platform. Supports popular smart devices as well as traditional computing platforms.			
	Unique portal pages based on devices type – iOS, Android.			
	Ability to support revocation of devices.			
	Correlation of user, device, and authentication information for easier troubleshooting, tracking etc. – provides high level of visibility into what devices are on the network and associated with what users.			
	Automated onboarding of devices to enable secure access via self-serve portal allowing for the configuration of 802.1x supplicants, device enrolment and provisioning.			
	Ability to integrate with Active Directory so users that are approved for BYOD may be authenticated via identity and/or device attributes.			

	OPTIONAL Cloud based, endpoint configuration tool for streamlining the configuration of 802.1X supplicants for laptops or handheld devices (smartphones, pads, etc.) and guiding the end-user onto the network for the first time. Support for Windows, Mac, iOS (iPhones, iPads, etc.) and Android devices.			
	BYOD solution should manage the individual device credentials in a partitioned database and not pollute the existing PKI with client certificates for BYOD devices.			
<b>Guest Access</b>	Solution must be capable of providing sponsored and self-provisioned Guest Access. License as per requirement.			
	Ability to provide free or billable Guest Access with built in payment solution that can integrate with payment solution providers.			
	Must be able to provide custom branding.			
	Ability to send automated SMS or email credentials to the Guest User.			
	Ability to set Account Details including Time Frame, Bandwidth Contract etc. Once account timeframe expires the User Account becomes inactive automatically.			
	Solution must be capable of providing Advertising Services (Play Video before Access, offer current Promotions, Advise of			

Health Alerts)			
Guest solution should manage the individual guest credentials in a partitioned database and not pollute the user store with account credentials for guest users.			
Ability to perform caching of MAC address post guest authentication to avoid the need for guest to re-authenticate during the period of their visit (3G like user experience after first authentication via captive portal).			
Auto-login for self-registration workflow – no need for the guest to retrieve account credentials from email or SMS for initial login.			
Anonymous login support with per device policy still applied.			
Access token login support for single credential login to guest network – event management, scratch cards etc.			
Bulk import of guest accounts with ability to trigger notification of credentials via email.			
Bulk import of NAS devices for large scale deployments.			
Sponsored approval workflow for guest self-registration where open SSID registration can be protected by requiring internal staff to approve the creation of guest account.			



	Prevent employees from accessing the guest network on the corporate laptop.			
	Apple Captive Network Assistant bypass for managing end to end guest workflow. For example post login welcome page display on iOS and Mac OS Lion and above devices.			
	Post login session statistics page displayed to users so they can monitor usage or quota assigned.			
	Support URL persistence so users originally requested webpage can be displayed post login.			
	Location based captive portal – display different landing page based on where guest is connecting to the network.			
	Support guest access across multi-vendor access networks.			
	Fully customizable self-registration or guest creation pages with user interface controls such as drop down, check list, radio button.			
	Authenticated self-registration for partner / joint venture account provisioning.			
	Published API's to allow 3 <sup>rd</sup> party system to manage guest accounts.			
<b>Certifications</b>	The Solution should be EAL3 / NIAP certified and should be a leader in latest Gartner magic quadrant for NAC			

Code	Item Description	Qty
33450-B6-032	Layer 2 Access Switch (24 Port)	1 No

Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
<b>Interface</b>			
24 x RJ-45 autosensing 10/100/1000 Mbps PoE+ ports ( IEEE 802.3at PoE+ with 370W of power budget)			
Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only			
Atleast 4 x 10 Gb slot with SFP+ for Uplink. The SFP+ module should be of the same make of the switch			
Should have one Console port			
<b>Temperature &amp; Humidity</b>			
Operating Temperature 0° - 45 ° Celsius			
Humidity 15 % - 95 % relative humidity,non condensing			
<b>Layer 3 Switching</b>			
Switch should support static and Dynamic routing (OSPF OR RIPv1 v2 and NG) day one".			
Switch should support multicast routing PIM DM / SM day one.			
Switch should support DHCP and DHCP spoofing day one			
<b>Software Defined Networking (SDN) Capability</b>			
OpenFlow protocol or open API capability to enable software-defined networking and programmability			

The switch should be based on programmable ASIC			
<b>Layer 2 Switching</b>			
VLAN support and tagging support IEEE 802.1Q			
Should have full fledged Layer 2 Functionality			
Should support 2K VLANS simultaneously			
<b>Power Supply &amp; fan</b>			
The switch should have built-in redundant power supply			
<b>Management</b>			
The switch should be manageable			
Should support SNMP v1,v2,V3			
Should provide monitoring and reporting capabilities for statistics,history,alarms,events			
Should have GUI Interface for managing, configuration, statistics,troubleshooting,diagnosis purposes			
The switch should be manageable,configurable and provide visibility through NMS software			
<b>Standards</b>			
Should support IEEE Standards 802.3az,802.3ad/802.1AX,802.3af,802.3at,802.1Q,802.3x,802.1p			
<b>Processor and Memory Details</b>			
Minimum of 1 GB RAM and 4 GB Flash			
Packet Buffer Size of Minimum 8MB			
<b>Security</b>			
Should block ARP broadcasts from unauthorized hosts			

Should allow access only to specified MAC addresses which can be learned or specified by the administrator			
Should support secure remote CLI Access			
<b>Performance</b>			
1000 MB Latency should be less than 4.3 micro seconds (64 byte packets)			
10 Gbps latency should be less than 3.5 micro seconds (64 byte packets)			
Should have forwarding rate of 95.2 Mpps			
Should have switching capacity of 128 Gbps			
MAC Address Table size of 30000 entries			
<b>Warranty and Support</b>			
Five year hardware warranty with on-site advance replacement by OEM directly within 24 hours			
The vendor shall provide software fixes and updates as part of the warranty			

Code	Item Description	Qty
<b>33450-B6-033</b>	Core Switch 24 Port	1 No

Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
<b>Interface</b>			
24 x 10 Gb slot with SFP+ single mode fiber transceiver module			

4 x10/25/50 uplink slot with SFP56 single mode transceiver module OR 2x 100G QSFP28 uplink ports (4x 50G / 8x25G / 8x10G using break-out cable)			
The SFP module should be of the same switch make			
1 x RJ-45 Console Port			
1 x 10/100/1000BaseT dedicated Ethernet port for Management			
<b>Power Supply and fan</b>			
Should have redundant and hot swappable Power supply			
Should have redundant and hot swappable fans			
<b>Memory</b>			
4 GB RAM 16 GB flash to store image and to store analytics logs			
<b>Temperature and humidity</b>			
Operating temperature 5° - 40° celsius			
Humidity: 15 % - 95 % relative humidity,non-condensing			
<b>Layer 3 Routing</b>			
Should support OSPF, Policy based Routing			
<b>Performance</b>			
Should have Switching capacity of 880 Gbps			
Should have Forwarding rate of 660 MPPS			
Should have latency less than 1 Micro second and 8 Mb buffer			
<b>Management</b>			
Should have GUI Interface for managing, configuration, statistics, troubleshooting, diagnosis purposes			
Should support SNMP v1,v2,v3			

Should provide monitoring and reporting capabilities for statistics,history,alarms,events			
The switch should be manageable, configurable, provide visibility through on-prime OR Cloud based NMS from same OEM			
<b>Other Features</b>			
Should Support port mirroring			
Should have DOS protection			
Should support stacking / Equivalent HA			
Should support 802.3ad (LACP)			
Should support more than 4000 VLANs			
Should support more than 32000 MAC ID's			
Request to amend as "Should support stacking with 200GBPS throughput or equivalent HA feature"			
Switch stack or equivalent HA architecture should be plug and play for attaching and removing any switch from the stack without any downtime for active-passive configuraton.			
Should be an enterprise grade switch			
<b>Security</b>			
Should have DOS Protection			
Should support SSH for remote management and login			
<b>Warranty and Support</b>			
Five year hardware warranty with on-site advance replacement by OEM directly within 24 hours			
The vendor shall provide software fixes and updates as part of the warranty			

Code	Item Description	Qty
33450-B6-034	Software defined WAN	1 No

Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
The software defined WAN solution should support multiple WAN links like broadband , Internet leased lines and MPLS			
SDWAN solution should have a centralized orchestrator which can do centralized management of SDWAN devices in branches. Orchestrator should support orchestration of encrypted tunnels from branches to DCs. There should not be any manual configuration to form tunnels from branches to DC and branches to branches			
The system should allow management of networks as software-defined network (SDN) with decoupled control plane and Data plane. Control Plane: Control plane is responsible to maintain centralized routing table, controls route advertisement as per policy, creates end to end segments on network, instruct data plane to change traffic flow as per policy. Data Plane: Data plane is responsible to forward traffic in encrypted tunnels, apply local policy like QoS (Quality of Service) for every tunnel, ACL etc			
Enterprise deployments should be fully independent of each other. Appliances should continue to operate even if connectivity to Orchestrator is lost.			
SDWAN orchestrator should be deployed on-premise datacentres			
Proposed SDWAN solution should support multiple WAN overlay tunnels / WAN topologies based on applications - Example: For collaboration suite there should be a mesh topology and for ERP application there should be a			

hub & spoke topology			
Solution should have WAN Overlay which can be visualized as mapping a set of applications to a network overlay where each overlay has : Specific WAN topology•Specific policies and network-level service objective attributes for traffic that routes on the SD-WAN fabric•Specific policies and network-level service objective attributes (loss, latency, and/or jitter) for traffic that routes external to the SD-WAN fabric (typically referred to as Internet Breakout)•Specific policies for Cloud-based security			
Solution should uses unique keys per tunnel, per device pair, per direction, and they are automatically maintained by the Orchestrator for hundreds/thousands of appliances			
IPSEC Key negotiation, rotation should happens automatically and in a timely manner for hundreds/thousands of appliances			
Proposed WAN solution should support hub and spoke , Mesh , Partial Mesh and regional Mesh topology			
Proposed SDWAN solution should support NAT discovery and NAT traversal helps solve the multiple devices with VPNs and NAT problem			
Proposed SDWAN solution should support different FEC (forward error correction) policies based on applications. For example for voice it should be 1:1 and for SAP traffic it should be 1:5			
Solution should support adaptive FEC policies . FEC ratio (of loss-recovery packets to data packets) should be tied to dynamic network measurements. When a link is experiencing no loss, FEC should be disabled automatically and there should be no overhead			
Solution should load share traffic across both physical links . Solution should be able to map data traffic to one and Forward Error Correction (FEC) packets to the other			



Solution should support Path conditioning on all applications, up to 10 traffic classes, end to end visibility			
Proposed SDWAN should support WAN Links tunnel bonding and per packet load balancing. Tunnel bonding should be supported even if the speed of WAN links are different			
Proposed SDWAN solution should support sub-second failover and voice calls should not drop incase of WAN link failure			
SDWAN solution should support seamless voice calls even if there is a WAN packet drop of 3-5%			
SDWAN solution should intelligently steer business critical traffic from one link to another based on the various WAN link parameters like latency , delay and packet drop			
SDWAN solution should support automatic mitigation during WAN link blackout and brownout scenarios			
SDWAN solution should offer tunnel encapsulation for end to end encryption, in case where standard IPsec could be blocked by provider. Based on the requirements customer should have flexibility to use custom ports			
Solution should support Path conditioning to overcome the adverse effects of packet loss and out-of-order packets			
Solution should support Packet Order Correction (POC) algorithms re-order packets that arrive out of order at their destination.			
Solution should support traffic shaping to ensure low-priority traffic does not override higher priority traffic			
Solution should performs both egress and ingress traffic shaping			

Solution should be able to program minimum and maximum bandwidth limits on the egress traffic shaping engine per traffic class to ensure no single application consumes all of the WAN bandwidth. Ingress shaping should be programmed to ensure that low-priority traffic does not override higher priority traffic			
Each WAN overlay should be secured via 256-bit AES encrypted tunnels.			
Solution should supports standard Layer 2 and Layer 3 open networking protocols such as VLAN (802.1Q), LAG (802.3ad), IPv4 and IPv6 forwarding, GRE, IPsec, VRRP, WCCP, PBR, BGP (version 4), OSPF and PIM (Multicast routing)			
Solution should support secure zero touch provisioning of branch SDWAN gateways			
Solution should supports PPPOE			
Solution should supports Auto MTU discovery for tunnels			
Orchestrator should support 1000 branch gateways or SDWAN gateways			
SDWAN Solution should be able to identify 10000 + applications and application signatures should get updated every day. Firmware upgrades should not be mandatory to get new application signatures. Solution should use advanced machine learning algorithms to identify applications . Solution should also supports custom application definitions			
SDWAN solution should be able to identify applications in first packet itself and steer the traffic to the best possible WAN link			
SDWAN solution should support deep packet inspection to identify the applications			
Solution should have automated SAAS IP address tables and internet map updates . Applications should be mapped via an ACL based on Application Group, IP Intelligence, web domain, application, DSCP, etc) to WAN			

overlays			
Solution should support DNS proxy			
Edge gateways should supports DHCP server (IPV6) , DHCP relay and DHCP HA configuration			
Orchestrator should support OAUTH for single sign on			
Orchestrator should support role based access for granular access control for L1 / L2 engineers			
SDWAN Segmentation – Solution should support 2000 VRFs which should be centrally orchestrated, and each appliance should support minimum 64 VRFs			
SDWAN Segmentation – Solution should support Statefull Firewall and minimum 4000 Firewall Zones.			
Firewall zones should be orchestrated centrally			
Solution should support end to end segmentation. SD-WAN fabric routes and packet header should carry necessary zone information to enforce the security policies across the SD-WAN fabric.			
Solution should able to prevent communication between LAN Zone in gateway 1 to DMZ Zone in gateway 2 without using any policies based on IP address. Zone to Zone policies should be supported across the SDWAN fabric			
SDWAN data center gateways should support hardware bypass. If there is a major problem with the appliance hardware, software, or power, all traffic goes through the appliance without any processing			
SDWAN solution should supports service chaining with next generation firewall devices and cloud security solutions			
QoS implementation of SDWAN should consists of an extensive deep			

packet inspection based classification engine and advanced queuing and service engine. The classification engine should be able to distinguish traffic based on any combination of source IP, destination IP, source port, destination port, incoming DSCP settings and application type. Solution should support Per Tunnel QOS			
Solution should be able to track ephemeral ports for applications like FTP, H323, SIP and more by monitoring the control channel for these protocols and identifying new dynamic connections as they are established.			
QOS Policies should be used to assign different traffic types to different traffic classes. Each traffic class should be able to assigned to: an absolute priority a minimum bandwidth guarantee a maximum bandwidth limit an excess bandwidth allocation weight a maximum number of packets per class a maximum number of bytes per class a maximum number of packets per flow per class a maximum number of bytes per flow per class			
Solution should supports arbitrary adds and rewrites of the DSCP field, solutions should be configured to work seamlessly with any particular service providers' MPLS QoS class assignments			
Orchestrator should support below monitoring capabilities both in real-time and historically. • Top talkers. Identify which applications are using the most bandwidth across the WAN • Bandwidth Utilization. Observe the total amount of bandwidth being utilized for both optimized and unoptimized • Network performance. The measure (in packets per second) the			

<p>performance being achieved across the WAN for both optimized and non-optimized</p> <ul style="list-style-type: none"> <li>• Flow count. Track the number of TCP and UDP flows generated across the WAN for both optimized and unoptimized</li> <li>• Latency. Measure average and peak latency in real-time. Drill down into the portions of the WAN with the highest latency</li> <li>• Packet Loss. Measure average and peak packet loss in real-time, in aggregate and on individual WAN connections. Observe the impact of Path Conditioning features</li> <li>• Out of Order packets. Measure how many packets are delivered out of order across the WAN, on average and during peak periods.</li> </ul> <p>- Flow data. Showing real-time user flow information for troubleshooting  - Live tunnel view to show how various transports are being using by application policies</p>			
Orchestrator should support ability to create scheduled and adhoc reports			
For third-party integration, SDWAN solution should supports SNMP to monitor the appliances.			
Orchestrator should support user authentication and authorization as a condition of providing access rights. Orchestrator should support RADIUS and TACACS for role based access			
Solution should supports sending Email alerts in case of any threshold violation			
Branch SDWAN gateways should be able to peer with BGP and communicate with NON SDWAN branch sites. There should not be any requirement that all traffic should go to hub to communicate with non SDWAN sites			
Orchestrator should be able monitor the local break out sessions and sessions through overlay SDWAN network			

Proposed Solution should supports WAN hardening where appliance should allow only inbound IPSEC packets and outbound IPSEC packets and management packets from appliance			
Proposed Solution should supports 128 bit AES disk encryption and 256 bit AES network encryption			
Solution should provides Live charts / views where IT Operations can monitor latency , jitter , packet drop , bandwidth and MOS between Hub and branches , between various branches			
Solution should also do visualize the latency in each hop across the WAN path			
Solution should be able to identify the top talkers , top destinations and top applications by usage			
Solution should be able to identify total bandwidth usage for various DSCP values			
Solution should have live charts which show bandwidth usage of different traffic classes like voice , video , file transfer applications etc			
Solution should show live views of out of order packets between branches and branches to DC			
Solution should show live views of MOS scores between branches and branches to DC			
Orchestrator should show live firewall drops for security analytics			
Orchestrator should live WAN topology			
Orchestrator should support IP SLA and based on the threshold violation solution support various actions like enable tunnel , disable tunnel , advertise routes , modify router metric , change VRRP priority and raise alarms.			

Solution should have capability to persist IPSEC key material is stored on each appliance, ensuring data plane tunnels are built quickly after an appliance reboot without any orchestrator dependency			
Solution should have DNS proxy capabilities where different DNS servers should be used based on domain names like for corporate domains it should use corporate DNS servers while for SAAS applications should use public DNS servers			
Solution should support HA for branch and VPNC appliances - Solution should supports active + active WAN links even if it is terminated on different appliances			
Solution should have a RMA wizard where IT operator should be able to replace the failed gateway with minimum steps			
Orchestrator should orchestrate the upgrade of branch gateways in such a way that only one branch gateway should get upgraded at a time			
<b>Branch Gateway / SDWAN gateway</b>			
Branch SDWAN gateway should supports WAN links up to 50 Mbps from day one			
Branch gateway should supports 2000 IPSEC tunnels			
Branch gateway should have minimum 100 GB SSD			
Branch gateway should have 3 x RJ45 10/100/1000			
<b>DC - VPN Concentrator</b>			
VPNC should supports WAN links up to 1000 Mbps from day one			
VPNC should supports 10000 IPSEC tunnels			
VPNC should have 4 x RJ45 & 2 x 1/10G Optical			
VPNC should have minimum 800 GB SSD			
VPNC should have inbuilt redundant power supply			

Code	Item Description	Qty
33450-B6-035	WAN Optimizer	1 No

Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Solution should support WAN optimization features from day one			
Solution should saves on WAN bandwidth and improves application response time.			
Solution should supports TCP Acceleration technologies like Window Scaling , Selective Acknowledgement , Round-Trip Measurement and HighSpeed TCP			
Proposed SDWAN solution should be able to do deduplication and compression for HTTP and HTTPS applications. SDWAN solution should supports SSL decryption for HTTPS applications			
Solution should inspects all traffic that is sent between clients and servers, storing information as a local instance in SDWAN appliances. Repetitive information should be delivered locally rather than sent across the WAN, minimizing communications across the WAN for improved application performance and maximum WAN utilization			
SDWAN solution should supports LZ compression			
SDWAN solution should use packet coalescing to repackage multiple smaller packets into a single larger packet. By doing this in connection with header compression, SDWAN solution should reduces the amount of bandwidth required for voice.			
Data reduction solution should work on both UDP and TCP applications. In addition, it should performs pattern matching in real time, minimizing network latency.			



WAN optimization solution should employ advanced header and payload compression to reduce the amount of voice traffic traversing the WAN			
SDWAN solution should use adaptive Forward Error Correction (FEC) to improve VoIP performance during periods of high packet loss. By dynamically adding FEC packets, SDWAN solution should recreate lost packets with extremely low latency. This should ensure voice quality during periods of congestion.			
SDWAN solution should support honoring existing QoS markings, the solution should provide native support for advanced QoS, including sophisticated classification logic, a variety of packet marking techniques, queuing, and traffic shaping.			
Solution should support applying WAN optimization only for specific applications like VDI, YouTube, Office365			
<b>Branch Gateway / SDWAN gateway</b>			
Branch gateway should support WAN links up to 50 Mbps from day one			
Branch gateway should support 2000 IPSEC tunnels. Branch WAN optimization gateway should have minimum 120 GB SSD			
Branch gateway should have 3 x RJ45 10/100/1000			
Branch gateway should support WAN optimization for up to 25 Mbps			
<b>DC - VPN Concentrator</b>			
VPNC should support WAN links up to 1000 Mbps from day one			
VPNC should support 2000 IPSEC tunnels. DC WAN Optimization gateway should have minimum 800 GB SSD			
VPNC should have 4 x RJ45 & 2 x 1/10G Optical			
Branch gateway should support WAN optimization for up to 1000 Mbps			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B6-036	TOR (Spine) Switch 12 Port	1 No

<b>Interface</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
12 x 40/100 Gb QSFP28 port			
40/100 Gb QSFP28 slot with 1 x 1meter 100G DAC cable and 1 x 100G multimode transceiver			
The SFP and cable module should be of the same switch make			
1 x RJ-45 Console Port			
1 x 10/100/1000BaseT dedicated Ethernet port for Management			
<b>Power Supply and fan</b>			
Should have redundant and hot swappable 2 x Power supply			
Should have redundant and hot swappable 3 x fans			
<b>Memory</b>			
16 GB RAM 32 GB flash to store image and to store analytics logs and support built in network analytics day one.			

<b>Temperature and humidity</b>			
Operating temperature 0° - 40° celsius			
Humidity: 15 % - 95 % relative humidity,non-condensing			
<b>Layer 3 Routing</b>			
Should support BGP OSPF,RIP,Policy based Routing			
<b>Performance</b>			
Should have Switching capacity of 2.4 Tbps			
Should have Forwarding rate of 1100 MPPS			
Should have latency less than 1 Micro second and 32 Mb buffer			
<b>Management</b>			
Should have GUI Interface for managing, configuration, statistics, troubleshooting, diagnosis purposes			
Should support SNMP v1,v2,v3			
Should provide monitoring and reporting capabilities for statistics,history,alarms,events			
The switch should be manageable, configurable, provide visibility through on-prime and Cloud based NMS from same OEM			
<b>Other Features</b>			
Should support RestAPI integration and Automation of VXLAN tunnels and EVPN solution.			
Should have DOS protection			

Should support HA of dual switch with dual control plane day one			
Should support 802.3ad (LACP), DCBX, PFC, ECN Day one			
Should support more than 4000 VLANs			
Should support more than 200k MAC ID's, 600k IPv4 & V6 Unicast Routes and 7k Multicast routes.			
Should support stacking / HA with 400 GBPS throughput			
Switch stack architecture should be plug and play for attaching and removing any switch from the stack / HA without any downtime			
Should be an enterprise grade switch			
<b>Security</b>			
Should have DOS Protection, 60k IPv4 ACLs day one			
Should support SSH for remote management and login			
<b>Warranty and Support</b>			
Five year hardware warranty with on-site advance replacement			
by OEM directly within 24 hours			
The vendor shall provide software fixes and updates as part of the warranty			

Code	Item Description	Qty
33450-B6-037	TOR (leaf) Switch 32 Port	1 No

Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
<b>Interface</b>			
32 x 1/10/25 Gb SFP28 port with 4 x 40/100 Gb QSFP28 uplink Interfaces			
4 x 40/100 Gb QSFP28 uplink slot with 1 x 1meter 100G DAC cable and 1 x 100G multimode transceiver			
The SFP and cable module should be of the same switch make			
1 x RJ-45 Console Port			
1 x 10/100/1000BaseT dedicated Ethernet port for Management			
<b>Power Supply and fan</b>			
Should have redundant and hot swappable 2 x Power supply			
Should have redundant and hot swappable 3 x fans			
<b>Memory</b>			
16 GB RAM 32 GB flash to store image and to store analytics logs and support built in network analytics day one.			
<b>Temperature and</b>			

<b>humidity</b>			
Operating temperature 0° - 40° celsius			
Humidity: 15 % - 95 % relative humidity,non-condensing			
<b>Layer 3 Routing</b>			
Should support BGP OSPF,RIP,Policy based Routing			
<b>Performance</b>			
Should have Switching capacity of 2.4 Tbps			
Should have Forwarding rate of 1100 MPPS			
Should have latency less than 1 Micro second and 32 Mb buffer			
<b>Management</b>			
Should have GUI Interface for managing, configuration, statistics, troubleshooting, diagnosis purposes			
Should support SNMP v1,v2,v3			
Should provide monitoring and reporting capabilities for statistics,history,alarms,events			
The switch should be manageable, configurable, provide visibility through on-prime and Cloud based NMS from same OEM			
<b>Other Features</b>			
Should support RestAPI integration and Automation of VXLAN tunnels and EVPN solution.			
Should have DOS protection			

Should support HA of dual switch with dual control plane day one			
Should support 802.3ad (LACP), DCBX, PFC, ECN and MACSEC Day one			
Should support more than 4000 VLANs			
Should support more than 200k MAC ID's, 600k IPv4 & V6 Unicast Routes and 7k Multicast routes.			
Should support stacking / HA with 400 GBPS throughput			
Switch stack architecture should be plug and play for attaching and removing any switch from the stack / HA without any downtime			
Should be an enterprise grade switch			
<b>Security</b>			
Should have DOS Protection, 60k IPv4 ACLs day one			
Should support SSH for remote management and login			
<b>Warranty and Support</b>			
Five year hardware warranty with on-site advance replacement			
by OEM directly within 24 hours			
The vendor shall provide software fixes and updates as part of the warranty			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B6-038	DC ORCHESTRATOR	1 No

<b>Specifications</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Solution should support orchestration for the Data Center that automate networking tasks, including provisioning of VLANs, OSPF & BGP EVPN with VXLAN on Spine & Leaf topologies within the Data Center (with or without EVPN).			
Solution should have an intelligent, API based, software-defined orchestration that simplifies and accelerates leaf-spine network provisioning and day-to-day operations across rack-scale compute and storage infrastructure. Solution should orchestrate a discrete set of switches as a single entity called a fabric which significantly simplifies operations and troubleshooting. Solution should be fully infrastructure and application aware to provide automation of various configuration and lifecycle events.			
Solution should have both interactive and automated workflows based architecture to allow an administrator to easily take control of their environment. Solution should implement to augment traditional switch-by-switch configuration so that administrator will have access to any device directly and make local changes.			



<p>Solution should support deep IT ecosystem integrations that enable administrator to manage, provision, and visualize their entire end-to-end network. Solution should have intuitive interface to provide a self-documenting real time map of the environment from a VM, to host networking, to a specific switch port and through Networks View solution should visualize Virtual Switch Extensions and Spine-Leaf connectivity.</p>			
<p>Solution should have API based integration with different tool such as VMware vSphere, VMware NSX, Nutanix Prism. Solution should allow automated fabric provisioning, event-based workflow automations, end-to-end network and host visibility and automatic storage traffic optimization.</p>			
<p>Solution should provide network orchestration software platform to define and create spine/leaf datacenter topologies, and actively interacts with other systems in the datacenter to understand and optimize for attached infrastructure and workloads. Solution should tackle the challenge of deterministically programming the entire network as a unified ecosystem and to allow workload management tools to tell the network exactly what they expect from the fabric, to ensure the optimum workload performance.</p>			
<p>Solution should orchestrate switches as a single networking fabric which significantly simplifies day to day operations and troubleshooting overall. Solution should provide help to avoid error prone switch-by-switch CLI configuration. Solution should provide workflow automation to streamline and automate complexity like automate EVPN configuration with</p>			

an intuitive wizard.			
Solution should support initial fabric operations via set of workflow automations using guided setup or API. Solution should support deployment of Leaf-Spine topology, Network wide Underlay configuration of an BGP or OSPF, Firmware and system services DNS/NTP management, Link aggregation and VLAN Groups orchestration, Fabric-wide Virtual Routing & Forwarding (VRF) management and Fabric wide EVPN management			
Aruba Fabric Composer, in conjunction with Aruba OS-CX Switches, and a wide range of 3rd party tools and products, enables zero touch operations throughout the Aruba network fabric. The network becomes responsive to the data, applications and storage workloads deployed in the data center. This vastly improves operational efficiency over traditional approaches for deploying and supporting public and private clouds, which can be slow, tedious and error prone.			
Solution should support suite of event-based workflow automations for completing many day-to-day operations within the DC fabric, including standard configuration tasks like Adding and deleting VLANs, assigning VLANs to ports, Creating and deleting Link Aggregation Groups (LAG), Toggling a switch Port admin state, Enabling/disabling LLDP, Applying a QoS profile for storage traffic ,Automatic on-demand network fabric optimization.			

**Category B7 – Specifications cum Bidder Compliance – Biometric Systems**

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B7-022	Finger print scanner - (A)	1 No

<b>Parameter</b>	<b>Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Computer Mode	Plain live scan capture			
Image Acquisition Requirement	Level 31 or Higher			
Image Evaluation Frame Rate	>3 frames/sec			
Capture Mode	Auto capture with built-in 76 x 80 mm x mm			
Connectivity	USB 2.0			
Dimension	(W X H X D) 160mm x 160mm x 160mm			
Weight	less than 2.5 kg			
Operating Temperature Range	0 - 50 degree C			
Humidity RH	Non Condensing			
Durability Shock Resistance	Yes			
Ingress Protection Rating	IP 54,			
Certification	STQC Certified Device			
Compatibility	Windows OS			
Software Complaint with UIDAI Device Capture Specification	V1.0 RC3			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B7-023	IRIS Scanner - (A)	1 No

<b>Item Description</b>	<b>Item Configuration</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
IRIS Diameter	210mm			
Spatial Resolution	4.0 Lp/mm: 60 Percentage			
Resolution	16 pixels/mm			
No of Simultaneous Captured Eyes	2 No			
View Finder	External with Capture Distance >750mm			
Capture Volume	(W X H X D ) > 250x500x500 mm and Exposure Time			
Imaging Wavelenth	700 - 900 mm			
Image Margins	Top & Bottom 0.25 x Iris Diameter mm			
Pixel Depth	8 bits/pixel			
Image Evaluation Frame Rate	>5 Frames/Sec			
Image Capture	Continous Image Capture			
Capture Mode	Auto Capture with built-in quality check (Incorporate NIST quality considerations)			
Sensor Signal Ratio	36db			

Connectivity	USB			
Operating Systems	Windows OS			
Certification	STQC Certified Device			

Code	Item Description	Qty
33450-B7-024	Web Camera - (A)	1 No

Product Item	Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Image Sensor	2 MP Sensor			
Focus	Automatic			
Lens	Carl Zeiss			
Minimum Lens Focal Length	2mm			
Effective Pixels	1600 x 1200			
Image Capture	8 MP with software enhancement			
Video Capture	960 x 720			
Frame Rate	30 fps			
Audio	Integrated Microphone			

Connector	USB 2.0 (USB 1.1 compatible)			
System Requirements	Computer: Pentium 4 1.4 GHz (XP), 2.4 GHz (Vista)			
	Operating System: Windows , Linux			
	Memory: 128 MB (XP), 512 MB (Vista)			
	Hard Drive: 200 MB			
	Display: 16-bit color			
	Sound: Windows-compatible sound card and speakers; full-duplex sound card recommended			
	Hardware: CD-ROM drive, USB port			
Power Requirements	Bus-powered			
Box Dimensions (LxWxH)	9 x 7.6 x 3.4"			

Code	Item Description	Qty
33450-B7-025	GPS Device - (A)	1 No

Item Description	Item Configuration	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Environment	Temp -45 degree to -85C			
Humidity	Upto 95 percentage non condensing			
GPS Chipset	SIRF Star III / SIRF IV GSD4e / Chipset Media Tek			

Frequency	L1 1575.42 MHz			
Channel	> 20 Channel			
Sensitivity	159 dbm to 169 dbm			
Protocol Support	NMEA 0183 MEA0183 V3.0			
Support Command	GGA,GSA,GSV,RMC,VTG,GLL V2.2			
Acquisition Rate Hot Star	1-8 Sec			
Warm Start	30-40 Sec			
Cold Start	30-42 Sec			
Electrical Voltage	3.5V to 6.5V			

Code	Item Description	Qty
33450-B7-026	Finger Print Enrolment Device ( 4+4+2 Fingers) - (A)	1 No

Parameter	Tender Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Image Resolution	min 500dpi, 256 gray, 8 bit (Should comply with FBI's IAFIS Image Quality Specification)			
Fingerprint Image Format	Rolled fingers – 1.77” x 1.6” (38 mm x 41mm)and ID Flats – 3.3” x 3.0” (83.82 mm x 76.2 mm)			

PC Interface	USB 2.0 or above			
Capture Mechanism	Automatic			
Fingerprint Image Format	Standard Output Formats creation of ANSI/NIST (latest available version) “Data Format for the Interchange of Fingerprint Information”, WSQ, BMP, ISO Formats.			
Operating Temperature	Should work with 0° to 50° C			
Operating System	FED should be compatible with all Operating Systems (Windows and LINUX)			
Hardware IP Rating	IP54			
Image Quality	FBI IAFIS IQS CJIS-RS-0010(V7) Appendix F certified			
Humidity	10-90% relative humidity, non-condensing			
Power Supply	100-240 V AC auto-adjusting; 50-60 Hz, 40 W maximum			
Certifications	FBI IAFIS IQS Appendix-F, IP 54 compliance, FCC, CE, UL, BIS / ISO- 60950-1, RoHS, STQC			
Compatible Software and SDK/API	SDK should work with existing applications used by the departments and also for the new applications. Bidder has to provide all necessary SDK / API / technical support for the integration of Device with the required software free of cost when ever			



	required.			
Capturing Capabilities	Device should detect fingers automatically . Device should be able to spot wrong sequence. Device should have capability to allow the fingers to be rolled in a left to right or right to left direction when taking the rolled impressions.			
LED Indicator	Yes(Should have power and acquisition status indicator on the device.)			
Capturing Speed	4+4+2 in 15-20 seconds			
Platen Size	86 x 78 mm			
Sensing Area	86 x 78 mm			
Image Size	Four Finger Slap: 1600 x 1500 pixels			
	Single Flats / Rolls 800 x 750 pixels			

Code	Item Description	Qty
33450-B7-027	Single Digit finger print scanner - (A)	1 No

Parameter	Tender Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Image Resolution	500 dpi to 1000dpi			
Capture Area	14.6mm x 18.1mm			
Scan Data	8 bit 256 grey scale			

Palm / Fingerprint Image Format	Standard Output Formats creation of ANSI/NIST-2011 “Data Format for the Interchange of Fingerprint Information”, WSQ, BMP, ISO Formats.			
Operating System	Compatible with all Operating Systems (Windows, LINUX & Android )			
Certifications	FBI Certified (PIV, FIPS 201, Mobile ID FAP 20 ), STQC			
Standards Compliance	FCC, CE, KCC, RoHS			
Interface	USB 2.0 High/ Full speed or higher			
Operating temperature	0-60 C			
Dust / Water resistance	IP54 rated. Standard Image Format and Interfaces with WSQ compression and Strong Performance for Wet / Dry Finger			
Cable Length	1600 mm or higher			
Power Source	USB Bus Power			

**Category B9 – Specifications cum Bidder Compliance – Cisco or Equivalent Products**

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B9-047	Data Center Application Centric Infrastructure (ACI)	1 No

<b>Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
<b>Fabric Defination</b>			
Proposed fabric must be the Clos network topology architecture defined using Spine, Leaf switches with VXLAN overlay			
Fabric should have achieve following functionalities:			
Flexibility : Should allow workload mobility anywhere in the DC, across the Data Center sites			
Resiliency : The proposed fabric should be able to sustain multiple link and device (Leaf & Spine), Controller failures			
Performance: The proposed fabirc should be able with use full cross sectional bandwidth (any-to-any) across all provisioned uplink ports using equal cost multi pathing			
Solution should provide flow analytics using hop by hop latency and packet drop info for specific flows with reason of drop, which helps identify, locate and root-cause data path issues across fabric architecture			

<p>Multi-DataCenter design:- The proposed architecture should provide a single pane for provisioning, monitoring, and management to deploy stretched policies across multiple Data centers. It should have Federated (Manager of managers) Management plane to push consistent policies across all the sites</p>			
<p><b>Hardware and Interface Requirement</b></p>			
<p>Fabric Connectivity should have the following properties:</p>			
<p>Leaf switches to Spine connectivity should use uplink port using line rate 100G only</p>			
<p>In the fabric, the leaf and spine switches quoted should be non-oversubscribed and perform at line rate</p>			
<p>All switches including Spine and leafs should be of line rate including access and uplink ports non-blocking</p>			
<p>All switches &amp; proposed Fabric must support for 1000 VRF/Private network without any additional component upgrade or design change</p>			
<p><b>Fabric Features</b></p>			
<p>Fabric must support various Hypervisor encapsulation including VXLAN and 802.1q natively without any additional hardware/software or design change.</p>			
<p>Fabric must auto discover all the hardware and auto provision the fabric based on the policy.</p>			
<p>The fabric architecture must be based on hardware VXLAN overlays to provide logical topologies that are abstracted from the physical infrastructure with no performance degradation. Fabric must support VXLAN Switching/Bridging and</p>			

VXLAN Routing.			
Fabric must support Role Based Access Control in order to support Multi - Tenant environment.			
Fabric must integrate with different virtual machine manager viz. VmwarevCenter, Microsoft Hyper-V with System Center, Kubernetes, RedhatOpenshift and manage virtualise networking from the single pane of Glass - Fabric Controller/SDN Controller for visibility of VM/Container at the controller level			
Fabric must integrate with all proposed L4 - L7 Physical and virtual appliances using single pane of glass - Fabric Controller / SDN Controller			
Fabric must provide deeper visibility into the fabric in terms of latency and packet drop between any two endpoints on the fabric			
Solution should provide L2 & L3 extension across sites			
Fabric must act as single distributed layer 2 switch, Layer 3 router and Stateless distributed firewall etc			
<b>Fabric Security Features</b>			
Fabric must have zero trust policy model for connected systems or hosts to help in protecting against any kind of attacks like Unauthorized Access, Man - in - the - middle - attack, Replay Attack, Data Disclosure, Denial of Service			
Fabric must provide RBAC policies and support AAA using Local User authentication, External RADIUS, External TACACS+, External LDAP, External AD			

Fabric /SDN controller should provide micro-segmentation rules and policies for workloads connected to DC fabric for east-west traffic . It must support segmentation of VM based attributes like hostname, OS, VM Tags, FQDN, Microsoft AD based classification			
Fabric must support Micro Segmentation for the Virtualize and Non - Virtualize environment (Baremetal, Container)			
Fabric must support true multi - tenancy			
Fabric must act as a State-less distributed firewall with the logging capability			
Multi DC fabric solution should provide encryption between sites using 256-bits AES			
Fabric must be capable of dynamically insert physical and virtual L4 - L7 (FW,LB,IPS) services between multiple segment using policy base traffic redirect			
<b>Fabric management</b>			
Fabric must provide Centralised Management Appliance or SDN Controller - Single pane of glass for managing, monitoring and provisioning the entire Fabric within Data Center & across all Data Centers			
Fabric must Auto discover all the Spine and Leaf switches and auto provision them based on the Fabric policy using Centralised Management appliance or SDN Controller.			
Fabric must be capable of dynamically insert physical and virtual L4 - L7 (FW,LB,IPS) services between multiple segment using policy base traffic redirect for East-West traffic.			

Centralised management appliance or SDN Controller should not participate in Data plane and control plane path of the fabric.			
Centralised management appliance or SDN Controller must provide necessary report for compliance and audit.			
Solution should store historical data to provide anomalies and trending information of each resources (environment, configuration & operational) and graphing of parameters, which will help customer to debug, over period of time.			
Solution should provide on going mechanism to find configuration deviation, security risk & non-compliances against segmentation rules by assessing current configuration, network security policies and generate alert for any deviation to provide assurance.			
Solution should provide network visibility and historical analysis between any two time series to identify any issue along with user who made that change.			
The solution should provide pre-change analysis for configuration so that it can highlight any challenges/issues even before actually pushing configuration within the environment to reduce the risk of network failures and increase change agility			
Solution should provide instant visibility into any applicable bugs, security advisories and field notices for running hardware and configuration			
Solution should include software recommendation & best practices based on platforms and running configuration in network			

Centralised management appliance or SDN Controller must communicate to south bound devices using open standard protocol i.e. OPFLEX / OPENFLOW / OVSDB etc. or using Device APIs.			
Centralised management appliance or SDN Controller must run in "N + 1" redundancy to provide availability as well as function during the split brain scenario			
In Event of all Centralised management appliances or SDN Controllers fails, the fabric must function without any performance degradation and with the current configuration.			
Centralized management appliance or SDN Controller provide dynamic device inventory of the Fabric as well as current network topology of the fabric. It must also validate the cabling connectivity and generate alarms in case of wrong or faulty connectivity.			
Centralised management appliance or SDN Controller must support multi tenancy from management perspective and also provide Role Based Access Control per tenant for the tenant management.			
All infrastructure required by fabric controllers to support the listed features and scale, should be provided by the bidder			



<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B9-048</b>	Data Center Network Automation (DCNM)	<b>1 No</b>

<b>Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
The solution must be supplied with a Central management appliance and associated licenses for managing, monitoring and provisioning the entire Fabric from Day-1.			
Solution must provide a single GUI tool for centralized management system with role based access control.			
Centralized management appliance or SDN Controller should not participate in Data plane and control plane path of the fabric.			
Solution should provide management of complete fabric with VxLAN EVPN Architecture or VxLAN IS-IS Architecture.			
Solution should support VXLAN topology to enable the visibility in the Overlay and Underlay topologies.			
Solution should provide dynamic, policy-based configuration for underlay, overlay, and interfaces.			
Solution should provide Fabric Builder for easy underlay bring-up and deployment.			
Solution should provide bootstrap using Power On Auto Provisioning (POAP) integrated into the Fabric Builder function.			

Solution should provide per-switch configuration deployment history of underlay, overlay, and interface configurations.			
Solution should provide Overlay network provisioning for leaf and borders switches, including external connectivity.			
Solution must provide necessary report for compliance and audit.			
Configuration compliance that constantly monitors the fabric to ensure fabric consistency.			
Multi-site solution should support failure domain isolation per site			
Topology views showing physical and overlay networks on the same page, helping IT administrators quickly identify the extent of virtual overlay networks on fabric.			
Provides last-24-hours summary of events and top “talkers.”			
Displays topology in near-real time for data center infrastructure.			
Provides general visibility into Layer 2 network connectivity mapped on the physical topology view.			
Allows users to filter topology views by overlay (VLAN or VRF)			
Tracks the details and connectivity of servers (hosts) that are connected to Switches			
Does not require any external database or database administrator to manage large installations.			
Telemetry-Enabled Environment Monitors			
VXLAN OAM			

End Point locator			
Solution must provide device inventory of the Fabric as well as current network topology of the fabric.			
Solution must integrate with VMware vCenter compute for topology view (virtual machines, vSwitch/DVS, port group, vNIC, VMNIC)			
In Event of failure of appliance , the fabric must function without any performance degradation and with the current configuration.			
Solution must support multi tenancy from management perspective and also provide Role Based Access Control per tenant for the tenant management.			
Solution must support TACACS+, RADIUS, LDAP or Local Authentication. It must also provide an integration with the syslog servers.			
Solution should provide troubleshooting capability up to port level on the entire fabric.			
Solution should provide topology view showing VXLAN tunnel endpoint (VTEP) status and VXLAN Network Identifier (VNI) status on a per-switch basis.			
Solution should provide topology and Endpoint Visibility, End to End Flow Visualization and Network Health Monitoring.			
Solution should enables integration with third-party or custom orchestration tools. Should supports orchestration through REST API. Should includes Python support for complex policy templates.			
Solution should provides views of configurations, events, and			

traffic.			
Solution should provides detailed visibility into real-time and historical performance statistics in the data center.			
Solution should provides insight into port and bandwidth use, error count, traffic statistics, etc.			
Solution should provides reports using predefined templates, including inventory, use, and health reports.			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B9-049</b>	Data Center Network Assurance and Insights (DC Network Day-2 Operations)	<b>1 No</b>

<b>Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Solution should provide resource utilization which will be useful for capacity planning because it offers early detection of resources that are exceeding capacity thresholds.			
Solution should provide environmental health to Identify anomalies by observing parameters such as CPU, memory, temperature, power draw, fan speed, etc.			
Solution should provide hardware flow analytics which helps identify, locate and root-cause data path issues using hop by hop latency and packet drop info for specific flows with reason of drop across in Spine and Leaf architecture			

The solution should store historical data and have ability to go back in time and provide alarms, events for root cause analysis.			
Solution should provide anomalies, and trending information of each resource and graphing of parameters, which help customer to debug, over period of time.			
Solution should support event based flow export directly from hardware without impacting CPU of switch			
Solution should provide up-to-date information on hardware and software going out-of-sale and out-of-support and get lead time to plan for upgrades.			
Solution should provide instant visibility into any applicable bugs as soon as they are reported and fixed in other customer environments. Avoid unscheduled outages for issues already known to OEM.			
Solution should provide instant visibility into any security advisories and take necessary action to stay secure and stay in compliance.			
Solution should include software recommendation based on platforms and configuration required in network			
The solution should store historical data and have ability to go back in time and provide alarms, events for root cause analysis.			
Solution should have mechanism to suggest best practices for implemented features			
Solution should continuously run assurance on running configuration to generate events that pinpoint deviations from configuration intent and suggest remediation steps			

The solution should store historical data and have ability to go back in time and provide alarms, events for root cause analysis.			
The solution should be able to do pre-change analysis for configuration so that it can point out any challenges/issues even before actually pushing configuration within the environment.			
Make changes confidently by proactively verifying their correctness and increase change agility while reducing the risk of network failures caused by human errors.			
Solution should be able to provide pruning of unused rules / policies to free up hardware resources			
Solution should support mechanism to reduce security risk and achieve provable continuous compliance by assuring network security policies and checking for compliance against business /segmentation rules.			
Solution should network visibility and historical analysis between any two time series to identify any issue along with user who made that change.			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B9-050</b>	Application Resource Management & Workload Optimization	<b>1 No</b>

<b>Feature Description</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
The solution should provide a application resource management solution that dynamically defines and controls the environment based on real time analytics to assure application performance at maximum efficiency by ensuring underlying infrastructure is at optimal state			
The solution should use an AI engine to provide a discovery engineer that provides Real Time Discovery and Topology view from Virtualized Application through to Storage Array and depict all relationships & interdependencies between them			
The solution should be an agentless architecture which should provide full stack visibility & control being Application, network, storage, cloud aware			
The proposed solution should understand the Optimal or Desired state of health for the environment and dynamically provide accurate automatable recommendations the Decision Analysis			
The solution should improve deployment process to assure initial placement and performance of new instances			
The solution should proactively predict and prevent application impacting events that continually balance the tradeoffs to eliminate or reduce resource contention and ensure the environment remains in the Desired State			
The solution should provide dynamic resource allocation to ensure demand of applications is matched with available resources in real time.			

The solution should provide automation of decision analysis by providing accurate, actionable recommendations that are then full automatable			
The solution should understand headroom available on all hosts in real time and Controls Optimal Sizing and placement of new workloads			
The solution should consider all dimensions of application workload demand including storage, network and applications depicting in the form of a supply chain for the data center in addition to CPU and memory and applies in decision making			
The solution should provide vertical and horizontal scaling actions of workloads and automate provisioning of infrastructure resources.			
The proposed solution should be application aware (Oracle WebLogic, IBM WebSphere, apache, tomcat etc.), the solution should manages the resources used by application servers, including heap, threads, transactions, and response time in the server process, and VMem and VCPU in the VM that hosts the application server.			
The solution should support multiple hypervisors (VMware, Hyper-V etc.) to access information about the managed VM's, Hosts, datastores and execute commands such as provisioning, resizing or reconfiguring entities sin the environment. can perform system monitoring, report on wasted storage, recommend actions, execute moves for VMs and VM storage, and execute VM reconfiguration (change CPU count, memory, etc.).			
The solution should collect information from network switches and load balancers to ensure minimal application latency, it should ensure chatty VMs are often placed together to maximize resource utilization and minimize noisy neighbor effect.			
The solution should provide what if capacity planning functionality to assist in decision making to right-size virtual workloads to assure application performance without over-allocating resources			



The solution should have ability to accurately forecast future hardware requirements (Storage and Compute) by taking into account the relationship between sizing, placement and capacity across all technologies in the stack			
The solution should provide real Time Visibility and alerting of compliance violations and provide actionable to resolve compliance risks			
The solution should be ware of license compliance, business continuity (DR/HA) and data sovereignty policies and standards at all times. It should provide Real time decisions to prevent or minimize any compliance risks.			
The solution should prevents configuration drift by allowing users to set specific policies around cost, business rules or class of service			
The solution should define and deliver service level adherence for applications and infrastructure			
The solution should provide comprehensive dashboard capabilities to give view of the environment including service performance health, workload improvements over time, actions performed, risks avoided etc. It should provide flexibility of report customization			
The solution should provide show back of resources configured in the environment & reclaim the unused/underutilized resources to other VM's in automated fashion			
The solution should be provided for 10 VM's/1 Sockets* with 5 years subscription for the entire environment			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B9-051	Application Performance Management	1 No

<b>Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
<p><b>Cisco App Dynamics - Application Performance Management</b></p> <p><b>a) App Dynamics APM Any Language Peak Edition-1 Year Subscription</b></p> <p><b>b) App Dynamics APM Microservice (5 pack)Peak Edition-1 Year Subscription</b></p> <p><b>c) Server Visibility Pro Edition (3 Pack) -1 Year Subscription</b></p> <p><b>d) Database Visibility Pro Edition - 1 Year Subscription</b></p> <p><b>e) Real User Monitoring Peak Edition - 1 Year Subscription</b></p> <p><b>f) Log Analytics - 1 Year Subscription</b></p> <p><b>g) AppDynamics Private Agent (Per Page Unlimited Location) - 1 Year Subscription</b></p>			
<p>The proposed solution must comprehensively cover the following 5 dimensions of application performance management:</p> <ol style="list-style-type: none"> <li>1. End-user experience monitoring by capturing data on how end-to-end performance impacts the user, and identifies the problem.</li> <li>2. Discovery of application architecture, modelling and mapping in run-time by discovering the software and hardware</li> </ol>			

<p>components involved in application execution, and their communication paths and establishing the potential scope of problems.</p> <p>3. User defined transaction profiling by examining user-defined transactions, as they move across paths to identify the source of the problem.</p> <p>4. Deep-dive in-context component monitoring to conduct deep-dive inspection of the resources consumed by, and events occurring within, the application components.</p> <p>5. Application analytics including technologies such as behaviour learning engines – to crunch the data generated, discover meaningful and actionable patterns, pinpoint the root cause of the problem, and ultimately anticipate future issues that may impact the end user.</p> <p>The proposed solution must be able to deliver all the above mentioned outcomes as part of one integrated user interface with no requirement to launch or access separate tools/screens. The information flow among all the modules should be in-context, correlated and seamless without the need to manually correlate and analyse data among multiple disparate tools.</p>			
<p>The proposed solution should provide subscription based licensing models and it should be capable of working on cloud as well as on prem.</p>			

<p>The proposed APM platform must support both Linux and Windows flavours for deployment of its core components (such as management server) and should not require any kind of "root access" or "root privilege" to deploy agents in the monitored applications. It should not require internet connectivity for installation or upgrade activities of core components or agents.</p>			
<p>The proposed solution should have out of the box support for automatic baselining wherein the solution can automatically learn the behaviour of monitored applications and set baseline thresholds automatically for all the monitored metrics, including:</p> <ul style="list-style-type: none"> <li>i) Application metrics</li> <li>ii) Server metrics</li> <li>iii) End User Metrics</li> <li>iv) Custom Metrics</li> <li>v) Business Metrics</li> <li>vi) Database Metrics.</li> </ul> <p>The solution must also provide an option of fixed as well as rolling time periods to calculate these thresholds. There should not be any limit to number of metrics being auto baselined.</p>			
<p>The proposed solution must provide an auto-discovered dynamic visual representation of the application topology comprising of components and activities in the monitored application environment. The discovered topology visualization (map) must clearly depict the following information :</p> <ul style="list-style-type: none"> <li>i) Type of connection between components</li> </ul>			

<p>(synchronous/asynchronous)</p> <ul style="list-style-type: none"> <li>ii) Calls per minute between components</li> <li>iii) Round trip time of the request between components (including network and backend time)</li> <li>iv) Baseline indicators for requests between components</li> </ul> <p>The solution should also provide options to manage/configure/customize the visualization (map) to suit the monitoring needs.</p>			
<p>The proposed solution must automatically discover end-to-end, cross-component processing paths used to fulfil a request for all services provided by the monitored application, without requiring any changes to the existing application code. After discovering the transactions, the solution should be able to further categorise the transactions into below buckets automatically, based on their behaviour:</p> <ul style="list-style-type: none"> <li>i) Normal</li> <li>ii) Slow</li> <li>iii) Very Slow</li> <li>iv) Stalled</li> <li>v) Errors</li> </ul> <p>The solution must be able to automatically segregate and sort these transactions based on load, errors, response times, health violations as well as percentage contribution to overall application average response time.</p>			

<p>The proposed solution must trace and capture every single transaction, calculate the per minute performance (average) and send the results to the platform. The solution should then be able to detect poorly performing transactions against an automatically created baseline and dynamically profile to provide deep code level visibility. The solution should also be able to provide a mapped flow of the problematic transaction with details of participating components and time spent for request completion at each component layer as an end outcome.</p>			
<p>The proposed solution must provide diagnostic code level details for problematic transactions including sequential method execution details with method type, class name, method name and line number. The solution should further provide execution time per method with thread state and exit calls to remote services or database instances if any. The solution should also have an option to trigger collection of these diagnostic sessions on-demand for selected transactions, when required.</p>			
<p>The proposed solution should provide an option to drill down directly from any problematic transaction to:</p> <ul style="list-style-type: none"> <li>i) the server instance which was executing that transaction and provide visibility into health of the server and other transactions getting executed in that node</li> <li>ii) related DB instance in-context with the queries that are being executed</li> <li>iii) in-context OS level metrics</li> <li>iv) correlated application logs from available log files</li> </ul>			

<p>The proposed solution should also have an option to identify network performance bottlenecks and app/network-interaction bottlenecks using an agent that resides on the application instance without needing any kind of network tapping or data capture appliances. The solution should be able to detect load balancers, TCP endpoints etc. and depict it on a dynamic network map. The solution should also be able to capture network KPIs such as throughput, latency, TCP Loss, SYN/FIN errors, client limited, client zero, TCP retransmission timeouts, server limited, server zero etc. in-context to the problematic application transaction with a provision to drill down from the application transaction to any correlated or contextual network metric.</p>			
<p>The proposed solution should provide end to end visibility across all web, mobile and IoT applications including detailed end-user experience analysis to specifically determine:</p> <ul style="list-style-type: none"> <li>i) geographically where the heaviest application load is originated from, depicted in a geo-map.</li> <li>ii) geographically where are the slowest end-user response times occurring.</li> <li>iii) Variation in application performance by location, client type, device, browser and browser version, and network connection for web requests.</li> <li>iv) Variation in application performance by application and application version, operating system version, device, and carrier for mobile requests.</li> <li>v) Variation in application performance by slowest web/Ajax requests, and the problem isolation correlated and in context to</li> </ul>			

<p>the backend application server calls.</p> <p>vi) Variation in application performance by slowest mobile and IoT network requests and problem isolation correlated and in context to the backend application server calls.</p> <p>vii) Variation in application performance by errors and crashes on mobile and IoT applications and its root cause.</p> <p>viii) Variation in application performance by web resource performance</p>			
<p>The proposed solution should be able to auto discover experience journeys for the users and provide below details :</p> <p>a) Performance metrics for each step in a user journey</p> <p>b) Performance metrics from one step to the next</p> <p>c) Top incoming and outgoing traffic data for each step</p> <p>d) Drop-off rates</p> <p>e) Refresh traffic and performance data</p>			
<p>The proposed solution must be able to track web and mobile user sessions to analyse any user's behaviour based on user's unique ID. There must be a provision to query for a segment of users with similar behaviour, such as from a specific geo location or visiting a specific page or using a particular device etc. The solution should also support a seamless ingestion of raw session data to an analytics engine to perform slicing and dicing on the data.</p>			



<p>The proposed solution should have a robust analytics engine that can ingest application performance, custom and business data from multiple sources such as:</p> <ul style="list-style-type: none"> <li>i) Application transactions</li> <li>ii) End user browser requests and sessions</li> <li>iii) End user mobile requests and sessions</li> <li>iv) Application, system or custom logs</li> <li>v) IOT requests and transactions</li> <li>vi) Synthetic requests</li> </ul> <p>This analytics module should have a provision to query the ingested data through UI and also a full fledged query language to perform advanced analytics to provide insights into application performance impact on a process flow through business journey mapping, impact analysis of an issue over a period of time on users, regions and functionalities, release analytics, conversion of business KPIs to trackable metric, experience level management etc.</p>			
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<p>The proposed solution should be able to provide in context database monitoring, supporting wide array of RDBMS as well as NoSQL. The solution should be able to report</p> <ul style="list-style-type: none"> <li>a) top database activities (e.g. Top SQL, Top Users, Top Programs);</li> <li>b) database activity profile over-time (identify patterns);</li> <li>c) Collect and store all database wait events and correlate with SQL/Stored Procedures;</li> <li>d) Collect and store SQL/Stored Procedure Key Performance Indicators (CPU, Count, Reads/Writes)</li> <li>e) Collect and store database instance level statistics (table size, row count, indexes)</li> <li>f) Collect and store database server/host Key Performance Indicators (CPU, Memory, ...)</li> <li>g) breakdown of latency of stored procedure components</li> <li>h) Collect SQL Explain &amp; Execution plans</li> <li>i) Collect and store performance data on database Objects (Schemas, tables, indexes)</li> </ul>			
<p>The proposed solution must provide comprehensive coverage for container based microservices monitoring along with container orchestration layer monitoring support. The solution should be able to monitor the container images and the services running on those images. There should be no requirement to change the container images to enable monitoring in case of applications based on technologies like Java. The solution should also be capable of pulling information from the orchestration layers like kubernetes/openshift and present relevant metrics like pod</p>			

metrics, node metrics, deployment metrics, endpoint metrics etc.			
The proposed solution should provide contextual monitoring of OS level metrics and provide auto correlation to the application performance. The server OS level monitoring should include general server visibility, process, volume and network metrics. There should be seamless correlation between server and application metrics through UI on the same screen without having to switch UIs.			
The proposed solution must have a robust alert and respond engine that leverages multiple data inputs into analysis (app performance data, machine data, analytics data and user provided data), uses Boolean logic to combine multiple conditions through AND / OR logic, has capability to disable rule evaluation temporarily for predetermined maintenance windows, can trigger alerts or notifications when rules are violated (email, SMS or custom), can utilize complex logic to combine different metrics into one trigger/alert.			
The proposed solution should provide mechanisms (API based or other methods) to take data feeds from various infra providers - cloud platforms, software defined data center and networking platforms as well as send data feeds and trigger actions into hybrid cloud management platforms, application resource scalability and optimization platforms and service management platforms. It should facilitate auto remediation of problems based on alert triggers and pertinent action workflows through these integrations.			

The proposed solution platform should be highly scalable supporting upto 10000 agents reporting to one managing server without the need of federation of data from different collectors, to ensure TCO minimization and support envisaged landscape growth.			
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Code	Item Description	Qty
33450-B9-052	Nexus Leaf Switch – Copper	1 No

Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
<b>Feature Set</b>			
<b>Solution Requirement</b>			
The Switch should support non-blocking Layer 2 switching and Layer 3 routing			
Switch should support the complete STACK of IPv4 and IPv6 services.			
The proposed switches should be part of Gartner Leader Quadrant for DC Networking for last 2 years			
The Switch used have the capability to function in line rate for all ports			
<b>Hardware and Interface Requirement</b>			
Switch should have the following interfaces:			
Minimum 48 ports support 100M/1G/10GBASE-T ports for host connectivity and 6*100G ports for Fabric/Spine connectivity.			

Switch should have console port for local management & management interface for Out of band management			
1 RU fixed form factor			
Switch should be rack mountable and support side rails if required			
Switch should be provided with power redundancy			
<b>Performance Requirement</b>			
Modular OS with dedicated process for each routing protocol			
Switch should re-converge all dynamic routing protocol at the time of routing update changes i.e. Graceful restart for fast re-convergence of routing protocols ( OSPF, IS-IS, BGP)			
Switch should support minimum 1000 VRF instances with route leaking functionality			
The switch should support <b>400k</b> IPv4 LPM routes			
The Switch should support intelligent buffer management with a minimum buffer of <b>40MB</b> .			
The switch should have MAC Address table size of 90K			
The switch should support 8K multicast routes			
Switch should support 4000 VLANs			
Switch should support 64 nos of ECMP paths			
Switch should support minimum <b>2.16</b> Tbps of switching capacity (or as per specifications of the switch if quantity of switches are more, but should be non blocking capacity)			
<b>Network Virtualization Features</b>			
Switch should support Network Virtualisation using Virtual Over Lay Network using VXLAN			

Switch should support VXLAN and EVPN symmetric IRB for supporting Spine - Leaf architecture to optimise the east - west traffic flow inside the data center			
<b>Layer2 Features</b>			
Spanning Tree Protocol (IEEE 802.1D, 802.1W, 802.1S)			
Switch should support VLAN Trunking (802.1q)			
Switch should support minimum 90k no. of MAC addresses			
Switch should support VLAN tagging (IEEE 802.1q)			
Switch should support IEEE Link Aggregation and Ethernet Bonding functionality (IEEE 802.3ad) to group multiple ports for redundancy			
Switch should support Link Layer Discovery Protocol as per IEEE 802.1AB for finding media level failures			
Switch should support layer 2 extension over VXLAN across all DataCenter to enable VM mobility & availability			
The Switch should support DC Bridging i.e. IEEE 802.1Qbb Priority Flow Control (PFC), Data Center Bridging Exchange (DCBX), IEEE 802.1Qaz Enhanced Transmission Selection (ETS), Explicit Congestion Notification (ECN).			
Maximum number of port channels should be 48			
Maximum no of ports in the port channel should be 32			
The switch should support BGP EVPN Route Type 2, Type 4 and Route Type 5 for the overlay control plane			
<b>Layer3 Features</b>			
Switch should support static and dynamic routing			

Switch should support segment routing and VRF route leaking functionality from day 1			
Switch should support Segment Routing and Layer3 VPN over Segment Routing			
Switch should support multi instance routing using VRF/ VRF Edge/ Virtual Router routing and should support VRF Route leaking functionality			
Switch should provide multicast traffic reachable using:			
a. PIM-SM			
b. PIM-SSM			
Support Multicast Source Discovery Protocol (MSDP)			
IGMP v1, v2 and v3			
<b>Quality of Service</b>			
Switch system should support 802.1P classification and marking of packet using:			
a. CoS (Class of Service)			
b. DSCP (Differentiated Services Code Point)			
Switch should support for different type of QoS features for real time traffic differential treatment using			
a. Weighted Random Early Detection			
b. Strict Priority Queuing			
Switch should support Rate Limiting - Policing and/or Shaping			
Switch should support to trust the QoS marking/priority settings of the end points as per the defined policy			
<b>Security</b>			

Switch should support control plane Protection from unnecessary or DoS traffic by control plane protection policy			
Switch should support for external database for AAA using:			
a. TACACS+			
b. RADIUS			
Switch should support to restrict end hosts in the network. Secures the access to an access or trunk port based on MAC address. It limits the number of learned MAC addresses to deny MAC address flooding			
Switch platform should support MAC Sec (802.1AE) encryption in hardware			
VXLAN and other tunnel encapsulation/decapsulation should be performed in <b>single pass in Hardware</b>			
Switch should support for Role Based access control (RBAC) for restricting host level network access as per policy defined			
Switch should support DHCP Snooping			
Switch should support Dynamic ARP Inspection to ensure host integrity by preventing malicious users from exploiting the insecure nature of the ARP protocol			
Switch should support IP Source Guard to prevents a malicious hosts from spoofing or taking over another host's IP address by creating a binding table between the client's IP and MAC address, port, and VLAN			
Switch should support unicast and/or multicast blocking on a switch port to suppress the flooding of frames destined for an unknown unicast or multicast MAC address out of that port			



Support for broadcast, multicast and unknown unicast storm control to prevent degradation of switch performance from storm due to network attacks and vulnerabilities			
The Switch should support LLDP.			
Switch should support Spanning tree BPDU protection			
<b>Manageability</b>			
Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail			
Switch should provide remote login for administration using:			
a. Telnet			
b. SSHv2			
Switch should support for capturing packets for identifying application performance using local and remote port mirroring for packet captures			
Switch must have Switched Port Analyzer (SPAN) with minimum 4 active session and ERSPAN on physical, Port channel, VLAN interfaces			
Switch should support for management and monitoring status using different type of Industry standard NMS using:			
a. SNMP v1 and v2, SNMP v3 with Encryption			
Switch should provide different privilege for login in to the system for monitoring and management			
Should have Open APIs to manage the switch through remote-procedure calls (JavaScript Object Notation [JSON] or XML) over HTTPS after secure authentication for management and automation purpose.			

The Switch Should support monitor events and take corrective action like a script when the monitored events occurs.			
Should support hardware telemetry from ASIC- <ul style="list-style-type: none"> <li>• Flow path trace (ingress to egress switch)</li> <li>• Per Flow Hop by Hop packet drop with reason of drop</li> <li>• Per Flow latency (per switch and end to end)</li> </ul>			
<b>AVAILABILITY</b>			
Switch should have provisioning for connecting to 1:1/N+1 power supply for usage and redundancy			
Switch should provide gateway level of redundancy IPv4 and IPv6 using HSRP/VRRP			
Switch should support for BFD For Fast Failure Detection			
<b>MISCELLANEOUS POINTS</b>			
Console cable and power cable (As per Indian standards) as per customer requirement to be provided. All Cables shall be factory-terminated.			
All Functionalities of Switch shall be IPv6 compliant and it should work on IPv6 Platform without any additional hardware/ software.			
All the components should be from same OEM.			

Code	Item Description	Qty
33450-B9-053	Nexus Leaf Switch – Fiber	1 No

Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
<b>Feature Set</b>			
<b>Solution Requirement</b>			
The Switch should support non-blocking Layer 2 switching and Layer 3 routing			
Switch should support the complete STACK of IPv4 and IPv6 services.			
The proposed switches should be part of Gartner Leader Quadrant for DC Networking for last 2 years			
The Switch used have the capability to function in line rate for all ports			
<b>Hardware and Interface Requirement</b>			
Switch should have the following interfaces:			
Minimum 48 ports support 100M/1G/10GBASE SFP+ ports for host connectivity and 6*100G ports for Fabric/Spine connectivity.			
Switch should have console port for local management & management interface for Out of band management			
1 RU fixed form factor			
Switch should be rack mountable and support side rails if required			
Switch should be provided with power redundancy			
<b>Performance Requirement</b>			

Modular OS with dedicated process for each routing protocol			
Switch should re-converge all dynamic routing protocol at the time of routing update changes i.e. Graceful restart for fast re-convergence of routing protocols ( OSPF, IS-IS, BGP)			
Switch should support minimum 1000 VRF instances with route leaking functionality			
The switch should support <b>400k</b> IPv4 LPM routes			
The Switch should support intelligent buffer management with a minimum buffer of <b>40MB</b> .			
The switch should have MAC Address table size of 90K			
The switch should support 8K multicast routes			
Switch should support 4000 VLANs			
Switch should support 64 nos of ECMP paths			
Switch should support minimum <b>2.16</b> Tbps of switching capacity (or as per specifications of the switch if quantity of switches are more, but should be non blocking capacity)			
<b>Network Virtualization Features</b>			
Switch should support Network Virtualisation using Virtual Over Lay Network using VXLAN			
Switch should support VXLAN and EVPN symmetric IRB for supporting Spine - Leaf architecture to optimise the east - west traffic flow inside the data center			
<b>Layer2 Features</b>			
Spanning Tree Protocol (IEEE 802.1D, 802.1W, 802.1S)			
Switch should support VLAN Trunking (802.1q)			
Switch should support minimum 90k no. of MAC addresses			
Switch should support VLAN tagging (IEEE 802.1q)			

Switch should support IEEE Link Aggregation and Ethernet Bonding functionality (IEEE 802.3ad) to group multiple ports for redundancy			
Switch should support Link Layer Discovery Protocol as per IEEE 802.1AB for finding media level failures			
Switch should support layer 2 extension over VXLAN across all DataCenter to enable VM mobility & availability			
The Switch should support DC Bridging i.e. IEEE 802.1Qbb Priority Flow Control (PFC), Data Center Bridging Exchange (DCBX), IEEE 802.1Qaz Enhanced Transmission Selection (ETS), Explicit Congestion Notification (ECN).			
Maximum number of port channels should be 48			
Maximum no of ports in the port channel should be 32			
The switch should support BGP EVPN Route Type 2, Type 4 and Route Type 5 for the overlay control plane			
<b>Layer3 Features</b>			
Switch should support static and dynamic routing			
Switch should support segment routing and VRF route leaking functionality from day 1			
Switch should support Segment Routing and Layer3 VPN over Segment Routing			
Switch should support multi instance routing using VRF/ VRF Edge/ Virtual Router routing and should support VRF Route leaking functionality			
Switch should provide multicast traffic reachable using:			
a. PIM-SM			
b. PIM-SSM			

Support Multicast Source Discovery Protocol (MSDP)			
IGMP v1, v2 and v3			
<b>Quality of Service</b>			
Switch system should support 802.1P classification and marking of packet using:			
a. CoS (Class of Service)			
b. DSCP (Differentiated Services Code Point)			
Switch should support for different type of QoS features for real time traffic differential treatment using			
a. Weighted Random Early Detection			
b. Strict Priority Queuing			
Switch should support Rate Limiting - Policing and/or Shaping			
Switch should support to trust the QoS marking/priority settings of the end points as per the defined policy			
<b>Security</b>			
Switch should support control plane Protection from unnecessary or DoS traffic by control plane protection policy			
Switch should support for external database for AAA using:			
a. TACACS+			
b. RADIUS			
Switch should support to restrict end hosts in the network. Secures the access to an access or trunk port based on MAC address. It limits the number of learned MAC addresses to deny MAC address flooding			
Switch platform should support MAC Sec (802.1AE) encryption in hardware			

VXLAN and other tunnel encapsulation/decapsulation should be performed in <b>single pass in Hardware</b>			
Switch should support for Role Based access control (RBAC) for restricting host level network access as per policy defined			
Switch should support DHCP Snooping			
Switch should support Dynamic ARP Inspection to ensure host integrity by preventing malicious users from exploiting the insecure nature of the ARP protocol			
Switch should support IP Source Guard to prevents a malicious hosts from spoofing or taking over another host's IP address by creating a binding table between the client's IP and MAC address, port, and VLAN			
Switch should support unicast and/or multicast blocking on a switch port to suppress the flooding of frames destined for an unknown unicast or multicast MAC address out of that port			
Support for broadcast, multicast and unknown unicast storm control to prevent degradation of switch performance from storm due to network attacks and vulnerabilities			
The Switch should support LLDP.			
Switch should support Spanning tree BPDU protection			
<b>Manageability</b>			
Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail			
Switch should provide remote login for administration using:			
a. Telnet			
b. SSHv2			
Switch should support for capturing packets for identifying application performance using local and remote port mirroring for packet captures			

Switch must have Switched Port Analyzer (SPAN) with minimum 4 active session and ERSPAN on physical, Port channel, VLAN interfaces			
Switch should support for management and monitoring status using different type of Industry standard NMS using:			
a. SNMP v1 and v2, SNMP v3 with Encryption			
Switch should provide different privilege for login in to the system for monitoring and management			
Should have Open APIs to manage the switch through remote-procedure calls (JavaScript Object Notation [JSON] or XML) over HTTPS after secure authentication for management and automation purpose.			
The Switch Should support monitor events and take corrective action like a script when the monitored events occurs.			
Should support hardware telemetry from ASIC- <ul style="list-style-type: none"> <li>• Flow path trace (ingress to egress switch)</li> <li>• Per Flow Hop by Hop packet drop with reason of drop</li> <li>• Per Flow latency (per switch and end to end)</li> </ul>			
<b>AVAILABILITY</b>			
Switch should have provisioning for connecting to 1:1/N+1 power supply for usage and redundancy			
Switch should provide gateway level of redundancy IPv4 and IPv6 using HSRP/VRRP			
Switch should support for BFD For Fast Failure Detection			
<b>MISCELLANEOUS POINTS</b>			
Console cable and power cable (As per Indian standards) as per customer requirement to be provided. All Cables shall be factory-terminated.			
All Functionalities of Switch shall be IPv6 compliant and it should work on IPv6 Platform without any additional hardware/ software.			
All the components should be from same OEM.			



Code	Item Description	Qty
33450-B9-054	Nexus Fixed Spine Switch	1 No

Spine Switch Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
<b>Feature Set</b>			
<b>General Requirement</b>			
The Switch should support non-blocking architecture, all proposed ports must provide wire speed line rate performance			
Switch should support the complete STACK of IP V4 and IP V6 services.			
The proposed switches should be part of Gartner Leader Quadrant for DC Networking for last 2 years			
All relevant licenses for all the features and scale should be quoted along with switch			
Switch and optics should be from the same OEM			
<b>Hardware and Interface Requirement</b>			
Switch should have the following interfaces:			
Min of 64 non-blocking interfaces populated with multimode 40/100G Trancievers			
Switch should have console port for local management & management interface for Out of band management			
Switch should have adequate power supplies for the complete system usage and providing N+1 power supply redundancy			

<b>Performance Requirement</b>			
Switch should support minimum 1000 VRF instances with route leaking functionality			
The switch should support minimum 260K IPv4 LPM routes			
The switch proposed should have minimum 40 MB Packet Buffer			
The switch should support 8k multicast routes			
Switch should support a minimum of 12.8 Tbps BW			
<b>Network Virtualization Features</b>			
Switch should support Network Virtualisation using Virtual Over Lay Network using VXLAN			
Switch should support VXLAN and EVPN symmetric IRB for supporting Spine - Leaf architecture to optimise the east - west traffic flow inside the data center			
<b>Layer2 Features</b>			
Spanning Tree Protocol (IEEE 802.1D, 802.1W, 802.1S)			
Switch should support VLAN Trunking (802.1q)			
Switch should support minimum 90K no. of MAC addresses			
Switch should support VLAN tagging (IEEE 802.1q)			
Switch should support IEEE Link Aggregation and Ethernet Bonding functionality (IEEE 802.3ad) to group multiple ports for redundancy			
Switch should support layer 2 extension over VXLAN across all DataCenter to enable VM mobility & availability			
The switch should support BGP EVPN Route Type 2, Type 4 and Route Type 5 for the overlay control plane			

<b>Layer3 Features</b>			
Switch should support static and dynamic routing			
Switch should provide multicast traffic reachable using:			
a. PIM-SM			
b. PIM-SSM			
d. Support Multicast Source Discovery Protocol (MSDP)			
Switch should support Multicast routing			
<b>Quality of Service</b>			
Switch system should support 802.1P classification and marking of packet using:			
a. CoS (Class of Service)			
b. DSCP (Differentiated Services Code Point)			
Switch should support for different type of QoS features for real time traffic differential treatment using			
a. Weighted Random Early Detection			
b. Strict Priority Queuing			
Switch should support to trust the QoS marking/priority settings of the end points as per the defined policy			
<b>Security</b>			
Switch should support control plane Protection from unnecessary or DoS traffic by control plane protection policy			
Switch should support for external database for AAA using:			

a. TACACS+			
b. RADIUS			
Switch should support to restrict end hosts in the network. Secures the access to an access or trunk port based on MAC address. It limits the number of learned MAC addresses to deny MAC address flooding			
Switch platform should support MAC Sec (802.1AE) in hardware			
Switch should support for Role Based access control (RBAC) for restricting host level network access as per policy defined			
<b>Manageability</b>			
Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail			
Switch should provide remote login for administration using:			
a. Telnet			
b. SSHv2			
Switch should support Streaming of ASIC statistics at rapid cadence based on user config without involving switch CPU: >Interface counters (packets/bytes/drops) >Ingress/Egress queue depth >Ingress/Egress queue drops >Egress queue microbursts >Buffer depth			

Should support software telemetry - >Utilization of Operational like MAC/Route & Hardware resources like port utilization/ BW >Switch environmentals like (CPU/memory/FAN/Power Supply) > Interface statistics like CRC error			
Switch should support for management and monitoring status using different type of Industry standard NMS using:			
a. SNMP v3 with Encryption			
Switch should provide different privilege for login in to the system for monitoring and management			

Code	Item Description	Qty
33450-B9-055	SDWAN Controller	1 No

Functional Requirements:	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
System should be able to support by Separating the control plane from the data plane and integrating the WAN and branch networks into a single end-to-end framework that uses policies to manage traffic.			
System should able to support centralized authentication system to authenticate network elements of control plane, data plane and management tool.			
System should able to support Zero Touch Provisioning			

System should able to support centralized single plane of management system to allow device configuration, Policy provisioning, Software updates and assurance capabilities			
System must support any kind of transport such as MPLS, LTE, Serial V.35, EoMPLS			
System should able to support secure communication between NMS, Control plane, Data plane and Centralized authentication server			
System Should able to support of network elements to deploy any kind of topologies such as full mesh, Hub-spoke and Partial mesh , on a per segment basis			
System should able to support Multiple WAN Links utilization and detecting blackouts & brownouts by supporting active / active load balancing & Fast session failover			
System should able to support Network/App/ Service Policy enforcement either by centralized controller influences all locations , Regional Specific Policy and Each location enforces its own policies.			
Support end-to-end segmentation with separate routing and forwarding tables to securely isolate, Intranet departments, Guest traffic and Business Partner traffic within a single appliance . It should possible to create separate topology per segment			
The solution should have the capability to route directly between SDWAN and Non-SDWAN devices directly via MPLS without the need to route through a gateway device			

The Solution should have the capability to support different encryption keys per transport and per sdwan edge neighbor with the ability to automatically refresh encryption keys within a specified interval. System should not use pre-shared keys			
Solution should support packet duplication and forward error correction to improve voice and video applications			
The system should have capability to support Multicast (ASM,SSM) over the SDWAN overlay			
System should able to support of Scalability & High availability Architecture.			
System should able to offer by deploying On-Prem Hosting of all the SD-WAN software components such controller software, hypervisors etc.			
Solution should able to provide an abstraction of policy orchestration between control, data and application policies.			
Operationally Solution shouldn't be impacted , if any data plane routers got isolated from Control & Management Plane reachability.			
Solution should able to support NAT traversal for internet transport exists			
All the SD-WAN software/Hardware elements should able support any CA based authentication with signed certificate.			
Solution should able to support end-to-end packet classification, marking and bandwidth allocation			
The solution shall support hybrid branches which have a WAN connection to an MPLS IP VPN and a second WAN			

connection to the internet.			
The proposed controller should be scalable to cater up to 5000 Branches each with dual transports.			
System should able to support of routing protocols including OSPF ,BGP and Static routes on a per segment basis			
Support for Remote Authentication Dial-In User Service (RADIUS) and AAA.			
The solution shall have support for application-level monitoring, and traffic control to improve business-critical application performance, facilitate capacity management and planning, and reduce network operating costs.			
Solution should be able to support strong encryption algorithms, PKI for authentication and system integrity			
solution can notify external systems of events such as faults / alarms.			
Solution shall be able to support all the SD-WAN elements IPv6 Capable.			
Solution shall a able to support application visibility DPI, App reporting, marking, filtering and policy			
Solution must support for sending email notifications.			
<b>Interface Encapsulation Support for SD-WAN:</b> 1. Internet & Sub-interface 2. DSL: PPPoE&PPPoA 3. 4G 4. V.35			



<p>The solutions utilize SD WAN functionality by moving from a single circuit to multiple Internet circuits and should be able to eliminate a single point of failure while also using the application aware routing capabilities to overcome the pitfalls of commodity Internet transports.</p>			
<p>Every entity must be equipped with either a certificate signed by a public or enterprise certificate authority (CA), or a certificate for that entity to be accepted into the overlay. Before an instance is allowed into the network, the instance identity together with the certificate &amp; serial number associated with the same must be present in a centrally managed security authentication database.</p>			
<p>The Hardware for installation of the Controller/Manager etc. on the central site (DC &amp;DR) should be horizontally scalable.</p>			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B9-056</b>	Type 1 - Branch Router	<b>1 No</b>

<b>General Specifications</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Router should have minimum 2 X 10/100/1000BaseT Ethernet WAN ports out of which one port should allow both copper and fiber connectivity option.			
Router should have minimum 8 X 10/100/1000BaseT Ethernet LAN ports out of which two ports should support PoE Power			
Router should have USB 3.0 port to support wireless 4G connectivity at branch			
Router should have console port for local access			
Router should support 802.1x, sub-interface			
The router should have minimum 8GB DRAM and 8GB Flash			
Router should have WAN throughput upto 80 Mbps with services like IPSec and NAT enabled , QOS, IPSEC, Application control, Firewall, IPS & URL Filtering			
Router should support GRE, IPSec, PPPoE			
Router should have DES, 3DES and AES Standards. Should support IPSec with IKEv2 and Suite-B Encryption.			

Router should support static Routes, OSPFv2, OSPFv3, BGP4, MPLS, MBGP, IS-IS, HSRP/VRRP, IGMPv3, PIM-SM, PIM-SSM, RSVP, DVMRP, IPv4 and IPv6 tunneling,LISP, Virtual Private LAN Services (VPLS), Ethernet over MPLS.			
Router should support DHCP, DNS, PfRv3, NBAR2, AVC, IPSLA Initiator and responder			
The Router should have Zone Based Firewall feature from Day 1			
Router should support VPN technologies like IPsec VPN, Dynamic Multipoint VPN (DMVPN), FlexVPN, GET-VPN/Equivalent			
The Router should support IPsec Triple DES Encryption (3DES), AES-128/192/256/AES-256-GCM and SHA1/2/MD5/DH			
Router should support Certificate based IKE authentication, G-IKEv2 support between Key Server and Group Member communication, while running GET-VPN/Equivalent.			
Router should support 802.1p class of service and marking, classification, policing and shaping.			
Router should support SSHv2, SNMPv2c, SNMPv3,NTP, Netflow and IPFIX			
Routers should support AAA using RADIUS and TACACS+			
Router should have extensive support for mechanism for best path selection based on metrics like delay, latency, jitter, packet loss to assure business-critical IP applications.			

Router should support monitoring of network traffic with application level insight with deep packet visibility into web traffic, RTP-Based VoIP traffic			
Proposed router should be certified with EAL3 or above /NDPP/ common criteria certificate			
Router shall conform to UL 60950-1; EN 60950-1; IEC 60950-1 and AS/NZS 60950-1			
Router shall conform to EN55022 Class A; CISPR22 Class A and EN 61000			
Router should be IPv6 phase 2 logo ready by ipv6ready.org			
Router should support upto 0° to 40°C of Temperature			
<b>Platform should able to support Next Generation wide area network which allows to use WAN based on centralize controller architecture that can:</b>			
Router should able to run in both controller mode or traditional without changing operating system			
Router should support completely separate Control Plane and Data Plane communication			
Router should support building various IPSec topology like Hub & Spoke, full mesh, partial mesh with automation from the Central Controller.			
It should be possible to restrict Control Connection via one Link while Data Connection can Load share across available Link			

Router should support various Load Balancing technologies - Active-Active, Active-Passive, Unequal Load Balancing.			
Control plane communication between Routers and Central Controller must be secured via TLS/DTLS or equivalent Secure technology.			
Router should able to do End to end link quantity detection based on loss, latency and jitter and traffic routing based on link quality			
Router should support following Security features from Day 1: <ul style="list-style-type: none"> <li>• Statefull Firewall</li> <li>• IPS</li> <li>• Web/URL filtering .</li> <li>• Anti Malware/Ransomware Protection</li> </ul>			
Router should support Forward Error Correction & Packet Duplication to mitigate any Packet loss during transmission.			
Router must support minimum 10 end to end VRF segmentation for different traffic and creating multiple virtual topology based on traffic path.			
Router should able to support multiple end to end segment within single IPSec tunnel			

Branch router should be provided with minimum 10 Mbps aggregate bandwidth license <b>with services like IPSec and NAT enabled , QOS, IPSEC, Application control, Firewall, IPS &amp; URL Filtering and should be upgradable to 80 Mbps (with upgrade License) with QOS, IPSEC, Application control, Firewall, IPS &amp; URL Filtering.</b>			
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Code	Item Description	Qty
33450-B9-057	Type 2 Branch Router	1 No

General Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Router should have minimum 2x2 Gig Copper and 2x1G Fiber ports			
Router should support an aggregated minimum throughput of 900 Mbps or more with encryption			
Router should support minimum 1500 IPSec tunnels from day 1			
Router should be capable to scale to WAN throughput of upto 250 Mbps <b>with</b> QOS, IPSEC, Application control, Firewall, IPS & URL Filtering			
Router should support fixed power supply			
Router should support static Routes, OSPFv2, OSPFv3, BGP4, MPLS, HSRP/VRRP, IGMPv3, PIM-SM, PIM-SSM, RSVP, DVMRP, IPv4 and IPv6 tunneling,LISP, Virtual Private LAN Services (VPLS), Ethernet over MPLS.			

Router should support minimum 64 VRF for segmentation			
Router should support Configuration and monitoring using SSH, CLI			
Router should support SNMPv3, NTP, DNS client, DHCP client, DHCP server, DHCP relay, config archival, Syslog, SSH, SCP,NAT/PAT, IPFIX or NetFlow export			
Router should support Forwarding and Quality of Service (QoS) Classification, prioritization, low latency queuing, remarking, shaping, scheduling, policing, mirroring, NAT/PAT			
Router should support Route policies, app-aware routing, control policy, data policy, ACL policy, VPN membership policy, service advertisement and insertion policy			
Should have <b>8GB</b> of DRAM from day-1 which can be scalable up to 16GB.			
Router should support Bridging like 802.1Q, Etherchannel or equivalent, Sub interface, MACSec			
The router should support the following security features: Zero-trust, whitelisting, tamper-proof module, DTLS/TLS, IPSec, ESP-256-CBC, Authentication Header, HMACSHA1			
The router should work in controllerbased architecture and should support per tunnel QoS			
Proposed router should be certified with EAL3 or above / NDPP/ common criteria certificate			

The Router should be IPv6 Ready Logo Phase-2 certified.			
Router shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.			
Router shall conform to EN 550332 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.			
<b>Platform should able to support Next Generation wide area network which allows to use WAN based on centralize controller architecture that can:</b>			
Router should able to run in both controller mode or traditional without changing operating system			
Router should support completely separate Control Plane and Data Plane communication			
Router should support building various IPSec topology like Hub & Spoke, full mesh, partial mesh with automation from the Central Controller.			
It should be possible to restrict Control Connection via one Link while Data Connection can Load share across available Link			
Router should support various Load Balancing technologies - Active-Active, Active-Passive, Unequal Load Balancing.			
Control plane communication between Routers and Central Controller must be secured via TLS/DTLS or equivalent Secure technology.			



Router should able to do End to end link quantity detection based on loss, latency and jitter and traffic routing based on link quality			
Router should support following Security features from Day 1: <ul style="list-style-type: none"> <li>• Statefull Firewall</li> <li>• IPS</li> <li>• Web/URL filtering .</li> <li>• Anti Malware/Ransomware Protection</li> </ul>			
Router should support Forward Error Correction & Packet Duplication to mitigate any Packet loss during transmission.			
Router must support minimum 10 end to end VRF segmentation for different traffic and creating multiple virtual topology based on traffic path.			
Router should able to support multiple end to end segment within single IPsec tunnel			
Router should have aggregate 100 Mbps license from day-1 <b>with QOS, IPSEC, Application control, Firewall, IPS &amp; URL Filtering and should be upgradable to 250 Mbps (with upgrade License) with QOS, IPSEC, Application control, Firewall, IPS &amp; URL Filtering.</b>			

Code	Item Description	Qty
33450-B9-058	Head-End Router	1 No

<b>General Specifications</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Router should have minimum 6x1Gig ports <b>with 2 ports supporting 1 Gig Fiber SFP from day-1. (SFP Transceivers may be purchased later as per requirement)</b>			
<b>Should support 3 x 10Gig Fibre Ports in the Future.</b>			
Router should support minimum 6000 IPsec tunnels from day 1			
Router should be capable to scale to WAN throughput of upto 500 Mbps <b>with</b> QOS, IPSEC, Application control, Firewall, IPS & URL Filtering			
Router should support hot swappable redundant power supply			
Router should support static Routes, OSPFv2, OSPFv3, BGP4, MPLS, HSRP/VRRP, IGMPv3, PIM-SM, PIM-SSM, RSVP, DVMRP, IPv4 and IPv6 tunneling, LISP, Virtual Private LAN Services (VPLS), Ethernet over MPLS.			
Router should support minimum 64 VRF for segmentation			
Router should support Configuration and monitoring using SSH, CLI			
Router should support SNMPv3, NTP, DNS client, DHCP client, DHCP server, DHCP relay, config archival, Syslog, SSH, SCP, NAT/PAT, IPFIX or NetFlow export			
Router should support Forwarding and Quality of Service (QoS) Classification, prioritization, low latency queuing, remarking, shaping, scheduling, policing,			

mirroring, NAT/PAT			
Router should support Route policies, app-aware routing, control policy, data policy, ACL policy, VPN membership policy, service advertisement and insertion policy			
Should have 8GB of DRAM from day-1 which can be scalable up to 32GB.			
Router should support Bridging like 802.1Q, Etherchannel or equivalent, Sub interface, MACSec			
The router should support the following security features: Zero-trust, whitelisting, tamper-proof module, DTLS/TLS, IPSec, ESP-256-CBC, Authentication Header, HMACSHA1			
The router should work in controller-based architecture and should support per tunnel QoS			
Router should have aggregate 20Gbps license from day-1			
Proposed router should be certified with EAL3 or above / NDPP/ common criteria certificate			
The Router should be IPv6 Ready Logo Phase-2 certified.			
Router shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.			
Router shall conform to EN 550332 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility)			

requirements.			
<b>Platform should able to support Next Generation wide area network which allows to use WAN based on centralize controller architecture that can:</b>			
Router should able to run in both controller mode or traditional without changing operating system			
Router should support completely separate Control Plane and Data Plane communication			
Router should support building various IPSec topology like Hub & Spoke, full mesh, partial mesh with automation from the Central Controller.			
It should be possible to restrict Control Connection via one Link while Data Connection can Load share across available Link			
Router should support various Load Balancing technologies - Active-Active, Active-Passive, Unequal Load Balancing.			
Control plane communication between Routers and Central Controller must be secured via TLS/DTLS or equivalent Secure technology.			
Router should able to do End to end link quantity detection based on loss, latency and jitter and traffic routing based on link quality			

Router should support following Security features from Day 1: <ul style="list-style-type: none"> <li>• Statefull Firewall</li> <li>• IPS</li> <li>• Web/URL filtering .</li> <li>• Anti Malware/Ransomware Protection</li> </ul>			
Router should support Forward Error Correction & Packet Duplication to mitigate any Packet loss during transmission.			
Router must support minimum 10 end to end VRF segmentation for different traffic and creating multiple virtual topology based on traffic path.			
Router should able to support multiple end to end segment within single IPsec tunnel			
<b>Branch router should be provided with minimum 250 Mbps aggregate bandwidth license from Day 1 with QOS, IPSEC, Application control, Firewall, IPS &amp; URL Filtering and should be upgradable to 500 Mbps (with upgrade License) with QOS, IPSEC, Application control, Firewall, IPS &amp; URL Filtering.</b>			

Code	Item Description	Qty
33450-B9-059	SD-WAN Controller – II	1 No

<b>Functional Requirements:</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
System should be able to support by Separating the control plane from the data plane and integrating the WAN and branch networks into a single end-to-end framework that uses policies to manage traffic.			
System should able to support centralized authentication system to authenticate network elements of control plane, data plane and management tool.			
System should able to support Zero Touch Provisioning			
System should able to support centralized single plane of management system to allow device configuration, Policy provisioning, Software updates and assurance capabilities			
System must support any kind of transport such as MPLS, LTE, Serial V.35, EoMPLS			
System should able to support secure communication between NMS, Control plane, Data plane and Centralized authentication server			
System Should able to support of network elements to deploy any kind of topologies such as full mesh, Hub-spoke and Partial mesh , on a per segment basis			
System should able to support Multiple WAN Links utilization and detecting blackouts & brownouts by supporting active / active load balancing & Fast session failover			
System should able to support Network/App/ Service Policy enforcement either by centralized controller influences all locations , Regional Specific Policy and Each location enforces its own			

policies.			
Support end-to-end segmentation with separate routing and forwarding tables to securely isolate, Intranet departments, Guest traffic and Business Partner traffic within a single appliance . It should possible to create separate topology per segment			
The solution should have the capability to route directly between SDWAN and Non-SDWAN devices directly via MPLS without the need to route through a gateway device			
The Solution should have the capability to support different encryption keys per transport and per sdwan edge neighbor with the ability to automatically refresh encryption keys within a specified interval. System should not use pre-shared keys			
Solution should support packet duplication and forward error correction to improve voice and video applications			
The system should have capability to support Multicast (ASM,SSM) over the SDWAN overlay			
System should able to support of Scalability & High availability Architecture.			
System should able to offer by deploying On-Prem Hosting of all the SD-WAN software components such controller software, hypervisors etc.			
Solution should able to provide an abstraction of policy orchestration between control, data and application policies.			
Operationally Solution shouldn't be impacted , if any data plane routers got isolated from Control & Management Plane reachability.			

Solution should able to support NAT traversal for internet transport exists			
All the SD-WAN software/Hardware elements should able support any CA based authentication with signed certificate.			
Solution should able to support end-to-end packet classification, marking and bandwidth allocation			
The solution shall support hybrid branches which have a WAN connection to an MPLS IP VPN and a second WAN connection to the internet.			
The proposed controller should be scalable to cater up to 5000 Branches each with dual transports.			
System should able to support of routing protocols including OSPF ,BGP and Static routes on a per segment basis			
Support for Remote Authentication Dial-In User Service (RADIUS) and AAA.			
The solution shall have support for application-level monitoring, and traffic control to improve business-critical application performance, facilitate capacity management and planning, and reduce network operating costs.			
Solution should be able to support strong encryption algorithms, PKI for authentication and system integrity			
solution can notify external systems of events such as faults / alarms.			
Solution shall be able to support all the SD-WAN elements IPv6 Capable.			



Solution shall a able to support application visibility DPI, App reporting, marking, filtering and policy			
Solution must support for sending email notifications.			
<b>Interface Encapsulation Support for SD-WAN:</b> 1. Internet & Sub-interface 2. DSL: PPPoE&PPPoA 3. 4G 4. V.35			
The solutions utilize SD WAN functionality by moving from a single circuit to multiple Internet circuits and should be able to eliminate a single point of failure while also using the application aware routing capabilities to overcome the pitfalls of commodity Internet transports.			
Every entity must be equipped with either a certificate signed by a public or enterprise certificate authority (CA), or a certificate for that entity to be accepted into the overlay. Before an instance is allowed into the network, the instance identity together with the certificate & serial number associated with the same must be present in a centrally managed security authentication database.			
The Hardware for installation of the Controller/Manager etc. on the central site (DC &DR) should be horizontally scalable.			

**Category B12 – Specifications cum Bidder Compliance – High End Plotters & Scanners**

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B12-SP015</b>	A4 ADF 25PPM Scanner	<b>1 No</b>

<b>Parameter</b>	<b>Tender Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Scanner type	ADF			
Scanning speed at 200dpi	25ppm / 50 ipm– B/W and Colour or higher			
Optical Resolution	600dpi or higher			
Document size	A4, Legal Size			
ADF capacity	ADF 80sheets and above			
File format output	TIFF, JPEG, PDF etc			
Daily volume	3000 sheets or better			
Imaging features	Automatic brightness and contrast, auto image straightening(deskew)			
Interface	USB, Ethernet 10/100 Mbps( Internal & External)			
Temperature & Voltage	Should work for Indian climate & Electrical environment			
OS Compliance	Windows & Linux Compliance by OEM			
Certification	BIS			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B12-SP016</b>	A4 ADF 40PPM Scanner	<b>1 No</b>

<b>Parameter</b>	<b>Tender Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Scanner type	ADF			
Scanning speed at 200dpi	40ppm / 80 ipm– B/W and Colour or higher			
Optical Resolution	600dpi or higher			
Document size	A4, Legal Size			
ADF capacity	ADF 80sheets and above			
File format output	TIFF, JPEG, PDF etc			
Daily volume	4000 sheets or better			
Imaging features	Automatic brightness and contrast, auto image straightening(deskew)			
Interface	USB, Ethernet 10/100 Mbps( Internal & External)			
Temperature & Voltage	Should work for Indian climate & Electrical environment			
OS Compliance	Windows & Linux Compliance by OEM			
Certification	BIS			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B12-SP017</b>	A3 ADF 90PPM Scanner	<b>1 No</b>

<b>Parameter</b>	<b>Tender Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Scanner type	ADF			
Scanning speed at 200dpi	90ppm / 180 ipm– B/W and Colour or higher			
Optical Resolution	600dpi or higher			
Document size	A3, A4, Legal Size			
ADF capacity	ADF 250 sheets and above			
File format output	TIFF, JPEG, PDF etc			
Daily volume	20000 sheets or better			
Imaging features	Automatic brightness and contrast, auto image straightening(deskew)			
Interface	USB, Ethernet 10/100 Mbps( Internal & External)			
Temperature & Voltage	Should work for Indian climate & Electrical environment			
OS Compliance	Windows & Linux Compliance by OEM			
Certification	BIS			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B12-SP018</b>	A2+ overhead flat bed scanner	<b>1 No</b>

<b>Parameters</b>	<b>Specifications</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Print type	A2+ format Planetary Book Scanner			
Technology	CMOS			
Maximum resolution	600 x 600 dpi			
Optical resolution	400 x 400dpi			
Scan speed	Less than 1sec on A2+ format, 400dpi in color			
File format	TIFF (Multipage),Jpeg, Jpeg2000, BMP, PDF(Multipage), PNG,DNG			
Power requirement	100 - 240v, 50-60Hz			
Interface	USB 3.0			
Interface Software	LIMB Capture software, Operated by w/s 7,8,10			
Temperature & Voltage	Should work for Indian climate & Electrical environment			
OS Compliance	Windows			
Certification	CE/FCC			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B12-SP019</b>	A0 36" inch Plotter (color)	<b>1 No</b>

<b>Parameter</b>	<b>Specifications</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Technology	Inkjet			
Printer Size	Min 36"			
Print Resolution	1200 x 1200 dpi or better			
Printer Speed (A1 – Line Drawings B/W & Colour)	A1 size / 60 Sec or better			
Paper Handling	One Automotic Roll or better			
Interface	Ethernet 10/100Mbps, USB			
Temperature & Voltage	Should work for Indian climate & Electrical			
Operating System Compatibility	Windows / Linux Compliance by OEM			
Certification	BIS			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B12-MFD-020</b>	A4 -18 PPM -MFD Mono Copier/Printer/ Scanner with Network and wireless with memory	<b>1 No</b>

<b>Parameter</b>	<b>Specifications</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Type	Desktop			
Technology	Laser			
Print / Copy Speed	A4 -18 ppm or above			
Resolution	600 x 600 dpi or higher			
Memory	128MB			
Zoom - Reduction / Enlargement	25-400 percentage			
Paper Supply	150 sheets or higher			
Scan Mode	B/W & Color			
Interface	Ethernet & USB, wireless			
Networking	10/100 Mbps (RJ 45)			
Toner cartridge Yield	Toner Yield of minimum 1000 Pages			
OS Compliance	Windows and Linux Compliance by OEM			

Duty Cycle	10000 pages or above			
Certification	BIS			

Code	Item Description	Qty
<b>33450-B12-MFD-021</b>	A4 -25 PPM - MFD Mono Copier/Printer/ Scanner/Fax/D/N/ with ADF and wifi with memory	<b>1 No</b>

Parameter	Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Type	Desktop			
Technology	Laser			
Print / Copy Speed	A4 - 25 ppm or higher			
Copier / Printer / Resolution	600 X 600 dpi or higher			
Memory	256MB or higher			
Duplex Printing/Copy	Automatic			
Zoom - Reduction / Enlargement	25 - 400 percentage			
Paper Supply	250 Sheets.			
Network	USB, Ethernet, Wifi			
Scan Mode	BW & Colour			
Scanning Facility	Scan to PC, Scan to Email			



Modem	Required			
OS Compliance	Windows and Linux Compliance by OEM			
Interface	USB interface, RJ45 and connecting cables			
Toner	Toner Yield of minimum 1500 pages for B/W.			
Duty Cycle	30000 pages or above			
ADF	35 sheets or above			
Certification	BIS			

Code	Item Description	Qty
33450-B12-MFD-022	A4 -16 PPM -MFD Colour Copier/Printer/ Scanner/Network with memory	1 No

Parameter	Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Type	Desktop			
Technology	Laser			
Print / Copy Speed	A4 -16 ppm for Colour& B/w or above			
Resolution	600 x 600 dpi or higher			
Memory	256MB or higher			
Zoom - Reduction /	25-400 percentage			

Enlargement				
Paper Supply	150 sheets or higher			
Scan Mode	B/W & Color			
Interface	Ethernet & USB			
Networking	10/100 Mbps (RJ 45)			
Toner cartridge Yield	Toner Yield of B-800 or higher / C - 600 or higher			
OS Compliance	Windows and Linux Compliance by OEM			
Duty Cycle	20000 pages or above			
Certification	BIS			

Code	Item Description	Qty
<b>33450-B12-MFD-023</b>	A4 -25 PPM -MFD Colour Copier/Printer/ Scanner/Network and wireless and ADF with memory	<b>1 No</b>

Parameter	Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Type	Desktop			
Technology	Laser			
Print / Copy Speed	A4 -25 ppm for Colour& B/w or above			
Resolution	600 x 600 dpi or higher			
Memory	512 MB or higher			

Zoom - Reduction / Enlargement	25-400 percentage			
Paper Supply	250 sheets or higher			
ADF capacity	50 sheets or higher			
Scan Mode	B/W & Color			
Interface	Ethernet & USB			
Networking	10/100 Mbps (RJ 45)			
Toner cartridge Yield	Toner Yield of 1200 pages or above for CMYK			
OS Compliance	Windows and Linux Compliance by OEM			
Duty Cycle	50000 pages or above			
Certification	BIS			

Code	Item Description	Qty
33450-B12-LP-024	Laser Printer - A4 - 20 PPM Mono with Network,Duplex with memory	1 No

Parameter	Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Print Technology	Laser			
Print Speed	Min 20 PPM			
Resolution	Min 600 x 600 dpi			
Memory	64MB or higher			

Paper Supply	150 Sheets or above			
Media Sizes	A4, Letter, Legal			
Media Types	Paper (Plain, Recycled, Envelopes)			
Duty Cycle	8000 or above pages per month			
Interface	USB			
OS Compliance	Windows and Linux Compliance by OEM			
Certification	BIS			
Toner cartridge Yield	Yield of minimum 900 pages for B/W.			

Code	Item Description	Qty
33450-B12- LP -025	Laser Printer - A4 - 25 PPM Mono with Duplex Unit and WiFi& Network with memory	1 No

Parameter	Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Print Technology	Laser			
Print Speed	Min 25 PPM			

Resolution	Min 600 x 600 dpi			
Memory	64 MB			
Duplex	Automatic			
Network	Ethernet , wifi			
Paper Supply	150 Sheets or above			
Media Sizes	A4, Letter, Legal			
Media Types	Paper ( Plain, Recycled, Envelopes)			
Duty Cycle	20000 or above pages per month			
Interface	USB, & Ethernet, Wireless			
OS Compliance	Windows and Linux Compliance by OEM			
Certification	BIS			
Toner cartridge Yield	Toner Yield of minimum 1000 pages for B/W.			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B12- LP -026</b>	Color Laser Printer - A4 - 20 PPM with Network and Duplex and wireless with memory	<b>1 No</b>

<b>Parameter</b>	<b>Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Print Technology	Color Laser			
Print Speed	Min 20 PPM - B/W & Color			
Resolution	Min 600 X 600 dpi			
Memory	256 MB or higher			
Duplex	Automatic			
Network	USB, Ethernet, wireless			
Paper Supply	250 Sheets or above			
Media Sizes	A4, Letter, Legal			
Media Types	Paper ( Plain, Recycled, Envelopes)			
Duty Cycle	Min 20,000 pages			
Interface	USB, Ethernet, wireless			
OS Compliance	Windows and Linux Compliance by OEM			
Toner cartridge Yield	Yield of minimum 800 - B/W; 650 - Colour.			
Certification	BIS			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B12- LP -027</b>	Color Laser Printer - A4 - 25 PPM with Network and Duplex, WiFi with memory	<b>1 No</b>

<b>Parameter</b>	<b>Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Print Technology	Color Laser			
Print Speed	Min 25 PPM - B/W & Color			
Resolution	Min 600 X 600 dpi			
Memory	512 MB			
Duplex	Automatic			
Network	USB, Ethernet, Wireless			
Paper Supply	250 Sheets or above			
Media Sizes	A4, Letter, Legal			
Media Types	Paper ( Plain, Recycled, Envelopes)			
Duty Cycle	Min 50,000 pages			
Interface	USB, Ethernet, wireless			
OS Compliance	Windows and Linux Compliance by OEM			
Toner	Yield of minimum 1200 - B/W;			

cartridge Yield	1200 - Colour			
Certification	BIS			

Code	Item Description	Qty
33450-B12-MFD-028	A4 -35 PPM - MFD Mono Copier/Printer/ Scanner//D/N/ with ADF and wifi	1 No

Parameter	Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Type	Desktop			
Technology	Laser			
Print / Copy Speed	A4 - 35 ppm or higher			
Resolution	1200 X 1200 dpi			
Memory	512MB or higher			
Duplex Printing/Copy	Automatic			
Zoom - Reduction / Enlargement	25 - 400 percentage			
Paper Supply	250 Sheets.			
Network	USB, Ethernet, Wifi			
Scan Mode	BW & Colour			
Scanning Facility	Scan to PC, Scan to Email			
OS Compliance	Windows and Linux Compliance by			



	OEM			
Interface	USB interface, RJ45 and connecting cables			
Toner	Toner Yield of minimum 1500 pages or above			
Duty Cycle	80000 pages or above			
ADF	50 sheets or above			
Certification	BIS			

**Category B13 – Specifications cum Bidder Compliance – IP Camera**

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B13-CAM-001	2 MP Fixed Lens Dome Camera	1 No

<b>Parameter</b>	<b>Specification</b>	<b>As per Brochure</b>	<b>Bidders offer</b>	<b>Bidder compliance (Yes/no)</b>
Lens	3.6 mm Fixed Lens or better			
IR Range	20 Mtr or better			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux			
Streaming Support	Dual Streaming			
Video analytics	Atleast Motion Detection			
Resolutions and frame rates	Main Stream : 25 fps at 1920x1080 sub stream 25 fps at 704x480			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Environment Protection	IP 66 Proof,			
Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			

Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/25-1/10000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S compliant			
Operating Temperature	-10 to 60°C, or better			
Surge Protection	Minimum 2KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
IRIS	Fixed /Auto IRIS			
WDR	DWDR			

General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			
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Code	Item Description	Qty
33450-B13-CAM-002	2 MP Fixed Lens Dome Camera With SD card and audio	1 No

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Lens	3.6 mm Fixed Lens or better			
IR Range	Min 30 Mtr or better			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			
Video analytics	Motion Detection, tampering, intrusion detection, trip wire			
Resolutions and frame rates	Main Stream : 25 fps at 1920x1080 Stream 2 : 25 fps at 704x480 Stream 3 : 25 fps at 704x480			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			

Environment Protection	IP 67 Proof, IK10 Vandal Proof Housing with vandal proof Bubble			
Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			

Streaming Support	Triple			
IRIS	Fixed /Auto IRIS			
Internal Edge Storage	256GB			
MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

Code	Item Description	Qty
33450-B13-CAM-003	2 MP Dome Camera with Motorised varifocal lens	1 No

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Lens	Min 2.8~12 mm Motorized Varifocal Lens or better			
IR Range	Min 30 Mtr or better			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			

Video analytics	Motion Detection, Camera Masking/ Tampering, Line Crossing, Missing object Detection, Object left detection, Perimeter Intrusion Detection			
Resolutions and frame rates	Stream 1 : Min 25 fps at 1920x1080 Stream 2 : Min 25 fps at 704x480 Stream 3 : Min 25 fps at 704x480			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Corridor Mode	required			
Privacy Mask	Support Minimum 2 areas / Zones			
Image setting	ROI, BLC, White Balance, 3DNR, Saturation, Brightness, Contrast, Sharpness			
Environment Protection	IP 67 Proof, IK10 Vandal Proof Housing with vandal proof Bubble			
HLC	Required			
Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			

On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming	Triple			
IRIS	Fixed /Auto IRIS			
Internal Edge Storage	256GB			
MIC internal / external	Required			



General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			
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Code	Item Description	Qty
33450-B13-CAM-004	2 MP Fixed Lens Bullet Camera	1 No

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Lens	3.6 mm Fixed Lens or better			
IR Range	Min 20 Mtr or better			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux			
Video analytics	Atleast Motion Detection			
Resolutions and frame rates	Main Stream : 25 fps at 1920x1080 Stream 2 : 25 fps at 704x480			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Environment Protection	IP 66			

Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/25-1/10000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S compliant			
Operating Temperature	-10 to 60°C, or better			
Surge Protection	Minimum 2KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	DWDR			
IRIS	Fixed /Auto IRIS			

Streaming Support	Dual Streaming			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

Code	Item Description	Qty
33450-B13-CAM-005	2 MP Fixed Lens Bullet Camera With SD card and audio	1 No

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Lens	3.6 mm Fixed Lens or better			
IR Range	Min 30 Mtr or better			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			

Video analytics	Motion Detection, tampering, intrusion detection, trip wire			
Resolutions and frame rates	Main Stream : 25 fps at 1920x1080 Stream 2 : 25 fps at 704x480 Stream 3 : 25 fps at 704x480			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Environment Protection	IP 67 Proof			
Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			

Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming Support	Triple			
IRIS	Fixed /Auto IRIS			
SD Card support	256GB			
MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

Code	Item Description	Qty
33450-B13-CAM-006	2 MP Bullet Camera with motorised varifocal lens	1 No

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance
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				(Yes/no)
Lens	Min 2.8~12 mm Motorized Varifocal Lens or better , Auto focus			
IR Range	Min 50 Mtr or better			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			
Video analytics	Motion Detection, Camera Masking/ Tampering, Line Crossing, Missing object Detection, Object left detection, Perimeter Intrusion Detection			
Resolutions and frame rates	Main Stream : 25 fps at 1920x1080 Stream 2 : 25 fps at 704x480 Stream 3 : 25 fps at 704x480			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Corridor Mode	Required			
Privacy Mask	Support Minimum 2 areas / Zones			
Image setting	ROI, BLC, White Balance, 3DNR, Saturation, Brightness, Contrast, Sharpness			
Sun shield	Required			
HLC	Required			
Environment Protection	IP 67 Proof			

Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming Support	Triple			
IRIS	Fixed /Auto IRIS			
Internal Edge Storage	256GB			

MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

Code	Item Description	Qty
33450-B13-CAM-007	2 MP 20x PTZ Camera	1 No

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Zoom	20x Optical Zoom and 12x Digital Zoom or better			
Lens	Focal Length Min 5 mm +/- 0.5 to 100mm +/- 10 or better			
Pan/Tilt Range	Pan: 0° ~ 360° endless; Tilt: 0° ~ 90°, auto flip 180°			
Manual Control Speed	Pan: 0.1° ~180 ° /s; Tilt: 0.1° ~90° /s or better			
Preset Speed	Pan: 0.1° ~180 ° /s; Tilt: 0.1° ~90° /s or better			
Presets	Minimum 250 Preset Points			
IR Range	Min 100 Mtr or better			



HLC	Required			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			
Resolutions and frame rates	Stream 1 : Min 30 fps at 1920x1080 Stream 2 : Min 30 fps at 704x480 Stream 3 : Min 30 fps at 704x480			
Protocol Support	Ipv4, Ipv6, HTTP, HTTPS, 802.1X, QoS, FTP, SMTP, UpnP, SNMP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Video analytics	Missing object Detection, Face detection, Perimeter Intrusion Detection			
Privacy Mask	Support Minimum 24 areas / Zones, Support Dynamic Privacy Mask			
Image setting	, ROI, BLC, White Balance, 3DNR, Image enhancement, lens correction, Auto Exposure control, Automatic gain control, Hue, automatic noise reduction, Watermark			
Power	Internal PoE+ and AC 24V/ DC12V/ 100- 230VAC			
Environment Protection	IP 66 Proof			

Housing	Full Metal housing with Mounting bracket included for Wall/Pole Mount			
Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1-1/30000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4KVA surge protection should be included with each camera			

Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
IRIS	Fixed /Auto IRIS			
WDR	120 db or better			
Streaming Support	Individually configurable 3 video streams (H.264/H.265), Unicast/Multicast			
Internal Edge Storage	Should Support minimum 256GB			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

Code	Item Description	Qty
33450-B13-CAM-008	5 MP 30x Auto Tracking PTZ Camera	1 No

Parameters	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Zoom	30x Optical Zoom and 12x Digital Zoom or better			

Lens	Focal Length 6mm to 135 mm or higher, Auto Focus			
Pan/Tilt Range	Pan: 0° ~ 360° endless; Tilt: 0° ~ 90°, auto flip 180°			
Manual Control Speed	Pan: 0.1° ~180 ° /s; Tilt: 0.1° ~90° /s or better			
Preset Speed	Pan: 0.1° ~180 ° /s; Tilt: 0.1° ~90° /s or better			
Presets	Minimum 250 Preset Points			
IR Range	Min 200 Mtr or better			
HLC	Required			
Minimum Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			
Resolutions and frame rates	Main Stream 1 : 20 fps at 3840x2160 or better Second Stream : 25 fps at 1280x720p or better Third Stream : 25 fps at 704x480 or better			
Frame rate	25 fps @ 8mp or better, 25fps @ 4 mp, 5mp or better, 25 fps @ 1080p or better			
Environment Protection	IP 67 Proof			

Protocol Support	Ipv4, IPv6, HTTP, HTTPS, 802.1X, QoS, FTP, SMTP, UpnP, SNMP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Video analytics	Missing object Detection, Face detection, Perimeter Intrusion Detection			
image stabilization	should support electronic image stabilization			
Auto Tracking	Support Auto Tracking, activate the alarm with continuous tracking of an object			
Privacy Mask	Support Minimum 24 areas / Zones, Support Dynamic Privacy Mask			
Image setting	ROI, BLC, White Balance, 3DNR, Image enhancement, lens correction, Auto Exposure control, Automatic gain control, Hue, automatic noise reduction, Watermark			
Edge Storage Auto Backup	Camera should record automatically when NVR not reachable and support automatic Synchronization of backup recording form SD Card to NVR when connection resume			
Integration tools	SDK, CGI, API or other integration related files to be provided			

Housing	Full Metal housing with Mounting bracket included for Wall/Pole Mount			
Time and Date	When camera reboots or powered ON after long time, the time and date of camera should remain same as per last configured without any update or synchronization required using NVR or internet			
Image sensor	1/1.7" to 1/1.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			

Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming	Triple			
IRIS	P IRIS			
Internal Edge Storage	512 GB			
Audio function	Required			
Alarm interface	Required			
Humidity Minimum 90%	Required			
MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B13-CAM-009	5 MP Fixed Lens Dome Camera With SD card and audio	1 No

<b>Parameter</b>	<b>Specification</b>	<b>As per Brochure</b>	<b>Bidders offer</b>	<b>Bidder compliance (Yes/no)</b>
Lens	3.6 mm Fixed Lens or better			
IR Range	Min 30 Mtr or better			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			
Video analytics	Motion Detection, tampering, intrusion detection, trip wire			
Resolutions and frame rates	Main Stream : 25 fps at 1920x1080 Stream 2 : 25 fps at 704x480 Stream 3 : 25 fps at 704x480			
Frame rate	20fps @ 5mp, 25/30fps @ 4 mp , 25/30fps @1080p			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Environment Protection	IP 67 Proof, IK10 Vandal Proof Housing with vandal proof Bubble			
Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			



Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming Support	Triple			

Triple Stream resolution	Main stream : 20fps 2592 x 1944 or better second stream : 25fps 1920 x 1080 Third Stream : 25fps 704 x 480 or better			
IRIS	Fixed /Auto IRIS			
SD Card support	256GB			
MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

Code	Item Description	Qty
33450-B13-CAM-010	5MP Dome camera with motorised varifocal lens	1 No

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Lens	Min 2.8~12 mm Motorized Varifocal Lens or better			
IR Range	Min 30 Mtr or better			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			
Video analytics	Motion Detection, Camera Masking/ Tampering, Line Crossing, Missing object Detection, Object left detection, Perimeter Intrusion Detection			
Resolutions and frame rates	Main stream : 20fps 2592 x 1944 or better second stream : 25fps 1920 x 1080 Third Stream : 25fps 704 x 480 or better			
Frame rate	20fps @ 5mp, 25/30fps @ 4 mp , 25/30fps @1080p			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			

Corridor Mode	required			
Privacy Mask	Support Minimum 2 areas / Zones			
Image setting	ROI, BLC, White Balance, 3DNR, Saturation, Brightness, Contrast, Sharpness			
Environment Protection	IP 67 Proof, IK10 Vandal Proof Housing with vandal proof Bubble			
HLC	Required			
Behaviour Analytics	Object/People counting, Missing object Detection, Face detection, Perimeter Intrusion Detection			
Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			

ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming Support	Triple			
IRIS	Fixed /Auto IRIS			
Internal Edge Storage	256GB			
MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B13-CAM-011	5 MP Fixed Lens bullet Camera With SD card and audio	1 No

<b>Parameter</b>	<b>Specification</b>	<b>As per Brochure</b>	<b>Bidders offer</b>	<b>Bidder compliance (Yes/no)</b>
Lens	3.6 mm Fixed Lens or better			
IR Range	Min 30 Mtr or better			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			
Videor Analytics	Motion Detection, tampering, intrusion detection, trip wire			
Resolutions and frame rates	20fps @ 5mp, 25/30fps @ 4 mp , 25/30fps @ 1080p			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Environment Protection	IP 67 Proof			
Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			

On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming Support	Triple			
IRIS	Fixed /Auto IRIS			
Internal Edge Storage	256GB			
MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B13-CAM-012	5 MP bullet camera with motorised varifocal lens	1 No

<b>Parameter</b>	<b>Specification</b>	<b>As per Brochure</b>	<b>Bidders offer</b>	<b>Bidder compliance (Yes/no)</b>
Lens	Min 2.8~12mm Motorized Varifocal Lens or better, DC-iris or P-iris,Auto Focus			
IR Range	Min 50 Mtr or better			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			
Video analytics	Motion Detection, Camera Masking/ Tampering, Line Crossing, Missing object Detection, Object left detection, Perimeter Intrusion Detection			
Resolutions and frame rates	Main stream : 20fps 2592 x 1944 or better second stream : 25fps 1920 x 1080 Third Stream : 25fps 704 x 480 or better			
Frame rate	20fps @ 5mp, 25/30fps @ 4 mp , 25/30fps @1080p			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Corridor Mode	Required			



Privacy Mask	Support Minimum 2 areas / Zones			
Image setting	ROI, BLC, White Balance, 3DNR, Saturation, Brightness, Contrast, Sharpness			
Sun shield	Required			
HLC	Required			
Behaviour analytics	Object/People counting, Missing object Detection, Face detection, Perimeter Intrusion Detection			
Environment Protection	IP 67 Proof			
Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			

POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming Support	Triple			
IRIS	Fixed /Auto IRIS			
Internal Edge Storage	256GB			
MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B13-CAM-013	5 MP bullet camera with motorised varifocal lens with analytics	1 No

<b>Parameter</b>	<b>Specification</b>	<b>As per Brochure</b>	<b>Bidders offer</b>	<b>Bidder compliance (Yes/no)</b>
Lens	Min 2.8~12mm Motorized Varifocal Lens or better, DC-iris or P-iris,Auto Focus			
IR Range	Min 50 Mtr or better			
Min. Illumination	Color mode: F1.2 @ 0.02 lux and B&W mode: F1.2@ 0.01 lux or better			
Video Analytics	Intrusion, cross line, Motion detection, Face Detection and Capture, Audio Detection, Object Left Behind, Missing Object, People Counting, Defocus , video tampering detection, scene change detection.			
Resolutions & frame rate	Main stream : 20fps 2592 x 1944 or better second stream : 25fps 1920 x 1080 Third Stream : 25fps 704 x 480 or better			
Frame rate	20fps @ 5mp, 25/30fps @ 4 mp , 25/30fps @ 1080p			

Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Corridor Mode	Required			
Privacy Mask	Support Minimum 2 areas / Zones			
Image Setting	Image Defog, ROI, BLC, Flicker Control, White Balance, 3DNR, Saturation, Brightness, Contrast, Sharpness			
Sun shield	Required			
HLC	Required			
Image sensor	1/1.7" to 1/1.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			

Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming Support	Triple			
IRIS	P - IRIS			
Internal Edge Storage	512 GB			
Audio Function	Required			
Alarm interface	Required			
Humidity minimum 90%	Required			
MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B13-CAM-014	5MP box camera	1 No

<b>Parameter</b>	<b>Specification</b>	<b>As per Brochure</b>	<b>Bidders offer</b>	<b>Bidder compliance (Yes/no)</b>
Lens	C/CS Mount Detachable type lens with 5~50 mm,			
IR Range	Internal / external IR 50 Mtr or better			
Minimum Illumination	Color mode: F1.2 @ 0.02 lux and B&W mode: F1.2@ 0.01 lux or better			
Video analytics	Motion Detection, tampering, intrusion detection, trip wire			
Resolution frame rate	Main stream : 20fps 2592 x 1944 or better second stream : 25fps 1920 x 1080 Third Stream : 25fps 704 x 480 or better			
Frame rate	20fps @ 5mp, 25/30fps @ 4 mp , 25/30fps @1080p			

Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Corridor Mode	Required			
Privacy Mask	Support Minimum 2 areas / Zones			
Image setting	Image Defog, ROI, BLC, Flicker Control, White Balance, 3DNR, Saturation, Brightness, Contrast, Sharpness			
Sun shield	Required			
HLC	Required			
Housing	sunshield, IP 67			
Image sensor	1/1.7" to 1/1.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			

ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming support	Triple			
IRIS	P-IRIS			
Internal Edge Storage	512 GB			
Audio Function	Required			
Alarm interface	Required			
Humidity minimum 90%	Required			
MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			



<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B13-CAM-015	8MP Dome camera with motorised varifocal lens	1 No

<b>Parameter</b>	<b>Specification</b>	<b>As per Brochure</b>	<b>Bidders offer</b>	<b>Bidder compliance (Yes/no)</b>
Lens	3.6 mm Fixed Lens or better			
IR Range	Min 30 Mtr or better			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			
Video analytics	Motion Detection, tampering, intrusion detection, trip wire			
Resolutions and frame rates	Main stream : 20 fps 3840 x 2160 or better second stream : 25fps 1280 x 720p or better Third Stream : 25fps 704 x 480 or better			
Frame rate	20fps @ 8mp or better, 25/30fps @ 4 mp , 5 MP or better 25/30fps @ 1080p or better			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Corridor Mode	Required			

Privacy Mask	Support Minimum 2 areas / Zones			
Image setting	Image Defog, ROI, BLC, Flicker Control, White Balance, 3DNR, Saturation, Brightness, Contrast, Sharpness, Image enhancement, lens correction, Auto Exposure control, Automatic gain control, Hue, automatic noise reduction, Watermark			
HLC	Required			
Environment Protection	IP 67 Proof, IK10 Vandal Proof Housing with vandal proof Bubble			
Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			

Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming Support	Triple			
Triple Stream resolution	Main stream : 20fps 2592 x 1944 or better second stream : 25fps 1920 x 1080 Third Stream : 25fps 704 x 480 or better			
IRIS	Fixed /Auto IRIS			

Internal Edge Storage	256GB			
MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

Code	Item Description	Qty
33450-B13-CAM-016	8 MP bullet camera with motorised varifocal lens	1 No

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Lens	Min 2.8~12mm Motorized Varifocal Lens or better, DC-iris or P-iris,Auto Focus			
IR Range	Min 50 Mtr or better			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			

Video analytics	Motion Detection, Camera Masking/ Tampering, Line Crossing, Missing object Detection, Object left detection, Perimeter Intrusion Detection			
Resolutions and frame rates	Main stream : 20 fps 3840 x 2160 or better second stream : 25fps 1280 x 720p or better Third Stream : 25fps 704 x 480 or better			
Frame rate	20fps @ 8mp or better, 25/30fps @ 4 mp , 5 MP or better 25/30fps @ 1080p or better			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Corridor Mode	Required			
Privacy Mask	Support Minimum 2 areas / Zones			
Image setting	ROI, BLC, White Balance, 3DNR, Saturation, Brightness, Contrast, Sharpness			
Sunshield	Required			
HLC	Required			
Environment Protection	IP 67 Proof			
Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			

Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming Support	Triple			
IRIS	Fixed /Auto IRIS			
SD Card support	256GB			

MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

Code	Item Description	Qty
33450-B13-NVR-017	Network Video Recorder 8 Channels 1 HDD	1 No

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Channels	8 Channels or better			
Storage	1 SATA hard drives support up to 6 TB			
Throughput	Should support 60 mbps or better data transfer rate			
Resolution	Support 8 Channel each up to 5 MP Resolution			
Video compression	H.264, H. 265 or better			

Interface	1# RJ45 Port supporting following resolution, 1# VGA supporting following resolution and 1# HDMI supporting following resolution , HDMI: atleast 1920×1080, 1280×1024, 1280×720 VGA: atleast 1920×1080, 1280×720 minimum 1 Channel Audio Output, 1 channel Alarm in and 1 channel Alarm out or better, 2 nos. of USB port			
ONVIF compliance	ONVIF version 2.4 or better and ONVIF Profile S compliant			
Backup file format	Should be viewable in VLC and Windows Media Player or equivalent			
Backup Mode	Media, External Hard disk Pendrive Should be able to backup the video file based on the date and time duration			
Operating Temperature	0 to 55°C, or better			
Power Supply	Internal/External Power supply			
Playback Function	Play, Pause, Stop, Rewind, Fast play, Slow Play, Full Screen			
Record Interval	User customizable Interval, Pre-record: 1~60 sec, Post-record: 10~120 sec			
Record Mode	Manual, Schedule (Regular/ Continuous), Motion Detection, Line Crossing, Perimeter Intrusion			
OSD	Camera title, Time, Motion detection,			



	Recording			
Monitoring and Playback	Should support 8 Channels streaming in Single screen, 4 Channels 1080P synchronous Playback			
Search Mode	Time /Date, Motion detection, record type, record time			
Encryption	Should support Encrypted recording from IP Camera to NVR			
Certification	CE/FCC, UL/BIS, RoHS			

Code	Item Description	Qty
33450-B13-NVR-018	Network Video Recorder 16 Channels 2 HDD	1 No

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Channels	16 Channels or better			
Storage	2 SATA hard drives each support up to 6 TB			
Throughput	Should support 120 mbps or better Data transfer rate			
Resolution	Support 4K streaming, Support 16 Channel each up to (3840*2160) Resolution			
Video compression	H.264, H. 265 or better			

Interface	1# RJ45 Port supporting following resolution, 1# VGA supporting following resolution and 1# HDMI supporting following resolution , HDMI: 1920×1080, 1280×1024, 1280×720 VGA: atleast 1920×1080, 1280×720 minimum 1 Channel Audio Output, 1 channel Alarm in and 1 channel Alarm out or better, 2 nos. of USB port			
ONVIF compliance	ONVIF version 2.4 or better and ONVIF Profile S compliant			
Backup file format	Should be viewable in VLC and Windows Media Player or equivalent			
Backup Mode	External Hard disk, Network storage, Memory Stick (Not less than 64 GB). Should be able to edit and crop the video file to backup device			
Operating Temperature	0 to 55 °C, or better			
Power Supply	Internal Power supply			
Playback Function	Play, Pause, Stop, Rewind, Fast play, Slow Play, Full Screen			
Record Interval	User customizable Interval, Pre-record: 1~60 sec, Post-record: 10~120 sec			
Record Mode	Manual, Schedule (Regular/ Continuous), Motion Detection, Line Crossing, Perimeter Intrusion			
OSD	Camera title, Time, Motion detection, Recording			

Monitoring and Playback	Should support 16 Channels streaming in Single screen, 8 Channels 1080 P synchronous Playback			
Search Mode	Time /Date, Motion detection, record type, record time			
Encryption	Should support Encrypted recording from IP Camera to NVR			
Certification	CE/FCC, UL/BIS, RoHS			

Code	Item Description	Qty
33450-B13-NVR-019	Network Video Recorder 32 Channels 4 HDD	1 No

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Channels	32 Channels or better			
Storage	4 SATA hard drives each support up to 8 TB			
Throughput	Should support 200 mbps or better Data transfer rate			
Resolution	Support 4K streaming, Support 32 Channel each up to (3840*2160) Resolution			
Video compression	H.264, H. 265 or better			

Interface	2# of Gigabit port with load balancing and failover, 1# VGA and 2# 4K HDMI, HDMI: atleast 3840x 2160, 1920×1080, 1280×1024, 1280×720 VGA: atleast 1920×1080, 1280×720 Should have audio in and out interfaces, 1# RS-485, 1# RS-232, 16 channel Alarm in and 4 channel Alarm out or better, 3 nos. of USB port			
Mounting	NVR should be Rack mountable with suitable rack mounting bracket to be provided			
ONVIF compliance	ONVIF version 2.4 or better and ONVIF Profile S compliant			
Backup file format	Should be viewable in VLC and Windows Media Player or equivalent			
Backup Mode	Media, External Hard disk Pendrive Should be able to backup the video file based on the date and time duration			
Operating Temperature	0 to 55 °C, or better			
Power Supply	Internal Power supply			
Playback Function	Play, Pause, Stop, Rewind, Fast play, Slow Play, Full Screen			
Record Interval	User customizable Interval, Pre-record: 1~30 sec or higher, Post-record: 10~120 sec or higher			

Record Mode	Manual, Schedule (Regular/ Continuous), Motion Detection, Line Crossing, Perimeter Intrusion			
Video Analytics	NVR Should support Camera Tampering Detection, Line Crossing and Perimeter Intrusion Detection			
Raid	Should support Raid 0,1,5,6,10			
Audio	Support Audio Recording, Support 2 way audio			
OSD	Camera title, Time, Motion detection, Recording			
Monitoring and Playback	Should support 32 Channels streaming in Single screen, 16 Channels 1080P synchronous Playback			
Search Mode	Time /Date, Motion detection, record type, record time			
Encryption	Should support Encrypted recording from IP Camera to NVR			
Certification	CE/FCC, UL/BIS, RoHS			

Code	Item Description	Qty
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33450-B13-NVR-020	Network Video Recorder 64 Channels 8 HDD	1 No
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Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Channels	64 Channels or better support,			
Storage	8 SATA hard drives each support up to 8 TB			
Throughput	Should support 300 mbps or better Bandwidth			
Resolution	Support 4K streaming, Support 64 Channel each up to (3840*2160) Resolution			
Video compression	MJPEG,H.264, H.265 or better			
Interface	2# of Gigabit port with load balancing and failover, 1# VGA and 2# 4K HDMI, HDMI: atleast 3840x 2160, 1920x1080, 1280x1024, 1280x720 VGA: atleast 1920x1080, 1280x720 Should have audio in and out interfaces, 1# RS-485, 1# RS-232, 16 channel Alarm in and 4 channel Alarm out or better, 3 nos. of USB port			
Mounting	NVR should be Rack mountable with suitable rack mounting bracket to be provided			

ONVIF compliance	ONVIF version 2.4 or better and ONVIF Profile S compliant			
Backup file format	Should be viewable in VLC and Windows Media Player or equivalent			
Backup Mode	Media, External Hard disk Pendrive Should be able to backup the video file based on the date and time duration			
Operating Temperature	0 to 55°C, or better			
Power Supply	Internal Power supply			
Playback Function	Play, Pause, Stop, Rewind, Fast play, Slow Play, Full Screen			
Record Interval	User customizable Interval, Pre-record: 1~60 sec, Post-record: 10~600 sec			
Record Mode	Manual, Schedule (Regular/ Continuous), Motion Detection, Line Crossing, Perimeter Intrusion			
Video Analytics	NVR Should support Camera Tampering Detection, Line Crossing, Object/People counting, Missing object Detection, Loitering, Face detection, Perimeter Intrusion Detection, Crowd detection			
Raid	Should support Raid 0,1,5,6,10			
Audio	Support Audio Recording, Support 2 way audio			

OSD	Camera title, Time, Motion detection, Recording			
Monitoring and Playback	Should support 64 Channels streaming in Single screen, 32 Channels 1080P synchronous Playback			
Search Mode	Time /Date, Motion detection, record type, record time			
Encryption	Should support Encrypted recording from IP Camera to NVR			
High availability	NVR Should support N+1 High availability for Hardware Backup			
Certification	CE/FCC, UL/BIS, RoHS			

Code	Item Description	Qty
33450-B13-IP-021	Video Management Software	1 No

Specifications	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
<b>Recordings</b>			
Should record H265, H.264, MPEG4 or MJPEG in at minimum 5 fps to 30 FPS at minimum Full HD (1080p), 4K resolution.			



Supports RTP over UDP, RTP over TCP and http streaming			
Should support multiple brand IP cameras and encoders.			
Should support dual streaming and recording at min 2 MP and Max 8 MP resolutions			
Option to do recordings on NAS, iSCSi, DAS, local or network drive. Defining different drive for each individual camera.			
Should have ability to record audio along with video in same recording file.			
Option to define multiple recording paths			
Pre-buffer and Post buffer recordings up to 10 minutes.			
Calculate storage size based on number of cameras, days and drives available in the system			
Option to record at min 15 FPS and max 30 FPS on Motion			
Export the desired portion of video in mp4, avi and asf formats in DVD/USB or any external device. Viewing of this recording must be playable on authorized player which shall be provided by software manufacturer or in generic media player on OS Windows, Linux/Unix or Apple Mac.			

Export of recording is possible in client software and remote PC with proper authentication.			
Option for Window-Pop up, Email and sound alarm on video loss during recording			
Storage and Bandwidth calculation: Recording size estimation for each hard disk attached to the server. Option to check disk size of individual camera.			
Image Enhancement on recorded videos. The image enhancement should be able enhance videos of fog, rain and low light conditions.			
The option of email and Video Pop up on Low disk space event should be available. The system should alert user on low disk space event through e-mail and video pop-up			
Automatic archiving after set number of days and automatic recording deletion after disk full.			
Encryption (56 to 256 bit) of recordings while export for safe evidence			
Adaptive Streaming. Option to switch stream to lower to higher or vice-versa based on full screen			
<b>Live, Playback &amp; PTZ</b>			
Live View possible for minimum 64 cameras simultaneously on 1 screen or multiple monitors using software video wall			

Configurable Matrix views with size and number of cameras. Pre-defined views from full screen, 1x1 to 8x8			
View sequencing with user driven time interval			
Dual Streaming and Automatic Switching from Low to High Quality on Full screen mode.			
Option to change Live View directly from cameras or from VMS server using RTSP and HTTP options should be available			
It should support live view and Playback by minimum 10 clients- Both local and remote			
It should support event based playback.			
Ability to search based on Date/Time/Camera, Name, ID and Location for more than one camera simultaneously.			
<b>Customized camera views based on :</b>			
User input number of cameras.			
User chosen shape and size			
<b>Digital Zoom</b>			
Both complete live picture and Zoomed picture should be visible simultaneously while zooming.			
Should be available On Live and Playback Videos.			
Zoom should be available on snapshots too.			
<b>PTZ</b>			

PTZ option should be operable through mouse and joystick			
PTZ joystick options should be available			
On screen PTZ control with Click and Zoom facility should be available			
PTZ presets and tours setting should be available			
Software should allow creation of multiple camera sequences. It should be possible to set the dwell time for the cameras within the sequence.			
Software should allow sequences control (pause/play, skip forwards, skip backwards).			
Live view and Playback should be available at the same time with Playback window on top of live view window.			
Instant Playbacks should be available as window pop up on click of an event from Event Screen.			
Image Enhancement Analytic should be available in Playback. Option to sharpen the video image through scrollbar should be available.			
Playback Navigation Tree View with Recording server, camera list, year/months list and the date wise play list should be available.			
Playback option for frame-by-frame should be available.			

Playback should have Video lock feature should be available.			
Ability to make bookmark of any portion of video and view list of all bookmarks should be available.			
Instant Playback and Quick Search of event based recordings should be available.			
Playlist with files listed for each date and time should be available. User can click on any file to play recording.			
The software should show blinking icons overlaid in the google map for various alerts like video trampering, scene change etc. The Software should show the raised alerts on clicking the blinking icons			
Two-way audio communication between camera and VMS and option to send/broadcast Audio to multiple cameras should be available.			
Encryption: Ability to encrypt video while exporting and options of 56 bit, 128 bit and 256 bit encryption should be available			
<b>Mobile Surveillance &amp; Remote Viewing</b>			
Ability to view live video on iOS and Android phones or devices			
Ability to receive alerts on Mobile phones without SMS using XMPP/MQTT technology should be available.			

PTZ Control on Mobile App and Remote Locations should be available.			
VMS and Mobile App support for multiple sites spread across WAN to be controlled and viewed from central location.			
Remote Administration over internet should be available.			
<b>Streaming</b>			
Option for RTSP, HTTP, RTSP over HTTP streaming or both simultaneously should be available at individual camera level should be available.			
Option to Transcode to lower bit rate stream at recording server level should be available.. The lower bit rate should be done for any individual camera and options of resolution at 640x480, 320x240 and Frame rate at 20 fps, 10 fps should be available.. This helps in viewing video at low bandwidth			
Authentication Parameters (username, password) for streaming to remote clients should be available.			
<b>Administration &amp; Failover</b>			
Automatic discovery of devices using UPnP and/or ONVIF should be available.			
No software limit on number of cameras supported in single recording server			
Feature to add all cameras with single click should be available. Apply settings to multiple cameras of same model with single click.			

Should be able to generate logs & reports in Graphical & Tabular form and export in pdf, excel or more formats			
Failover- Automatic switch of user selected cameras to back-up server in case of failure should be available.			
Automatic Health check-up should be available and activation of optimization modules once CPU reached more than 85%.			
Add multiple recording servers under same management server.			
User role based cameras and feature access. Define users with passwords and access to only specific cameras			
Complete server logs including login access, system settings change, archiving events, video or recording loss and all activity done by administrator or any other user in the system.			
VMS control of cameras and monitoring on client workstations shall be done through the administrator interface.			
System watchdog feature should be available to alert in case of failure of cameras and servers.			
<b>Failover:</b>			
System should support N: 1 or N: N failover. Failover time should not be more than 30 seconds. In case of failover recording lost should less than 30 seconds			

The VMS licensing shall require MAC Id of Server/ Recorder only, not of camera devices			
<b>Camera Support</b>			
Should support multiple brand IP cameras (ONVIF Compliant), encoders and DVRs. No restriction on camera hardware.			
Should support ONVIF protocol including Profile-S, G.			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B13-IP-022	Video Analytics Software with ANPR features	<b>1 No</b>



<b>Specification</b>	<b>As per Brochure</b>	<b>Bidders offer</b>	<b>Bidder compliance (Yes/no)</b>
Automatic Number Plate Recognition (ANPR) system should enable monitoring of vehicle flow at strategic locations. The system should support real-time detection of vehicles at the deployed locations, recording each vehicle, reading its number plate, database lookup from central server and triggering of alarms/alerts based on the vehicle status and category as specified by the database. The system usage shall be privilege driven using password authentication. System should have following requirements:			
The System should automatically detect a vehicle in the camera view using video detection and activate number plate recognition			
The system should be designed to work for 24x7 unattended operations			
The System should automatically detect the number plate in the captured video feed in real-time.			
The system should perform OCR (optical character recognition) of the number plate characters (English alpha-numeric characters in standard fonts).			
The System should store JPEG image of vehicle and number plate and enter the number plate number into DBMS like MySql etc. database along with date time stamp and site location details.			

The system should be able to handle multiple vehicles simultaneously i.e. if there are more than one vehicle in the camera view the system should be able to detect all of them, extract their number plate numbers and perform OCR on the number plate characters			
System should be able to detect and recognize the English alphanumeric number plate in standard fonts and formats of all vehicles including cars, HCV, LCV and two wheelers.			
System should be able to detect single row, double row, multi row, square and rectangular plates as well			
The system should be robust to variation in number Plates in terms of font, size, contrast and color and should work with good accuracy.			
The success rate should be minimum 80%+ in Day and Night			
<b>Alert Generation</b>			
The system should have option to input certain number plates according to the hot listed categories like “Wanted”, “Suspicious”, “Stolen” unauthorized, VIP etc. by authorized personnel.			
<b>Vehicle Detection and Video Capture Module</b>			
The system should be able to generate automatic alarms to alert the control room personnel for further action, in the event of detection of any vehicle falling in the Hot listed categories			
<b>Graphical User Interface</b>			

<p>The system Graphical User Interface should be bi-lingual. It should support both English &amp; Graphical User interface (GUI) should provide following information: -</p> <ul style="list-style-type: none"> <li>a. Image of the vehicle</li> <li>b. Image of the number plate</li> <li>c. Text conversion of number plate after using OCR (Optical Character Recognition) technology</li> <li>d. Date, Time and location of offending vehicle</li> <li>e. Event/images/chart of ANPR</li> </ul>			
<b>Report</b>			
System should be able to give camera ID / Camera Location etc on report page			
System should be able to give vehicle image with number plate image			
System should be able to give OCR Image/number plate Image			
System should be able to give Watch list (“Wanted”, “Suspicious”, “Stolen”, “Authorized”, “Lost”) on report page			
<b>Vehicle Status Alarm Module</b>			
On successful recognition of the number plate, system should be able to generate automatic alarm to alert the control room for vehicles which have been marked as "Wanted", "Suspicious", "Stolen", "Expired". (System should have provision/expansion option to add more categories for future need).			
The Instantaneous and automatic generation of alarms. In case of identity of vehicle in any category which is defined by user.			

<b>Vehicle Log Module</b>			
The system should enable easy and quick retrieval of snapshots and other data for post incident analysis and investigations. For example a database could be searched using criteria like date, time, location and vehicle number			
The system should be able to generate suitable MIS reports that will provide meaningful data to concerned authorities and facilitate optimum utilization of resources. These reports should include.			
i. Report of vehicle flow at each of the installed locations for Last Day, Last Week and Last Month.			
ii. Report of vehicles in the detected categories at each of the installed locations for Last Day, Last Week and Last Month.			
<b>Vehicle Detection and Video Capture Module</b>			
The system should have Search option to tune the reports based on number plate number, date and time, site location as per the need of the authorities.			
The system should have option to save custom reports for subsequent use. The system should have option to export report being viewed to common format for use outside of the ANPR Software or exporting into other systems.			

The system should provide advanced and smart searching facility of number plates from the database. There should be an option of searching number plates almost matching with the specific number entered (up to 1 and 2 character distance).			
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Code	Item Description	Qty
33450-B13-IP-023	Video Analytics Software with Face Recognition features	1 No

Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Facial Recognition Software should be able to work in real time			
System should be capable of capturing face images from live feed			
The system should be able to track a subject through it's appearance in front of the camera so as to generate alarm			
The system should be capable of working on partial occlusion of face like glasses, changes of facial expression. The system should able to detect similarity ratio			
The system should permit tracking of multiple faces			
The FR system should be able to be used for various applications like Face detection/recognition based on Black/white list, Attendance using FR, access control using FR, Etc.			

The system should permit enrolment of subjects from Images or live Video			
The system should allow multiple users to be created within the system with custom privileges/groups			
The system should have client server architecture with support for multiple clients who can be simultaneously logged either locally or remotely.			
The system should support diverse image formats like JPEG, PNG etc.			
The system should have the capability to have face image			
The system should comprise a health monitoring dashboard			
The system should allow generation of reports based on detection and identification of alarms with relevant filters like date and time / category etc. The system should permit reports to be exported in txt or xls formats for storage /review.			
The FR system should be able to identify the face and give alerts/outputs within 3 to 5 meter distance			
The FR software system should support to integrate with 3rd party camera (ONVIF Compliant)			
The FR system should be capable of integration with various 3rd party applications and Hardware			
The FRS algorithm components should be upgraded without extra cost			
The FR System should be supplied with suitable Local Processing unit or server as per the number of License required. The costing of the local processing unit should be included with			

software itself.			
The Local Processing unit should have interfaces to have content backup, 3rd party integration for alarms, etc.			
Should be able to change/replace IP Camera linked with FR software without requiring additional license.			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
33450-B13-IP-024	2 MP MVF Bullet Camera with ANPR (Optional)	1 No

<b>Parameter</b>	<b>Specification</b>	<b>As per Brochure</b>	<b>Bidders offer</b>	<b>Bidder compliance (Yes/no)</b>
Lens	Min 10mm +/- 5mm - 40mm +/- 5mm Motorized Varifocal Lens or better , Auto focus			
IR Range	Min 100 Mtr or better			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			
Video analytics	Region intrusion detection, Video tampering detection, scene change detection, Vehicle classification, line crossing detection , License Plate recognition.			

Resolutions and frame rates	Stream 1 : Min 60 fps at 1920x1080 Stream 2 : Min 30 fps at 704x480			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
HLC	Required			
Corridor Mode	Required			
Privacy Mask	Support Minimum 2 areas / Zones			
Image setting	ROI, BLC, White Balance, 3DNR, Saturation, Brightness, Contrast, Sharpness			
Sun shield	Required			
Environment Protection	IP 67 Proof			
Image sensor	1/1.7" to 1/1.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			



Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming	Triple			
IRIS	P - IRIS			
Internal Edge Storage	512 GB			
Audio Function	Required			
Alarm interface	Required			
Humidity Minimum 90%	Required			
MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

Code	Item Description	Qty
33450-B13-IP-025	2 MP 30x Auto Tracking PTZ Camera (optional)	1 No

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance
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				(Yes/no)
Zoom	30x Optical Zoom and 12x Digital Zoom or better			
Lens	Focal Length Min 5 mm +/- 0.5 to 135mm +/- 15 or better			
Pan/Tilt Range	Pan: 0° ~ 360° endless; Tilt: 0° ~ 90°, auto flip 180°			
Manual Control Speed	Pan: 0.1° ~180 ° /s; Tilt: 0.1° ~90° /s or better			
Preset Speed	Pan: 0.1° ~180 ° /s; Tilt: 0.1° ~90° /s or better			
Presets	Minimum 250 Preset Points			
IR Range	Min 150 Mtr or better			
HLC	Required			
Min. Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			
Resolutions and frame rates	Stream 1 : Min 30 fps at 1920x1080 Stream 2 : Min 30 fps at 704x480 Stream 3 : Min 30 fps at 704x480			
Protocol Support	Ipv4, IPv6, HTTP, HTTPS, 802.1X, QoS, FTP, SMTP, UpnP, SNMP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Video analytics	Motion Detection, Camera Tampering detection, Line crossing			
Auto Tracking	Support Auto Tracking, activate the alarm with continious tracking of an object			
image stabilization	should support electronic image stabilization			

Privacy Mask	Support Minimum 24 areas / Zones, Support Dynamic Privacy Mask			
Image setting	ROI, BLC, White Balance, 3DNR, Image enhancement, lens correction, Auto Exposure control, Automatic gain control, Hue, automatic noise reduction, Watermark			
Edge Storage Auto Backup	Camera should record automatically when NVR not reachable and support automatic Synchronization of backup recording form SD Card to NVR when connection resume			
Environment Protection	IP 67 Proof			
Housing	Full Metal housing with Mounting bracket included for Wall/Pole Mount			
Time and Date	When camera reboots or powered ON after long time, the time and date of camera should remain same as per last configured without any update or synchronization required using NVR or internet			
Image sensor	1/2.7" to 1/2.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1-1/30000s or better			

On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
IRIS	Fixed /Auto IRIS			
Streaming Support	Individually configurable 3 video streams (H.264/H.265), Unicast/ Multicast			
Internal Edge Storage	Should Support minimum 256GB			
MIC internal / external	Required			

General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			
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Code	Item Description	Qty
33450-B13-IP-026	8 MP box camera (optional)	1 No

Parameter	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Lens	C/CS Mount Detachable type lens with 12~40 mm or better			
IR Range	Internal / external IR 50 Mtr or better			
Minimum Illumination	Color mode: F1.2 @ 0.02 lux and B&W mode: F1.2@ 0.01 lux or better			
Intelligent Video	Motion Detection, tampering, intrusion detection, trip wire			

Resolution frame rate	Main stream : 25 fps 3840 x 2160 or better second stream : 25fps 1280 x 720p or better Third Stream : 25fps 704 x 480 or better			
Frame rate	25fps @ 8mp or better, 25/30fps @ 4 mp , 5 MP or better 25/30fps @1080p or better			
Protocol Support	IPv4, IPv6, HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Corridor Mode	Required			
Privacy Mask	Support Minimum 2 areas / Zones			
Image setting	Image Defog, ROI, BLC, Flicker Control, White Balance, 3DNR, Saturation, Brightness, Contrast, Sharpness			
Sun shield	Required			
HLC	Required			
Housing	sunshield, IP 67			
Image sensor	1/1.7" to 1/1.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			

Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			
Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming support	Triple			
IRIS	P IRIS			
Internal Edge Storage	512 GB			
Audio Function	Required			
Alarm interface	Required			

Humidity minimum 90%	Required			
MIC internal / external	Required			
General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			

Code	Item Description	Qty
33450-B13-IP-027	8 MP 30x Auto Tracking PTZ Camera (optional)	1 No

Parameters	Specification	As per Brochure	Bidders offer	Bidder compliance (Yes/no)
Zoom	30x Optical Zoom and 12x Digital Zoom or better			
Lens	Focal Length Min 6 to 200 mm or higher, Auto Focus,			
Pan/Tilt Range	Pan: 0° ~ 360° endless; Tilt: 0° ~ 90°, auto flip 180°			
Manual Control Speed	Pan: 0.1° ~180° /s; Tilt: 0.1° ~90° /s or better			



Preset Speed	Pan: 0.1° ~180 ° /s; Tilt: 0.1° ~90° /s or better			
Presets	Minimum 250 Preset Points			
IR Range	Min 300 Mtr or better			
HLC	Required			
Minimum Illumination	Color mode: 0.05 lux and B&W mode: 0 lux or better			
Resolution frame rate	Main stream : 20 fps 3840 x 2160 or better second stream : 25fps 1280 x 720p or better Third Stream : 25fps 704 x 480 or better			
Frame rate	25fps @ 8mp or better, 25fps @ 4 mp , 5 MP or better 25fps @ 1080p or better			
Environment Protection	IP 67 Proof			
Protocol Support	Ipv4, IPv6, HTTP, HTTPS, 802.1X, QoS, FTP, SMTP, UpnP, SNMP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP			
Video analytics	Missing object Detection, Face detection, Perimeter Intrusion Detection			

image stabilization	should support electronic image stabilization			
Auto Tracking	Support Auto Tracking, activate the alarm with continuous tracking of an object			
Privacy Mask	Support Minimum 24 areas / Zones, Support Dynamic Privacy Mask			
Image setting	ROI, BLC, White Balance, 3DNR, Image enhancement, lens correction, Auto Exposure control, Automatic gain control, Hue, automatic noise reduction, Watermark			
Edge Storage Auto Backup	Camera should record automatically when NVR not reachable and support automatic Synchronization of backup recording form SD Card to NVR when connection resume			
Integration tools	SDK, CGI, API or other integration related files to be provided			
Housing	Full Metal housing with Mounting bracket included for Wall/Pole Mount			

Time and Date	When camera reboots or powered ON after long time, the time and date of camera should remain same as per last configured without any update or synchronization required using NVR or internet			
Image sensor	1/1.7" to 1/1.9" Progressive Scan CMOS or better			
Day and Night	Automatic & manual/scheduled (Senses the level of ambient light to determine when to switch day & night mode)			
Electronic Shutter	1/3-1/100000s or better			
On Screen Display	Should support OSD of Camera Name, Time, Date, Location Name , etc			
Video Compression	H.264, H. 265 or better			
Viewing/configuration	Support IE Browser/VMS/NVR and IOS/Android/windows			
Interface	Minimum 1 RJ45 Port			
POE	Internal 802.3af POE Support			
ONVIF compliance	ONVIF Profile S & G compliant			

Operating Temperature	-30 to 60°C, or better			
Surge Protection	Minimum 4 KVA surge protection should be included with each camera			
Mounting	No Cable and connectors should be visible outside. Camera should be mounted with suitable Mounting box to hide the cables and connectors or Cable should directly terminate inside the Camera.			
WDR	120db			
Streaming Support	Triple			
IRIS	P IRIS			
Internal Edge Storage	512 GB			
Audio function	Required			
Alarm interface	Required			
Humidity Minumum 90%	Required			
MIC internal / external	Required			

General Certification	IP 66, CE, FCC, UL/cUL, ROHS, BIS, NABL's or any other Government authorized Testing Lab Certification			
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**Category B15 – Specifications cum Bidder Compliance – Laptop**

Code	Item Description	Qty
33450-B15-022	14" Laptop with i7 - (A)	1 No

Parameter	Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Processor	Intel Core i7-8550U processor (1.8 GHz or above upto 4 GHz, 8 MB L2 cache) or Higher			
Memory	16 GB – DDR4 2400 MHz, Expandable upto 32 GB			
Hard Disk	1 TB SATA, 7200 RPM or higher			
Monitor	14” or higher			
Ethernet	10/100/1000 Mbps			
Compliance Requirement	Wifi, VGA / Display port, HDMI, RJ45 and support to Ext speakers of min 2 watts, Mouse and Keyboard			
Preloaded Software	a. Licensed Windows 10 Pro or above (OEM Pack)			
	b. Adobe Acrobat Reader Latest Edition			
	c. Microsoft Office Latest Edition			

	d. Licensed Antivirus Software with three – year free upgrade validity			
	e. All necessary plug-ins / utilities and drivers bundled in DVD Media			
OS Certification	Licensed (Windows and Linux).			
I/O Ports	Min 4 USB Ports with at least two with 3.0			
Battery backup	45 WHRS Li-on to give minimum three hours backup			
Anti-Virus	Anti-Virus with three-year license			
Security	Discrete TPM 2.0 Chip			
General Certification	ROHS, Energy Star, BIS, EPEAT or ETDC Certified for PC and TCO certified for Monitor. Copy should be enclosed.			
Brand	Internationally reputed brand for Enterprise Notebooks.			

Code	Item Description	Qty
33450-B15-023	Surface Go2 M3/4/64	1 No

Parameter	Specifications	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Type	Two in One (Tab as well as Laptop)			

Display	10.5" PixelSense™ Display, 1920 x 1280 (220 PPI) resolution			
Processor	8th Gen Intel® Core™ m3 Processor			
Memory	4GB RAM			
Hard Disk	64GB SSD			
Battery Life	Up to 10 hours of typical device usage			
Weight	544 g			
Ports	1 x USB-C, 3.5 mm headphone jack, , 1 x Surface Connect port, MicroSDXC Card Reader			
Connectivity	Wifi			
Wireless	WiFi: IEEE 802.11a/b/g/n/ac/ax			
Blue Tooth	Bluetooth Wireless 5.0 technology			
Web Cam	5.0MP front-facing camera with 1080p Skype HD video, 8.0MP rear-facing autofocus camera with 1080p HD video			
Accessories	Power Supply			
Operating System	Win 10 Pro			
Warranty	1 year Warranty			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B15-024</b>	Surface Go 2 M3/8/128	<b>1 No</b>

<b>Parameter</b>	<b>Specifications</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Type	Two in One (Tab as well as Laptop)			
Display	10.5" PixelSense™ Display, 1920 x 1280 (220 PPI) resolution			
Processor	8th Gen Intel® Core™ m3 Processor			
Memory	8GB RAM			
Hard Disk	128GB SSD			
Battery Life	Up to 10 hours of typical device usage			
Weight	544 g			
Ports	1 x USB-C, 3.5 mm headphone jack, , 1 x Surface Connect port, MicroSDXC Card Reader			
Connectivity	Wifi			
Wireless	WiFi: IEEE 802.11a/b/g/n/ac/ax			
Blue Tooth	Bluetooth Wireless 5.0 technology			



Web Cam	5.0MP front-facing camera with 1080p Skype HD video, 8.0MP rear-facing autofocus camera with 1080p HD video			
Accessories	Power Supply			
Operating System	Win 10 Pro			
Warranty	1 year Warranty			

Code	Item Description	Qty
33450-B15-025	Surface Pro 7 i5/8/256	1 No

Parameter	Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Type	Two in One (Tab as well as Laptop)			
Display	12.3" PixelSense™ Display, 2736 x 1824 (267 PPI)			
Processor	Quad-core 10th Gen Intel® Core™ i5-1035G4 Processor			
Memory	8GB RAM			
Hard Disk	256GB SSD			
Battery Life	Up to 10.5 hours of typical device usage			
Weight	775 g			

Ports	1 x USB-C®, 1 x USB-A, 3.5 mm headphone jack, 1 x Surface Connect port, MicroSDXC card reader.			
Connectivity	Wifi			
Wireless	Wi-Fi 6: 802.11ax compatible			
Blue Tooth	Bluetooth Wireless 5.0 technology			
Web Cam	5.0MP front-facing camera with 1080p full HD video, 8.0MP rear-facing autofocus camera with 1080p full HD video			
Accessories	Power Supply			
Operating System	Win 10 Pro			
Warranty	1 year Warranty			

<b>Code</b>	<b>Item Description</b>	<b>Qty</b>
<b>33450-B15-026</b>	Surface Pro 7 i7/16/256	<b>1 No</b>

<b>Parameter</b>	<b>Specification</b>	<b>As Per Brochure</b>	<b>Bidders Offer</b>	<b>Bidder Compliance (Yes/No)</b>
Type	Two in One (Tab as well as Laptop)			
Display	12.3" PixelSense™ Display, 2736 x 1824 (267 PPI)			
Processor	Quad-core 10th Gen Intel® Core™ i7-1065G7 Processor			
Memory	16GB RAM			
Hard Disk	256GB SSD			
Battery Life	Up to 10.5 hours of typical device usage			
Weight	790 g			
Ports	1 x USB-C®, 1 x USB-A, 3.5 mm headphone jack, 1 x Surface Connect port, MicroSDXC card reader.			
Connectivity	Wifi			
Wireless	Wi-Fi 6: 802.11ax compatible			
Blue Tooth	Bluetooth Wireless 5.0 technology			
Web Cam	5.0MP front-facing camera with 1080p full HD video, 8.0MP rear-facing autofocus camera with 1080p full HD video			
Accessories	Power Supply			
Operating System	Win 10 Pro			
Warranty	1 year Warranty			

Code	Item Description	Qty
33450-B15-027	14' Laptop with i5- (A)	1 No

Product Item	Specification	As Per Brochure	Bidders Offer	Bidder Compliance (Yes/No)
Processor	Intel®R™ I5 10210U CPU @ 2.11 GHz 10 th Gen			
Operator System Type	64-bit Operating System			
Windows Edition	Windows 10			
Installed Memory (RAM)	8.00 GB (7.24 GB Usable)			
HardDrive	1TB HDD , 250 SSD			
DVD/CD-ROM Drives	YES			
Bluetooth	YES			
Sound / Vedio / Controllers	YES			
Network Adapter (LAN)	YES			
Graphics Card	UHD			
HeadPhone Outputs	YES			

Laptop Charger Adapter AC	YES			
WIFI	YES			
Camera	YES			
Universal Serial Bus (USB)	4 Port			
Keyboard	Integrated Keyboard			
Mouse	Touch Pad			
Monitor	14.0 " Inch			
Display	LED IPS Panel			

**Annexure - D**

**A1.4.4 Category B4 – IT Consumables**

<b>S.N</b>	<b>Product Code</b>	<b>Description</b>	<b>Item Quoted details along with Make &amp; Model</b>
1	33450-B4-001	Toner for (KYOCERA FS 6525/ FS 6530) - TK-479	
2	33450-B4-002	Drum Kit for (KYOCERA FS 6525/ FS 6530) - MK-479	
3	33450-B4-003	Fixing Kit for (KYOCERA FS 6525/ FS 6530) - FK-475	
4	33450-B4-004	DP HINGE for (KYOCERA FS 6525/ FS6530/ FS 8525) - LEFT HINGE	
5	33450-B4-005	DP BASE for (KYOCERA FS 6525/ FS6530/ FS 8525) - BASE DP	
6	33450-B4-006	Power Supply PCB for (KYOCERA FS 6525/ FS6530) - PART LOW VOLTAGE PCB 230V	

7	33450-B4-007	Power Supply Sub board (KYOCERA FS 6525/ FS 6530) - PART LOW SUB VOLTAGE PCB 230	
8	33450-B4-008	Toner Cartridge for (KYOCERA TASKalfa 1800/ 1801) - TK-4109	
9	33450-B4-009	Drum Kit for (KYOCERA TASKalfa 1800/ 1801) - MK-4105	
10	33450-B4-010	Fixing Kit for (KYOCERA TASKalfa 1800/ 1801) - FK-4105	
11	33450-B4-011	Black Toner for (KYOCERA TASKalfa 2551ci) - TK-8329K	
12	33450-B4-012	Yellow Toner for (KYOCERA TASKalfa 2551ci) - TK-8329Y	
13	33450-B4-013	Magenta Toner for (KYOCERA TASKalfa 2551ci) - TK-8329M	
14	33450-B4-014	Cyan Toner for (KYOCERA TASKalfa 2551ci) - TK-8329C	
15	33450-B4-015	Black Drum Kit for (KYOCERA TASKalfa 2551ci) - Maintenance kit MK-8325A	
16	33450-B4-016	Colour Drum Kit for (KYOCERA TASKalfa 2551ci) - Maintenance kit MK-8325B	

17	33450-B4-017	Toner Cartridge for (KYOCERA ECOSYS M4125idn/ M4132idn ) - TK-6110	
18	33450-B4-018	Drum kit for (KYOCERA ECOSYS M4125idn/ M4132idn ) - Maintenance kit MK-6119	
19	33450-B4-019	Fixing Kit for (KYOCERA ECOSYS M4125idn/ M4132idn ) - FK-6115	
20	33450-B4-020	Wireless Kit for (KYOCERA TASKalfa 4125idn) - IB-36	
21	33450-B4-021	DP HINGE for (KYOCERA ECOSYS M4125idn/ M4132idn ) - LEFT HINGE	
22	33450-B4-022	DP BASE for (KYOCERA ECOSYS M4125idn/ M4132idn ) - BASE DP	
23	33450-B4-023	Toner Cartridge for (KYOCERA TASKalfa 3212i) - TK-7120	
24	33450-B4-024	Toner Cartridge for (KYOCERA TASKalfa 4012i) - TK-7220	
25	33450-B4-025	Drum kit for (KYOCERA TASKalfa 3212i/ 4012i) - Maintenance kit MK-7129	



26	33450-B4-026	Wireless Kit for (KYOCERA TASKalfa 3212i/ 4012i) - IB-35	
27	33450-B4-027	Fixing Kit for (KYOCERA TASKalfa 3212i/ 4012i) - FK-7125	
28	33450-B4-028	Developing Unit for (KYOCERA TASKalfa 3212i/ 4012i) - DV-7125	
29	33450-B4-029	Main Charge Roller (KYOCERA TASKalfa 3212i/ 4012i) - MC-7125	
30	33450-B4-030	Toner Cartridge for (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - TK-6329	
31	33450-B4-031	Drum Kit for (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - Maintenance kit MK-6335	
32	33450-B4-032	Fixing Kit for (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - FK-8560	
33	33450-B4-033	Transfer Unit for (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - TR-6500	
34	33450-B4-034	Developing Unit for (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - DV-8560K	

35	33450-B4-035	Wireless Kit for (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - IB-35	
36	33450-B4-036	Main Charge Roller (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - MC-8550	
37	33450-B4-037	Black Toner Cartridge for (KYOCERA ECOSYS M8124cidn) - TK-8110K	
38	33450-B4-038	Cyan Toner Cartridge for (KYOCERA ECOSYS M8124cidn) - TK-8110C	
39	33450-B4-039	Yellow Toner Cartridge for (KYOCERA ECOSYS M8124cidn) - TK-8110Y	
40	33450-B4-040	Magenta Toner Cartridge for (KYOCERA ECOSYS M8124cidn) - TK-8110M	
41	33450-B4-041	Black Drum Kit for (KYOCERA ECOSYS M8124cidn) - Maintenance kit MK-8115A	
42	33450-B4-042	Colour Drum Kit for (KYOCERA ECOSYS M8124cidn) - Maintenance kit MK-8115B	

43	33450-B4-043	Transfer Belt for (KYOCERA ECOSYS M8124cidn) - TR-8115A	
44	33450-B4-044	Fuser Unit for (KYOCERA ECOSYS M8124cidn) - FK-8115	
45	33450-B4-045	Developing Unit for (KYOCERA ECOSYS M8124cidn) - DV-8115K	
46	33450-B4-046	Black Toner Cartridge for (KYOCERA TASKalfa 3252ci) - TK-8339K	
47	33450-B4-047	Cyan Toner Cartridge for (KYOCERA TASKalfa 3252ci) - TK-8339C	
48	33450-B4-048	Yellow Toner Cartridge for (KYOCERA TASKalfa 3252ci) - TK-8339Y	
49	33450-B4-049	Magenta Toner Cartridge for (KYOCERA TASKalfa 3252ci) - TK-8339M	
50	33450-B4-050	Black Drum Kit for (KYOCERA TASKalfa 3252ci) - Maintenance kit MK-8335A	
51	33450-B4-051	Colour Drum Kit for (KYOCERA TASKalfa 3252ci) - Maintenance kit MK-8335B	

52	33450-B4-052	Transfer Belt for (KYOCERA ECOSYS 3252ci) - TK-8550	
53	33450-B4-053	Fuser Unit for (KYOCERA ECOSYS 3252ci) - FK-8530	
54	33450-B4-054	Developing Unit for (KYOCERA ECOSYS 3252ci) - Maintenance kit MK-8335D	
55	33450-B4-055	Black Toner Cartridge for (KYOCERA TASKalfa 4052ci/4053ci) - TK-8529K	
56	33450-B4-056	Cyan Toner Cartridge for (KYOCERA TASKalfa 4052ci/4053ci) - TK-8529C	
57	33450-B4-057	Yellow Toner Cartridge for (KYOCERA TASKalfa 4052ci/4053ci) - TK-8529Y	
58	33450-B4-058	Magenta Toner Cartridge for (KYOCERA TASKalfa 4052ci/4053ci) - TK-8529M	
59	33450-B4-059	Black Drum Kit for (KYOCERA TASKalfa 4052ci/4053ci) - Maintenance kit MK-8525A	
60	33450-B4-060	Colour Drum Kit for (KYOCERA TASKalfa 4052ci/4053ci) - Maintenance kit MK-8525B	

61	33450-B4-061	Transfer Belt for (KYOCERA TASKalfa 4052ci) - TR-8550	
62	33450-B4-062	Fuser Unit for (KYOCERA TASKalfa 4052ci) - FK-8550	
63	33450-B4-063	Developing Unit for (KYOCERA TASKalfa 4052ci) - DV-8560K	
64	33450-B4-064	Black Toner Cartridge for (KYOCERA TASKalfa 2552ci/ 2553ci) - TK-8349K	
65	33450-B4-065	Cyan Toner Cartridge for (KYOCERA TASKalfa 2552ci/ 2553ci) - TK-8349C	
66	33450-B4-066	Yellow Toner Cartridge for (KYOCERA TASKalfa 2552ci/ 2553ci) - TK-8349Y	
67	33450-B4-067	Magenta Toner Cartridge for (KYOCERA TASKalfa 2552ci/ 2553ci) - TK-8349M	
68	33450-B4-068	Black Drum Kit for (KYOCERA TASKalfa 2552ci/ 2553ci) - Maintenance kit MK-8335A	
69	33450-B4-069	Colour Drum Kit for (KYOCERA TASKalfa 2552ci/ 2553ci) - Maintenance kit MK-8335B	

70	33450-B4-070	Transfer Belt for (KYOCERA TASKalfa 2552ci/ 2553ci) - TR-8550	
71	33450-B4-071	Fuser Unit for (KYOCERA TASKalfa 2552ci/ 2553ci) - FK-8350	
72	33450-B4-072	Developing Unit for (KYOCERA TASKalfa 2552ci/ 2553ci) - Maintenance kit MK-8335D	
73	33450-B4-073	Black Toner for FS 8525ci - TK-899K	
74	33450-B4-074	Yellow Toner for FS 8525ci - TK-899Y	
75	33450-B4-075	Magenta Toner for FS 8525ci - TK-899M	
76	33450-B4-076	Cyan Toner for FS 8525ci - TK-899C	
77	33450-B4-077	Black Drum Kit for FS 8525ci - Maintenance kit MK-896A	
78	33450-B4-078	Colour Drum Kit for FS 8525ci - Maintenance kit MK-896B	
79	33450-B4-079	Transfer Belt for FS 8525ci - TR-896A	
80	33450-B4-080	Fuser Unit for FS 8525ci - FK-896	

81	33450-B4-081	Developing Unit for FS 8525ci - DV-896K	
82	33450-B4-082	Toner Cartridge for (KYOCERA TA 2321 ) - TK-4140	
83	33450-B4-083	Drum kit for(KYOCERA TA 2321 ) - MK-4145	
84	33450-B4-084	Fixing Kit for (KYOCERA TA 2321 ) - FK-4105	
85	33450-B4-085	Toner for Canon iR2006n/ iR 2004n/ iR2002n - NPG 59	
86	33450-B4-086	Drum Kit for Canon iR2006n/ iR 2004n/ iR2002n - NPG 59	
87	33450-B4-087	Toner for Canon iR 2525w/ iR 2520/ iR2530 - NPG 51	
88	33450-B4-088	Drum Kit for Canon iR 2525w/ iR 2520/ iR2530 - NPG 51	
89	33450-B4-089	Toner for Canon iR 2625/ iR 2630/ iR 2645 - NPG 84	
90	33450-B4-090	Drum Kit for Canon iR 2625/ iR 2630/ iR 2645 - NPG 84	
91	33450-B4-091	Black Toner for Canon 643 cdw for toner model 054	

92	33450-B4-092	Cyan Toner for Canon 643 cdw for toner model 054	
93	33450-B4-093	Yellow Toner for Canon 643 cdw for toner model 054	
94	33450-B4-094	Magenta Toner for Canon 643 cdw for toner model 054	
95	33450-B4-095	Black Toner for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	
96	33450-B4-096	Cyan Toner for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	
97	33450-B4-097	Yellow Toner for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	
98	33450-B4-098	Magenta Toner for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	
99	33450-B4-099	Black Drum Kit for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	



100	33450-B4-100	Cyan Drum Kit for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	
101	33450-B4-101	Yellow Drum Kit for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	
102	33450-B4-102	Magenta Drum Kit for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	
103	33450-B4-103	Black Toner for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	
104	33450-B4-104	Cyan Toner for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	
105	33450-B4-105	Yellow Toner for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	
106	33450-B4-106	Magenta Toner for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	
107	33450-B4-107	Black Drum Kit for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	
108	33450-B4-108	Cyan Drum Kit for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	

109	33450-B4-109	Yellow Drum Kit for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	
110	33450-B4-110	Magenta Drum Kit for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	
111	33450-B4-111	Toner for Canon iR adv 6575i/ iR adv 6565i/ iR adv 6555i - NPG 54	
112	33450-B4-112	Drum Kit for Canon iR adv 6575i/iR adv 6565i/ iR adv 6555i - NPG 54	
113	33450-B4-113	Toner for Canon iR adv 4525/ iR adv 4535/ iR adv 4545/ iR adv 4551 - NPG 73	
114	33450-B4-114	Drum Kit for Canon iR adv4525/ iR adv 4535/ iR adv 4545/ iR adv 4551 - NPG 73	
115	33450-B4-115	Toner Cartridge for Canon 6230DN - 326	
116	33450-B4-116	Toner Cartridge for Canon MF246DN/ Canon LBP 151DW / Canon MF241D/ Canon MF237w - 337	

117	33450-B4-117	Toner Cartridge for Canon L170/ MF4720W/ MF4820D/ MF4750 - 328	
118	33450-B4-118	Toner Cartridge for Canon MF266DN/ Canon MF 269DN/ Canon LBP 161dn/ Canon LBP 162dw - 051	
119	33450-B4-119	Drum Cartridge for Canon MF266DN/ Canon MF 269DN/ Canon LBP 161dn/ Canon LBP 162dw - 051	
120	33450-B4-120	Toner Cartridge for Canon LBP 214DW - 052	
121	33450-B4-121	Black Toner Cartridge for Canon LBP 654cx/ Canon MF735CX - 046	
122	33450-B4-122	Cyan Toner Cartridge for Canon LBP 654cx/ Canon MF735CX - 046	
123	33450-B4-123	Magenta Toner Cartridge for Canon LBP 654cx/ Canon MF735CX - 046	
124	33450-B4-124	Yellow Toner Cartridge for Canon LBP 654cx/ Canon MF735CX - 046	
125	33450-B4-125	Black Toner Cartridge for Canon MF 631CN/ LBP 613cdw - 045	
126	33450-B4-126	Cyan Toner Cartridge for Canon MF 631CN/ LBP 613cdw - 045	
127	33450-B4-127	Magenta Toner Cartridge for Canon MF 631CN/ LBP 613cdw - 045	
128	33450-B4-128	Yellow Toner Cartridge for Canon MF 631CN/ LBP 613cdw - 045	

129	33450-B4-129	Toner Cartridge for Canon LBP 8100N/ Canon LBP 8780CX - 333	
130	33450-B4-130	Black Toner Cartridge for Canon LBP 841 CDN - 333E	
131	33450-B4-131	Cyan Toner Cartridge for Canon LBP 841 CDN - 333E	
132	33450-B4-132	Magenta Toner Cartridge for Canon LBP 841 CDN - 333E	
133	33450-B4-133	Yellow Toner Cartridge for Canon LBP 841 CDN - 333E	
134	33450-B4-134	Black Toner Cartridge for Canon MF746CX - 055	
135	33450-B4-135	Cyan Toner Cartridge for Canon MF746CX - 055	
136	33450-B4-136	Magenta Toner Cartridge for Canon MF746CX - 055	
137	33450-B4-137	Yellow Toner Cartridge for Canon MF746CX - 055	
138	33450-B4-138	Toner Cartridge for Canon LBP 312x - 041	
139	33450-B4-139	Toner Cartridge for CanonLBP351x/ CanonLBP352x - 039	

140	33450-B4-140	Toner cartridge for digital copier Ricoh MP2014D / MP2014AD - 2014HS	
141	33450-B4-141	Toner cartridge for digital copier RICOH MP 2001SP / MP2501SP - 2501S	
142	33450-B4-142	Toner for Ricoh Aficio 2000L /2000LE/2020D Photo Copier - 1230D	
143	33450-B4-143	Toner Cartridges for Ricoh Aficio MP 3350 Photo Copier - 23230D	
144	33450-B4-144	Developer for digital copier Ricoh MP2014D / MP2014AD / MP 2001SP / MP2501SP / Aficio 2000L / Aficio 2000LE/ Aficio 2020D / Afficio MP 3350SP	
145	33450-B4-145	OPC Drum for digital copier Ricoh MP2014D / MP2014AD / MP 2001SP / MP2501SP / Aficio 2000L / Aficio 2000LE/ Aficio 2020D / Afficio MP 3350SP	
146	33450-B4-146	Hot Roller for digital copier Ricoh MP2014D / MP2014AD	
147	33450-B4-147	Hot Roller for digital copier RICOH MP 2001SP / MP2501SP	

148	33450-B4-148	Charge Roller for digital copier Ricoh MP2014D / MP2014AD / RICOH MP 2001SP / MP2501SP	
149	33450-B4-149	Cleaning blade for digital copier Ricoh MP2014D / MP2014AD	
150	33450-B4-150	Cleaning Blade for digital copier RICOH MP 2001SP / MP2501SP	
151	33450-B4-151	Photoconductor unit for digital copier RICOH MP 2001SP / MP2501SP	
152	33450-B4-152	Photoconductor Development unit for digital copier Ricoh MP2014D / MP2014AD	
153	33450-B4-153	Toner Cartridges for Ricoh MP 4054 / MP 4055 / MP 5054 & MP5055	
154	33450-B4-154	Developer for Ricoh MP 4054 / MP 4055 / MP 5054 & MP5055	
155	33450-B4-155	Drum for Ricoh MP 4054 / MP 4055 / MP 5054 & MP5055	
156	33450-B4-156	Cleaning blade for Ricoh MP 4054 / MP 4055 / MP 5054 & MP5055	
157	33450-B4-157	Fusing Unit for Ricoh MP 4054 / MP 4055 / MP 5054 & MP5055	

158	33450-B4-158	Fusing Sleeve for Ricoh MP 4054 / MP 4055 / MP 5054 & MP5055	
159	33450-B4-159	Toner (black) cartridge RICOH MPC 2503SP / MPC 2504SP - MP 2503S Black	
160	33450-B4-160	Toner (cyan) cartridge RICOH MPC 2503SP / MPC 2504SP - MP 2503S cyan	
161	33450-B4-161	Toner (yellow) cartridge RICOH MPC 2503SP / MPC 2504SP - MP 2503S yellow	
162	33450-B4-162	Toner (magenta) cartridge RICOH MPC 2503SP / MPC 2504SP - MP 2503S Magenta	
163	33450-B4-163	Development Unit (black) cartridge RICOH MPC 2503SP / MPC 2504SP	
164	33450-B4-164	Development Unit (cyan) cartridge RICOH MPC 2503SP / MPC 2504SP	
165	33450-B4-165	Development Unit (yellow) cartridge RICOH MPC 2503SP / MPC 2504SP	

166	33450-B4-166	Development Unit (magenta) cartridge RICOH MPC 2503SP / MPC 2504SP	
167	33450-B4-167	Drum kit for RICOH MPC 2503SP / MPC 2504SP (K, C, Y & M)	
168	33450-B4-168	Toner for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier - C2551S Black	
169	33450-B4-169	Toner for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier - C2551S Cyan	
170	33450-B4-170	Toner for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier - C2551S Yellow	
171	33450-B4-171	Toner for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier - C2551S Magenta	
172	33450-B4-172	Drum Kit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-Black	
173	33450-B4-173	Drum Kit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-yellow	



174	33450-B4-174	Drum Kit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-Meganta	
175	33450-B4-175	Drum Kit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-Cyan	
176	33450-B4-176	Development Unit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-Black	
177	33450-B4-177	Development Unit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-yellow	
178	33450-B4-178	Development Unit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-Magenta	
179	33450-B4-179	Development Unit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-Cyan	
180	33450-B4-180	Toner for Ricoh Aficio MPC 3002 Colour Photo Copier - MP C3502S Black	
181	33450-B4-181	Toner for Ricoh Aficio MPC 3002 Colour Photo Copier - MP C3502S Cyan	

182	33450-B4-182	Toner for Ricoh Aficio MPC 3002 Colour Photo Copier - MP C3502S Yellow	
183	33450-B4-183	Toner for Ricoh Aficio MPC 3002 Colour Photo Copier - MP C3502S Magenta	
184	33450-B4-184	Drum Kit for Ricoh Aficio MPC 3002 Colour Photo Copier-Black	
185	33450-B4-185	Drum Kit for Ricoh Aficio MPC 3002 Colour Photo Copier-Cyan / Yellow / Magenta	
186	33450-B4-186	Development Unit for Ricoh Aficio MPC 3002 Colour Photo Copier-Black	
187	33450-B4-187	Development Unit for Ricoh Aficio MPC 3002 Colour Photo Copier-Cyan	
188	33450-B4-188	Development Unit for Ricoh Aficio MPC 3002 Colour Photo Copier-Yellow	

189	33450-B4-189	Development Unit for Ricoh Aficio MPC 3002 Colour Photo Copier-Magenta	
190	33450-B4-190	Black Toner Cartridge for Samsung - ML 2161/SCX 3401/ML 2166W/SCX 3046W - Samsung MLT-D101S Black	
191	33450-B4-191	Black Toner Cartridge for Samsung - ML 1666/ML 1866/1676/SCX 3201 - Samsung MLT-D1043S	
192	33450-B4-192	Black Toner Cartridge for Samsung - ML 2951ND/XIP,SCX 4728FD,SCX 4728D / SCX 4701ND - Samsung MLT-D103S	
193	33450-B4-193	Black Toner Cartridge (High Yield) for Samsung - SL-M2071 / 2071W / 2071FW / SL-M2021 / 2021W / 2020W/ 2022W / 2070 / 2070W / 2078W - Samsung MLT-D111L H- Yield	
194	33450-B4-194	Black Toner Cartridge for Samsung - ML- 3312ND, SCX-4835FR, SCX-5639FR/SCX- 5739FW,ML-3310ND,ML- 3710ND , Black Toner Std	

195	33450-B4-195	Black Toner Cartridge for Samsung - SL- M3320ND/SL-M2820ND/SL-M4020ND/SL- M3370FD/SL-M3870FD - Samsung MLT- D203S
196	33450-B4-196	Black Toner Cartridge (High Yield) for Samsung - ML 2830W, ML 2830DW - Samsung MLT-D115L H-Yield
197	33450-B4-197	Black Toner Cartridge for (High Yield) Samsung - SL-M2626/SL-2826ND/SL-2876ND/SL-2876FD
198	33450-B4-198	Black Toner Cartridge for Samsung - ML 2851ND
199	33450-B4-199	Black Toner Cartridge for Samsung - ML 1610/ML-2010/ML-2571N - Samsung MLT- D119S
200	33450-B4-200	Black Toner Cartridge for Samsung - 1911/ML 2581N/SCX-4601/SCX4623FH/FN/SF651P - Samsung MLT-D1053S

201	33450-B4-201	Black Toner Cartridge for Samsung - ML 1640/ML 2240 SERIES - Samsung MLT-D108S
202	33450-B4-202	Black Toner Cartridge for Samsung - SCX 4725/SCX-4021S/XIP,SCX-4321NS/XIP,SCX-4521FS/XIP,SCX 4521NS/XIP - Samsung SCX-D4725A
203	33450-B4-203	Black Toner Cartridge (High Yield) Samsung - ML 2951ND/XIP,SCX 4728FD,SCX 4728D / SCX 4701ND - Samsung MLT-D103L H- Yield
204	33450-B4-204	Black Toner Cartridge (High Yield) for Samsung - SL-K2200/K2200ND - Samsung MLT-D707L H-Yield
205	33450-B4-205	Black Toner Cartridge for Samsung - S-IN- SCX 8128NA /XIP - Samsung MLT-D709S
206	33450-B4-206	Black Toner Cartridge for Samsung - SL- K3250NR/XIP - Samsung MLT-D704S
207	33450-B4-207	Black Toner Cartridge for Samsung - SL- K4350LX/XIP - Samsung MLT-D708S
208	33450-B4-208	Black Toner Cartridge(High Yield) for Samsung - SL-K4350LX/XIP - Samsung MLT-D708L H-Yield

209	33450-B4-209	Black Toner Cartridge for Samsung - CLP 680 / CLX 6260 - Samsung CLT-K506S	
210	33450-B4-210	Cyan Toner Cartridge for Samsung - CLP 680 / CLX 6260 - Samsung CLT-C506S	
211	33450-B4-211	Magenta Toner Cartridge for Samsung - CLP 680 / CLX 6260 - Samsung CLT-M506S	
212	33450-B4-212	Yellow Toner Cartridge for Samsung - CLP 680 / CLX 6260 - Samsung CLT-Y506S	
213	33450-B4-213	Black Toner Cartridge for Samsung - CLP 770 ND/CLP 775ND - Samsung CLT-K609S	
214	33450-B4-214	Yellow Toner Cartridge for Samsung - CLP 770 ND/CLP 775ND - Samsung CLT-Y609S	
215	33450-B4-215	Cyan Toner Cartridge for Samsung - CLP 770 ND/CLP 775ND - Samsung CLT-C609S	

216	33450-B4-216	Magenta Toner Cartridge for Samsung - CLP 770 ND/CLP 775ND - Samsung CLT- M609S
217	33450-B4-217	Black Toner Cartridge for Samsung - CLP- 360/365/368 CLX-3300/3305 SERIES - Samsung CLT-K406S
218	33450-B4-218	Yellow Toner Cartridge for Samsung - CLP- 360/365/368 CLX-3300/3305 SERIES - Samsung CLT-Y406S
219	33450-B4-219	Magenta Toner Cartridge for Samsung - CLP-360/365/368 CLX-3300/3305 SERIES - Samsung CLT-M406S
220	33450-B4-220	Cyan Toner Cartridge for Samsung - CLP- 360/365/368 CLX-3300/3305 SERIES - Samsung CLT-C406S
221	33450-B4-221	Black Toner Cartridge for Samsung - CLP - 310 /315 CLX - 3173 - Samsung CLT-K409S
222	33450-B4-222	Cyan Toner Cartridge for Samsung - CLP - 310 /315 CLX - 3173 - Samsung CLT-C409S
223	33450-B4-223	Magenta Toner Cartridge for Samsung - CLP - 310 /315 CLX - 3173 - Samsung CLT- M409S

224	33450-B4-224	Yellow Toner Cartridge for Samsung - CLP - 310 /315 CLX - 3173 - Samsung CLT- Y409S	
225	33450-B4-225	Black Toner Cartridge for Samsung - SCX- 8128NA/XIP - Samsung CLT-K809S	
226	33450-B4-226	Yellow Toner Cartridge for Samsung - SCX- 8128NA/XIP - Samsung CLT-Y809S	
227	33450-B4-227	Cyan Toner Cartridge for Samsung - SCX- 8128NA/XIP - Samsung CLT-C809S	
228	33450-B4-228	Magenta Toner Cartridge for Samsung - SCX-8128NA/XIP - Samsung CLT-M809S	
229	33450-B4-229	Black Toner Cartridge for Samsung - SL- X3220NR/SL-X3280NR - Samsung CLT- K804S	
230	33450-B4-230	Cyan Toner Cartridge for Samsung - SL- X3220NR/SL-X3280NR - Samsung CLT-C804S	
231	33450-B4-231	Yellow Toner Cartridge for Samsung - SL- X3220NR/SL-X3280NR - Samsung CLT- Y804S	



232	33450-B4-232	Magenta Toner Cartridge for Samsung - SL- X3220NR/SL-X3280NR - Samsung CLT- M804S	
233	33450-B4-233	Imaging Unit for Samsung - SL-M2626/SL- 2826ND/SL-2876ND/SL-2876FD	
234	33450-B4-234	Imaging Unit for Samsung - CLP- 360/365/368 CLX-3300/3305 SERIES - Samsung CLT-R406	
235	33450-B4-235	Imaging Unit for Samsung - CLP - 310 /315 CLX - 3173 - Samsung CLT-R409	
236	33450-B4-236	Imaging Unit for Samsung - SL- K2200/K2200ND - Samsung MLT-R707	
237	33450-B4-237	Imaging Unit for Samsung - S-IN-SCX 8128NA /XIP , Imaging Unit - Samsung MLT -R660	
238	33450-B4-238	Imaging Unit for Samsung - SL- K3250NR/XIP - Samsung MLT-R704	
239	33450-B4-239	Imaging Unit for Samsung - SCX- 8128NA/XIP - Samsung CLT-R809	

240	33450-B4-240	Imaging Unit for Samsung - SL- X3220NR/XIP - Samsung CLT-R804	
241	33450-B4-241	Imaging Unit for Samsung - SL- K4350LX/XIP - Samsung MLT-R708	
242	33450-B4-242	Cyan Imaging Unit for Samsung - CLX- 9250ND/9350ND - Samsung CLT-R607C	
243	33450-B4-243	Black Imaging Unit for Samsung - CLX- 9250ND/9350ND - Samsung CLT-R607K	
244	33450-B4-244	Magenta Imaging Unit for Samsung - CLX- 9250ND/9350ND - Samsung CLT-R607M	
245	33450-B4-245	Yellow Imaging Unit for Samsung - CLX- 9250ND/9350ND - Samsung CLT-R607Y	
246	33450-B4-246	WASTE TONER BOX for Samsung - SCX- 8128NA/XIP, SCX-8123NA - Samsung MLT -W653	
247	33450-B4-247	Paper Transfer Belt for Samsung - CLP 620/CLP 670/CLX 6220 - Samsung CLT-T508	

248	33450-B4-248	Toner Collection Unit for Samsung - SL- X3220NR/XIP - Samsung CLT-W808	
249	33450-B4-249	Paper Transfer Belt for Samsung - CLP 610 ND / 660 / CLX 6210 / CLX 6240 - Samsung CLP-T660B	
250	33450-B4-250	Toner Collection Unit for Samsung - CLP-680ND/XIP - Samsung CLT-W506	
251	33450-B4-251	Ribbon Cartridge for Lipi Line Matrix Printer Model 6306/6215/6218 Yield - 4 Million Characters	
252	33450-B4-252	Ribbon Cartridge for LIPI Line matrix Printer Model -6605/6610/6620/6805/6810/681/6820 Yield - 9000 Pages	

253	33450-B4-253	Ribbon Cartridge for LIPI Line matrix Printer Model -6605/6610/6620/6805/6810/681/6820 Yield - 17000 Pages
254	33450-B4-254	Ribbon Cartridge for LIPI Line matrix Printer Model RIBBON STANDARD OPEN PRINT HD 1 PACK 03H/06H/08H/HD –P-8000 HD Printer Yield – 18000 Pages
255	33450-B4-255	Ribbon Cartridge for Lipi High Speed Dot matrix printer Model-T2155/T2170/T2265+/2280+ Yield - 20 Million Characters
256	33450-B4-256	Ribbon Cartridge for Lipi High Speed Dot matrix Printer Model T2610 – 5 Million Characters
257	33450-B4-257	Ribbon Cartridge for Lipi High Speed Dot matrix printer Model-T2155/T2170/T2265+/2280+ -15 Million Characters
258	33450-B4-258	Ribbon Cartridge for Lipi Pass Book Printer Model PB2

259	33450-B4-259	Toner for Brother Printer - HL-L2321D, HL-L2361DN, HL-2366DW, DCP-L2520D, DCP-L2541DW, MFC-L2701D, MFC-2701DW, Model TN-2365, Yeild - 2500 Pages
260	33450-B4-260	Drum for Brother Printer - HL-L2321D, HL-L2361DN, HL-2366DW, DCP-L2520D, DCP-L2541DW, MFC-L2701D, MFC-2701DW, Model DR-2365, Yeild - 12000 Pages
261	33450-B4-261	Toner for Brother Printer - HL-L2351DW, DCP-L2531DW, Model TN-2465, Yeild -3000 Pages
262	33450-B4-262	Toner for Brother Printer - HL-L2351DW, DCP-L2531DW, Model TN-2469, Yeild -4000 PGS
263	33450-B4-263	Drum for Brother Printer - HL-L2351DW, DCP-L2531DW, Model DR-2465, Yeild -12000 Pages

264	33450-B4-264	Toner for Brother Printer - HL-B2000D, HL-B2080DW, DCP-B7500D, DCP-B7535DW, MFC-B7715DW, Model TN-B021, Yeild -2600 Pages	
265	33450-B4-265	Drum for Brother Printer - HL-B2000D, HL-B2080DW, DCP-B7500D, DCP-B7535DW, MFC-B7715DW, Model DR-B021, Yeild -12000 Pages	
266	33450-B4-266	Toner for Brother Printer - HL-L5000D, HL-L5100DN, HL-L6200DW, DCP-L5600DN, MFC-L5900DW, Model TN-3428, Yeild -3000 Pages	
267	33450-B4-267	Toner for Brother Printer - HL-L5000D, HL-L5100DN, HL-L6200DW, DCP-L5600DN, MFC-L5900DW, Model TN-3448, Yeild -8000 PGS	
268	33450-B4-268	Toner for Brother Printer - HL-L5000D, HL-L5100DN, HL-L6200DW, DCP-L5600DN, MFC-L5900DW, Model TN-3478, Yeild -12000 PGS	

269	33450-B4-269	Drum for Brother Printer - HL-L5000D, HL-L5100DN, HL-L6200DW, DCP-L5600DN, MFC-L5900DW, Model DR-3455, Yeild -30000 Pages
270	33450-B4-270	Toner for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model TN-267BK, Yeild -3000 PGS
271	33450-B4-271	Toner for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model TN-267C, Yeild -2300 PGS
272	33450-B4-272	Toner for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model TN-267M, Yeild -2300 PGS
273	33450-B4-273	Toner for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model TN-267Y, Yeild -2300 PGS
274	33450-B4-274	Black Drum for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model DR-263CL, Yeild -30000 Pages

275	33450-B4-275	Yellow Drum for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model DR-263CL, Composite Yeild -18000 Pages Each
276	33450-B4-276	Cyan Drum for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model DR-263CL, Yeild -18000 Pages Each
277	33450-B4-277	Megenta for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model DR-263CL, Yeild -18000 Pages Each
278	33450-B4-278	Toner for Brother Printer - HL-3150CDN,MFC-9140CDW, Model TN-261BK, Yeild -2500 Pages
279	33450-B4-279	Toner for Brother Printer - HL-3150CDN,MFC-9140CDW, Model TN-261C, Yeild -1400 PGS
280	33450-B4-280	Toner for Brother Printer - HL-3150CDN,MFC-9140CDW, Model TN-261M, Yeild -1400 PGS
281	33450-B4-281	Toner for Brother Printer - HL-3150CDN,MFC-9140CDW, Model TN-261Y, Yeild -1400 PGS



282	33450-B4-282	Black Drum for Brother Printer - HL-3150CDN,MFC-9140CDW, Model DR-261CL, Composite Yeild -15000 Pages Each
283	33450-B4-283	Cyan Drum for Brother Printer - HL-3150CDN,MFC-9140CDW, Model DR-261CL, Composite Yeild -15000 Pages Each
284	33450-B4-284	Megenta Drum for Brother Printer - HL-3150CDN,MFC-9140CDW, Model DR-261CL, Composite Yeild -15000 Pages Each
285	33450-B4-285	Yellow Drum for Brother Printer - HL-3150CDN,MFC-9140CDW, Model DR-261CL, Composite Yeild -15000 Pages Each
286	33450-B4-286	Toner for Brother Printer - HL-5440D,HL-5450DN,MFC-8910DW, Model TN-3220, Yeild -3000 Pages
287	33450-B4-287	Toner for Brother Printer - HL-5440D,HL-5450DN,MFC-8910DW, Model TN-3350, Yeild -8000 PGS
288	33450-B4-288	Toner for Brother Printer - HL-5440D,HL-5450DN,MFC-8910DW, Model TN-3370, Yeild -12000 PGS

289	33450-B4-289	Toner for Brother Printer - FAX-2840, Model TN-2260, Yeild -1200 Pages	
290	33450-B4-290	Toner for Brother Printer - FAX-2840, Model TN-2280, Yeild -2600 PGS	
291	33450-B4-291	Drum for Brother Printer - FAX-2840, Model DR-2255, Yeild -12000 Pages	
292	33450-B4-292	Toner for Brother Printer - HL-1111,1201,1211w,1511,1514,1601,1811,1911,1616 Model TN-1020, Yeild -1500 PGS	
293	33450-B4-293	Drum for Brother Printer - HL-1111,,1201,1211w,1511,1514,1601,1811,1911,1616 Model DR-1020, Yeild -10000 PGS	
294	33450-B4-294	Black Ink for Epson Printer Model - M100 / M105, Yeild-6000 Pages	
295	33450-B4-295	Black Ink for Epson Printer Model - M1100, M1120, M1140, M1170, M1180, M2110, M2120, M2140, M2170, M3140, M3170, M3180 - Yeild-6000 Pages	
296	33450-B4-296	Black Ink for Epson Printer Model - L130 - Yeild-4500 pages	

297	33450-B4-297	Cyan Ink for Epson Printer Model - L130 - Yeild-7500 pages	
298	33450-B4-298	Megenta Ink for Epson Printer Model - L130 - Yeild-7500 pages	
299	33450-B4-299	Yellow Ink for Epson Printer Model - L130 - Yeild-7500 pages	
300	33450-B4-300	Black Ink for Epson Printer Model - L1110, L3110, L3115, L3116, L3150, L3156, L5190 - Yeild-4500 pages	
301	33450-B4-301	Cyan Ink for Epson Printer Model - L1110, L3110, L3115, L3116, L3150, L3156, L5190 - Composite Yeild-7500 pages	
302	33450-B4-302	Megenta Ink for Epson Printer Model - L1110, L3110, L3115, L3116, L3150, L3156, L5190 - Composite Yeild-7500 pages	

303	33450-B4-303	Yellow Ink for Epson Printer Model - L1110, L3110, L3115, L3116, L3150, L3156, L5190 - Composite Yeild-7500 pages	
304	33450-B4-304	Black Ink for Epson Printer Model - L4150, L4160, L6160, L6170, L6190, L14150, Yeild-7500 pages	
305	33450-B4-305	Cyan Ink for Epson Printer Model - L4150, L4160, L6160, L6170, L6190, L14150, Composite Yeild-6000 pages	
306	33450-B4-306	Megenta Ink for Epson Printer Model - L4150, L4160, L6160, L6170, L6190, L14150, Composite Yeild-6000 pages	
307	33450-B4-307	Yellow Ink for Epson Printer Model - L4150, L4160, L6160, L6170, L6190, L14150, Composite Yeild-6000 pages	
308	33450-B4-308	Black Ink for Epson Printer Model - L6570, L6580, L15150, L15160, Yeild-7500 pages	
309	33450-B4-309	Cyan Ink for Epson Printer Model - L6570, L6580, L15150, L15160, Composite Yeild-6000 pages	

310	33450-B4-310	Magenta Ink for Epson Printer Model - L6570, L6580, L15150, L15160, Composite Yeild-6000 pages	
311	33450-B4-311	Yellow Ink for Epson Printer Model - L6570, L6580, L15150, L15160, Composite Yeild-6000 pages	
312	33450-B4-312	Black Ink for Epson Printer Model - L1300, Yeild-7100 pages (A4)	
313	33450-B4-313	Cyan Ink for Epson Printer Model - L1300, Composite Yeild-5500 pages (A4)	
314	33450-B4-314	Magenta Ink for Epson Printer Model-L1300, Composite Yeild-5500 pages (A4)	
315	33450-B4-315	Yellow Ink for Epson Printer Model-L1300, Composite Yeild-5500 pages (A4)	
316	33450-B4-316	Black Ink for Epson Printer Model-L1455, Yeild-7500 pages (A4)	
317	33450-B4-317	Cyan Ink for Epson Printer Model-L1455, Composite Yeild-6000 pages (A4)	
318	33450-B4-318	Magenta Ink for Epson Printer Model-L1455, Composite Yeild-6000 pages (A4)	

319	33450-B4-319	Yellow Ink for Epson Printer Model-L1455,Composite Yeild-6000 pages (A4)	
320	33450-B4-320	Black Ink for Epson Printer Model-WF-M5298, WF-M5799,Yeild-XL Pack: 40,000 Pages	
321	33450-B4-321	Maintanence Box Ink Epson Printer Model-WF-M5298, WF-M5799	
322	33450-B4-322	Black Ink for Epson Printer Model-WF-C5790,Yeild-XL Pack: 10,000 Pages	
323	33450-B4-323	Cyan Ink for Epson Printer Model-WF-C5790,Composite Yeild-XL Pack: 5000 Pages	
324	33450-B4-324	Megenta Ink for Epson Printer Model-WF-C5790,Composite Yeild-XL Pack: 5000 Pages	
325	33450-B4-325	Yellow Ink for Epson Printer Model-WF-C5790,Composite Yeild-XL Pack: 5000 Pages	
326	33450-B4-326	Maintanence Box for Epson Printer Model-WF-C5790	
327	33450-B4-327	Black Ink for Epson Printer Model-WF-C579R,Yeild-50,000 pages	

328	33450-B4-328	CYan Ink for Epson Printer Model-WF-C579R,Composite Yeild-20,000 pages	
329	33450-B4-329	Megenta Ink for Epson Printer Model-WF-C579R,Composite Yeild-20,000 pages	
330	33450-B4-330	Yellow Ink for Epson Printer Model-WF-C579R,Composite Yeild-20,000 pages	
331	33450-B4-331	Maintanence Box for Epson Printer Model-WF-C579R	
332	33450-B4-332	Black Ink for Epson Printer Model-WF-C869R,Yeild-86,000 pages (A4)	
333	33450-B4-333	Cyan Ink for Epson Printer Model-WF-C869R,Composite Yeild-84,000 pages	
334	33450-B4-334	Megenta Ink for Epson Printer Model-WF-C869R,Composite Yeild-84,000 pages	
335	33450-B4-335	Yelow Ink for Epson Printer Model-WF-C869R,Composite Yeild-84,000 pages	

336	33450-B4-336	Maintanence Ink for Epson Printer Model-WF-C869R	
337	33450-B4-337	Black Ink for Epson Printer Model-WF-C878R, WF-C879R, Yeild-86,000 pages (A4)	
338	33450-B4-338	Cyan Ink for Epson Printer Model-WF-C878R, WF-C879R, Composite Yeild-20,000 pages	
339	33450-B4-339	Megenta Ink for Epson Printer Model-WF-C878R, WF-C879R, Composite Yeild-20,000 pages	
340	33450-B4-340	Yellow Ink for Epson Printer Model-WF-C878R, WF-C879R, Composite Yeild-20,000 pages	
341	33450-B4-341	Maintanence Boxfor Epson Printer Model-WF-C878R, WF-C879R	
342	33450-B4-342	Black Ink for Epson Printer Model-WF-M20590, Yeild-60,000 pages(A4) x 2 nos	
343	33450-B4-343	Cyan Ink for Epson Printer Model-WF-M20590, Composite Yeild-20,000 pages	
344	33450-B4-344	Megenta Ink for Epson Printer Model-WF-M20590, Composite Yeild-20,000 pages	



345	33450-B4-345	Yellow Ink for Epson Printer Model-WF-M20590,Composite Yeild-20,000 pages	
346	33450-B4-346	Maintanence Box for Epson Printer Model-WF-M20590	
347	33450-B4-347	Black Ink for Epson Printer Model-WF-C17590,Yeild-50,000 Pages(A4) x 2 nos	
348	33450-B4-348	Cyan Ink for Epson Printer Model-WF-C17590,Composite Yeild-50,000 Pages	
349	33450-B4-349	Megenta Ink for Epson Printer Model-WF-C17590,Composite Yeild-50,000 Pages	
350	33450-B4-350	Yellow Ink for Epson Printer Model-WF-C17590,Composite Yeild-50,000 Pages	
351	33450-B4-351	Maintanence Box for Epson Printer Model-WF-C17590	
352	33450-B4-352	Black Ink for Epson Printer Model-WF-C20590,Yeild-50,000 Pages(A4) x 2 nos	
353	33450-B4-353	Cyan Ink for Epson Printer Model-WF-C20590,Composite Yeild-50,000 Pages	

354	33450-B4-354	Megenta Ink for Epson Printer Model-WF-C20590,Composite Yeild-50,000 Pages	
355	33450-B4-355	Yellow Ink for Epson Printer Model-WF-C20590,Composite Yeild-50,000 Pages	
356	33450-B4-356	Maintanence Box for Epson Printer Model-WF-C20590	
357	33450-B4-357	Black Ink for Epson Printer Model-WF-C20600,Yeild-50,000 Pages(A4) x 2 nos	
358	33450-B4-358	Cyan Ink for Epson Printer Model-WF-C20600,Composite Yeild-50,000 Pages	
359	33450-B4-359	Megenta Ink for Epson Printer Model-WF-C20600,Composite Yeild-50,000 Pages	
360	33450-B4-360	Yellow Ink for Epson Printer Model-WF-C20600,Composite Yeild-50,000 Pages	
361	33450-B4-361	Maintanence Box for Epson Printer Model-WF-C20600	
362	33450-B4-362	Black Ink for Epson Printer Model-WF-C20750,Yeild-50,000 Pages(A4) x 2 nos	

363	33450-B4-363	Cyan Ink for Epson Printer Model-WF-C20750,Composite Yeild-50,000 Pages	
364	33450-B4-364	Yellow Ink for Epson Printer Model-WF-C20750,Composite Yeild-50,000 Pages	
365	33450-B4-365	Megenta Ink for Epson Printer Model-WF-C20750,Composite Yeild-50,000 Pages	
366	33450-B4-366	Maintanence Box for Epson Printer Model-WF-C20750	
367	33450-B4-367	Black Ink for Epson Printer Model-WF-C21000,Yeild-50,000 Pages(A4) x 2 nos	
368	33450-B4-368	Cyan Ink for Epson Printer Model-WF-C21000,Composite Yeild-50,000 Pages	
369	33450-B4-369	Megenta Ink for Epson Printer Model-WF-C21000,Composite Yeild-50,000 Pages	

370	33450-B4-370	Yellow Ink for Epson Printer Model-WF-C21000,Composite Yeild-50,000 Pages	
371	33450-B4-371	Epson - Black Fabric Ribbon Cartridge (17.7 Metres) Ribbon Life - 3 Million Characters for printer-LX 310	
372	33450-B4-372	Epson - Black Fabric Ribbon Cartridge (17.7 Metres) Ribbon Life - 3 Million Characters for printer-LQ 310	
373	33450-B4-373	Epson - Black Fabric Ribbon Cartridge (16.75 Metres) Ribbon Life - 9 Million Characters for printer-DLQ-3000/3000+/3500	
374	33450-B4-374	Epson - Black – Fabric Ribbon Cartridge (17.0 Meters) Ribbon Life – 7.50 Million Characters for printer-FX-890/FX-890II/N	
375	33450-B4-375	Epson - Fabric Ribbon Cartridge (32 Metres) Ribbon Life - 12 Million Characters (14 dpc) for printer-FX-2175/FX-2175II/N	

376	33450-B4-376	Epson - Fabric Ribbon Cartridge (32 Metres) Ribbon Life - 12 Million Characters (14 dpc) for printer-FX-2190/FX-2190II/N	
377	33450-B4-377	Epson - Fabric Ribbon Cartridge, (70 Metres) Ribbon Life - 15 Million Characters (48 dpc) for printer-DFX-9000	
378	33450-B4-378	Epson - 24 Pin 1.3 cm / 1/2" Fabric Ribbon Cartridge (12.40 Metres/40.68 Feet) Ribbon Life - 2 Million Characters (48 dpc) for printer-LQ-670/N	
379	33450-B4-379	Epson - 24 Pin Narrow Fabric Ribbon Cartridge (10 Metres) Ribbon Life - 2.5 Million Characters (48 dpc) for printer-LQ-1310	
380	33450-B4-380	Epson - Fabric Ribbon Cartridge (32 Metres) Ribbon Life - 8 Million Characters (48 dpc) for printer-LQ-2090/LQ-2090II/N	
381	33450-B4-381	Epson - Black - Ribbon Cartridge, (60 Metres) Ribbon Life - 8 Million Characters (48 dpc) for printer-LQ-2190	
382	33450-B4-382	Printronix P7 EC Ribbon Cartridges	

383	33450-B4-383	HP LaserJet Pro MFP M128fn,M128fw,M126nw, M226dw,M202dw,M1108,M1106 - HP CC388A Blk Contr LJ Toner Cartridge	
384	33450-B4-384	HP LaserJet ProMFP M138FNW,M136NW - HP 110A Blk Original Laser Toner Crtg	
385	33450-B4-385	HP LaserJet ProM403dn,M427fdw - HP 28A Black Original LaserJet Toner Cartridge	
386	33450-B4-386	HP LaserJet ProM429fdw,M405dn - HP 77A Black LaserJet Toner Cartridge	
387	33450-B4-387	HP LaserJet Pro M104a Printer - HP 18A Blk Contract LJ Toner Cartridge	
388	33450-B4-388	HP LaserJet Pro M104a Printer - HP 19A Original LaserJet Imaging Drum	
389	33450-B4-389	HP LaserJet Pro M203, M227 - HP 30A Black LaserJet Toner Cartridge	
390	33450-B4-390	HP LaserJet Pro M203, M228 - HP 32A LaserJet Imaging Drum	
391	33450-B4-391	HP LaserJet Pro M436dn,M436nda - HP 56A Black Original LaserJet Toner Cartridge	

392	33450-B4-392	HP LaserJet Pro M436dn,M436nda - HP 56X Black Original LaserJet Toner Cartridge	
393	33450-B4-393	HP LaserJet Pro M436dn,M436nda - HP 57A Original LaserJet Imaging Drum	
394	33450-B4-394	HP LaserJet Pro M440dn.M440nda - HP 57A Original LaserJet Imaging Drum	
395	33450-B4-395	HP LaserJet Pro M440dn.M440nda - HP 335A Black Original LaserJet Toner Cartridge	
396	33450-B4-396	HP LaserJet Pro M440dn.M440nda - HP 335X Black Original LaserJet Toner Cartridge	
397	33450-B4-397	HP Color LaserJet Pro MFP M479dw - HP 416A Black LaserJet Toner Cartridge	
398	33450-B4-398	HP Color LaserJet Pro MFP M479dw - HP 416A Cyan LaserJet Toner Cartridge	

399	33450-B4-399	HP Color LaserJet Pro MFP M479dw - HP 416A Yellow LaserJet Toner Cartridge	
400	33450-B4-400	HP Color LaserJet Pro MFP M479dw - HP 416A Magenta LaserJet Toner Cartridge	
401	33450-B4-401	HP Color LaserJet Pro M154nw,M180n - HP 204A Original Black LaserJet Toner Cartridge	
402	33450-B4-402	HP Color LaserJet Pro M154nw,M180n - HP 204A Original Cyan LaserJet Toner Cartridge	
403	33450-B4-403	HP Color LaserJet Pro M154nw,M180n - HP 204A Original Yellow LaserJet Toner Cartridge	
404	33450-B4-404	HP Color LaserJet Pro M154nw,M180n - HP 204A Original Magenta LaserJet Toner Cartridge	
405	33450-B4-405	HP Color LaserJet Pro M254dw - HP 202A Original Black LaserJet Toner Cartridge	



406	33450-B4-406	HP Color LaserJet Pro M254dw - HP 202A Original Cyan LaserJet Toner Cartridge	
407	33450-B4-407	HP Color LaserJet Pro M254dw - HP 202A Original Yellow LaserJet Toner Cartridge	
408	33450-B4-408	HP Color LaserJet Pro M254dw - HP 202A Original Magenta LaserJet Toner Cartridge	
409	33450-B4-409	HP Color LaserJet Pro MFP M377dw - HP 410A Black Original LaserJet Cartridge	
410	33450-B4-410	HP Color LaserJet Pro MFP M377dw - HP 410A Cyan Original LaserJet Cartridge	
411	33450-B4-411	HP Color LaserJet Pro MFP M377dw - HP 410A Yellow Original LaserJet Cartridge	
412	33450-B4-412	HP Color LaserJet Pro MFP M377dw - HP 410A Magenta Original LaserJet Cartridge	
413	33450-B4-413	HP Color LaserJet Pro M452dw,M477fdw - HP 410A Black Original LaserJet Cartridge	

414	33450-B4-414	HP Color LaserJet Pro M452dw ,M477fdw - HP 410A Cyan Original LaserJet Cartridge	
415	33450-B4-415	HP Color LaserJet Pro M452dw,M477fdw - HP 410A Yellow Original LaserJet Cartridge	
416	33450-B4-416	HP Color LaserJet Pro M452dw,M477fdw - HP 410A Magenta Original LaserJet Cartridge	
417	33450-B4-417	HP LaserJet Pro MFP M72625dn,M72630dn - HP W1002YC Black Contract LaserJet Toner	
418	33450-B4-418	HP LaserJet Pro E72535dn - HP W9005MC Black Managed LaserJet Tone	
419	33450-B4-419	HP LaserJet Pro E72535dn,72625dn,72630dn - HP W9006MC Black Managed LaserJet Imaging Drum	
420	33450-B4-420	HP Color LaserJet Pro CP5225dn - HP 307A Black Original LaserJet Cartridge	
421	33450-B4-421	HP Color LaserJet Pro CP5225dn - HP 307A Cyan Original LaserJet Cartridge	

422	33450-B4-422	HP Color LaserJet Pro CP5225dn - HP 307A Yellow Original LaserJet Cartridge	
423	33450-B4-423	HP Color LaserJet Pro CP5225dn - HP 307A Magenta Original LaserJet Cartridge	
424	33450-B4-424	HP LaserJet Pro M700,M712 - HP 14A Black LaserJet Toner Cartridge	
425	33450-B4-425	HP LaserJet M1566,,1606 - HP 78A Black LaserJet Toner Cartridge	
426	33450-B4-426	HP LaserJet M1020,M1005,M3015, - HP 12A Black LaserJet Toner Cartridge	
427	33450-B4-427	HP LaserJet M607,M608 - HP 37A Black LaserJet Toner Cartridge	
428	33450-B4-428	HP Laser jet MFP 82560dn - HP W9037MC Black Managed LaserJet Toner	
429	33450-B4-429	HP Laser jet MFP 82560dn - HP Black Managed LaserJet Imaging Drum	

430	33450-B4-430	HP Laser jet MFP E77830dn - HP W9040MC Black Managed LaserJet Toner	
431	33450-B4-431	HP Laser jet MFP E77830dn - HP W9041MC Cyan Managed LaserJet Toner	
432	33450-B4-432	HP Laser jet MFP E77830dn - HP W9042MC Yellow Managed LaserJet Toner	
433	33450-B4-433	HP Laser jet MFP E77830dn - HP W9043MC Magenta Managed LaserJet Toner	
434	33450-B4-434	HP Laser jet MFP E87640dn,E87660 - HP W9050MC Black Managed LaserJet Toner	
435	33450-B4-435	HP Laser jet MFP E87640dn,E87660 - HP W9051MC Cyan Managed LaserJet Toner	
436	33450-B4-436	HP Laser jet MFP E87640dn,E87660 - HP W9052MC Yellow Managed LaserJet Toner	
437	33450-B4-437	HP Laser jet MFP E87640dn,E87660 - HP W9053MC Magenta Managed LaserJet Toner	

438	33450-B4-438	HP Laser jet M551 - HP 507A Black Managed LaserJet Toner	
439	33450-B4-439	HP Model M42625DN HP W1336X Black LaserJet Toner Cartridge	
440	33450-B4-440	HP Model E82540DU HP W9037MC Black Managed LaserJet Toner	
441	33450-B4-441	HP Model E78223DN HP W9220MC Black Managed Original LaserJet Toner Cartridge	
442	33450-B4-442	HP Model HP W9221MC Cyan Managed Original LaserJet Toner Cartridge	
443	33450-B4-443	HP Model HP W9222MC Yellow Managed Original LaserJet Toner Cartridge	
444	33450-B4-444	HP Model HP W9223MC Magenta Managed Original LaserJet Toner Cartridge	

445	33450-B4-445	konica Printer Model bizhub 165e/185e/bizhub 306/266/bizhub 206/bizhub 226 - DR114 Drum Unit (Yield:55K)	
446	33450-B4-446	konica Printer Model bizhub 165e/185e/bizhub 306/bizhub 266/bizhub 206/bizhub 226 - DV116 Developer (200g/bag, 6bags/case)	
447	33450-B4-447	konica Printer Model bizhub 165e/185e - TN116 Toner (2btls/case)	
448	33450-B4-448	konica Printer Model bizhub 206/bizhub 226 - TN118 Toner (Pack of 2 toners)	
449	33450-B4-449	konica Printer Model bizhub 306/266 - TN222 Toner (Yield:12k, 2btls/case)	
450	33450-B4-450	konica Printer Model bizhub 758 - DR912 Drum (Yield : 400K)	
451	33450-B4-451	konica Printer Model bizhub 758 - TN812 Toner (Yield : 40.8K)	
452	33450-B4-452	konica Printer Model bizhub 758 - DV912 Developer (Yield : 1,200K)	
453	33450-B4-453	konica Printer Model bizhub C258/C308/C368 - TN324K Toner K Yield: 28,000	

454	33450-B4-454	konica Printer Model bizhub C258/C308/C368 - TN324Y Toner Y Yield: 26,000	
455	33450-B4-455	konica Printer Model bizhub C258/C308/C368 - TN324M Toner M Yield: 26,000	
456	33450-B4-456	konica Printer Model bizhub C258/C308/C368 - TN324C Toner C Yield: 26,000	
457	33450-B4-457	konica Printer Model bizhub C258/C308/C368 - DV313K Developing Unit K Yield: 600,000	
458	33450-B4-458	konica Printer Model bizhub C258/C308/C368 - DV313Y Developing Unit Y Yield: 600,000	
459	33450-B4-459	konica Printer Model bizhub C258/C308/C368 - DV313M Developing Unit M Yield: 600,000	

460	33450-B4-460	konica Printer Model bizhub C258/C308/C368 - DV313C Developing Unit C Yield: 600,000	
461	33450-B4-461	konica Printer Model bizhub C258/C308/C368/bizhub C458/C558 - DR313 Drum Unit DR313 (Yield:C368:90k,C308:75k,C258:55k)	
462	33450-B4-462	konica Printer Model bizhub C258/C308/C368/bizhub C458/C558 - DR313K Drum Unit DR313K (Yield:C368/C308:120k,C258:90k)	
463	33450-B4-463	konica Printer Model bizhub C458/C558 - TN514K Toner K Yield: 28,000	
464	33450-B4-464	konica Printer Model bizhub C458/C558 - TN514Y Toner Y Yield: 26,000	
465	33450-B4-465	konica Printer Model bizhub C458/C558 - TN514M Toner M Yield: 26,000	
466	33450-B4-466	konica Printer Model bizhub C458/C558 - TN514C Toner C Yield: 26,000	
467	33450-B4-467	konica Printer Model bizhub C458/C558/bizhub 658e/558e/458e - DV619K Developing Unit K Yield:590,000	



468	33450-B4-468	konica Printer Model bizhub C458/C558 - DV619Y Developing Unit Y Yield:590,000
469	33450-B4-469	konica Printer Model bizhub C458/C558 - DV619M Developing Unit M Yield:590,000
470	33450-B4-470	konica Printer Model bizhub C458/C558 - DV619C Developing Unit C Yield:590,000
471	33450-B4-471	konica Printer Model bizhub C227 - TN221K Toner (Yield 24k)
472	33450-B4-472	konica Printer Model bizhub C227 - TN221C Toner (Yield 21k)
473	33450-B4-473	konica Printer Model bizhub C227 - TN221M Toner (Yield 21k)
474	33450-B4-474	konica Printer Model bizhub C227 - TN221Y Toner (Yield 21k)
475	33450-B4-475	konica Printer Model bizhub C227 - DR214K Drum Unit (Yield:C227:80k,C287:105k)
476	33450-B4-476	konica Printer Model bizhub C227 - IU214C Imaging Unit (Yield:C227:70k,C287:90k)
477	33450-B4-477	konica Printer Model bizhub C227 - IU214M Imaging Unit (Yield:C227:70k,C287:90k)

478	33450-B4-478	konica Printer Model bizhub C227 - IU214Y Imaging Unit (Yield:C227:70k,C287:90k)	
479	33450-B4-479	konica Printer Model bizhub C226 - DR215K Yield= 80K	
480	33450-B4-480	konica Printer Model bizhub C226/bizhub C227 - Developer DV214K Yield= 600K	
481	33450-B4-481	konica Printer Model bizhub C226 - IU215C Yield= 70K	
482	33450-B4-482	konica Printer Model bizhub C226 - IU215M Yield=70K	
483	33450-B4-483	konica Printer Model bizhub C226 - IU215Y Yield= 70K	
484	33450-B4-484	konica Printer Model bizhub C226 - TN223K Yield= 23K	
485	33450-B4-485	konica Printer Model bizhub C226 - TN223C Yield= 20K	
486	33450-B4-486	konica Printer Model bizhub C226 - TN223 MYield= 20K	
487	33450-B4-487	konica Printer Model bizhub C226 - TN223Y Yield= 20K	
488	33450-B4-488	konica Printer Model bizhub C226 - TN223K Yield= 10K	
489	33450-B4-489	konica Printer Model bizhub C226 - TN223 C Yield= 5K	

490	33450-B4-490	konica Printer Model bizhub C226 - TN223M Yield= 5K	
491	33450-B4-491	konica Printer Model bizhub C226 - TN223Y Yield= 5K	
492	33450-B4-492	konica Printer Model bizhub 658e/558e/458e - Toner TN516	
493	33450-B4-493	konica Printer Model bizhub 658e/558e/458e - Drum DR314	
494	33450-B4-494	konica Printer Model bizhub C659 - DR712K - Drum unit Yield : 300000	
495	33450-B4-495	konica Printer Model bizhub C659 - TN713C - Yield : 33200	
496	33450-B4-496	konica Printer Model bizhub C659 - TN713K - Yield : 48900	
497	33450-B4-497	konica Printer Model bizhub C659 - TN713M - Yield : 33200	
498	33450-B4-498	konica Printer Model bizhub C659 - TN713Y - Yield : 33200	
499	33450-B4-499	konica Printer Model bizhub C659 - DV712K - Yield : 1200000	

500	33450-B4-500	konica Printer Model bizhub C659 - IU712C - Yield : (C659)168000/(C759)177000
501	33450-B4-501	konica Printer Model bizhub C659 - IU712M - Yield : (C659)168000/(C759)177000
502	33450-B4-502	konica Printer Model bizhub C659 - IU712Y - Yield : (C659)168000/(C759)177000
503	33450-B4-503	konica Printer Model bizhub C224e/C284e/C364e - TN321C Toner (Yield:25K)
504	33450-B4-504	konica Printer Model bizhub C224e/C284e/C364e - TN321M Toner (Yield:25K)
505	33450-B4-505	konica Printer Model bizhub C224e/C284e/C364e - TN321Y Toner (Yield:25K)
506	33450-B4-506	konica Printer Model bizhub C224e/C284e/C364e - TN321K Toner (Yield:27K)

507	33450-B4-507	konica Printer Model bizhub C224e/C284e/C364e/C454e/C554e - DV512 K Developing Unit (Yield:600K)
508	33450-B4-508	konica Printer Model bizhub C224e/C284e/C364e/C454e/C554e - DV512C Developing Unit (Yield:600K)
509	33450-B4-509	konica Printer Model bizhub C224e/C284e/C364e/C454e/C554e - DV512M Developing Unit (Yield:600K)
510	33450-B4-510	konica Printer Model bizhub C224e/C284e/C364e/C454e/C554e - DV512Y Developing Unit (Yield:600K)
511	33450-B4-511	konica Printer Model bizhub C224e/C284e/C364e/C454e/C554e - DR512K Drum Unit (Yield:135K/C554, 130K/C454, 120K/C364,C284, 70K/C224)
512	33450-B4-512	konica Printer Model bizhub C224e/C284e/C364e/C454e/C554e - DR512 CMY Drum Unit (Yield:95K/C554,C454, 90K/C364, 75K/C284, 55K/C224)
513	33450-B4-513	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - TN711C Toner (Yield:31.5K)

514	33450-B4-514	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - TN711K Toner (Yield:47.2K)
515	33450-B4-515	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - TN711Y Toner (Yield:31.5K)
516	33450-B4-516	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - TN711M Toner (Yield:31.5K)
517	33450-B4-517	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - IU711Y Imaging Unit (Yield:155K)
518	33450-B4-518	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - IU711M Imaging Unit (Yield:155K)
519	33450-B4-519	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - IU711C Imaging Unit (Yield:155K)
520	33450-B4-520	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - DV711K Developing Unit (Yield:1200K)
521	33450-B4-521	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - DR711K Drum Unit (Yield:300K)

522	33450-B4-522	konica Printer Model bizhub C220/C280 - TN216C Toner (Yield: 26K)	
523	33450-B4-523	konica Printer Model bizhub C220/C280 - TN216M Toner (Yield: 26K)	
524	33450-B4-524	konica Printer Model bizhub C220/C280 - TN216Y Toner (Yield: 26K)	
525	33450-B4-525	konica Printer Model bizhub C220/C280 - TN216K Toner (Yield:29K)	
526	33450-B4-526	konica Printer Model bizhub C220/C280/C360 - DV311K Developing Unit (Yield: 600K)	
527	33450-B4-527	konica Printer Model bizhub C220/C280/C360 - DV311Y Developing Unit (Yield: 1200K)	
528	33450-B4-528	konica Printer Model bizhub C220/C280/C360 - DV311M Developing Unit (Yield: 1200K)	
529	33450-B4-529	konica Printer Model bizhub C220/C280/C360 - DV311C Developing Unit (Yield: 1200K)	

530	33450-B4-530	konica Printer Model bizhub C220/C280/C360 - DR311 Drum Unit CMY (Yield: C220 : 55K / C280 : 75K / C360 : 90k)	
531	33450-B4-531	konica Printer Model bizhub C220/C280/C360 - DR311K Drum Unit (Yield:C220 : 70K / C280 : 100K / C360 : 120k)	
532	33450-B4-532	konica Printer Model bizhub C452 - TN413K Toner (Yield:45K)	
533	33450-B4-533	konica Printer Model bizhub C652/C552/C452 - TN613Y Toner (Yield:30K)	
534	33450-B4-534	konica Printer Model bizhub C652/C552/C452 - TN613M Toner (Yield:30K)	
535	33450-B4-535	konica Printer Model bizhub C652/C552/C452 - TN613C Toner (Yield:30K)	
536	33450-B4-536	konica Printer Model bizhub C652/C552/C452 - DR612K Drum Unit (Yield:28.5K)	
537	33450-B4-537	konica Printer Model bizhub C652/C552/C452 - DV612K Developing Unit (Yield:1140K)	



538	33450-B4-538	konica Printer Model bizhub C652/C552/C452 - IU612C Imaging Unit (Yield:120K)
539	33450-B4-539	konica Printer Model bizhub C652/C552/C452 - IU612M Imaging Unit (Yield:120K)
540	33450-B4-540	konica Printer Model bizhub C652/C552/C452 - IU612Y Imaging Unit (Yield:120K)
541	33450-B4-541	konica Printer Model bizhub 205i - TN-118 -Toner(1 case = 2 bottles, 12K/bottle)
542	33450-B4-542	konica Printer Model bizhub 205i - DR-114 -Drum 55K/PC
543	33450-B4-543	konica Printer Model bizhub 205i - DV-116 -Developer(1 case=6 bags, 55K/bag)
544	33450-B4-544	konica Printer Model bizhub 266i - TN225-Toner (Yield: 12K 1btl/case)
545	33450-B4-545	konica Printer Model bizhub 266i - DR317 -Drum Unit (Yield: 266i:60k)
546	33450-B4-546	konica Printer Model bizhub 266i - DV-116 -Developer (1 case=6 bags, 55K/bag)

547	33450-B4-547	konica Printer Model bizhub 306i - TN225-Toner (Yield: 12K 1btl/case)	
548	33450-B4-548	konica Printer Model bizhub 306i - DR317-Drum Unit (Yield: 306i:60k)	
549	33450-B4-549	konica Printer Model bizhub 266i - DV-116 -Developer (1 case=6 bags, 55K/bag)	
550	33450-B4-550	konica Printer Model bizhub 450i - TN628(450i=24K)	
551	33450-B4-551	konica Printer Model bizhub 450i - DV621K Developer K(450i=1,000K)	
552	33450-B4-552	konica Printer Model bizhub 450i - DR618K Drum Unit K(450i=260K)	
553	33450-B4-553	konica Printer Model bizhub 650i - TN628(650i=24K)	
554	33450-B4-554	konica Printer Model bizhub 650i - DV621K Developer K(650i=1,000K)	
555	33450-B4-555	konica Printer Model bizhub 650i - DR618K Drum Unit K(650i=260K)	
556	33450-B4-556	konica Printer Model bizhub C226i - Low Yield (C226i=10K)-TN228K	
557	33450-B4-557	konica Printer Model bizhub C226i - Low Yield (C226i)=5K)-TN228C	

558	33450-B4-558	konica Printer Model bizhub C226i - Low Yield (C226i)=5K) -TN228Y	
559	33450-B4-559	konica Printer Model bizhub C226i - Low Yield (C226i)=5K)-TN228M	
560	33450-B4-560	konica Printer Model bizhub C226i - High Yield (C226i=24K) -TN228K	
561	33450-B4-561	konica Printer Model bizhub C226i - High Yield (C226i=24K) -TN228C	
562	33450-B4-562	konica Printer Model bizhub C226i - High Yield (C226i=24K) -TN228Y	
563	33450-B4-563	konica Printer Model bizhub C226i - High Yield (C226i=24K) -TN228M	
564	33450-B4-564	konica Printer Model bizhub C226i - DV-216K Developing Unit (K) (C226i=600K)	
565	33450-B4-565	konica Printer Model bizhub C226i - DR218K-Drum Unit(K) (C226i=80K)	
566	33450-B4-566	konica Printer Model bizhub C226i - IU217C-Imaging Unit(C) (C226i=70K)	
567	33450-B4-567	konica Printer Model bizhub C226i - IU217Y-Imaging Unit(Y) (C226i=70K)	

568	33450-B4-568	konica Printer Model bizhub C226i - IU217M-Imaging Unit(M) (C226i=70K)	
569	33450-B4-569	konica Printer Model bizhub C450I - TN626K-Toner K-Yield : 28000	
570	33450-B4-570	konica Printer Model bizhub C450I - TN626C-Toner C-Yield : 28000	
571	33450-B4-571	konica Printer Model bizhub C450I - TN626Y-Toner Y-Yield : 28000	
572	33450-B4-572	konica Printer Model bizhub C450I - TN626M-Toner M-Yield : 28000	
573	33450-B4-573	konica Printer Model bizhub C450I - DR618K- Drum Un K-Yield : 240000	
574	33450-B4-574	konica Printer Model bizhub C450I - DR618-Drum Unit C-Yield : 160000	
575	33450-B4-575	konica Printer Model bizhub C450I - DR618-Drum Unit Y-Yield : 160000	
576	33450-B4-576	konica Printer Model bizhub C450I - DR618-Drum Unit M-Yield : 160000	
577	33450-B4-577	Xerox BLACK TONER 1500Ph 3020 / WC 3025	
578	33450-B4-578	Xerox Dual Pack Print Cartridge 3000Ph 3020 / WC 3025	

579	33450-B4-579	Xerox Black Toner 3000B210/B205/B215	
580	33450-B4-580	Xerox BLACK TONER Dual Pack 6000B210/B205/B215	
581	33450-B4-581	Xerox Black Drum 10000B210/B205/B215	
582	33450-B4-582	Xerox CYAN STD TONER 1000PH 6510/WC 6515	
583	33450-B4-583	Xerox MAGENTA STD TONER 1000PH 6510/WC 6515	
584	33450-B4-584	Xerox YELLOW STD TONER 1000PH 6510/WC 6515	
585	33450-B4-585	Xerox Black Hi-Cap Toner 5500PH 6510/WC 6515	
586	33450-B4-586	Xerox Cyan Extra Hi-Cap Toner 4300PH 6510/WC 6515	
587	33450-B4-587	Xerox Magenta Extra Hi-Cap 4300PH 6510/WC 6515	
588	33450-B4-588	Xerox Yellow Extra Hi-Cap toner 4300PH 6510/WC 6515	
589	33450-B4-589	Xerox CYAN High CAP TONER 2400PH 6510/WC 6515	
590	33450-B4-590	Xerox MAGENTA HIGH CAP TONER 2400PH 6510/WC 6515	

591	33450-B4-591	Xerox YELLOW HIGH CAP TONER 2400PH 6510/WC 6515	
592	33450-B4-592	Xerox Cyan Drum 48000PH 6510/WC 6515	
593	33450-B4-593	Xerox Magenta Drum 48000PH 6510/WC 6515	
594	33450-B4-594	Xerox Yellow Drum 48000PH 6510/WC 6515	
595	33450-B4-595	Xerox Black Drum 48000PH 6510/WC 6515	
596	33450-B4-596	Xerox Black Toner 137001022/1025	
597	33450-B4-597	Xerox Imaging Unit CRU DRUM 800001022/1025	
598	33450-B4-598	Xerox Wireless Network Adapter (Wi-Fi Kit)1022/1025	
599	33450-B4-599	Xerox Black Toner 30000VersaLink B7025/30/35	
600	33450-B4-600	Xerox Black Drum 80000VersaLink B7025/30/35	
601	33450-B4-601	Xerox Wireless Network AdapterVersaLink B7025/30/35	
602	33450-B4-602	Xerox Black Toner 9000SC2020	
603	33450-B4-603	Xerox Cyan Toner 3000SC2020	
604	33450-B4-604	Xerox Yellow Toner 3000SC2020	
605	33450-B4-605	Xerox Magenta Toner 3000SC2020	

606	33450-B4-606	Xerox Drum Cartridge CMYK 89600SC2020	
607	33450-B4-607	Xerox AltaLink C8145/C8155/C8170 CYAN Toner Cartridge Sold (21,000 Pages) -Corvo 81XX	
608	33450-B4-608	Xerox AltaLink C8145/C8155/C8170 MAGENTA Toner Cartridge Sold (21,000 Pages) Corvo 81XX	
609	33450-B4-609	Xerox AltaLink C8145/C8155/C8170 YELLOW Toner Cartridge Sold (21,000 Pages) Corvo 81XX	
610	33450-B4-610	Xerox AltaLink C8145/C8155/C8170 BLACK Toner Cartridge Sold (36,000 Pages) Corvo 81XX	
611	33450-B4-611	Xerox AL C8100 Drum Cartridge (180,000 Pages) Corvo 81XX	
612	33450-B4-612	Xerox Wifi Kit Corvo 81XX	
613	33450-B4-613	DVD-R Media 4.7 GB, Jewel Box	
614	33450-B4-614	DVD- R/W Media, 4.7 GB, Jewel Box	
615	33450-B4-615	External DVD Writer (1year warranty)	
616	33450-B4-616	1 TB External Hard Disk Drive ( 1year warranty)	
617	33450-B4-617	2 TB External Hard Disk Drive ( 1year warranty)	
618	33450-B4-618	4 TB External Hard Disk Drive ( 1year warranty)	

619	33450-B4-619	500 GB SSD External Hard Drive (1year warranty)	
620	33450-B4-620	1 TB SSD External Hard Drive ( 1year warranty)	
621	33450-B4-621	16 GB Pen Drive (1year warranty) Class 10	
622	33450-B4-622	32 GB Pen Drive (1year warranty) Class 10	
623	33450-B4-623	64 GB Pen Drive (1year warranty) Class 10	
624	33450-B4-624	128 GB Pen drive (1year warranty) Class 10	
625	33450-B4-625	16 GB Pen Drive With Type C and USB2.0	
626	33450-B4-626	32 GB Pen drive With Type C and USB2.0	
627	33450-B4-627	64 GB Pendrive With Type C and USB2.0	
628	33450-B4-628	128 GB Pendrive With Type C and USB2.0	
629	33450-B4-629	USB Mouse with pad (1 year warranty)	
630	33450-B4-630	Membrane Keyboard ( 1 year warranty)	



631	33450-B4-631	Mechanical Keyboard ( 1 year warranty)	
632	33450-B4-632	Wireless Keyboard and Mouse Combo (1 year warranty)	
633	33450-B4-633	Wireless Keyboard ( 1 year warranty)	
634	33450-B4-634	Wireless mouse ( 1year warranty)	
635	33450-B4-635	Mic with Stand (Table top for conference room)	
636	33450-B4-636	Head Phone With Mike	
637	33450-B4-637	Wireless Head Phone	
638	33450-B4-638	Speaker 2.1	
639	33450-B4-639	Bluetooth Speaker 20W with USB ports	
640	33450-B4-640	USB Speaker 5W	
641	33450-B4-641	VGA Cable 1.5 Meter	
642	33450-B4-642	VGA Cable 5 Meter	
643	33450-B4-643	VGA Cable 10 Meter	
644	33450-B4-644	VGA Cable 15 Meter	
645	33450-B4-645	HDMI Cable 1.5 Meter	
646	33450-B4-646	HDMI Cable 5 Meter	
647	33450-B4-647	HDMI Cable 10 Meter	
648	33450-B4-648	HDMI Cable 15 Meter	
649	33450-B4-649	Power Cable 10 Meter	
650	33450-B4-650	Power Cable 15 Meter	
651	33450-B4-651	Monitor 19 inch (1 year warranty)	
652	33450-B4-652	Monitor 21 inch (1 year warranty)	

653	33450-B4-653	Monitor 24 inch (1 year warranty)	
654	33450-B4-654	Monitor 27 inch (1 year warranty)	
655	33450-B4-655	Wifi Modem 150Mbps or above	
656	33450-B4-656	Wifi Modem 300Mbps or above	
657	33450-B4-657	Wifi Modem 1200Mbps or above	
658	33450-B4-658	10,000 mah Power Bank for Android Tablets (1 year warranty)	
659	33450-B4-659	2 Port VGA Splitter	
660	33450-B4-660	2 Port HDMI Splitter	
661	33450-B4-661	4 Port USB Hub	
662	33450-B4-662	PCI Ethernet Card for Wifi	
663	33450-B4-663	Wifi External Adapter	
664	33450-B4-664	MY book 2 TB Extrenal	
665	33450-B4-665	MY book 4 TB Extrenal	
666	33450-B4-666	MY book 6 TB Extrenal	
667	33450-B4-667	MY book 8 TB Extrenal	
668	33450-B4-668	Branded Laptop Carry Case	
669	33450-B4-669	Branded Sling Bag for Tablets	

### A1.4.5 Category B5 – Apple Products

S.N	Product Code	Description	Item Quoted details along with Make & Model
1	33450-B5-001	iPad 10.2” Wifi 64 GB Storage	
2	33450-B5-002	iPad Air 10.9” Wifi + Cellular 256GB Storage	
3	33450-B5-003	iPad Pro 11” Wifi + Cellular 512GB Storage	
4	33450-B5-004	iPad 10.2” Wifi + Cellular 256 GB Storage	
5	33450-B5-005	Mac Book Air 13” with 256 GB SSD	
6	33450-B5-006	Mac Book Air 13” with 512 GB SSD	
7	33450-B5-007	Mac Book Pro 13” with 256 GB SSD	
8	33450-B5-008	MacBook Pro 13” with 512 GB SSD	
9	33450-B5-009	iMac 24” (Desktop)	
10	33450-B5-010	iPad Pro 12.9” Wifi + Cellular 128 GB Storage	
11	33450-B5-011	Mac Book Pro 14” with 512 GB SSD	
12	33450-B5-012	MacBook Pro 16” with 512 GB SSD	
<b>Accessories</b>			

13	33450-B5-013	Apple Pencil (1st Gen) for iPad	
14	33450-B5-014	Apple Pencil (2st Gen) for Pad Air and iPad Pro	
15	33450-B5-015	Smart Keyboard for iPad (9th generation)	
16	33450-B5-016	Smart Keyboard Folio for iPad Pro 11-inch (3rd generation) and iPad Air (4th generation) - US English	
17	33450-B5-017	AirPods with Charging Case	
18	33450-B5-018	Honeywell Type-C Ultra Doc	
19	33450-B5-019	MS office Home and Student for Mac	
20	33450-B5-020	Brief - 13" bag	
21	33450-B5-021	Flip Cases for i-pads (10.2"/10.9"/11"/12.9")	
22	33450-B5-022	Rugged cases for i-pads (10.2"/10.9"/11"/12.9")	
23	33450-B5-023	Brief - 14" bag	
24	33450-B5-024	Brief - 16" bag	

**A1.4.6 Category B6- Server and related items**

<b>S.N</b>	<b>Product Code</b>	<b>Description</b>	<b>Item Quoted details along with Make &amp; Model</b>
1	33450-B6-001	Desktop server	
2	33450-B6-002	Tower Server Model : 1	
3	33450-B6-003	Tower Server Model : 2	
4	33450-B6-004	Rack 1U Model : 1	
5	33450-B6-005	Rack 2U Model : 1	
6	33450-B6-006	Rack 2U Model : 2	
7	33450-B6-007	Rack 4U Model:1	
8	33450-B6-008	Rack 1U (AMD)	
9	33450-B6-009	Rack 2U (AMD)	
10	33450-B6-010	High End Server Model:1	
11	33450-B6-011	High End Server Model:2	
12	33450-B6-012	High End Server Model:3	
13	33450-B6-013	High End Server Model:4	

14	33450-B6-014	Rack 4U Model:1 - T	
15	33450-B6-015	Rack 2U Model 2 - T	
16	33450-B6-016	RACK - 2U- 4 Processor -T	
17	33450-B6-017	Rack 4U Model : 2 - T	
18	33450-B6-018	Rack 2U Model : 1 - AT	
19	33450-B6-019	Rack 2U Model : 1 - BT	
20	33450-B6-020	Desktop Ryzen 5	
21	33450-B6-021	Desktop Ryzen 7	
22	33450-B6-022	AMD Core - R3 Mini PC	
23	33450-B6-023	AMD Core - R5 Mini PC	
24	33450-B6-024	Blade chassis shall be 19" rack mountable	
25	33450-B6-025	Storage Blade	
26	33450-B6-026	Half Height Server - 2 CPU	
27	33450-B6-027	Full Height Server - 4 CPU Capable	
28	33450-B6-028	Wireless Access Point indoor	
29	33450-B6-029	Wireless Access Point Outdoor	
30	33450-B6-030	Wireless LAN Controller -On premise	

31	33450-B6-031	Dedicated AAA Server Appliance	
32	33450-B6-032	Layer 2 Access Switch (24 Port)	
33	33450-B6-033	Core Switch 24 Port	
34	33450-B6-034	Software defined WAN	
35	33450-B6-035	WAN Optimizer	
36	33450-B6-036	TOR (Spine) Switch 12 Port	
37	33450-B6-037	TOR (leaf) Switch 32 Port	
38	33450-B6-038	DC ORCHESTRATOR	
		<b>ADD ON</b>	
39	33450-B6-039	Intel Xeon Silver 4208 Processor	
40	33450-B6-040	Intel® Xeon® Silver 4110 Processor	
41	33450-B6-041	Intel® Xeon® Gold 5115 Processor	
42	33450-B6-042	Intel® Xeon® Gold 5215 Processor	
43	33450-B6-043	Intel® Xeon® Gold 6138 Processor	
44	33450-B6-044	Intel® Xeon® Gold 6148 Processor	
45	33450-B6-045	Intel® Xeon® Gold 6240 Processor	
46	33450-B6-046	Intel 4310 (2.1 Ghz/ 12 core)	
47	33450-B6-047	Intel 4316 (2.3 Ghz/ 20 core)	

48	33450-B6-048	Intel Gold 5317 (3.0 Ghz/ 12 core)	
49	33450-B6-049	Intel Gold 5318N (2.1 Ghz/ 24 core) or (2.0 Ghz/ 20 core)	
50	33450-B6-050	Intel Gold 6330 (2.0 Ghz/ 28 core)	
51	33450-B6-051	Intel Gold 6338 (2.0 Ghz/ 32 core)	
52	33450-B6-052	Intel Gold 6230 (20 core)	
53	33450-B6-053	Intel Gold 6240 (18 core)	
54	33450-B6-054	Intel Gold 6240R (24 core)	
55	33450-B6-055	Intel Gold 6252 (24 core)	
56	33450-B6-056	Intel Gold 6258R (28 core)	
57	33450-B6-057	AMD EPYC 72F3 Processor	
58	33450-B6-058	AMD EPYC 7262 Processor	
59	33450-B6-059	AMD EPYC 7313 Processor	
60	33450-B6-060	AMD EPYC 7413 Processor	
61	33450-B6-061	AMD EPYC 7513 Processor	
62	33450-B6-062	AMD EPYC 7713 Processor	
63	33450-B6-063	16 GB DDR4 RDIMM ECC Memory	
64	33450-B6-064	32 GB DDR4 ECC RDIMM Memory	
65	33450-B6-065	64 GB DDR4 ECC RDIMM Memory	



66	33450-B6-066	128GB DDR ECC LRDIMM Memory	
67	33450-B6-067	600GB SAS 12G 15K	
68	33450-B6-068	900GB SAS 12G 15K	
69	33450-B6-069	1.2TB SAS 12G 10K	
70	33450-B6-070	2.4TB SAS 12G 10K	
71	33450-B6-071	480GB SATA 6G SSD	
72	33450-B6-072	960GB SATA 6G Mixed UseSSD	
73	33450-B6-073	1.6TB SSD SAS Mix Use 12Gbps SSD	
74	33450-B6-074	3.84TB SSD SATA Read Intensive 6Gbps SSD	
75	33450-B6-075	3.84TB SSD SAS Read Intensive 12Gbps	
76	33450-B6-076	7.68TB SSD SAS Read Intensive 12Gbps	
77	33450-B6-077	1.6TB Enterprise NVMe Mixed Use AG Drive	
78	33450-B6-078	6.4TB Enterprise NVMe Mixed Use AG Drive	
79	33450-B6-079	2TB 7.2K RPM NLSAS 12Gbps Hot-Plug Hard Drive	

80	33450-B6-080	4TB 7.2K RPM NLSAS 12Gbps Hot-Plug Hard Drive	
81	33450-B6-081	8TB 7.2K RPM SAS 12Gbps Hot-plug Hard Drive	
82	33450-B6-082	12TB 7.2K RPM SAS 12Gbps Hot-plug Hard Drive	
83	33450-B6-083	16TB 7.2K RPM SAS 12Gbps Hot-plug Hard Drive	
84	33450-B6-084	16Gb Single Port Fibre Channel Host Bus Adapter	
85	33450-B6-085	16Gb Dual Port Fibre Channel Host Bus Adapter	
86	33450-B6-086	Ethernet 10Gb 2 port Adapter	
87	33450-B6-087	Ethernet 10Gb - 4 port Adapter	
88	33450-B6-088	Ethernet 1Gb 2 port Adapter	
89	33450-B6-089	Ethernet 1Gb - 4 port Adapter	
90	33450-B6-090	Ethernet 10Gb 2 port SFP+ Adapter	
91	33450-B6-091	10G SFP+ LC SR Transceiver	
92	33450-B6-092	10G SFP+ LC LR Transceiver	
93	33450-B6-093	2m Multimode OM3 LC/LC Optical Cable	

94	33450-B6-094	5m Multimode OM3 LC/LC Optical Cable	
95	33450-B6-095	15m Multimode OM3 LC/LC Optical Cable	
96	33450-B6-096	1x4 USB/PS2 KVM Console Switch	
97	33450-B6-097	1x4 KVM Console 6ft PS2 cable	
98	33450-B6-098	1x4 KVM Console 6ft USB cable	
99	33450-B6-099	0X1X8 G3 KVM Console Switch	
100	33450-B6-100	0X2X16 G3 KVM Console Switch	
101	33450-B6-101	1x1x8 G4 KVM IP Console Switch	
102	33450-B6-102	1x2x16 G4 KVM IP Console Switch	
103	33450-B6-103	KVM SFF USB Adapter	
104	33450-B6-104	8 Pack KVM SFF USB Adapter	
105	33450-B6-105	3ft Qty 4 KVM Cat5 cable	
106	33450-B6-106	6ft Qty 4 KVM Cat5 cable	
107	33450-B6-107	12ft Qty 4 KVM Cat5 cable	
108	33450-B6-108	20ft Qty 4 KVM Cat5 cable	
109	33450-B6-109	KVM SFF USB Interface Adapter	

110	33450-B6-110	KVM Console USB 2.0 Virtual Media CAC Interface Adapter	
111	33450-B6-111	KVM Console USB/Display Port Interface adapter	
112	33450-B6-112	KVM Console USB Interface adapter	
113	33450-B6-113	Membrane keyboard	
114	33450-B6-114	Mechanical keyboard	
115	33450-B6-115	Bilingual keyboard	
116	33450-B6-116	Wireless keyboard	
117	33450-B6-117	USB Mouse	
118	33450-B6-118	HDD Enclosure	
119	33450-B6-119	GPU Riser Kit	
120	33450-B6-120	TCO-07 certified 18.5" / 19" TFT Monitor	
121	33450-B6-121	10GbE Optical Transceivers SFP+ 10Gb SR	
122	33450-B6-122	Intel Omni-Path Host Fabric Adapter 100 Series 1 Port PCIe16	
123	33450-B6-123	Omni Path Cable, Passive Copper 2 Mtr	

124	33450-B6-124	Omni Path Cable, Passive Copper 5 Mtr	
125	33450-B6-125	NVIDIA® Tesla™ M10 32GB, Passive, Double Wide, Full Height GPU	
126	33450-B6-126	NVIDIA Ampere A100, PCIe, 250W, 40GB Passive, Double Wide, Full Height GPU	
127	33450-B6-127	36 U Rack	
128	33450-B6-128	42 U Rack	
		<b>Inlieu Items</b>	
129	33450-B6-129	Intel Xeon Silver 4214 Processor inlieu of Silver 4208 processor	
130	33450-B6-130	Intel Xeon Silver 4216 Processor inlieu of Silver 4208 processor	
131	33450-B6-131	Intel Xeon Gold 6248 Processor inlieu of Gold 6240 processor	
132	33450-B6-132	Intel Gold 5115 Inlieu of Silver 4110	
133	33450-B6-133	Intel Gold 6138 inlieu of Silver 4110	
134	33450-B6-134	Intel Gold 6148 In lieu of Silver 4110	
135	33450-B6-135	Intel Gold 6138 inlieu of Gold 5115	
136	33450-B6-136	Intel Gold 6148 inlieu of Gold 5115	

137	33450-B6-137	Intel Gold 6148 in lieu of Gold 6138	
138	33450-B6-138	Intel Gold 6338 in lieu of Gold 6330	
139	33450-B6-139	Intel Platinum 8352M in lieu of Gold 6330	
140	33450-B6-140	Intel Platinum 8380 in lieu of Gold 6330	
141	33450-B6-141	Intel Platinum 8352M in lieu of Gold 6338	
142	33450-B6-142	Intel Platinum 8380 in lieu of Gold 6338	
143	33450-B6-143	Intel Platinum 8380 in lieu of Platinum 8352M	
144	33450-B6-144	Intel Gold 5215 in lieu of Intel Silver 4208	
145	33450-B6-145	Intel Gold 6240 in lieu of Intel Silver 5215	
146	33450-B6-146	Intel Gold 6240 in lieu of Intel Gold 5215	
147	33450-B6-147	Intel Xeon Gold 6248 Processor in lieu of Gold 6240 Processor	
148	33450-B6-148	Intel Xeon Gold 6252 Processor in lieu of Gold 6240 Processor	
149	33450-B6-149	Intel Xeon Platinum 8270 Processor in lieu of Gold 6240 Processor	

150	33450-B6-150	Intel Xeon Platinum 8276 Processor in lieu of Gold 6240 Processor	
151	33450-B6-151	Intel Silver 4316 (2.3 Ghz/ 20 core) in lieu of Silver 4310 (2.1 Ghz/ 12 core)	
152	33450-B6-152	Intel Gold 5317 (3.0 Ghz/ 12 core) in lieu of Silver 4310 (2.1 Ghz/ 12 core)	
153	33450-B6-153	Intel Gold 5318N (2.1 Ghz/ 24 core) or (2.0 Ghz/ 20 core) in lieu of Silver 4310 (2.1 Ghz/ 12 core)	
154	33450-B6-154	Intel Gold 6330 (2.0 Ghz/ 28 core) in lieu of Silver 4310 (2.1 Ghz/ 12 core)	
155	33450-B6-155	Intel Gold 6338 (2.0 Ghz/ 32 core) in lieu of Silver 4310 (2.1 Ghz/ 12 core)	
156	33450-B6-156	Intel Gold 6240 in lieu of 6230	
157	33450-B6-157	Intel Gold 6240R in lieu of 6230	
158	33450-B6-158	Intel Gold 6252 in lieu of 6230	
159	33450-B6-159	Intel Gold 6258R in lieu of 6230	
160	33450-B6-160	AMD EPYC 7313 in lieu of EPYC 7262	
161	33450-B6-161	AMD EPYC 7413 in lieu of EPYC 7262	
162	33450-B6-162	AMD EPYC 7513 in lieu of EPYC 7262	

163	33450-B6-163	AMD EPYC 7713 in lieu of EPYC 7262	
164	33450-B6-164	AMD EPYC 7313 in lieu of EPYC 72F3	
165	33450-B6-165	AMD EPYC 7413 in lieu of EPYC 72F3	
166	33450-B6-166	AMD EPYC 7513 in lieu of EPYC 72F3	
167	33450-B6-167	AMD EPYC 7713 in lieu of EPYC 72F3	
168	33450-B6-168	32GB Ram in lieu of 16Gb Ram	
169	33450-B6-169	64GB Ram in lieu of 16Gb ram	
170	33450-B6-170	64GB ram in lieu of 32Gb ram	
171	33450-B6-171	36 U Rack	



**A1.4.7 Category B7- Biometric Systems**

S.N	Product Code	Description	Item Quoted details along with Make & Model
(1)	(2)	(3)	(4)
<b>( Aadhaar Based )</b>			
1	33450-B7-001	Android Tablet based Aadhaar Enabled Biometric Attendance Systems integrated with STQC Certified Finger Print Scanner	
2	33450-B7-002	Linux based Aadhaar Enabled Biometric Attendance Systems integrated with STQC Certified Finger Print Scanner	
3	33450-B7-003	Finger Print Enrolment Device ( 4+4+2 Fingers) with STQC Certified	
4	33450-B7-004	PALM Print Device Specification (Palm and 10 Fingers) with STQC Certified	
5	33450-B7-005	Single Fingerprint reader with STQC certified	
6	33450-B7-006	Single IRIS Scanner with STQC Certified	

7	33450-B7-007	Dual IRIS Scanner with with STQC Certified	
<b>( Non- Aadhaar Based )</b>			
8	33450-B7-008	Linux based Biometric Attendance Systems(Non Aadhaar) (500 Users) with Battery Backup and Proximity Card Reader	
9	33450-B7-009	Linux Based Biometric Attendance Systems (Non Aadhaar) (1000 Users) with Battery Backup and Proximity Card Reader	
10	33450-B7-010	Linux Based Biometric Attendance Systems (Non Aadhaar) (2000 Users) with Battery Backup and Proximity Card Reader	
11	33450-B7-011	Linux Based Biometric Attendance Systems (Non Aadhaar) (10000 Users) with Battery Backup and Proximity Card Reader	
12	33450-B7-012	Linux Based Bio Metric System (Non Aadhaar) - with Face Recognition 500 User	

13	33450-B7-013	Linux Based Bio Metric System (Non Aadhaar) - with Face Recognition 1000 User	
14	33450-B7-014	Linux Based Bio Metric System (Non Aadhaar) - with Face Recognition 2000 User	
15	33450-B7-015	LINUX Tablet based Biometric Attendance Systems Long range Face 3000 User (2 meters)	
16	33450-B7-016	LINUX Tablet based Biometric Attendance Systems Long range Face 1000 User	
17	33450-B7-017	Multi Door Access Controller - Finger + Card (up to 4 Doors)	
18	33450-B7-018	Mifare Smart Card Based Door Controller for Access Control and Time Attendance (for Enrolment)	
19	33450-B7-019	Finger Print and Card Based Door Controller for Access Control and time Attendance with STQC Certified fingerprint sensor	
20	33450-B7-020	Single Fingerprint Device	
21	33450-B7-021	ID Card Printer	

22	33450-B7-022	Finger print scanner - (A)	
23	33450-B7-023	IRIS Scanner - (A)	
24	33450-B7-024	Web Camera - (A)	
25	33450-B7-025	GPS Device - (A)	
26	33450-B7-026	Finger Print Enrolment Device ( 4+4+2 Fingers) - (A)	
27	33450-B7-027	Single Digit finger print scanner - (A)	
<b>ADD ON</b>			
28	33450-B7-028	Multi Door Access Controller - USB Single Finger Print Scanner for Enrolment	
29	33450-B7-029	Multi Door Access Controller - USB Card reader for Enrolment	
30	33450-B7-030	Finger Print Reader for Entry and Exit	
31	33450-B7-031	Proximity Card Reader for Entry and Exit	
32	33450-B7-032	Fingerprint and Mifare card based exit reader	
33	33450-B7-033	Wifi Facility for Linux Based Bio Metric Attendance System	

34	33450-B7-034	GPRS for Linux Based Bio Metric Attendance System	
35	33450-B7-035	Metal Enclosure with Lock and key (Linux Based Biometric Attendance System)	
36	33450-B7-036	Electronic Magnetic Lock ( for Single Door) with suitable bracket and standard accessories	
37	33450-B7-037	Electronic Magnetic Lock ( for Double Door) with suitable bracket and standard accessories	
38	33450-B7-038	Exit Manual Switch	
39	33450-B7-039	Finger Print Reader Optical (Non Aadhar based ADD ON)	
40	33450-B7-040	RFID Reader ( proximity Card)	
41	33450-B7-041	RFID Reader ( HID Card)	
42	33450-B7-042	RFID reader ( Mifare Card)	
43	33450-B7-043	RFID Reader ( HID Card ) with Finger Print	
44	33450-B7-044	RFID reader ( Mifare Card ) with finger Print	
45	33450-B7-045	RFID reader ( proximity Card ) with finger Print	

46	33450-B7-046	USB Mifare card Reader for Enrolment	
47	33450-B7-047	USB HID card Reader for Enrolment	
48	33450-B7-048	Metal Enclosure with Lock and Key (Tablet based Biometric Attendance system)	
49	33450-B7-049	Commissioning and testing for a range of 25-100 users	
50	33450-B7-050	CAT 6 LAN Cables with Conduit Pipe with laying charges per meter	
51	33450-B7-051	Optional Power Back up for 12V, 3A mini UPS for minimum 3-4 Hours backup	
		<b>INLIEU ITEMS</b>	
52	33450-B7-052	HID Card Reader in lieu of Proximity card reader.	
53	33450-B7-053	Mifare Card reader in lieu of Proximity Card Reader	

**A1.4.8 Category B8 – SSL, Digital Signature Certificates**

<b>S.N</b>	<b>Product Code</b>	<b>Description</b>	<b>Item Quoted details along with Make &amp; Model</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
1	33450-B8-002	Cryptographic Token One time issue	
2	33450-B8-004	Form Signing SDK and Encryption SDK One Time	
3	33450-B8-005	Form Signing SDK One Time	
4	33450-B8-006	Encryption SDK One Time	
5	33450-B8-007	Class-3 Digital Signature Certificate for Signature - Individual with One Year validity	
6	33450-B8-008	Class-3 Digital Signature Certificate for Encryption - Individual with One Year validity	
7	33450-B8-009	Class-3 Digital Signature Certificate for Signature - Organization with One Year validity	
8	33450-B8-010	Class-3 Digital Signature Certificate for Encryption - Organization with One Year validity	
9	33450-B8-011	Class-3 Digital Signature Certificate COMBO for Organization (Signature + Encryption) with One Year validity	
10	33450-B8-012	Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with OV for 1 year validity	
11	33450-B8-013	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1 (Server) + 2 (Domains)) for 1 year validity pack.	

12	33450-B8-014	Wildcard SSL Certificate with OV for 1 year validity	
13	33450-B8-012A	Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with DV for 1 year validity	
14	33450-B8-012B	Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with EV for 1 year validity	
15	33450-B8-012C	Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with OV for 2 years validity	
16	33450-B8-012D	Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with DV for 2 years validity	
17	33450-B8-012E	Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with EV for 2 years validity	
18	33450-B8-013A	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+2 (Domains)) for 1 year validity pack	
19	33450-B8-013B	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+2 (Domains)) for 1 year validity pack	
20	33450-B8-013C	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+2 (Domains)) for 2 years validity pack	
21	33450-B8-013D	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+2 (Domains)) for 2 years validity pack	
22	33450-B8-013E	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+2 (Domains)) for 2 years validity pack	
23	33450-B8-013F	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+3 (Domains)) for 1 year validity pack	
24	33450-B8-013G	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+3 (Domains)) for 1 year validity pack	



25	33450-B8-013H	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+3 (Domains)) for 1 year validity pack	
26	33450-B8-013I	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+3 (Domains)) for 2 years validity pack	
27	33450-B8-013J	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+3 (Domains)) for 2 years validity pack	
28	33450-B8-013K	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+3 (Domains)) for 2 years validity pack	
29	33450-B8-013L	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+4 (Domains)) for 1 year validity pack	
30	33450-B8-013M	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+4 (Domains)) for 1 year validity pack	
31	33450-B8-013N	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+4 (Domains)) for 1 year validity pack	
32	33450-B8-013O	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+4 (Domains)) for 2 years validity pack	
33	33450-B8-013P	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+4 (Domains)) for 2 years validity pack	
34	33450-B8-013Q	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+4 (Domains)) for 2 years validity pack	
35	33450-B8-014A	Wildcard SSL Certificate with DV for 1 year validity	
36	33450-B8-014B	Wildcard SSL Certificate with EV for 1 year validity	
37	33450-B8-014C	Wildcard SSL Certificate with OV for 2 years validity	

38	33450-B8-014D	Wildcard SSL Certificate with DV for 2 years validity	
39	33450-B8-014E	Wildcard SSL Certificate with EV for 2 years validity	
40	33450-B8-007A	Class-3 Digital Signature Certificate for Signature - Individual with 2 Years validity	
41	33450-B8-008A	Class-3 Digital Signature Certificate for Encryption - Individual with 2 Years validity	
42	33450-B8-009A	Class-3 Digital Signature Certificate for Signature - Organization with 2 Years validity	
43	33450-B8-010A	Class-3 Digital Signature Certificate for Encryption - Organization with 2 Years validity	
44	33450-B8-011A	Class-3 Digital Signature Certificate COMBO for Organization (Signature + Encryption) with 2 Years validity	

**A1.4.9 Category B9 – Cisco or Equivalent Products**

<b>S.N</b>	<b>Product Code</b>	<b>Description</b>	<b>Item Quoted details along with Make &amp; Model</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
1	33450-B9-001	Core Switch – Type 1 -Cisco Catalyst 9400 or Equivalent	
2	33450-B9-002	Core Switch – Type 2 - Cisco Catalyst 9600 or Equivalent	
3	33450-B9-003	Distribution Switch - Type 1 Cisco 9300 or Equivalent	
4	33450-B9-004	Distribution Switch - Type 2 Cisco 9300 or Equivalent	
5	33450-B9-005	Access Switch - Type 1- 24 Port (PoE) Cisco 9200 or Equivalent	
6	33450-B9-006	Access Switch - Type 2- 24 Port (Non-PoE) Cisco 9200 or Equivalent	

7	33450-B9-007	Access Switch - Type 3- 48 Port (PoE) Cisco 9200 or Equivalent	
8	33450-B9-008	Access Switch - Type 4- 48 Port (Non-PoE) Cisco 9200 or Equivalent	
9	33450-B9-009	Wireless LAN Controller Cisco 9800 (Up to 500 Access Point)	
10	33450-B9-010	Wireless LAN Controller Cisco 9800 (Up to 2000 Access Point)	
11	33450-B9-011	Access Point – Type 1 Cisco 9100 or Equivalent	
12	33450-B9-012	Access Point – Type 2 Cisco 9100 or Equivalent	
13	33450-B9-013	Access Point – Type 3 Cisco 9100 or Equivalent	
14	33450-B9-014	Access Point – Type 4 (Cloud Managed) Cisco Meraki MR36 or Equivalent	
15	33450-B9-015	Access Point – Type 5 (Cloud Managed) Cisco Meraki MR46 or Equivalent	
16	33450-B9-016	Access Switch - Type 1 (Cloud Managed) 24 Port (Non-PoE) Cisco Meraki MR125 or Equivalent	

17	33450-B9-017	Access Switch - Type 2 (Cloud Managed) 48 Port (Non-PoE) Cisco Meraki MR125 or Equivalent	
18	33450-B9-018	Access Switch - Type 3 (Cloud Managed) 24 Port (PoE) Cisco Meraki MR125 or Equivalent	
19	33450-B9-019	Access Switch - Type 4 (Cloud Managed) 48 Port (PoE) Cisco Meraki MR125 or Equivalent	
20	33450-B9-020	Access Switch - Type 5 ( Cloud Managed) 8 Port (PoE) Cisco Meraki MR 120 or Equivalent	
21	33450-B9-021	Router Type 1 : CISCO 4451 Series or Equivalent	
22	33450-B9-022	Router Type 2 : CISCO 4331 Series or Equivalent	
23	33450-B9-023	Router Type 3 : CISCO 4321 Series or Equivalent	
24	33450-B9-024	Cisco Firepower Small Office (Model FPR-2130 or equivalent)	
25	33450-B9-025	Cisco Firepower Medium Office (Model FPR-4112 or equivalent)	
26	33450-B9-026	Cisco Firepower Large Office (Model FPR-4115 or equivalent)	

27	33450-B9-027	Rack Server - C220M5 or Equivalent/higher	
28	33450-B9-028	Cisco Blade Chassis 5108	
29	33450-B9-029	Cisco Blade server B220M5 or Equivalent/Higher	
30	33450-B9-030	Cisco Webex Meeting Suites	
31	33450-B9-031	Cisco Cisco Desk Pro	
32	33450-B9-032	Cisco Video Conference for small and Medium Room (Cisco WebEx Kit Mini)	
33	33450-B9-033	Cisco WebEx Room Kit	
34	33450-B9-034	Cisco Video Conference for Medium Conference Room Cisco WebEx Kit+ with 1 Nos of PTZ camera	
35	33450-B9-035	Cisco WebEx Desk USB Camera	
36	33450-B9-036	Cisco Cisco Meeting Server ( Multiparty Conference Unit)	
37	33450-B9-037	Cisco IP PABX for 1000 Users	
38	33450-B9-038	Cisco IP Phone 7821	

39	33450-B9-039	Cisco IP Phone 8841	
40	33450-B9-040	Access Point (CISCO 9120 or equivalent)	
41	33450-B9-041	Firewall Cisco FPR4112-NGFW-K9 or equivalent	
42	33450-B9-042	Core Switch – Type 1 - Specification ( Model : CISCO Catalyst 9400 or Equivalent)	
43	33450-B9-043	Router Type 1 : Specification (Model : ISR4451-X/K9 or Equivalent)	
44	33450-B9-044	Wireless LAN Controller Cisco 9800 (Up to 2000 Access Point) - Specification ( Model : CISCO Catalyst 9800-40 or Equivalent)	
45	33450-B9-045	Distribution Switch - Type 1 Cisco 9300 or Equivalent	
46	33450-B9-046	Access Switch - Type 4- 48 Port (Non-PoE) Cisco 9200 or Equivalent	
47	33450-B9-047	Data Center Application Centric Infrastructure (ACI)	
48	33450-B9-048	Data Center Network Automation (DCNM)	

49	33450-B9-049	Data Center Network Assurance and Insights (DC Network Day-2 Operations)	
50	33450-B9-050	Application Resource Mangement & Workload Optimization	
51	33450-B9-051	Application Performance Management	
52	33450-B9-052	Nexus Leaf Switch - Copper	
53	33450-B9-053	Nexus Leaf Switch - Fiber	
54	33450-B9-054	Nexus Fixed Spine Switch	
55	33450-B9-055	SD - WAN Controller	
56	33450-B9-056	Type 1 - Branch Router	
57	33450-B9-057	Type 2 Branch Router	
58	33450-B9-058	Head-End Router	
59	33450-B9-059	SD-WAN Controller – II	
		<b>Add on items</b>	
60	33450-B9-060	Cisco Catalyst 9400 Series 48-Port 10/100/1000 (RJ-45)	
61	33450-B9-061	Cisco Catalyst 9400 Series 24-Port 10 Gigabit Ethernet (SFP+)	
62	33450-B9-062	Cisco Catalyst 9400 Series 24-Port Gigabit Ethernet(SFP)	



63	33450-B9-063	Cisco Catalyst 9400 Series 48-Port Gigabit Ethernet(SFP)	
64	33450-B9-064	Cisco Catalyst 9600 Series 24-Port 40GE/12-Port 100GE	
65	33450-B9-065	Cisco Catalyst 9600 Series 48-Port 25GE/10GE/1GE	
66	33450-B9-066	Cisco Catalyst 9600 Series 48-port RJ45 Copper - 10GE/5GE/2.5GE/1GE/100Mbps/10Mbps	
67	33450-B9-067	Cisco Catalyst 9600 Series 48-Port 1GE	
68	33450-B9-068	Catalyst 9300 Series 4x 1G Network Module	
69	33450-B9-069	Catalyst 9300 Series 4x Multigigabit Network Module	
70	33450-B9-070	Catalyst 9300 Series 8x 10G Network Module	
71	33450-B9-071	Catalyst 9300 Series 2x 40G Network Module	
72	33450-B9-072	Catalyst 9300 Series 2x 25G Network Module	
73	33450-B9-073	Catalyst 9300 Series 8x 10G Multigigabit Network Module	
74	33450-B9-074	Catalyst 9300 Series 8x 1G/10G/25G Network Module	

75	33450-B9-075	Catalyst 9300 Series 2x 40G/100G Network Module	
76	33450-B9-076	2 port Multiflex Trunk Voice/Clear-channel Data T1/E1 Module	
77	33450-B9-077	2-port GE WAN NIM, dual-mode RJ45 & SFP	
78	33450-B9-078	4-port Network Interface Module - FXO (Universal)	
79	33450-B9-079	StackWise 320 Stack Module with Cable	
80	33450-B9-080	StackWise 160 stack module with cable	
81	33450-B9-081	Performance License for 9800-L (500 AP)	
82	33450-B9-082	10GBASE-LR SFP Module	
83	33450-B9-083	10GBASE-SR SFP Module	
84	33450-B9-084	1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM	
85	33450-B9-085	1000BASE-SX SFP transceiver module, MMF, 850nm, DOM	
86	33450-B9-086	1000BASE-T SFP transceiver module for Category 5 copper wire	
87	33450-B9-087	Cisco power injector	

88	33450-B9-088	Increases the performance from base performance 1 Gbps to 2 Gbps(ISR4451)	
89	33450-B9-089	Increases the performance from base performance 100 Mbps to 300 Mbps (ISR4331 )	
90	33450-B9-090	Increases the performance from base performance 35 Mbps to 75 Mbps (ISR4221)	
91	33450-B9-091	1 Port Serial card with v.35 Cable	
92	33450-B9-092	2 Port Serial card with v.35 Cable	
93	33450-B9-093	SD-WAN License - 10MB with 5 Years	
94	33450-B9-094	SD-WAN License - 25MB with 5 Years	
95	33450-B9-095	SD-WAN License -50MB with 5 Years	
96	33450-B9-096	SD-WAN License -100MB with 5 Years	
97	33450-B9-097	SD-WAN License -500MB with 5 Years	
98	33450-B9-098	SD-WAN License -1GB with 5 Years	

**A1.4.10 Category B10 – Linux Products**

<b>S.N</b>	<b>Product Code</b>	<b>Description</b>	<b>Item Quoted details along with Make &amp; Model</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
1	33450-B10-001	Red Hat Enterprise Linux for Virtual Datacenters, Premium - 1 Year	
2	33450-B10-002	Red Hat Enterprise Linux for Virtual Datacenters, Premium - 3 Years	
3	33450-B10-003	Red Hat Enterprise Linux for Virtual Datacenters, Standard - 1 Year	
4	33450-B10-004	Red Hat Enterprise Linux for Virtual Datacenters, Standard - 3 Years	
5	33450-B10-005	Red Hat Enterprise Linux Server, Premium (Physical or Virtual Nodes) - 1 year	
6	33450-B10-006	Red Hat Enterprise Linux Server, Premium (Physical or Virtual Nodes) - 3 years	

7	33450-B10-007	Red Hat Enterprise Linux Server, Standard (Physical or Virtual Nodes) - 1 year	
8	33450-B10-008	Red Hat Enterprise Linux Server, Standard (Physical or Virtual Nodes) -3 years	
9	33450-B10-009	Red Hat Enterprise Linux Server with Smart Management, Premium (Physical or Virtual Nodes) - 1 year	
10	33450-B10-010	Red Hat Enterprise Linux Server with Smart Management, Premium (Physical or Virtual Nodes) - 3 years	
11	33450-B10-011	Red Hat Enterprise Linux Server with Smart Management, Standard (Physical or Virtual Nodes) - 1 Year	
12	33450-B10-012	Red Hat Enterprise Linux Server with Smart Management, Standard (Physical or Virtual Nodes) - 3 Years	
13	33450-B10-013	Red Hat Enterprise Linux Extended Life Cycle Support (Physical or Virtual Nodes)	
14	33450-B10-014	Red Hat Enterprise Linux Extended Life Cycle Support (Unlimited Guests)	

15	33450-B10-015	Red Hat Enterprise Linux for SAP Applications, Premium (Physical or Virtual Nodes) - 1 Year	
16	33450-B10-016	Red Hat Enterprise Linux for SAP Applications, Premium (Physical or Virtual Nodes) - 3 Years	
17	33450-B10-017	Red Hat Enterprise Linux for SAP Applications, Standard (Physical or Virtual Nodes) - 1 Year	
18	33450-B10-018	Red Hat Enterprise Linux for SAP Applications, Standard (Physical or Virtual Nodes) - 3 Years	
19	33450-B10-019	Red Hat Enterprise Linux for SAP Applications for Virtual Datacenters, Premium - 1 Year	
20	33450-B10-020	Red Hat Enterprise Linux for SAP Applications for Virtual Datacenters, Premium - 3 Years	
21	33450-B10-021	Red Hat Enterprise Linux for SAP Applications for Virtual Datacenters, Standard - 1 Year	
22	33450-B10-022	Red Hat Enterprise Linux for SAP Applications for Virtual Datacenters, Standard - 3 Years	

23	33450-B10-023	Red Hat Enterprise Linux for SAP Solutions, Premium (Physical or Virtual Nodes) - 1 Year	
24	33450-B10-024	Red Hat Enterprise Linux for SAP Solutions, Premium (Physical or Virtual Nodes) - 3 Years	
25	33450-B10-025	Red Hat Enterprise Linux for SAP Solutions, Standard (Physical or Virtual Nodes) - 1 Year	
26	33450-B10-026	Red Hat Enterprise Linux for SAP Solutions, Standard (Physical or Virtual Nodes) - 3 Years	
27	33450-B10-027	Red Hat Enterprise Linux for Virtual Datacenters for SAP Solutions, Premium - 1 Year	
28	33450-B10-028	Red Hat Enterprise Linux for Virtual Datacenters for SAP Solutions, Premium - 3 Years	
29	33450-B10-029	Red Hat Enterprise Linux for Virtual Datacenters for SAP Solutions, Standard - 1 Year	
30	33450-B10-030	Red Hat Enterprise Linux for Virtual Datacenters for SAP Solutions, Standard - 3 Years	

31	33450-B10-031	High Availability -1 year	
32	33450-B10-032	High Availability -3 years	
33	33450-B10-033	High Availability for Unlimited Guests -1 year	
34	33450-B10-034	High Availability for Unlimited Guests -3 years	
35	33450-B10-035	Resilient Storage -1 year	
36	33450-B10-036	Resilient Storage -3 years	
37	33450-B10-037	Resilient Storage for Unlimited Guests -1 year	
38	33450-B10-038	Resilient Storage for Unlimited Guests -3 years	
39	33450-B10-039	Smart Management -1 year	
40	33450-B10-040	Smart Management -3 years	
41	33450-B10-041	Smart Management for Unlimited Guests -1 year	
42	33450-B10-042	Smart Management for Unlimited Guests -3 years	
43	33450-B10-043	Red Hat Enterprise Virtualization (2- sockets), Premium -1 year	
44	33450-B10-044	Red Hat Enterprise Virtualization (2- sockets), Premium -3 year	
45	33450-B10-045	Redhat Enterprise Virtualization (2- Sockets), Standard - 1 Year	



46	33450-B10-046	Redhat Enterprise Virtualization (2- Sockets), Standard - 3 Years	
47	33450-B10-047	Red Hat JBoss Enterprise Application Platform, 4-Core Premium - 1 Year	
48	33450-B10-048	Red Hat JBoss Enterprise Application Platform, 4-Core Premium - 3 Years	
49	33450-B10-049	Red Hat JBoss Enterprise Application Platform, 4-Core Standard - 1 Year	
50	33450-B10-050	Red Hat JBoss Enterprise Application Platform, 4-Core Standard - 3 Years	
51	33450-B10-051	Red Hat JBoss Enterprise Application Platform, 16-Core Premium -1 year	
52	33450-B10-052	Red Hat JBoss Enterprise Application Platform, 16-Core Premium -3 years	
53	33450-B10-053	Red Hat JBoss Enterprise Application Platform, 16-Core Standard -1 year	
54	33450-B10-054	Red Hat JBoss Enterprise Application Platform, 16-Core Standard -3 years	
55	33450-B10-055	Red Hat JBoss Enterprise Application Platform, 64-Core Premium -1 year	
56	33450-B10-056	Red Hat JBoss Enterprise Application Platform, 64-Core Premium -3 years	
57	33450-B10-057	Red Hat JBoss Enterprise Application Platform, 64-Core Standard -1 year	

58	33450-B10-058	Red Hat JBoss Enterprise Application Platform, 64-Core Standard -3 years	
59	33450-B10-059	Red Hat JBoss Enterprise Application Platform, Extended Life Cycle Support Add-On, 4-Core Premium	
60	33450-B10-060	Red Hat JBoss Enterprise Application Platform, Extended Life Cycle Support Add-On, 4-Core Standard	
61	33450-B10-061	Red Hat JBoss Enterprise Application Platform ELS Program, 16-Core Standard	
62	33450-B10-062	Red Hat JBoss Enterprise Application Platform ELS Program, 16-Core Premium	
63	33450-B10-063	Red Hat JBoss Enterprise Application Platform ELS Program, 64-Core Standard	
64	33450-B10-064	Red Hat JBoss Enterprise Application Platform ELS Program, 64-Core Premium	
65	33450-B10-065	Red Hat JBoss Web Server, 16-Core Premium - 1 year	
66	33450-B10-066	Red Hat JBoss Web Server, 16-Core Premium - 3 years	

67	33450-B10-067	Red Hat JBoss Web Server, 16-Core Standard - 1 year	
68	33450-B10-068	Red Hat JBoss Web Server, 16-Core Standard - 3 years	
69	33450-B10-069	Red Hat JBoss Web Server Plus, 16-Core Premium -1 year	
70	33450-B10-070	Red Hat JBoss Web Server Plus, 16-Core Premium -3 years	
71	33450-B10-071	Red Hat JBoss Web Server Plus, 16-Core Standard -1 year	
72	33450-B10-072	Red Hat JBoss Web Server Plus, 16-Core Standard -3 years	
73	33450-B10-073	Red Hat Process Automation Manager, Premium (16 Cores) - 1 Year	
74	33450-B10-074	Red Hat Process Automation Manager, Premium (16 Cores) - 3 Years	
75	33450-B10-075	Red Hat Process Automation Manager, Standard (16 Cores) - 1 Year	
76	33450-B10-076	Red Hat Process Automation Manager, Standard (16 Cores) - 3 Years	

77	33450-B10-077	Red Hat Decision Manager, Premium (16 Cores) - 1 Year	
78	33450-B10-078	Red Hat Decision Manager, Premium (16 Cores) - 3 Years	
79	33450-B10-079	Red Hat Decision Manager, Standard (16 Cores) - 1 Year	
80	33450-B10-080	Red Hat Decision Manager, Standard (16 Cores) - 3 Years	
81	33450-B10-081	Red Hat Fuse, 4-Core Premium - 1 Year	
82	33450-B10-082	Red Hat Fuse, 4-Core Premium - 3 Years	
83	33450-B10-083	Red Hat Fuse, Premium (16 Cores) - 1 Year	
84	33450-B10-084	Red Hat Fuse, Premium (16 Cores) -3 Years	
85	33450-B10-085	Red Hat Fuse, 4-Core Standard - 1 Year	
86	33450-B10-086	Red Hat Fuse, 4-Core Standard - 3 Years	
87	33450-B10-087	Red Hat Fuse, Standard (16 Cores) - 1 Year	
88	33450-B10-088	Red Hat Fuse, Standard (16 Cores) - 3 Years	

89	33450-B10-089	Red Hat Fuse, Extended Lifecycle Support Add-On, Premium (4 Cores)	
90	33450-B10-090	Red Hat Fuse, Extended Life Cycle Support Add-On, Standard (4 Cores)	
91	33450-B10-091	Red Hat Fuse ELS Program, Premium (16 Cores)	
92	33450-B10-092	Red Hat Fuse ELS Program, Standard (16 Cores)	
93	33450-B10-093	Red Hat 3scale API Management, Premium (4 Cores) - 1 Year	
94	33450-B10-094	Red Hat 3scale API Management, Premium (4 Cores) - 3 Years	
95	33450-B10-095	Red Hat 3scale API Management, Standard (4 Cores) - 1 Year	
96	33450-B10-096	Red Hat 3scale API Management, Standard (4 Cores) - 3 Years	
97	33450-B10-097	Red Hat 3scale API Management, Premium (16 Cores) - 1 Year	
98	33450-B10-098	Red Hat 3scale API Management, Premium (16 Cores) - 3 Years	
99	33450-B10-099	Red Hat 3scale API Management, Standard (16 Cores) - 1 Year	
100	33450-B10-100	Red Hat 3scale API Management, Standard (16 Cores) - 3 Years	

101	33450-B10-101	Red Hat OpenShift Container Platform, Premium (2 Cores or 4 vCPUs, for Windows) - 1 Year	
102	33450-B10-102	Red Hat OpenShift Container Platform, Premium (2 Cores or 4 vCPUs, for Windows) - 3 Years	
103	33450-B10-103	Red Hat OpenShift Container Platform (Bare Metal Node), Premium (1-2 sockets up to 64 cores) - 1 Year	
104	33450-B10-104	Red Hat OpenShift Container Platform (Bare Metal Node), Premium (1-2 sockets up to 64 cores) - 3 Years	
105	33450-B10-105	Red Hat OpenShift Container Platform (Bare Metal Node), Standard (1-2 sockets up to 64 cores) - 1 Year	
106	33450-B10-106	Red Hat OpenShift Container Platform (Bare Metal Node), Standard (1-2 sockets up to 64 cores) - 3 Years	
107	33450-B10-107	Red Hat OpenShift Container Platform Premium (2 Cores or 4 vCPUs) - 1 Year	
108	33450-B10-108	Red Hat OpenShift Container Platform Premium (2 Cores or 4 vCPUs) - 3 Years	

109	33450-B10-109	Red Hat OpenShift Container Platform Standard (2 Cores or 4 vCPUs) - 1 Year	
110	33450-B10-110	Red Hat OpenShift Container Platform Standard (2 Cores or 4 vCPUs) - 3 Years	
111	33450-B10-111	Red Hat Ansible Automation, Standard (100 Managed Nodes) - 1 Year	
112	33450-B10-112	Red Hat Ansible Automation, Standard (100 Managed Nodes) - 3 Years	
113	33450-B10-113	Red Hat Ansible Automation, Premium (100 Managed Nodes) - 1 Year	
114	33450-B10-114	Red Hat Ansible Automation, Premium (100 Managed Nodes) - 3 Years	
115	33450-B10-115	Red Hat OpenStack Platform, Premium (2-sockets) - 1 Year	
116	33450-B10-116	Red Hat OpenStack Platform, Premium (2-sockets) - 3 Years	
117	33450-B10-117	Red Hat OpenStack Platform, Standard (2-sockets) - 1 Year	
118	33450-B10-118	Red Hat OpenStack Platform, Standard (2-sockets) - 3 Years	

119	33450-B10-119	Red Hat OpenStack Platform (without guest OS), Premium (2-sockets) - 1 Year	
120	33450-B10-120	Red Hat OpenStack Platform (without guest OS), Premium (2-sockets) - 3 Years	
121	33450-B10-121	Red Hat OpenStack Platform (without guest OS), Standard (2-sockets) - 1 Year	
122	33450-B10-122	Red Hat OpenStack Platform (without guest OS), Standard (2-sockets) - 3 Years	
123	33450-B10-123	Red Hat OpenShift Kubernetes Engine, Premium (2 Cores or 4 vCPUs) - 1 Year	
124	33450-B10-124	Red Hat OpenShift Kubernetes Engine, Premium (2 Cores or 4 vCPUs) - 3 Years	
125	33450-B10-125	Red Hat OpenShift Kubernetes Engine, Standard (2 Cores or 4 vCPUs) - 1 Year	
126	33450-B10-126	Red Hat OpenShift Kubernetes Engine, Standard (2 Cores or 4 vCPUs) - 3 Years	



127	33450-B10-127	Red Hat OpenShift Kubernetes Engine (Bare Metal Node), Premium (1-2 sockets up to 64 cores) - 1 Year	
128	33450-B10-128	Red Hat OpenShift Kubernetes Engine (Bare Metal Node), Premium (1-2 sockets up to 64 cores) - 3 Years	
129	33450-B10-129	Red Hat OpenShift Kubernetes Engine (Bare Metal Node), Standard (1-2 sockets up to 64 cores) - 1 Year	
130	33450-B10-130	Red Hat OpenShift Kubernetes Engine (Bare Metal Node), Standard (1-2 sockets up to 64 cores) - 3 Years	
131	33450-B10-131	Consulting : Consulting Unit	
132	33450-B10-132	Training : Training Unit	
133	33450-B10-133	Red Hat Learning Subscription Standard	
134	33450-B10-134	Red Hat Enterprise Linux Automation with Ansible Classroom Training	
135	33450-B10-135	Red Hat System Administration I Classroom Training	
136	33450-B10-136	Red Hat JBoss Application Administration I Classroom Training	

137	33450-B10-137	Red Hat OpenStack Administration I: Core Operations for Domain Operators Classroom Training	
138	33450-B10-138	Containers, Kubernetes, and Red Hat OpenShift Administration II Classroom Training	
139	33450-B10-139	EDB Postgres Enterprise (4 cores) - 1 Year	
140	33450-B10-140	EDB Postgres Standard (4 cores) - 1 Year	
141	33450-B10-141	EDB Postgres Developer ? Enterprise (user) 1 user 1 year	
142	33450-B10-142	EDB Postgres Developer - Standard (user) 1 user 1 year	
143	33450-B10-143	EDB Postgres Enterprise (4 cores) - 3 Years	
144	33450-B10-144	EDB Postgres Standard (4 cores) - 3 Years	
145	33450-B10-145	EDB Postgres Developer ? Enterprise (user) 1 user 3 years	
146	33450-B10-146	EDB Postgres Developer - Standard (user) 1 user 3 years	
147	33450-B10-147	EDB Postgres Enterprise (4 cores) - 5 Years	

148	33450-B10-148	EDB Postgres Standard (4 cores) - 5 Years	
149	33450-B10-149	EDB Postgres Developer ? Enterprise (user) 1 user 5 years	
150	33450-B10-150	EDB Postgres Developer - Standard (user) 1 user 5 years	

**A1.4.12 Category B12 – High End Plotters & Scanners**

<b>S.N</b>	<b>Product Code</b>	<b>Description</b>	<b>Item Quoted details along with Make &amp; Model</b>
1	33450-B12-SP001	A4 ADF 8ppm Portable Scanner	
2	33450-B12-SP002	A4 Flatbed with ADF 20 PPM Scanner	
3	33450-B12-SP003	A4 ADF 30PPM Scanner	
4	33450-B12-SP004	A4 Flatbed with ADF 40 PPM Scanner	
5	33450-B12-SP005	A4 ADF 60PPM Scanner with CCD/CIS	
7	33450-B12-SP007	A4 ADF 70PPM Scanner	
8	33450-B12-SP008	A3 ADF 60 PPM Scanner with network	
9	33450-B12-SP009	A3 Flatbed with ADF 70 PPM Scanner	
10	33450-B12-SP010	A3 ADF 120PPM Scanner	

11	33450-B12-SP011	A0 – 36 "LED Monochrome Plotter & Color Scanner	
12	33450-B12-SP012	A1 24" inch Plotter (color)	
13	33450-B12-SP013	A0 – 36 " Inkjet Plotter & Color Scanner	
14	33450-B12-SP014	A4 Flatbed Scanner	
15	33450-B12-SP015	A4 ADF 25PPM Scanner	
16	33450-B12-SP016	A4 ADF 40PPM Scanner	
17	33450-B12-SP017	A3 ADF 90 PPM Scanner	
18	33450-B12-SP018	A2+ overhead flat bed scanner	
19	33450-B12-SP019	A0 – 36 " inch Plotter (color)	
20	33450-B12-MFD-020	A4 -18 PPM -MFD Mono Copier/Printer/ Scanner with Network and wireless with memory	
21	33450-B12-MFD-021	A4 -25 PPM - MFD Mono Copier/Printer/ Scanner/Fax/D/N/ with ADF and Wifi with memory	

22	33450-B12-MFD-022	A4 -16 PPM -MFD Colour Copier/Printer/ Scanner/Network/Wi-Fi with memory	
23	33450-B12-MFD-023	A4 -25 PPM -MFD Colour Copier/Printer/ Scanner/Network and wireless and ADF with memory	
24	33450-B12-LP-024	Laser Printer - A4 - 20 PPM Mono with Network,Duplex with memory	
25	33450-B12-LP-025	Laser Printer - A4 - 25 PPM Mono with Duplex, Network & Wi-Fi with memory	
26	33450-B12-LP-026	Color Laser Printer - A4 - 20 PPM with Network and Duplex and wireless with memory	
27	33450-B12-LP-027	Color Laser Printer - A4 - 25 PPM with Network and Duplex,WiFi with memory	
28	33450-B12-MFD-028	A4 -35 PPM - MFD Mono Copier/Printer/ Scanner//D/N/ with ADF and wifi	

**A1.4.13 Category B13 – IP Camera**

<b>S.N</b>	<b>Product Code</b>	<b>Description</b>	<b>Item Quoted details along with Make &amp; Model</b>
1	33450-B13-CAM-001	2 MP Fixed Lens Dome Camera	
2	33450-B13-CAM-002	2 MP Fixed Lens Dome Camera With SD card and audio	
3	33450-B13-CAM-003	2 MP Dome camera with motorised varifocal lens	
4	33450-B13-CAM-004	2 MP Fixed lens Bullet Camera	
5	33450-B13-CAM-005	2 MP Fixed Lens Bullet Camera With SD card and audio	
6	33450-B13-CAM-006	2 MP Bullet camera with motorised varifocal lens	
7	33450-B13-CAM-007	2 MP 20x PTZ Camera	
8	33450-B13-CAM-008	5 MP 30x Auto Tracking PTZ Camera	
9	33450-B13-CAM-009	5 MP Fixed Lens Dome Camera With SD card and audio	

10	33450-B13-CAM-010	5 MP Dome camera with motorised varifocal lens	
11	33450-B13-CAM-011	5 MP Fixed Lens Bullet Camera With SD card and audio	
12	33450-B13-CAM-012	5 MP Bullet camera with motorised varifocal lens	
13	33450-B13-CAM-013	5 MP Bullet camera with motorised varifocal lens with analytics	
14	33450-B13-CAM-014	5 MP box camera	
15	33450-B13-CAM-015	8 MP Dome camera with motorised varifocal lens	
16	33450-B13-CAM-016	8 MP Bullet camera with motorised varifocal lens	
17	33450-B13-NVR-017	Network Video Recorder 8 Channels 1 HDD	
18	33450-B13-NVR-018	Network Video Recorder 16 Channels 2 HDD	
19	33450-B13-NVR-019	Network Video Recorder 32 Channels 4 HDD	
20	33450-B13-NVR-020	Network Video Recorder 64 Channels 8 HDD	
21	33450-B13-IP-021	Video Management Software	



22	33450-B13-IP-022	Video Analytics Software with ANPR	
23	33450-B13-IP-023	Video Analytics Software with Face Recognition features	
		<b>Optional Items</b>	
24	33450-B13-IP-024	2 MP Bullet camera with motorised varifocal lens with ANPR (optional)	
25	33450-B13-IP-025	2 MP 30x Auto Tracking PTZ Camera (optional)	
26	33450-B13-IP-026	8 MP box camera (optional)	
27	33450-B13-IP-027	8 MP 30x Auto Tracking PTZ Camera (optional)	
		<b>Accessories</b>	
28	33450-B13-IP-028	13 Feet GI Pole	
29	33450-B13-IP-029	15 Feet GI Pole	
30	33450-B13-IP-030	Outdoor weather proof Junction Box	
31	33450-B13-IP-031	4 TB AV Hard Disk	
32	33450-B13-IP-032	6TB AV Hard Disk	
33	33450-B13-IP-033	8 TB AV Hard Disk	

34	33450-B13-IP-034	10 TB AV Hard Disk	
35	33450-B13-IP-035	12 TB AV Hard Disk	
36	33450-B13-IP-036	Indoor Microphone	
37	33450-B13-IP-037	Outdoor Microphone	
38	33450-B13-IP-038	HDMI Splitter 1 in and 2 Out	
39	33450-B13-IP-039	64GB SD card class 10	
40	33450-B13-IP-040	128GB SD card class 10	
41	33450-B13-IP-041	HDMI Cable per Meter	
42	33450-B13-IP-042	VGA Cable Per Meter	
43	33450-B13-IP-043	Site Survey per site	

**A1.4.14 Category B14 –Firewall**

<b>S.N</b>	<b>Product Code</b>	<b>Description</b>	<b>Item Quoted details along with Make &amp; Model</b>
1	33450-B14-001	Next Generation Firewall cum SDWAN Router - Category -1 (Suitable for upto 300 Users)	
2	33450-B14-002	Next Generation Firewall cum SDWAN Router - Category -2 (Suitable for upto 100 Users)	
3	33450-B14-003	Next Generation Firewall cum SDWAN Router - Category -3 (Suitable for upto 50 Users)	
4	33450-B14-004	Next Generation Firewall cum SDWAN Router - Category -4 (Suitable for upto 25 Users)	
5	33450-B14-005	Data Center Firewall cum SDWAN Core Router - Category -1 (Suitable for upto 5000 Users)	

6	33450-B14-006	Data Center Firewall cum SDWAN Core Router - Category -2 (Suitable for upto 2500 Users)	
7	33450-B14-007	SD-WAN Manager for Central Management and Monitoring	
8	33450-B14-008	Web Application Firewall (Category-1)	
9	33450-B14-009	Web Application Firewall (Category-2)	
		<b>Add on</b>	
10	33450-B14-010	10 user upgrade for item code 33450-B14-007	

**A1.4.15 Category B15 – Laptop**

<b>S.N</b>	<b>Product Code</b>	<b>Description</b>	<b>Item Quoted details along with Make &amp; Model</b>
1	33450-B15-001	Laptop Intel Pentium / AMD	
2	33450-B15-002	13.3" Laptop with i5 G series Processor, SSD	
3	33450-B15-003	13.3" Laptop with i7 G series Processor, SSD	
4	33450-B15-004	14" Laptop with i3 G series Processor	
5	33450-B15-005	14" Laptop with i5 G series Processor, SSD	
6	33450-B15-006	14" Laptop with i5 G series Processor, FHD, SSD	
7	33450-B15-007	14" Laptop with i5 G series Processor, 1 TB SATA HDD with 8 GB	
8	33450-B15-008	14" Laptop with i7 G series Processor , 1 TB SATA HDD with 16GB	
9	33450-B15-009	14" Laptop with i7 G series Processor SSD with 16GB	
10	33450-B15-010	14" Laptop with i7 G series Processor, FHD, m2 SSD with 16GB	
11	33450-B15-011	14" Laptop with AMD Ryzen 3 Processor	

12	33450-B15-012	14" Laptop with AMD Ryzen 5 Processor	
13	33450-B15-013	14" Laptop with AMD Ryzen 7 Processor	
14	33450-B15-014	15.6" Laptop with i3 G series Processor, SSD with 8 GB	
15	33450-B15-015	15.6" Laptop with i5 G series Processor, SSDwith 8 GB	
16	33450-B15-016	15.6" Laptop with i7 G series Processor, FHD, SSDwith 16GB	
17	33450-B15-017	Convertible 360 Degree Laptop - i5 G series Processor, SSD	
18	33450-B15-018	2 in 1 Laptop - i5 G series Processor, SSD	
19	33450-B15-019	Light weight Laptop with i5 G series Processor	
20	33450-B15-020	Surface Laptop with 256 GB SSD	
21	33450-B15-021	Surface Laptop with 512 GB SSD	
22	33450-B15-022	14" Laptop with i7 - (A)	
23	33450-B15-023	Surface Go2 M3/4/64	
24	33450-B15-024	Surface Go 2 M3/8/128	
25	33450-B15-025	Surface Pro 7 i5/8/256	
26	33450-B15-026	Surface Pro 7 i7/16/256	
27	33450-B15-027	14" Laptop with i5 - (A)	
		<b>Add on Items</b>	

28	33450-B15-028	4 GB DDR4 RAM	
29	33450-B15-029	8 GB DDR4 RAM	
30	33450-B15-030	16 GB DDR4 RAM	
31	33450-B15-031	500 GB HDD SATA 5400 RPM	
32	33450-B15-032	1TB HDD SATA 5400 RPM	
33	33450-B15-033	2TB HDD SATA 5400 RPM	
34	33450-B15-034	500GB HDD SATA 7200 RPM	
35	33450-B15-035	1 TB HDD SATA 7200 RPM	
36	33450-B15-036	2 TB HDD SATA 7200 RPM	
37	33450-B15-037	256 GB SSD	
38	33450-B15-038	512 GB SSD	
39	33450-B15-039	1 TB SSD	
40	33450-B15-040	256 GB M.2 SSD	
41	33450-B15-041	512 GB M.2 SSD	
42	33450-B15-042	1 TB M.2 SSD	
43	33450-B15-043	2 GB Graphics Card	
44	33450-B15-044	4 GB Graphics Card	

45	33450-B15-045	Li-On Battery (35 WHr) with minimum 5 hours backup	
46	33450-B15-046	Li-On Battery (40 WHr) with minimum 5 hours backup	
47	33450-B15-047	Li-On Battery (45 WHr) with minimum 7 hours backup	
48	33450-B15-048	DVD RW (External Drive)	
49	33450-B15-049	Wireless Keyboard(OEM)	
50	33450-B15-050	Wireless Mouse(OEM)	
51	33450-B15-051	Wireless keyboard & Mouse (Combo)(OEM)	
52	33450-B15-052	Pre-Loaded Windows 10 Pro, 64bit with 1 year antivirus software	
53	33450-B15-053	Pre-Loaded Windows 10 Home, 64bit with 1 year antivirus software	
54	33450-B15-054	Pre-Loaded Windows 10 Pro National Academic Edition	
55	33450-B15-055	Active pen (OEM Make) for Convertible 360 Degree Laptop	
56	33450-B15-056	Active pen (OEM Make) for 2 in 1 Laptop	
		<b>In lieu items</b>	
57	33450-B15-057	16 GB DDR4 RAM in lieu of 8 GB RAM	
58	33450-B15-058	1 TB HDD in lieu of 500GB SATA HDD	
59	33450-B15-059	2 TB HDD in lieu of 1TB SATA HDD	
60	33450-B15-060	512 GB SSD in lieu of 256 GB SSD	



61	33450-B15-061	1 TB SSD in lieu of 256 GB SSD	
62	33450-B15-062	1 TB SSD in lieu of 512 GB SSD	
63	33450-B15-063	512 GB M.2 SSD in lieu of 256 GB M.2 SSD	
64	33450-B15-064	1 TB M.2 SSD in lieu of 256 GB M.2 SSD	
65	33450-B15-065	256 GB M.2 SSD in lieu of 256 GB SSD	
66	33450-B15-066	512 GB M.2 SSD in lieu of 256 GB SSD	
67	33450-B15-067	1 TB M.2 SSD in lieu of 256 GB SSD	
68	33450-B15-068	Pre-Loaded Windows 10 Pro, 64bit with 1 year antivirus software in lieu of Linux OS	
69	33450-B15-069	Pre-Loaded Windows 10 Home, 64bit with 1 year antivirus software in lieu of Linux OS	
70	33450-B15-070	Pre-Loaded Linux OS in lieu of Windows OS	

**Annexure - E**

**A2.4 Price Bid – Category B4 –IT Consumables**

S.N	Product Code	Description	Quantity /Unit	Basic Unit Price for OEM products in Rs.	GST in % for Col no.5	GST Value in Rs. For Col No.5	Total Unit Price with GST (Rs.) (5)+(7)	Basic Unit Price for Compatible Toner	GST in % for Col no.9	Basic Unit Price for Refilling of Toners	GST in % for Col no.11
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	33450-B4-001	Toner for (KYOCERA FS 6525/ FS 6530) - TK-479	1 no								
2	33450-B4-002	Drum Kit for (KYOCERA FS 6525/ FS 6530) - MK-479	1 no								
3	33450-B4-003	Fixing Kit for (KYOCERA FS 6525/ FS 6530) - FK-475	1 no								
4	33450-B4-004	DP HINGE for (KYOCERA FS 6525/ FS6530/ FS 8525) - LEFT HINGE	1 no								

5	33450-B4-005	DP BASE for (KYOCERA FS 6525/ FS6530/ FS 8525) - BASE DP	1 no										
6	33450-B4-006	Power Supply PCB for (KYOCERA FS 6525/ FS6530) - PART LOW VOLTAGE PCB 230V	1 no										
7	33450-B4-007	Power Supply Sub board (KYOCERA FS 6525/ FS 6530) - PART LOW SUB VOLTAGE PCB 230	1 no										
8	33450-B4-008	Toner Cartridge for (KYOCERA TASKalfa 1800/ 1801) - TK-4109	1 no										
9	33450-B4-009	Drum Kit for (KYOCERA TASKalfa 1800/ 1801) - MK-4105	1 no										
10	33450-B4-010	Fixing Kit for (KYOCERA TASKalfa 1800/ 1801) - FK-4105	1 no										
11	33450-B4-011	Black Toner for (KYOCERA TASKalfa 2551ci) - TK-8329K	1 no										
12	33450-B4-012	Yellow Toner for (KYOCERA TASKalfa 2551ci) - TK-8329Y	1 no										
13	33450-B4-013	Magenta Toner for (KYOCERA TASKalfa 2551ci) - TK-8329M	1 no										

14	33450-B4-014	Cyan Toner for (KYOCERA TASKalfa 2551ci) - TK-8329C	1 no										
15	33450-B4-015	Black Drum Kit for (KYOCERA TASKalfa 2551ci) - Maintenance kit MK-8325A	1 no										
16	33450-B4-016	Colour Drum Kit for (KYOCERA TASKalfa 2551ci) - Maintenance kit MK-8325B	1 no										
17	33450-B4-017	Toner Cartridge for (KYOCERA ECOSYS M4125idn/ M4132idn ) - TK-6110	1 no										
18	33450-B4-018	Drum kit for (KYOCERA ECOSYS M4125idn/ M4132idn ) - Maintenance kit MK-6119	1 no										
19	33450-B4-019	Fixing Kit for (KYOCERA ECOSYS M4125idn/ M4132idn ) - FK-6115	1 no										
20	33450-B4-020	Wireless Kit for (KYOCERA TASKalfa 4125idn) - IB-36	1 no										
21	33450-B4-021	DP HINGE for (KYOCERA ECOSYS M4125idn/ M4132idn ) - LEFT HINGE	1 no										

22	33450-B4-022	DP BASE for (KYOCERA ECOSYS M4125idn/ M4132idn ) - BASE DP	1 no										
23	33450-B4-023	Toner Cartridge for (KYOCERA TASKalfa 3212i) - TK-7120	1 no										
24	33450-B4-024	Toner Cartridge for (KYOCERA TASKalfa 4012i) - TK-7220	1 no										
25	33450-B4-025	Drum kit for (KYOCERA TASKalfa 3212i/ 4012i) - Maintenance kit MK-7129	1 no										
26	33450-B4-026	Wireless Kit for (KYOCERA TASKalfa 3212i/ 4012i) - IB-35	1 no										
27	33450-B4-027	Fixing Kit for (KYOCERA TASKalfa 3212i/ 4012i) - FK-7125	1 no										
28	33450-B4-028	Developing Unit for (KYOCERA TASKalfa 3212i/ 4012i) - DV-7125	1 no										
29	33450-B4-029	Main Charge Roller (KYOCERA TASKalfa 3212i/ 4012i) - MC-7125	1 no										
30	33450-B4-030	Toner Cartridge for (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - TK-6329	1 no										

31	33450-B4-031	Drum Kit for (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - Maintenance kit MK-6335	1 no									
32	33450-B4-032	Fixing Kit for (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - FK-8560	1 no									
33	33450-B4-033	Transfer Unit for (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - TR-6500	1 no									
34	33450-B4-034	Developing Unit for (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - DV-8560K	1 no									
35	33450-B4-035	Wireless Kit for (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - IB-35	1 no									
36	33450-B4-036	Main Charge Roller (KYOCERA TASKalfa 6002i/ 6003i/ 5002i/ 5003i) - MC-8550	1 no									
37	33450-B4-037	Black Toner Cartridge for (KYOCERA ECOSYS M8124cidn) - TK-8110K	1 no									
38	33450-B4-038	Cyan Toner Cartridge for (KYOCERA ECOSYS M8124cidn) - TK-8110C	1 no									

39	33450-B4-039	Yellow Toner Cartridge for (KYOCERA ECOSYS M8124cidn) - TK-8110Y	1 no										
40	33450-B4-040	Magenta Toner Cartridge for (KYOCERA ECOSYS M8124cidn) - TK-8110M	1 no										
41	33450-B4-041	Black Drum Kit for (KYOCERA ECOSYS M8124cidn) - Maintenance kit MK-8115A	1 no										
42	33450-B4-042	Colour Drum Kit for (KYOCERA ECOSYS M8124cidn) - Maintenance kit MK-8115B	1 no										
43	33450-B4-043	Transfer Belt for (KYOCERA ECOSYS M8124cidn) - TR-8115A	1 no										
44	33450-B4-044	Fuser Unit for (KYOCERA ECOSYS M8124cidn) - FK-8115	1 no										
45	33450-B4-045	Developing Unit for (KYOCERA ECOSYS M8124cidn) - DV-8115K	1 no										
46	33450-B4-046	Black Toner Cartridge for (KYOCERA TASKalfa 3252ci) - TK-8339K	1 no										

47	33450-B4-047	Cyan Toner Cartridge for (KYOCERA TASKalfa 3252ci) - TK-8339C	1 no										
48	33450-B4-048	Yellow Toner Cartridge for (KYOCERA TASKalfa 3252ci) - TK-8339Y	1 no										
49	33450-B4-049	Magenta Toner Cartridge for (KYOCERA TASKalfa 3252ci) - TK-8339M	1 no										
50	33450-B4-050	Black Drum Kit for (KYOCERA TASKalfa 3252ci) - Maintenance kit MK-8335A	1 no										
51	33450-B4-051	Colour Drum Kit for (KYOCERA TASKalfa 3252ci) - Maintenance kit MK-8335B	1 no										
52	33450-B4-052	Transfer Belt for (KYOCERA ECOSYS 3252ci) - TK-8550	1 no										
53	33450-B4-053	Fuser Unit for (KYOCERA ECOSYS 3252ci) - FK-8530	1 no										
54	33450-B4-054	Developing Unit for (KYOCERA ECOSYS 3252ci) - Maintenance kit MK-8335D	1 no										



55	33450-B4-055	Black Toner Cartridge for (KYOCERA TASKalfa 4052ci/4053ci) - TK-8529K	1 no									
56	33450-B4-056	Cyan Toner Cartridge for (KYOCERA TASKalfa 4052ci/4053ci) - TK-8529C	1 no									
57	33450-B4-057	Yellow Toner Cartridge for (KYOCERA TASKalfa 4052ci/4053ci) - TK-8529Y	1 no									
58	33450-B4-058	Magenta Toner Cartridge for (KYOCERA TASKalfa 4052ci/4053ci) - TK-8529M	1 no									
59	33450-B4-059	Black Drum Kit for (KYOCERA TASKalfa 4052ci/4053ci) - Maintenance kit MK-8525A	1 no									
60	33450-B4-060	Colour Drum Kit for (KYOCERA TASKalfa 4052ci/4053ci) - Maintenance kit MK-8525B	1 no									
61	33450-B4-061	Transfer Belt for (KYOCERA TASKalfa 4052ci) - TR-8550	1 no									
62	33450-B4-062	Fuser Unit for (KYOCERA TASKalfa 4052ci) - FK-8550	1 no									
63	33450-B4-063	Developing Unit for (KYOCERA TASKalfa	1 no									

		4052ci) - DV-8560K									
64	33450-B4-064	Black Toner Cartridge for (KYOCERA TASKalfa 2552ci/ 2553ci) - TK-8349K	1 no								
65	33450-B4-065	Cyan Toner Cartridge for (KYOCERA TASKalfa 2552ci/ 2553ci) - TK-8349C	1 no								
66	33450-B4-066	Yellow Toner Cartridge for (KYOCERA TASKalfa 2552ci/ 2553ci) - TK-8349Y	1 no								
67	33450-B4-067	Magenta Toner Cartridge for (KYOCERA TASKalfa 2552ci/ 2553ci) - TK-8349M	1 no								
68	33450-B4-068	Black Drum Kit for (KYOCERA TASKalfa 2552ci/ 2553ci) - Maintenance kit MK-8335A	1 no								
69	33450-B4-069	Colour Drum Kit for (KYOCERA TASKalfa 2552ci/ 2553ci) - Maintenance kit MK-8335B	1 no								
70	33450-B4-070	Transfer Belt for (KYOCERA TASKalfa 2552ci/ 2553ci) - TR-8550	1 no								

71	33450-B4-071	Fuser Unit for (KYOCERA TASKalfa 2552ci/ 2553ci) - FK-8350	1 no									
72	33450-B4-072	Developing Unit for (KYOCERA TASKalfa 2552ci/ 2553ci) - Maintenance kit MK-8335D	1 no									
73	33450-B4-073	Black Toner for FS 8525ci - TK-899K	1 no									
74	33450-B4-074	Yellow Toner for FS 8525ci - TK-899Y	1 no									
75	33450-B4-075	Magenta Toner for FS 8525ci - TK-899M	1 no									
76	33450-B4-076	Cyan Toner for FS 8525ci - TK-899C	1 no									
77	33450-B4-077	Black Drum Kit for FS 8525ci - Maintenance kit MK-896A	1 no									
78	33450-B4-078	Colour Drum Kit for FS 8525ci - Maintenance kit MK-896B	1 no									
79	33450-B4-079	Transfer Belt for FS 8525ci - TR-896A	1 no									
80	33450-B4-080	Fuser Unit for FS 8525ci - FK-896	1 no									
81	33450-B4-081	Developing Unit for FS 8525ci - DV-896K	1 no									

82	33450-B4-082	Toner Cartridge for (KYOCERA TA 2321 ) - TK-4140	1 no										
83	33450-B4-083	Drum kit for(KYOCERA TA 2321 ) - MK-4145	1 no										
84	33450-B4-084	Fixing Kit for (KYOCERA TA 2321 ) - FK-4105	1 no										
85	33450-B4-085	Toner for Canon iR2006n/ iR 2004n/ iR2002n - NPG 59	1 no										
86	33450-B4-086	Drum Kit for Canon iR2006n/ iR 2004n/ iR2002n - NPG 59	1 no										
87	33450-B4-087	Toner for Canon iR 2525w/ iR 2520/ iR2530 - NPG 51	1 no										
88	33450-B4-088	Drum Kit for Canon iR 2525w/ iR 2520/ iR2530 - NPG 51	1 no										
89	33450-B4-089	Toner for Canon iR 2625/ iR 2630/ iR 2645 - NPG 84	1 no										
90	33450-B4-090	Drum Kit for Canon iR 2625/ iR 2630/ iR 2645 - NPG 84	1 no										
91	33450-B4-091	Black Toner for Canon 643 cdw for toner model 054	1 no										

92	33450-B4-092	Cyan Toner for Canon 643 cdw for toner model 054	1 no										
93	33450-B4-093	Yellow Toner for Canon 643 cdw for toner model 054	1 no										
94	33450-B4-094	Magenta Toner for Canon 643 cdw for toner model 054	1 no										
95	33450-B4-095	Black Toner for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	1 no										
96	33450-B4-096	Cyan Toner for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	1 no										
97	33450-B4-097	Yellow Toner for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	1 no										
98	33450-B4-098	Magenta Toner for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	1 no										
99	33450-B4-099	Black Drum Kit for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	1 no										

100	33450-B4-100	Cyan Drum Kit for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	1 no									
101	33450-B4-101	Yellow Drum Kit for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	1 no									
102	33450-B4-102	Magenta Drum Kit for Canon iR c3020/ iR c3120/ iR c3525/ iR c3530 - NPG 67	1 no									
103	33450-B4-103	Black Toner for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	1 no									
104	33450-B4-104	Cyan Toner for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	1 no									
105	33450-B4-105	Yellow Toner for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	1 no									
106	33450-B4-106	Magenta Toner for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	1 no									
107	33450-B4-107	Black Drum Kit for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR	1 no									

		adv c5535i - NPG 71									
108	33450-B4-108	Cyan Drum Kit for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	1 no								
109	33450-B4-109	Yellow Drum Kit for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	1 no								
110	33450-B4-110	Magenta Drum Kit for Canon iR adv c5560i/ iR adv c5550i/ iR adv c5540i/ iR adv c5535i - NPG 71	1 no								
111	33450-B4-111	Toner for Canon iR adv 6575i/ iR adv 6565i/ iR adv 6555i - NPG 54	1 no								
112	33450-B4-112	Drum Kit for Canon iR adv 6575i/iR adv 6565i/ iR adv 6555i - NPG 54	1 no								
113	33450-B4-113	Toner for Canon iR adv 4525/ iR adv 4535/ iR adv 4545/ iR adv 4551 - NPG 73	1 no								

114	33450-B4-114	Drum Kit for Canon iR adv4525/ iR adv 4535/ iR adv 4545/ iR adv 4551 - NPG 73	1 no									
115	33450-B4-115	Toner Cartridge for Canon 6230DN - 326	1 no									
116	33450-B4-116	Toner Cartridge for Canon MF246DN/ Canon LBP 151DW / Canon MF241D/ Canon MF237w - 337	1 no									
117	33450-B4-117	Toner Cartridge for Canon L170/ MF4720W/ MF4820D/ MF4750 - 328	1 no									
118	33450-B4-118	Toner Cartridge for Canon MF266DN/ Canon MF 269DN/ Canon LBP 161dn/ Canon LBP 162dw - 051	1 no									
119	33450-B4-119	Drum Cartridge for Canon MF266DN/ Canon MF 269DN/ Canon LBP 161dn/ Canon LBP 162dw - 051	1 no									
120	33450-B4-120	Toner Cartridge for Canon LBP 214DW - 052	1 no									
121	33450-B4-121	Black Toner Cartridge for Canon LBP 654cx/ Canon MF735CX - 046	1 no									



122	33450-B4-122	Cyan Toner Cartridge for Canon LBP 654cx/ Canon MF735CX - 046	1 no									
123	33450-B4-123	Magenta Toner Cartridge for Canon LBP 654cx/ Canon MF735CX - 046	1 no									
124	33450-B4-124	Yellow Toner Cartridge for Canon LBP 654cx/ Canon MF735CX - 046	1 no									
125	33450-B4-125	Black Toner Cartridge for Canon MF 631CN/ LBP 613cdw - 045	1 no									
126	33450-B4-126	Cyan Toner Cartridge for Canon MF 631CN/ LBP 613cdw - 045	1 no									
127	33450-B4-127	Magenta Toner Cartridge for Canon MF 631CN/ LBP 613cdw - 045	1 no									
128	33450-B4-128	Yellow Toner Cartridge for Canon MF 631CN/ LBP 613cdw - 045	1 no									
129	33450-B4-129	Toner Cartridge for Canon LBP 8100N/ Canon LBP 8780CX - 333	1 no									
130	33450-B4-130	Black Toner Cartridge for Canon LBP 841 CDN - 333E	1 no									
131	33450-B4-131	Cyan Toner Cartridge for Canon LBP 841 CDN - 333E	1 no									

132	33450-B4-132	Magenta Toner Cartridge for Canon LBP 841 CDN - 333E	1 no									
133	33450-B4-133	Yellow Toner Cartridge for Canon LBP 841 CDN - 333E	1 no									
134	33450-B4-134	Black Toner Cartridge for Canon MF746CX - 055	1 no									
135	33450-B4-135	Cyan Toner Cartridge for Canon MF746CX - 055	1 no									
136	33450-B4-136	Magenta Toner Cartridge for Canon MF746CX - 055	1 no									
137	33450-B4-137	Yellow Toner Cartridge for Canon MF746CX - 055	1 no									
138	33450-B4-138	Toner Cartridge for Canon LBP 312x - 041	1 no									
139	33450-B4-139	Toner Cartridge for CanonLBP351x/ CanonLBP352x - 039	1 no									
140	33450-B4-140	Toner cartridge for digital copier Ricoh MP2014D / MP2014AD - 2014HS	1 no									

141	33450-B4-141	Toner cartridge for digital copier RICOH MP 2001SP / MP2501SP - 2501S	1 no									
142	33450-B4-142	Toner for Ricoh Aficio 2000L /2000LE/2020D Photo Copier - 1230D	1 no									
143	33450-B4-143	Toner Cartridges for Ricoh Aficio MP 3350 Photo Copier - 23230D	1 no									
144	33450-B4-144	Developer for digital copier Ricoh MP2014D / MP2014AD / MP 2001SP / MP2501SP / Aficio 2000L / Aficio 2000LE/ Aficio 2020D / Afficio MP 3350SP	1 no									
145	33450-B4-145	OPC Drum for digital copier Ricoh MP2014D / MP2014AD / MP 2001SP / MP2501SP / Aficio 2000L / Aficio 2000LE/ Aficio 2020D / Afficio MP 3350SP	1 no									
146	33450-B4-146	Hot Roller for digital copier Ricoh MP2014D / MP2014AD	1 no									
147	33450-B4-147	Hot Roller for digital copier RICOH MP 2001SP / MP2501SP	1 no									

148	33450-B4-148	Charge Roller for digital copier Ricoh MP2014D / MP2014AD / RICOH MP 2001SP / MP2501SP	1 no										
149	33450-B4-149	Cleaning blade for digital copier Ricoh MP2014D / MP2014AD	1 no										
150	33450-B4-150	Cleaning Blade for digital copier RICOH MP 2001SP / MP2501SP	1 no										
151	33450-B4-151	Photoconductor unit for digital copier RICOH MP 2001SP / MP2501SP	1 no										
152	33450-B4-152	Photoconductor Development unit for digital copier Ricoh MP2014D / MP2014AD	1 no										
153	33450-B4-153	Toner Cartridges for Ricoh MP 4054 / MP 4055 / MP 5054 & MP5055	1 no										
154	33450-B4-154	Developer for Ricoh MP 4054 / MP 4055 / MP 5054 & MP5055	1 no										
155	33450-B4-155	Drum for Ricoh MP 4054 / MP 4055 / MP 5054 & MP5055	1 no										
156	33450-B4-156	Cleaning blade for Ricoh MP 4054 / MP 4055 / MP 5054 & MP5055	1 no										

157	33450-B4-157	Fusing Unit for Ricoh MP 4054 / MP 4055 / MP 5054 & MP5055	1 no									
158	33450-B4-158	Fusing Sleeve for Ricoh MP 4054 / MP 4055 / MP 5054 & MP5055	1 no									
159	33450-B4-159	Toner (black) cartridge RICOH MPC 2503SP / MPC 2504SP - MP 2503S Black	1 no									
160	33450-B4-160	Toner (cyan) cartridge RICOH MPC 2503SP / MPC 2504SP - MP 2503S cyan	1 no									
161	33450-B4-161	Toner (yellow) cartridge RICOH MPC 2503SP / MPC 2504SP - MP 2503S yellow	1 no									
162	33450-B4-162	Toner (magenta) cartridge RICOH MPC 2503SP / MPC 2504SP - MP 2503S Magenta	1 no									
163	33450-B4-163	Development Unit (black) cartridge RICOH MPC 2503SP / MPC 2504SP	1 no									
164	33450-B4-164	Development Unit (cyan) cartridge RICOH MPC 2503SP / MPC 2504SP	1 no									

165	33450-B4-165	Development Unit (yellow) cartridge RICOH MPC 2503SP / MPC 2504SP	1 no										
166	33450-B4-166	Development Unit (magenta) cartridge RICOH MPC 2503SP / MPC 2504SP	1 no										
167	33450-B4-167	Drum kit for RICOH MPC 2503SP / MPC 2504SP (K, C, Y & M)	1 no										
168	33450-B4-168	Toner for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier - C2551S Black	1 no										
169	33450-B4-169	Toner for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier - C2551S Cyan	1 no										
170	33450-B4-170	Toner for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier - C2551S Yellow	1 no										
171	33450-B4-171	Toner for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier - C2551S Magenta	1 no										
172	33450-B4-172	Drum Kit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-Black	1 no										

173	33450-B4-173	Drum Kit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-yellow	1 no									
174	33450-B4-174	Drum Kit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-Meganta	1 no									
175	33450-B4-175	Drum Kit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-Cyan	1 no									
176	33450-B4-176	Development Unit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-Black	1 no									
177	33450-B4-177	Development Unit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-yellow	1 no									
178	33450-B4-178	Development Unit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-Magenta	1 no									
179	33450-B4-179	Development Unit for Ricoh Aficio MPC 2550 / MPC 2551 Colour Photo Copier-Cyan	1 no									
180	33450-B4-180	Toner for Ricoh Aficio MPC 3002 Colour Photo Copier - MP C3502S Black	1 no									

181	33450-B4-181	Toner for Ricoh Aficio MPC 3002 Colour Photo Copier - MP C3502S Cyan	1 no									
182	33450-B4-182	Toner for Ricoh Aficio MPC 3002 Colour Photo Copier - MP C3502S Yellow	1 no									
183	33450-B4-183	Toner for Ricoh Aficio MPC 3002 Colour Photo Copier - MP C3502S Magenta	1 no									
184	33450-B4-184	Drum Kit for Ricoh Aficio MPC 3002 Colour Photo Copier-Black	1 no									
185	33450-B4-185	Drum Kit for Ricoh Aficio MPC 3002 Colour Photo Copier-Cyan / Yellow / Magenta	1 no									
186	33450-B4-186	Development Unit for Ricoh Aficio MPC 3002 Colour Photo Copier-Black	1 no									
187	33450-B4-187	Development Unit for Ricoh Aficio MPC 3002 Colour Photo Copier-Cyan	1 no									



188	33450-B4-188	Development Unit for Ricoh Aficio MPC 3002 Colour Photo Copier-Yellow	1 no									
189	33450-B4-189	Development Unit for Ricoh Aficio MPC 3002 Colour Photo Copier-Magenta	1 no									
190	33450-B4-190	Black Toner Cartridge for Samsung - ML 2161/SCX 3401/ML 2166W/SCX 3046W - Samsung MLT-D101S Black	1 no									
191	33450-B4-191	Black Toner Cartridge for Samsung - ML 1666/ML 1866/1676/SCX 3201 - Samsung MLT-D1043S	1 no									
192	33450-B4-192	Black Toner Cartridge for Samsung - ML 2951ND/XIP,SCX 4728FD,SCX 4728D / SCX 4701ND - Samsung MLT-D103S	1 no									

193	33450-B4-193	Black Toner Cartridge (High Yield) for Samsung - SL-M2071 / 2071W / 2071FW / SL-M2021 / 2021W / 2020W/ 2022W / 2070 / 2070W / 2078W - Samsung MLT-D111L H- Yield	1 no									
194	33450-B4-194	Black Toner Cartridge for Samsung - ML- 3312ND, SCX-4835FR, SCX-5639FR/SCX- 5739FW,ML-3310ND,ML- 3710ND , Black Toner Std	1 no									
195	33450-B4-195	Black Toner Cartridge for Samsung - SL-M3320ND/SL-M2820ND/SL-M4020ND/SL-M3370FD/SL-M3870FD - Samsung MLT- D203S	1 no									
196	33450-B4-196	Black Toner Cartridge (High Yield) for Samsung - ML 2830W, ML 2830DW - Samsung MLT-D115L H- Yield	1 no									
197	33450-B4-197	Black Toner Cartridge for (High Yield) Samsung - SL-M2626/SL-2826ND/SL-2876ND/SL-2876FD	1 no									

198	33450-B4-198	Black Toner Cartridge for Samsung - ML 2851ND	1 no									
199	33450-B4-199	Black Toner Cartridge for Samsung - ML 1610/ML-2010/ML-2571N - Samsung MLT- D119S	1 no									
200	33450-B4-200	Black Toner Cartridge for Samsung - 1911/ML 2581N/SCX-4601/SCX4623FH/FN/SF65 1P - Samsung MLT-D1053S	1 no									
201	33450-B4-201	Black Toner Cartridge for Samsung - ML 1640/ML 2240 SERIES - Samsung MLT- D108S	1 no									
202	33450-B4-202	Black Toner Cartridge for Samsung - SCX 4725/SCX-4021S/XIP,SCX-4321NS/XIP,SCX-4521FS/XIP,SCX 4521NS/XIP - Samsung SCX-D4725A	1 no									

203	33450-B4-203	Black Toner Cartridge (High Yield) Samsung - ML 2951ND/XIP,SCX 4728FD,SCX 4728D / SCX 4701ND - Samsung MLT-D103L H- Yield	1 no										
204	33450-B4-204	Black Toner Cartridge (High Yield) for Samsung - SL-K2200/K2200ND - Samsung MLT-D707L H-Yield	1 no										
205	33450-B4-205	Black Toner Cartridge for Samsung - S-IN- SCX 8128NA /XIP - Samsung MLT-D709S	1 no										
206	33450-B4-206	Black Toner Cartridge for Samsung - SL-K3250NR/XIP - Samsung MLT-D704S	1 no										
207	33450-B4-207	Black Toner Cartridge for Samsung - SL-K4350LX/XIP - Samsung MLT-D708S	1 no										
208	33450-B4-208	Black Toner Cartridge(High Yield) for Samsung - SL-K4350LX/XIP - Samsung MLT-D708L H-Yield	1 no										
209	33450-B4-209	Black Toner Cartridge for Samsung - CLP 680 / CLX 6260 - Samsung CLT-K506S	1 no										

210	33450-B4-210	Cyan Toner Cartridge for Samsung - CLP 680 / CLX 6260 - Samsung CLT-C506S	1 no									
211	33450-B4-211	Magenta Toner Cartridge for Samsung - CLP 680 / CLX 6260 - Samsung CLT-M506S	1 no									
212	33450-B4-212	Yellow Toner Cartridge for Samsung - CLP 680 / CLX 6260 - Samsung CLT-Y506S	1 no									
213	33450-B4-213	Black Toner Cartridge for Samsung - CLP 770 ND/CLP 775ND - Samsung CLT-K609S	1 no									
214	33450-B4-214	Yellow Toner Cartridge for Samsung - CLP 770 ND/CLP 775ND - Samsung CLT-Y609S	1 no									
215	33450-B4-215	Cyan Toner Cartridge for Samsung - CLP 770 ND/CLP 775ND - Samsung CLT-C609S	1 no									
216	33450-B4-216	Magenta Toner Cartridge for Samsung - CLP 770 ND/CLP 775ND - Samsung CLT-M609S	1 no									

217	33450-B4-217	Black Toner Cartridge for Samsung - CLP-360/365/368 CLX-3300/3305 SERIES - Samsung CLT-K406S	1 no										
218	33450-B4-218	Yellow Toner Cartridge for Samsung - CLP-360/365/368 CLX-3300/3305 SERIES - Samsung CLT-Y406S	1 no										
219	33450-B4-219	Magenta Toner Cartridge for Samsung - CLP-360/365/368 CLX-3300/3305 SERIES - Samsung CLT-M406S	1 no										
220	33450-B4-220	Cyan Toner Cartridge for Samsung - CLP-360/365/368 CLX-3300/3305 SERIES - Samsung CLT-C406S	1 no										
221	33450-B4-221	Black Toner Cartridge for Samsung - CLP - 310 /315 CLX - 3173 - Samsung CLT-K409S	1 no										
222	33450-B4-222	Cyan Toner Cartridge for Samsung - CLP - 310 /315 CLX - 3173 - Samsung CLT-C409S	1 no										
223	33450-B4-223	Magenta Toner Cartridge for Samsung - CLP - 310 /315 CLX - 3173 - Samsung CLT-M409S	1 no										

224	33450-B4-224	Yellow Toner Cartridge for Samsung - CLP - 310 /315 CLX - 3173 - Samsung CLT-Y409S	1 no									
225	33450-B4-225	Black Toner Cartridge for Samsung - SCX-8128NA/XIP - Samsung CLT-K809S	1 no									
226	33450-B4-226	Yellow Toner Cartridge for Samsung - SCX-8128NA/XIP - Samsung CLT-Y809S	1 no									
227	33450-B4-227	Cyan Toner Cartridge for Samsung - SCX-8128NA/XIP - Samsung CLT-C809S	1 no									
228	33450-B4-228	Magenta Toner Cartridge for Samsung - SCX-8128NA/XIP - Samsung CLT-M809S	1 no									
229	33450-B4-229	Black Toner Cartridge for Samsung - SL-X3220NR/SL-X3280NR - Samsung CLT- K804S	1 no									
230	33450-B4-230	Cyan Toner Cartridge for Samsung - SL-X3220NR/SL-X3280NR - Samsung CLT- C804S	1 no									

231	33450-B4-231	Yellow Toner Cartridge for Samsung - SL-X3220NR/SL-X3280NR - Samsung CLT- Y804S	1 no										
232	33450-B4-232	Magenta Toner Cartridge for Samsung - SL-X3220NR/SL-X3280NR - Samsung CLT- M804S	1 no										
233	33450-B4-233	Imaging Unit for Samsung - SL-M2626/SL- 2826ND/SL-2876ND/SL-2876FD	1 no										
234	33450-B4-234	Imaging Unit for Samsung - CLP- 360/365/368 CLX-3300/3305 SERIES - Samsung CLT-R406	1 no										
235	33450-B4-235	Imaging Unit for Samsung - CLP - 310 /315 CLX - 3173 - Samsung CLT-R409	1 no										
236	33450-B4-236	Imaging Unit for Samsung - SL- K2200/K2200ND - Samsung MLT-R707	1 no										
237	33450-B4-237	Imaging Unit for Samsung - S-IN-SCX 8128NA /XIP , Imaging Unit - Samsung MLT -R660	1 no										
238	33450-B4-238	Imaging Unit for Samsung - SL- K3250NR/XIP - Samsung MLT-R704	1 no										



239	33450-B4-239	Imaging Unit for Samsung - SCX- 8128NA/XIP - Samsung CLT-R809	1 no									
240	33450-B4-240	Imaging Unit for Samsung - SL- X3220NR/XIP - Samsung CLT-R804	1 no									
241	33450-B4-241	Imaging Unit for Samsung - SL- K4350LX/XIP - Samsung MLT-R708	1 no									
242	33450-B4-242	Cyan Imaging Unit for Samsung - CLX- 9250ND/9350ND - Samsung CLT-R607C	1 no									
243	33450-B4-243	Black Imaging Unit for Samsung - CLX- 9250ND/9350ND - Samsung CLT-R607K	1 no									
244	33450-B4-244	Magenta Imaging Unit for Samsung - CLX- 9250ND/9350ND - Samsung CLT-R607M	1 no									
245	33450-B4-245	Yellow Imaging Unit for Samsung - CLX- 9250ND/9350ND - Samsung CLT-R607Y	1 no									
246	33450-B4-246	WASTE TONER BOX for Samsung - SCX- 8128NA/XIP, SCX-8123NA	1 no									

		- Samsung MLT -W653										
247	33450-B4-247	Paper Transfer Belt for Samsung - CLP 620/CLP 670/CLX 6220 - Samsung CLT- T508	1 no									
248	33450-B4-248	Toner Collection Unit for Samsung - SL-X3220NR/XIP - Samsung CLT-W808	1 no									
249	33450-B4-249	Paper Transfer Belt for Samsung - CLP 610 ND / 660 / CLX 6210 / CLX 6240 - Samsung CLP-T660B	1 no									
250	33450-B4-250	Toner Collection Unit for Samsung - CLP-680ND/XIP - Samsung CLT-W506	1 no									

251	33450-B4-251	Ribbon Cartridge for Lipi Line Matrix Printer Model 6306/6215/6218 Yield - 4 Million Characters	1 no									
252	33450-B4-252	Ribbon Cartridge for LIPI Line matrix Printer Model - 6605/6610/6620/6805/6810/681/6820 Yield - 9000 Pages	1 no									
253	33450-B4-253	Ribbon Cartridge for LIPI Line matrix Printer Model - 6605/6610/6620/6805/6810/681/6820 Yield - 17000 Pages	1 no									
254	33450-B4-254	Ribbon Cartridge for LIPI Line matrix Printer Model RIBBON STANDARD OPEN PRINT HD 1 PACK 03H/06H/08H/HD -P-8000 HD Printer Yield - 18000 Pages	1 no									
255	33450-B4-255	Ribbon Cartridge for Lipi High Speed Dot matrix printer Model-T2155/T2170/T2265+/2280+ Yield - 20 Million Characters	1 no									

256	33450-B4-256	Ribbon Cartridge for Lipi High Speed Dot matrix Printer Model T2610 – 5 Million Characters	1 no									
257	33450-B4-257	Ribbon Cartridge for Lipi High Speed Dot matrix printer Model-T2155/T2170/T2265+/2280+-15 Million Characters	1 no									
258	33450-B4-258	Ribbon Cartridge for Lipi Pass Book Printer Model PB2	1 no									
259	33450-B4-259	Toner for Brother Printer - HL-L2321D, HL-L2361DN, HL-2366DW, DCP-L2520D, DCP-L2541DW, MFC-L2701D, MFC-2701DW, Model TN-2365, Yeild -2500 Pages	1 no									
260	33450-B4-260	Drum for Brother Printer - HL-L2321D, HL-L2361DN, HL-2366DW, DCP-L2520D, DCP-L2541DW, MFC-L2701D, MFC-2701DW, Model DR-2365, Yeild - 12000 Pages	1 no									

261	33450-B4-261	Toner for Brother Printer - HL-L2351DW, DCP- L2531DW, Model TN-2465, Yeild -3000 Pages	1 no									
262	33450-B4-262	Toner for Brother Printer - HL-L2351DW, DCP- L2531DW, Model TN-2469, Yeild -4000 PGS	1 no									
263	33450-B4-263	Drum for Brother Printer - HL-L2351DW, DCP- L2531DW, Model DR-2465, Yeild -12000 Pages	1 no									
264	33450-B4-264	Toner for Brother Printer - HL-B2000D, HL-B2080DW, DCP-B7500D, DCP- B7535DW, MFC-B7715DW, Model TN-B021, Yeild -2600 Pages	1 no									
265	33450-B4-265	Drum for Brother Printer - HL-B2000D, HL-B2080DW, DCP-B7500D, DCP- B7535DW, MFC-B7715DW, Model DR-B021, Yeild - 12000 Pages	1 no									

266	33450-B4-266	Toner for Brother Printer - HL-L5000D, HL-L5100DN, HL-L6200DW, DCP-L5600DN, MFC-L5900DW, Model TN-3428, Yeild -3000 Pages	1 no										
267	33450-B4-267	Toner for Brother Printer - HL-L5000D, HL-L5100DN, HL-L6200DW, DCP-L5600DN, MFC-L5900DW, Model TN-3448, Yeild -8000 PGS	1 no										
268	33450-B4-268	Toner for Brother Printer - HL-L5000D, HL-L5100DN, HL-L6200DW, DCP-L5600DN, MFC-L5900DW, Model TN-3478, Yeild - 12000 PGS	1 no										
269	33450-B4-269	Drum for Brother Printer - HL-L5000D, HL-L5100DN, HL-L6200DW, DCP-L5600DN, MFC-L5900DW, Model DR-3455, Yeild - 30000 Pages	1 no										
270	33450-B4-270	Toner for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model TN-267BK, Yeild -3000 PGS	1 no										

271	33450-B4-271	Toner for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model TN-267C, Yeild -2300 PGS	1 no									
272	33450-B4-272	Toner for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model TN-267M, Yeild -2300 PGS	1 no									
273	33450-B4-273	Toner for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model TN-267Y, Yeild -2300 PGS	1 no									
274	33450-B4-274	Black Drum for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model DR-263CL, Yeild -30000 Pages	1 no									
275	33450-B4-275	Yellow Drum for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model DR-263CL, Composite Yeild - 18000 Pages Each	1 no									
276	33450-B4-276	Cyan Drum for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-	1 no									

		L3735CDW, Model DR-263CL, Yeild -18000 Pages Each										
277	33450-B4-277	Megenta for Brother Printer - HL-L3270CDW, DCP-L3551CDW, MFC-L3735CDW, Model DR-263CL, Yeild -18000 Pages Each	1 no									
278	33450-B4-278	Toner for Brother Printer - HL-3150CDN,MFC-9140CDW, Model TN-261BK, Yeild -2500 Pages	1 no									
279	33450-B4-279	Toner for Brother Printer - HL-3150CDN,MFC-9140CDW, Model TN-261C, Yeild -1400 PGS	1 no									
280	33450-B4-280	Toner for Brother Printer - HL-3150CDN,MFC-9140CDW, Model TN-261M, Yeild -1400 PGS	1 no									
281	33450-B4-281	Toner for Brother Printer - HL-3150CDN,MFC-9140CDW, Model TN-261Y, Yeild -1400 PGS	1 no									



282	33450-B4-282	Black Drum for Brother Printer - HL-3150CDN,MFC-9140CDW, Model DR-261CL, Composite Yeild -15000 Pages Each	1 no										
283	33450-B4-283	Cyan Drum for Brother Printer - HL-3150CDN,MFC-9140CDW, Model DR-261CL, Composite Yeild -15000 Pages Each	1 no										
284	33450-B4-284	Megenta Drum for Brother Printer - HL-3150CDN,MFC-9140CDW, Model DR-261CL, Composite Yeild -15000 Pages Each	1 no										
285	33450-B4-285	Yellow Drum for Brother Printer - HL-3150CDN,MFC-9140CDW, Model DR-261CL, Composite Yeild -15000 Pages Each	1 no										
286	33450-B4-286	Toner for Brother Printer - HL-5440D,HL-5450DN,MFC-8910DW, Model TN-3220, Yeild -3000 Pages	1 no										

287	33450-B4-287	Toner for Brother Printer - HL-5440D,HL-5450DN,MFC-8910DW, Model TN-3350, Yeild -8000 PGS	1 no										
288	33450-B4-288	Toner for Brother Printer - HL-5440D,HL-5450DN,MFC-8910DW, Model TN-3370, Yeild -12000 PGS	1 no										
289	33450-B4-289	Toner for Brother Printer - FAX-2840, Model TN-2260, Yeild -1200 Pages	1 no										
290	33450-B4-290	Toner for Brother Printer - FAX-2840, Model TN-2280, Yeild -2600 PGS	1 no										
291	33450-B4-291	Drum for Brother Printer - FAX-2840, Model DR-2255, Yeild -12000 Pages	1 no										
292	33450-B4-292	Toner for Brother Printer - HL-1111,1201,1211w,1511,1514,1601,1811,1911,1616 Model TN-1020, Yeild -1500 PGS	1 no										

293	33450-B4-293	Drum for Brother Printer - HL-1111,,1201,1211w,1511,1514,1601,1811,1911,1616 Model DR-1020, Yeild -10000 PGS	1 no										
294	33450-B4-294	Black Ink for Epson Printer Model - M100 / M105, Yeild-6000 Pages	1 no										
295	33450-B4-295	Black Ink for Epson Printer Model - M1100, M1120, M1140, M1170, M1180, M2110, M2120, M2140, M2170, M3140, M3170, M3180 - Yeild-6000 Pages	1 no										
296	33450-B4-296	Black Ink for Epson Printer Model - L130 - Yeild-4500 pages	1 no										
297	33450-B4-297	Cyan Ink for Epson Printer Model - L130 - Yeild-7500 pages	1 no										
298	33450-B4-298	Megenta Ink for Epson Printer Model - L130 - Yeild-7500 pages	1 no										

299	33450-B4-299	Yellow Ink for Epson Printer Model - L130 - Yeild-7500 pages	1 no									
300	33450-B4-300	Black Ink for Epson Printer Model - L1110, L3110, L3115, L3116, L3150, L3156, L5190 - Yeild-4500 pages	1 no									
301	33450-B4-301	Cyan Ink for Epson Printer Model - L1110, L3110, L3115, L3116, L3150, L3156, L5190 - Composite Yeild-7500 pages	1 no									
302	33450-B4-302	Megenta Ink for Epson Printer Model - L1110, L3110, L3115, L3116, L3150, L3156, L5190 - Composite Yeild-7500 pages	1 no									
303	33450-B4-303	Yellow Ink for Epson Printer Model - L1110, L3110, L3115, L3116, L3150, L3156, L5190 - Composite Yeild-7500 pages	1 no									
304	33450-B4-304	Black Ink for Epson Printer Model - L4150, L4160, L6160, L6170, L6190, L14150, Yeild-7500 pages	1 no									

305	33450-B4-305	Cyan Ink for Epson Printer Model - L4150, L4160, L6160, L6170, L6190, L14150,Composite Yeild-6000 pages	1 no											
306	33450-B4-306	Megenta Ink for Epson Printer Model - L4150, L4160, L6160, L6170, L6190, L14150,Composite Yeild-6000 pages	1 no											
307	33450-B4-307	Yellow Ink for Epson Printer Model - L4150, L4160, L6160, L6170, L6190, L14150,Composite Yeild-6000 pages	1 no											
308	33450-B4-308	Black Ink for Epson Printer Model - L6570, L6580, L15150, L15160,Yeild-7500 pages	1 no											
309	33450-B4-309	Cyan Ink for Epson Printer Model - L6570, L6580, L15150, L15160,Composite Yeild-6000 pages	1 no											
310	33450-B4-310	Megenta Ink for Epson Printer Model - L6570, L6580, L15150, L15160,Composite Yeild-6000 pages	1 no											

311	33450-B4-311	Yellow Ink for Epson Printer Model - L6570, L6580, L15150, L15160, Composite Yeild-6000 pages	1 no									
312	33450-B4-312	Black Ink for Epson Printer Model - L1300, Yeild-7100 pages (A4)	1 no									
313	33450-B4-313	Cyan Ink for Epson Printer Model - L1300, Composite Yeild-5500 pages (A4)	1 no									
314	33450-B4-314	Megenta Ink for Epson Printer Model- L1300, Composite Yeild-5500 pages (A4)	1 no									
315	33450-B4-315	Yellow Ink for Epson Printer Model-L1300, Composite Yeild-5500 pages (A4)	1 no									
316	33450-B4-316	Black Ink for Epson Printer Model-L1455, Yeild-7500 pages (A4)	1 no									
317	33450-B4-317	Cyan Ink for Epson Printer Model-L1455, Composite Yeild-6000 pages (A4)	1 no									
318	33450-B4-318	Megenta Ink for Epson Printer Model- L1455, Composite Yeild-6000 pages (A4)	1 no									

319	33450-B4-319	Yellow Ink for Epson Printer Model-L1455,Composite Yeild-6000 pages (A4)	1 no										
320	33450-B4-320	Black Ink for Epson Printer Model-WF-M5298, WF-M5799, Yeild-XL Pack: 40,000 Pages	1 no										
321	33450-B4-321	Maintanence Box Ink Epson Printer Model-WF-M5298, WF-M5799	1 no										
322	33450-B4-322	Black Ink for Epson Printer Model-WF-C5790, Yeild-XL Pack: 10,000 Pages	1 no										
323	33450-B4-323	Cyan Ink for Epson Printer Model-WF-C5790,Composite Yeild-XL Pack: 5000 Pages	1 no										
324	33450-B4-324	Megenta Ink for Epson Printer Model-WF-C5790,Composite Yeild-XL Pack: 5000 Pages	1 no										
325	33450-B4-325	Yellow Ink for Epson Printer Model-WF-C5790,Composite Yeild-XL Pack: 5000 Pages	1 no										
326	33450-B4-326	Maintanence Box for Epson Printer Model-WF-C5790	1 no										

327	33450-B4-327	Black Ink for Epson Printer Model-WF-C579R, Yeild-50,000 pages	1 no										
328	33450-B4-328	CYan Ink for Epson Printer Model-WF-C579R, Composite Yeild-20,000 pages	1 no										
329	33450-B4-329	Megenta Ink for Epson Printer Model-WF-C579R, Composite Yeild-20,000 pages	1 no										
330	33450-B4-330	Yellow Ink for Epson Printer Model-WF-C579R, Composite Yeild-20,000 pages	1 no										
331	33450-B4-331	Maintanence Box for Epson Printer Model-WF-C579R	1 no										
332	33450-B4-332	Black Ink for Epson Printer Model-WF-C869R, Yeild-86,000 pages (A4)	1 no										
333	33450-B4-333	Cyan Ink for Epson Printer Model-WF-C869R, Composite Yeild-84,000 pages	1 no										
334	33450-B4-334	Megenta Ink for Epson Printer Model-WF-C869R, Composite Yeild-84,000 pages	1 no										



335	33450-B4-335	Yellow Ink for Epson Printer Model-WF-C869R,Composite Yeild-84,000 pages	1 no									
336	33450-B4-336	Maintanence Ink for Epson Printer Model-WF-C869R	1 no									
337	33450-B4-337	Black Ink for Epson Printer Model-WF-C878R, WF-C879R,Yeild-86,000 pages (A4)	1 no									
338	33450-B4-338	Cyan Ink for Epson Printer Model-WF-C878R, WF-C879R,Composite Yeild-20,000 pages	1 no									
339	33450-B4-339	Megenta Ink for Epson Printer Model-WF-C878R, WF-C879R,Composite Yeild-20,000 pages	1 no									
340	33450-B4-340	Yellow Ink for Epson Printer Model-WF-C878R, WF-C879R,Composite Yeild-20,000 pages	1 no									
341	33450-B4-341	Maintanence Boxfor Epson Printer Model-WF-C878R, WF-C879R	1 no									
342	33450-B4-342	Black Ink for Epson Printer Model-WF-M20590,Yeild-	1 no									

		60,000 pages(A4) x 2 nos										
343	33450-B4-343	Cyan Ink for Epson Printer Model-WF-M20590,Composite Yeild-20,000 pages	1 no									
344	33450-B4-344	Megenta Ink for Epson Printer Model-WF-M20590,Composite Yeild-20,000 pages	1 no									
345	33450-B4-345	Yellow Ink for Epson Printer Model-WF-M20590,Composite Yeild-20,000 pages	1 no									
346	33450-B4-346	Maintanence Box for Epson Printer Model-WF-M20590	1 no									
347	33450-B4-347	Black Ink for Epson Printer Model-WF-C17590,Yeild-50,000 Pages(A4) x 2 nos	1 no									
348	33450-B4-348	Cyan Ink for Epson Printer Model-WF-C17590,Composite Yeild-50,000 Pages	1 no									
349	33450-B4-349	Megenta Ink for Epson Printer Model-WF-C17590,Composite Yeild-50,000 Pages	1 no									

350	33450-B4-350	Yellow Ink for Epson Printer Model-WF-C17590,Composite Yeild-50,000 Pages	1 no										
351	33450-B4-351	Maintanence Box for Epson Printer Model-WF-C17590	1 no										
352	33450-B4-352	Black Ink for Epson Printer Model-WF-C20590,Yeild-50,000 Pages(A4) x 2 nos	1 no										
353	33450-B4-353	Cyan Ink for Epson Printer Model-WF-C20590,Composite Yeild-50,000 Pages	1 no										
354	33450-B4-354	Megenta Ink for Epson Printer Model-WF-C20590,Composite Yeild-50,000 Pages	1 no										
355	33450-B4-355	Yellow Ink for Epson Printer Model-WF-C20590,Composite Yeild-50,000 Pages	1 no										
356	33450-B4-356	Maintanence Box for Epson Printer Model-WF-C20590	1 no										
357	33450-B4-357	Black Ink for Epson Printer Model-WF-C20600,Yeild-50,000 Pages(A4) x 2 nos	1 no										

358	33450-B4-358	Cyan Ink for Epson Printer Model-WF-C20600,Composite Yeild-50,000 Pages	1 no										
359	33450-B4-359	Megenta Ink for Epson Printer Model-WF-C20600,Composite Yeild-50,000 Pages	1 no										
360	33450-B4-360	Yellow Ink for Epson Printer Model-WF-C20600,Composite Yeild-50,000 Pages	1 no										
361	33450-B4-361	Maintanence Box for Epson Printer Model-WF-C20600	1 no										
362	33450-B4-362	Black Ink for Epson Printer Model-WF-C20750,Yeild-50,000 Pages(A4) x 2 nos	1 no										
363	33450-B4-363	Cyan Ink for Epson Printer Model-WF-C20750,Composite Yeild-50,000 Pages	1 no										
364	33450-B4-364	Yellow Ink for Epson Printer Model-WF-C20750,Composite Yeild-50,000 Pages	1 no										
365	33450-B4-365	Megenta Ink for Epson Printer Model-WF-C20750,Composite Yeild-50,000 Pages	1 no										

366	33450-B4-366	Maintanence Box for Epson Printer Model-WF-C20750	1 no									
367	33450-B4-367	Black Ink for Epson Printer Model-WF-C21000, Yeild-50,000 Pages(A4) x 2 nos	1 no									
368	33450-B4-368	Cyan Ink for Epson Printer Model-WF-C21000,Composite Yeild-50,000 Pages	1 no									
369	33450-B4-369	Megenta Ink for Epson Printer Model-WF-C21000,Composite Yeild-50,000 Pages	1 no									
370	33450-B4-370	Yellow Ink for Epson Printer Model-WF-C21000,Composite Yeild-50,000 Pages	1 no									
371	33450-B4-371	Epson - Black Fabric Ribbon Cartridge (17.7 Metres) Ribbon Life - 3 Million Characters for printer-LX 310	1 no									

372	33450-B4-372	Epson - Black Fabric Ribbon Cartridge (17.7 Metres) Ribbon Life - 3 Million Characters for printer-LQ 310	1 no									
373	33450-B4-373	Epson - Black Fabric Ribbon Cartridge (16.75 Metres) Ribbon Life - 9 Million Characters for printer-DLQ-3000/3000+/3500	1 no									
374	33450-B4-374	Epson - Black - Fabric Ribbon Cartridge (17.0 Meters) Ribbon Life - 7.50 Million Characters for printer-FX-890/FX-890II/N	1 no									
375	33450-B4-375	Epson - Fabric Ribbon Cartridge (32 Metres) Ribbon Life - 12 Million Characters (14 dpc) for printer-FX-2175/FX-2175II/N	1 no									
376	33450-B4-376	Epson - Fabric Ribbon Cartridge (32 Metres) Ribbon Life - 12 Million Characters (14 dpc) for printer-FX-2190/FX-2190II/N	1 no									

377	33450-B4-377	Epson - Fabric Ribbon Cartridge, (70 Metres) Ribbon Life - 15 Million Characters (48 dpc) for printer-DFX-9000	1 no									
378	33450-B4-378	Epson - 24 Pin 1.3 cm / 1/2" Fabric Ribbon Cartridge (12.40 Metres/40.68 Feet) Ribbon Life - 2 Million Characters (48 dpc) for printer-LQ-670/N	1 no									
379	33450-B4-379	Epson - 24 Pin Narrow Fabric Ribbon Cartridge (10 Metres) Ribbon Life - 2.5 Million Characters (48 dpc) for printer-LQ-1310	1 no									
380	33450-B4-380	Epson - Fabric Ribbon Cartridge (32 Metres) Ribbon Life - 8 Million Characters (48 dpc) for printer-LQ-2090/LQ-2090II/N	1 no									
381	33450-B4-381	Epson - Black - Ribbon Cartridge, (60 Metres) Ribbon Life - 8 Million Characters (48 dpc) for printer-LQ-2190	1 no									

382	33450-B4-382	Printronix P7 EC Ribbon Cartridges	1 no									
383	33450-B4-383	HP LaserJet Pro MFP M128fn,M128fw,M126nw, M226dw,M202dw,M1108,M1106 - HP CC388A Blk Contr LJ Toner Cartridge	1 no									
384	33450-B4-384	HP LaserJet ProMFP M138FNW,M136NW - HP 110A Blk Original Laser Toner Crtg	1 no									
385	33450-B4-385	HP LaserJet ProM403dn,M427fdw - HP 28A Black Original LaserJet Toner Cartridge	1 no									
386	33450-B4-386	HP LaserJet ProM429fdw,M405dn - HP 77A Black LaserJet Toner Cartridge	1 no									
387	33450-B4-387	HP LaserJet Pro M104a Printer - HP 18A Blk Contract LJ Toner Cartridge	1 no									
388	33450-B4-388	HP LaserJet Pro M104a Printer - HP 19A Original LaserJet Imaging Drum	1 no									



389	33450-B4-389	HP LaserJet Pro M203, M227 - HP 30A Black LaserJet Toner Cartridge	1 no									
390	33450-B4-390	HP LaserJet Pro M203, M228 - HP 32A LaserJet Imaging Drum	1 no									
391	33450-B4-391	HP LaserJet Pro M436dn,M436nda - HP 56A Black Original LaserJet Toner Cartridge	1 no									
392	33450-B4-392	HP LaserJet Pro M436dn,M436nda - HP 56X Black Original LaserJet Toner Cartridge	1 no									
393	33450-B4-393	HP LaserJet Pro M436dn,M436nda - HP 57A Original LaserJet Imaging Drum	1 no									
394	33450-B4-394	HP LaserJet Pro M440dn.M440nda - HP 57A Original LaserJet Imaging Drum	1 no									
395	33450-B4-395	HP LaserJet Pro M440dn.M440nda - HP 335A Black Original LaserJet Toner Cartridge	1 no									

396	33450-B4-396	HP LaserJet Pro M440dn.M440nda - HP 335X Black Original LaserJet Toner Cartridge	1 no										
397	33450-B4-397	HP Color LaserJet Pro MFP M479dw - HP 416A Black LaserJet Toner Cartridge	1 no										
398	33450-B4-398	HP Color LaserJet Pro MFP M479dw - HP 416A Cyan LaserJet Toner Cartridge	1 no										
399	33450-B4-399	HP Color LaserJet Pro MFP M479dw - HP 416A Yellow LaserJet Toner Cartridge	1 no										
400	33450-B4-400	HP Color LaserJet Pro MFP M479dw - HP 416A Magenta LaserJet Toner Cartridge	1 no										
401	33450-B4-401	HP Color LaserJet Pro M154nw,M180n - HP 204A Original Black LaserJet Toner Cartridge	1 no										

402	33450-B4-402	HP Color LaserJet Pro M154nw,M180n - HP 204A Original Cyan LaserJet Toner Cartridge	1 no										
403	33450-B4-403	HP Color LaserJet Pro M154nw,M180n - HP 204A Original Yellow LaserJet Toner Cartridge	1 no										
404	33450-B4-404	HP Color LaserJet Pro M154nw,M180n - HP 204A Original Magenta LaserJet Toner Cartridge	1 no										
405	33450-B4-405	HP Color LaserJet Pro M254dw - HP 202A Original Black LaserJet Toner Cartridge	1 no										
406	33450-B4-406	HP Color LaserJet Pro M254dw - HP 202A Original Cyan LaserJet Toner Cartridge	1 no										
407	33450-B4-407	HP Color LaserJet Pro M254dw - HP 202A Original Yellow LaserJet Toner Cartridge	1 no										
408	33450-B4-408	HP Color LaserJet Pro M254dw - HP 202A Original Magenta LaserJet Toner Cartridge	1 no										

409	33450-B4-409	HP Color LaserJet Pro MFP M377dw - HP 410A Black Original LaserJet Cartridge	1 no									
410	33450-B4-410	HP Color LaserJet Pro MFP M377dw - HP 410A Cyan Original LaserJet Cartridge	1 no									
411	33450-B4-411	HP Color LaserJet Pro MFP M377dw - HP 410A Yellow Original LaserJet Cartridge	1 no									
412	33450-B4-412	HP Color LaserJet Pro MFP M377dw - HP 410A Magenta Original LaserJet Cartridge	1 no									
413	33450-B4-413	HP Color LaserJet Pro M452dw,M477fdw - HP 410A Black Original LaserJet Cartridge	1 no									
414	33450-B4-414	HP Color LaserJet Pro M452dw ,M477fdw - HP 410A Cyan Original LaserJet Cartridge	1 no									
415	33450-B4-415	HP Color LaserJet Pro M452dw,M477fdw - HP 410A Yellow Original LaserJet Cartridge	1 no									

416	33450-B4-416	HP Color LaserJet Pro M452dw,M477fdw - HP 410A Magenta Original LaserJet Cartridge	1 no										
417	33450-B4-417	HP LaserJet Pro MFP M72625dn,M72630dn - HP W1002YC Black Contract LaserJet Toner	1 no										
418	33450-B4-418	HP LaserJet Pro E72535dn - HP W9005MC Black Managed LaserJet Tone	1 no										
419	33450-B4-419	HP LaserJet Pro E72535dn,72625dn,72630dn - HP W9006MC Black Managed LaserJet Imaging Drum	1 no										
420	33450-B4-420	HP Color LaserJet Pro CP5225dn - HP 307A Black Original LaserJet Cartridge	1 no										
421	33450-B4-421	HP Color LaserJet Pro CP5225dn - HP 307A Cyan Original LaserJet Cartridge	1 no										
422	33450-B4-422	HP Color LaserJet Pro CP5225dn - HP 307A Yellow Original LaserJet Cartridge	1 no										
423	33450-B4-423	HP Color LaserJet Pro CP5225dn - HP 307A Magenta Original LaserJet Cartridge	1 no										

424	33450-B4-424	HP LaserJet Pro M700,M712 - HP 14A Black LaserJet Toner Cartridge	1 no										
425	33450-B4-425	HP LaserJet M1566,,1606 - HP 78A Black LaserJet Toner Cartridge	1 no										
426	33450-B4-426	HP LaserJet M1020,M1005,M3015, - HP 12A Black LaserJet Toner Cartridge	1 no										
427	33450-B4-427	HP LaserJet M607,M608 - HP 37A Black LaserJet Toner Cartridge	1 no										
428	33450-B4-428	HP Laser jet MFP 82560dn - HP W9037MC Black Managed LaserJet Toner	1 no										
429	33450-B4-429	HP Laser jet MFP 82560dn - HP Black Managed LaserJet Imaging Drum	1 no										
430	33450-B4-430	HP Laser jet MFP E77830dn - HP W9040MC Black Managed LaserJet Toner	1 no										
431	33450-B4-431	HP Laser jet MFP E77830dn - HP W9041MC Cyan Managed LaserJet Toner	1 no										

432	33450-B4-432	HP Laser jet MFP E77830dn - HP W9042MC Yellow Managed LaserJet Toner	1 no									
433	33450-B4-433	HP Laser jet MFP E77830dn - HP W9043MC Magenta Managed LaserJet Toner	1 no									
434	33450-B4-434	HP Laser jet MFP E87640dn,E87660 - HP W9050MC Black Managed LaserJet Toner	1 no									
435	33450-B4-435	HP Laser jet MFP E87640dn,E87660 - HP W9051MC Cyan Managed LaserJet Toner	1 no									
436	33450-B4-436	HP Laser jet MFP E87640dn,E87660 - HP W9052MC Yellow Managed LaserJet Toner	1 no									
437	33450-B4-437	HP Laser jet MFP E87640dn,E87660 - HP W9053MC Magenta Managed LaserJet Toner	1 no									
438	33450-B4-438	HP Laser jet M551 - HP 507A Black Managed LaserJet Toner	1 no									
439	33450-B4-439	HP Model M42625DN HP W1336X Black LaserJet Toner Cartridge	1 no									

440	33450-B4-440	HP Model E82540DU HP W9037MC Black Managed LaserJet Toner	1 no										
441	33450-B4-441	HP Model E78223DN HP W9220MC Black Managed Original LaserJet Toner Cartridge	1 no										
442	33450-B4-442	HP Model HP W9221MC Cyan Managed Original LaserJet Toner Cartridge	1 no										
443	33450-B4-443	HP Model HP W9222MC Yellow Managed Original LaserJet Toner Cartridge	1 no										
444	33450-B4-444	HP Model HP W9223MC Magenta Managed Original LaserJet Toner Cartridge	1 no										
445	33450-B4-445	konica Printer Model bizhub 165e/185e/bizhub 306/266/bizhub 206/bizhub 226 - DR114 Drum Unit (Yield:55K)	1 no										
446	33450-B4-446	konica Printer Model bizhub 165e/185e/bizhub 306/bizhub 266/bizhub 206/bizhub 226 - DV116	1 no										



		Developer (200g/bag, 6bags/case)									
447	33450-B4-447	konica Printer Model bizhub 165e/185e - TN116 Toner (2btl/case)	1 no								
448	33450-B4-448	konica Printer Model bizhub 206/bizhub 226 - TN118 Toner (Pack of 2 toners)	1 no								
449	33450-B4-449	konica Printer Model bizhub 306/266 - TN222 Toner (Yield:12k, 2btl/case)	1 no								
450	33450-B4-450	konica Printer Model bizhub 758 - DR912 Drum (Yield : 400K)	1 no								
451	33450-B4-451	konica Printer Model bizhub 758 - TN812 Toner (Yield : 40.8K)	1 no								
452	33450-B4-452	konica Printer Model bizhub 758 - DV912 Developer (Yield : 1,200K)	1 no								
453	33450-B4-453	konica Printer Model bizhub C258/C308/C368 - TN324K Toner K Yield: 28,000	1 no								
454	33450-B4-454	konica Printer Model bizhub C258/C308/C368 - TN324Y Toner Y Yield: 26,000	1 no								

455	33450-B4-455	konica Printer Model bizhub C258/C308/C368 - TN324M Toner M Yield: 26,000	1 no										
456	33450-B4-456	konica Printer Model bizhub C258/C308/C368 - TN324C Toner C Yield: 26,000	1 no										
457	33450-B4-457	konica Printer Model bizhub C258/C308/C368 - DV313K Developing Unit K Yield: 600,000	1 no										
458	33450-B4-458	konica Printer Model bizhub C258/C308/C368 - DV313Y Developing Unit Y Yield: 600,000	1 no										
459	33450-B4-459	konica Printer Model bizhub C258/C308/C368 - DV313M Developing Unit M Yield: 600,000	1 no										
460	33450-B4-460	konica Printer Model bizhub C258/C308/C368 - DV313C Developing Unit C Yield: 600,000	1 no										

461	33450-B4-461	konica Printer Model bizhub C258/C308/C368/bizhub C458/C558 - DR313 Drum Unit DR313 (Yield:C368:90k,C308:75k,C258:55k)	1 no										
462	33450-B4-462	konica Printer Model bizhub C258/C308/C368/bizhub C458/C558 - DR313K Drum Unit DR313K (Yield:C368/C308:120k,C258:90k)	1 no										
463	33450-B4-463	konica Printer Model bizhub C458/C558 - TN514K Toner K Yield: 28,000	1 no										
464	33450-B4-464	konica Printer Model bizhub C458/C558 - TN514Y Toner Y Yield: 26,000	1 no										
465	33450-B4-465	konica Printer Model bizhub C458/C558 - TN514M Toner M Yield: 26,000	1 no										
466	33450-B4-466	konica Printer Model bizhub C458/C558 - TN514C Toner C Yield: 26,000	1 no										
467	33450-B4-467	konica Printer Model bizhub C458/C558/bizhub	1 no										

		658e/558e/458e - DV619K Developing Unit K Yield:590,000									
468	33450-B4-468	konica Printer Model bizhub C458/C558 - DV619Y Developing Unit Y Yield:590,000	1 no								
469	33450-B4-469	konica Printer Model bizhub C458/C558 - DV619M Developing Unit M Yield:590,000	1 no								
470	33450-B4-470	konica Printer Model bizhub C458/C558 - DV619C Developing Unit C Yield:590,000	1 no								
471	33450-B4-471	konica Printer Model bizhub C227 - TN221K Toner (Yield 24k)	1 no								
472	33450-B4-472	konica Printer Model bizhub C227 - TN221C Toner (Yield 21k)	1 no								
473	33450-B4-473	konica Printer Model bizhub C227 - TN221M Toner (Yield 21k)	1 no								
474	33450-B4-474	konica Printer Model bizhub C227 - TN221Y Toner (Yield 21k)	1 no								

475	33450-B4-475	konica Printer Model bizhub C227 - DR214K Drum Unit (Yield:C227:80k,C287:105k)	1 no										
476	33450-B4-476	konica Printer Model bizhub C227 - IU214C Imaging Unit (Yield:C227:70k,C287:90k)	1 no										
477	33450-B4-477	konica Printer Model bizhub C227 - IU214M Imaging Unit (Yield:C227:70k,C287:90k)	1 no										
478	33450-B4-478	konica Printer Model bizhub C227 - IU214Y Imaging Unit (Yield:C227:70k,C287:90k)	1 no										
479	33450-B4-479	konica Printer Model bizhub C226 - DR215K Yield= 80K	1 no										
480	33450-B4-480	konica Printer Model bizhub C226/bizhub C227 - Developer DV214K Yield= 600K	1 no										
481	33450-B4-481	konica Printer Model bizhub C226 - IU215C Yield= 70K	1 no										
482	33450-B4-482	konica Printer Model bizhub C226 - IU215M Yield=70K	1 no										
483	33450-B4-483	konica Printer Model bizhub C226 - IU215Y Yield= 70K	1 no										

484	33450-B4-484	konica Printer Model bizhub C226 - TN223K Yield= 23K	1 no									
485	33450-B4-485	konica Printer Model bizhub C226 - TN223C Yield= 20K	1 no									
486	33450-B4-486	konica Printer Model bizhub C226 - TN223 MYield= 20K	1 no									
487	33450-B4-487	konica Printer Model bizhub C226 - TN223Y Yield= 20K	1 no									
488	33450-B4-488	konica Printer Model bizhub C226 - TN223K Yield= 10K	1 no									
489	33450-B4-489	konica Printer Model bizhub C226 - TN223 C Yield= 5K	1 no									
490	33450-B4-490	konica Printer Model bizhub C226 - TN223M Yield= 5K	1 no									
491	33450-B4-491	konica Printer Model bizhub C226 - TN223Y Yield= 5K	1 no									
492	33450-B4-492	konica Printer Model bizhub 658e/558e/458e - Toner TN516	1 no									
493	33450-B4-493	konica Printer Model bizhub 658e/558e/458e - Drum DR314	1 no									
494	33450-B4-494	konica Printer Model bizhub C659 - DR712K - Drum unit Yield : 300000	1 no									

495	33450-B4-495	konica Printer Model bizhub C659 - TN713C - Yield : 33200	1 no										
496	33450-B4-496	konica Printer Model bizhub C659 - TN713K - Yield : 48900	1 no										
497	33450-B4-497	konica Printer Model bizhub C659 - TN713M - Yield : 33200	1 no										
498	33450-B4-498	konica Printer Model bizhub C659 - TN713Y - Yield : 33200	1 no										
499	33450-B4-499	konica Printer Model bizhub C659 - DV712K - Yield : 1200000	1 no										
500	33450-B4-500	konica Printer Model bizhub C659 - IU712C - Yield : (C659)168000/(C759)177000	1 no										
501	33450-B4-501	konica Printer Model bizhub C659 - IU712M - Yield : (C659)168000/(C759)177000	1 no										
502	33450-B4-502	konica Printer Model bizhub C659 - IU712Y - Yield : (C659)168000/(C759)177000	1 no										

503	33450-B4-503	konica Printer Model bizhub C224e/C284e/C364e - TN321C Toner (Yield:25K)	1 no										
504	33450-B4-504	konica Printer Model bizhub C224e/C284e/C364e - TN321M Toner (Yield:25K)	1 no										
505	33450-B4-505	konica Printer Model bizhub C224e/C284e/C364e - TN321Y Toner (Yield:25K)	1 no										
506	33450-B4-506	konica Printer Model bizhub C224e/C284e/C364e - TN321K Toner (Yield:27K)	1 no										
507	33450-B4-507	konica Printer Model bizhub C224e/C284e/C364e/C454e/C554e - DV512 K Developing Unit (Yield:600K)	1 no										



508	33450-B4-508	konica Printer Model bizhub C224e/C284e/C364e/C454e/C554e - DV512C Developing Unit (Yield:600K)	1 no										
509	33450-B4-509	konica Printer Model bizhub C224e/C284e/C364e/C454e/C554e - DV512M Developing Unit (Yield:600K)	1 no										
510	33450-B4-510	konica Printer Model bizhub C224e/C284e/C364e/C454e/C554e - DV512Y Developing Unit (Yield:600K)	1 no										
511	33450-B4-511	konica Printer Model bizhub C224e/C284e/C364e/C454e/C554e - DR512K Drum Unit (Yield:135K/C554, 130K/C454, 120K/C364,C284, 70K/C224)	1 no										
512	33450-B4-512	konica Printer Model bizhub C224e/C284e/C364e/C454e/C554e - DR512 CMY Drum Unit (Yield:95K/C554,C454, 90K/C364, 75K/C284, 55K/C224)	1 no										

513	33450-B4-513	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - TN711C Toner (Yield:31.5K)	1 no										
514	33450-B4-514	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - TN711K Toner (Yield:47.2K)	1 no										
515	33450-B4-515	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - TN711Y Toner (Yield:31.5K)	1 no										
516	33450-B4-516	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - TN711M Toner (Yield:31.5K)	1 no										
517	33450-B4-517	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - IU711Y Imaging Unit (Yield:155K)	1 no										
518	33450-B4-518	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - IU711M Imaging Unit (Yield:155K)	1 no										
519	33450-B4-519	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - IU711C Imaging Unit (Yield:155K)	1 no										

520	33450-B4-520	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - DV711K Developing Unit (Yield:1200K)	1 no										
521	33450-B4-521	konica Printer Model bizhub C654/bizhub C754e/bizhub C654e - DR711K Drum Unit (Yield:300K)	1 no										
522	33450-B4-522	konica Printer Model bizhub C220/C280 - TN216C Toner (Yield: 26K)	1 no										
523	33450-B4-523	konica Printer Model bizhub C220/C280 - TN216M Toner (Yield: 26K)	1 no										
524	33450-B4-524	konica Printer Model bizhub C220/C280 - TN216Y Toner (Yield: 26K)	1 no										
525	33450-B4-525	konica Printer Model bizhub C220/C280 - TN216K Toner (Yield:29K)	1 no										
526	33450-B4-526	konica Printer Model bizhub C220/C280/C360 - DV311K Developing Unit (Yield: 600K)	1 no										

527	33450-B4-527	konica Printer Model bizhub C220/C280/C360 - DV311Y Developing Unit (Yield: 1200K)	1 no									
528	33450-B4-528	konica Printer Model bizhub C220/C280/C360 - DV311M Developing Unit (Yield: 1200K)	1 no									
529	33450-B4-529	konica Printer Model bizhub C220/C280/C360 - DV311C Developing Unit (Yield: 1200K)	1 no									
530	33450-B4-530	konica Printer Model bizhub C220/C280/C360 - DR311 Drum Unit CMY (Yield: C220 : 55K / C280 : 75K / C360 : 90k)	1 no									
531	33450-B4-531	konica Printer Model bizhub C220/C280/C360 - DR311K Drum Unit (Yield:C220 : 70K / C280 : 100K / C360 : 120k)	1 no									
532	33450-B4-532	konica Printer Model bizhub C452 - TN413K Toner (Yield:45K)	1 no									
533	33450-B4-533	konica Printer Model bizhub C652/C552/C452 - TN613Y Toner (Yield:30K)	1 no									

534	33450-B4-534	konica Printer Model bizhub C652/C552/C452 - TN613M Toner (Yield:30K)	1 no										
535	33450-B4-535	konica Printer Model bizhub C652/C552/C452 - TN613C Toner (Yield:30K)	1 no										
536	33450-B4-536	konica Printer Model bizhub C652/C552/C452 - DR612K Drum Unit (Yield:28.5K)	1 no										
537	33450-B4-537	konica Printer Model bizhub C652/C552/C452 - DV612K Developing Unit (Yield:1140K)	1 no										
538	33450-B4-538	konica Printer Model bizhub C652/C552/C452 - IU612C Imaging Unit (Yield:120K)	1 no										
539	33450-B4-539	konica Printer Model bizhub C652/C552/C452 - IU612M Imaging Unit (Yield:120K)	1 no										
540	33450-B4-540	konica Printer Model bizhub C652/C552/C452 - IU612Y Imaging Unit (Yield:120K)	1 no										
541	33450-B4-541	konica Printer Model bizhub 205i - TN-118 -Toner(1 case = 2 bottles, 12K/bottle)	1 no										

542	33450-B4-542	konica Printer Model bizhub 205i - DR-114 -Drum 55K/PC	1 no										
543	33450-B4-543	konica Printer Model bizhub 205i - DV-116 -Developer(1 case=6 bags, 55K/bag)	1 no										
544	33450-B4-544	konica Printer Model bizhub 266i - TN225-Toner (Yield: 12K 1btl/case)	1 no										
545	33450-B4-545	konica Printer Model bizhub 266i - DR317 -Drum Unit (Yield: 266i:60k)	1 no										
546	33450-B4-546	konica Printer Model bizhub 266i - DV-116 -Developer (1 case=6 bags, 55K/bag)	1 no										
547	33450-B4-547	konica Printer Model bizhub 306i - TN225-Toner (Yield: 12K 1btl/case)	1 no										
548	33450-B4-548	konica Printer Model bizhub 306i - DR317-Drum Unit (Yield: 306i:60k)	1 no										
549	33450-B4-549	konica Printer Model bizhub 266i - DV-116 -Developer (1 case=6 bags, 55K/bag)	1 no										
550	33450-B4-550	konica Printer Model bizhub 450i - TN628(450i=24K)	1 no										

551	33450-B4-551	konica Printer Model bizhub 450i - DV621K Developer K(450i=1,000K)	1 no										
552	33450-B4-552	konica Printer Model bizhub 450i - DR618K Drum Unit K(450i=260K)	1 no										
553	33450-B4-553	konica Printer Model bizhub 650i - TN628(650i=24K)	1 no										
554	33450-B4-554	konica Printer Model bizhub 650i - DV621K Developer K(650i=1,000K)	1 no										
555	33450-B4-555	konica Printer Model bizhub 650i - DR618K Drum Unit K(650i=260K)	1 no										
556	33450-B4-556	konica Printer Model bizhub C226i - Low Yield (C226i=10K)-TN228K	1 no										
557	33450-B4-557	konica Printer Model bizhub C226i - Low Yield (C226i)=5K)-TN228C	1 no										
558	33450-B4-558	konica Printer Model bizhub C226i - Low Yield (C226i)=5K) -TN228Y	1 no										
559	33450-B4-559	konica Printer Model bizhub C226i - Low Yield (C226i)=5K)-TN228M	1 no										
560	33450-B4-560	konica Printer Model bizhub C226i - High Yield (C226i=24K) -TN228K	1 no										

561	33450-B4-561	konica Printer Model bizhub C226i - High Yield (C226i=24K) -TN228C	1 no									
562	33450-B4-562	konica Printer Model bizhub C226i - High Yield (C226i=24K) -TN228Y	1 no									
563	33450-B4-563	konica Printer Model bizhub C226i - High Yield (C226i=24K) -TN228M	1 no									
564	33450-B4-564	konica Printer Model bizhub C226i - DV-216K Developing Unit (K) (C226i=600K)	1 no									
565	33450-B4-565	konica Printer Model bizhub C226i - DR218K-Drum Unit(K) (C226i=80K)	1 no									
566	33450-B4-566	konica Printer Model bizhub C226i - IU217C-Imaging Unit(C) (C226i=70K)	1 no									
567	33450-B4-567	konica Printer Model bizhub C226i - IU217Y-Imaging Unit(Y) (C226i=70K)	1 no									
568	33450-B4-568	konica Printer Model bizhub C226i - IU217M-Imaging Unit(M) (C226i=70K)	1 no									
569	33450-B4-569	konica Printer Model bizhub C450I - TN626K-Toner K-Yield : 28000	1 no									



570	33450-B4-570	konica Printer Model bizhub C450I - TN626C-Toner C-Yield : 28000	1 no										
571	33450-B4-571	konica Printer Model bizhub C450I - TN626Y-Toner Y-Yield : 28000	1 no										
572	33450-B4-572	konica Printer Model bizhub C450I - TN626M-Toner M-Yield : 28000	1 no										
573	33450-B4-573	konica Printer Model bizhub C450I - DR618K- Drum Un K-Yield : 240000	1 no										
574	33450-B4-574	konica Printer Model bizhub C450I - DR618-Drum Unit C-Yield : 160000	1 no										
575	33450-B4-575	konica Printer Model bizhub C450I - DR618-Drum Unit Y-Yield : 160000	1 no										
576	33450-B4-576	konica Printer Model bizhub C450I - DR618-Drum Unit M-Yield : 160000	1 no										
577	33450-B4-577	Xerox BLACK TONER 1500Ph 3020 / WC 3025	1 no										
578	33450-B4-578	Xerox Dual Pack Print Cartridge 3000Ph 3020 / WC 3025	1 no										
579	33450-B4-579	Xerox Black Toner 3000B210/B205/B215	1 no										

580	33450-B4-580	Xerox BLACK TONER Dual Pack 6000B210/B205/B215	1 no										
581	33450-B4-581	Xerox Black Drum 10000B210/B205/B215	1 no										
582	33450-B4-582	Xerox CYAN STD TONER 1000PH 6510/WC 6515	1 no										
583	33450-B4-583	Xerox MAGENTA STD TONER 1000PH 6510/WC 6515	1 no										
584	33450-B4-584	Xerox YELLOW STD TONER 1000PH 6510/WC 6515	1 no										
585	33450-B4-585	Xerox Black Hi-Cap Toner 5500PH 6510/WC 6515	1 no										
586	33450-B4-586	Xerox Cyan Extra Hi-Cap Toner 4300PH 6510/WC 6515	1 no										
587	33450-B4-587	Xerox Magenta Extra Hi- Cap 4300PH 6510/WC 6515	1 no										
588	33450-B4-588	Xerox Yellow Extra Hi-Cap toner 4300PH 6510/WC 6515	1 no										
589	33450-B4-589	Xerox CYAN High CAP TONER 2400PH 6510/WC 6515	1 no										
590	33450-B4-590	Xerox MAGENTA HIGH CAP TONER 2400PH	1 no										

		6510/WC 6515									
591	33450-B4-591	Xerox YELLOW HIGH CAP TONER 2400PH 6510/WC 6515	1 no								
592	33450-B4-592	Xerox Cyan Drum 48000PH 6510/WC 6515	1 no								
593	33450-B4-593	Xerox Magenta Drum 48000PH 6510/WC 6515	1 no								
594	33450-B4-594	Xerox Yellow Drum 48000PH 6510/WC 6515	1 no								
595	33450-B4-595	Xerox Black Drum 48000PH 6510/WC 6515	1 no								
596	33450-B4-596	Xerox Black Toner 137001022/1025	1 no								
597	33450-B4-597	Xerox Imaging Unit CRU DRUM 800001022/1025	1 no								
598	33450-B4-598	Xerox Wireless Network Adapter (Wi-Fi Kit)1022/1025	1 no								
599	33450-B4-599	Xerox Black Toner 30000VersaLink B7025/30/35	1 no								
600	33450-B4-600	Xerox Black Drum 80000VersaLink B7025/30/35	1 no								
601	33450-B4-601	Xerox Wireless Network	1 no								

		AdapterVersaLink B7025/30/35										
602	33450-B4-602	Xerox Black Toner 9000SC2020	1 no									
603	33450-B4-603	Xerox Cyan Toner 3000SC2020	1 no									
604	33450-B4-604	Xerox Yellow Toner 3000SC2020	1 no									
605	33450-B4-605	Xerox Magenta Toner 3000SC2020	1 no									
606	33450-B4-606	Xerox Drum Cartridge CMYK 89600SC2020	1 no									
607	33450-B4-607	Xerox AltaLink C8145/C8155/C8170 CYAN Toner Cartridge Sold (21,000 Pages) -Corvo 81XX	1 no									
608	33450-B4-608	Xerox AltaLink C8145/C8155/C8170	1 no									

		MAGENTA Toner Cartridge Sold (21,000 Pages)Corvo 81XX										
609	33450-B4-609	Xerox AltaLink C8145/C8155/C8170 YELLOW Toner Cartridge Sold (21,000 Pages)Corvo 81XX	1 no									
610	33450-B4-610	Xerox AltaLink C8145/C8155/C8170 BLACK Toner Cartridge Sold (36,000 Pages)Corvo 81XX	1 no									
611	33450-B4-611	Xerox AL C8100 Drum Cartridge (180,000 Pages)Corvo 81XX	1 no									
612	33450-B4-612	Xerox Wifi KitCorvo 81XX	1 no									
613	33450-B4-613	DVD-R Media 4.7 GB, Jewel Box	1 no									
614	33450-B4-614	DVD- R/W Media, 4.7 GB, Jewel Box	1 no									
615	33450-B4-615	External DVD Writer (1year warranty)	1 no									
616	33450-B4-616	1 TB External Hard Disk Drive ( 1year warranty)	1 no									
617	33450-B4-617	2 TB External Hard Disk Drive ( 1year warranty)	1 no									

618	33450-B4-618	4 TB External Hard Disk Drive ( 1year warranty)	1 no									
619	33450-B4-619	500 GB SSD External Hard Drive (1year warranty)	1 no									
620	33450-B4-620	1 TB SSD External Hard Drive ( 1year warranty)	1 no									
621	33450-B4-621	16 GB Pen Drive (1year warranty) Class 10	1 no									
622	33450-B4-622	32 GB Pen Drive (1year warranty) Class 10	1 no									
623	33450-B4-623	64 GB Pen Drive (1year warranty) Class 10	1 no									
624	33450-B4-624	128 GB Pen drive (1year warranty) Class 10	1 no									
625	33450-B4-625	16 GB Pen Drive With Type C and USB2.0	1 no									
626	33450-B4-626	32 GB Pen drive With Type C and USB2.0	1 no									
627	33450-B4-627	64 GB Pendrive With Type C and USB2.0	1 no									
628	33450-B4-628	128 GB Pendrive With Type C and USB2.0	1 no									
629	33450-B4-629	USB Mouse with pad (1 year warranty)	1 no									

630	33450-B4-630	Membrane Keyboard ( 1 year warranty)	1 no									
631	33450-B4-631	Mechanical Keyboard ( 1 year warranty)	1 no									
632	33450-B4-632	Wireless Keyboard and Mouse Combo (1 year warranty)	1 no									
633	33450-B4-633	Wireless Keyboard ( 1 year warranty)	1 no									
634	33450-B4-634	Wireless mouse ( 1year warranty)	1 no									
635	33450-B4-635	Mic with Stand (Table top for conference room)	1 no									
636	33450-B4-636	Head Phone With Mike	1 no									
637	33450-B4-637	Wireless Head Phone	1 no									
638	33450-B4-638	Speaker 2.1	1 no									
639	33450-B4-639	Bluetooth Speaker 20W with USB ports	1 no									
640	33450-B4-640	USB Speaker 5W	1 no									
641	33450-B4-641	VGA Cable 1.5 Meter	1 no									
642	33450-B4-642	VGA Cable 5 Meter	1 no									
643	33450-B4-643	VGA Cable 10 Meter	1 no									
644	33450-B4-644	VGA Cable 15 Meter	1 no									
645	33450-B4-645	HDMI Cable 1.5 Meter	1 no									
646	33450-B4-646	HDMI Cable 5 Meter	1 no									
647	33450-B4-647	HDMI Cable 10 Meter	1 no									

648	33450-B4-648	HDMI Cable 15 Meter	1 no									
649	33450-B4-649	Power Cable 10 Meter	1 no									
650	33450-B4-650	Power Cable 15 Meter	1 no									
651	33450-B4-651	Monitor 19 inch (1 year warranty)	1 no									
652	33450-B4-652	Monitor 21 inch (1 year warranty)	1 no									
653	33450-B4-653	Monitor 24 inch (1 year warranty)	1 no									
654	33450-B4-654	Monitor 27 inch (1 year warranty)	1 no									
655	33450-B4-655	Wifi Modem 150Mbps or above	1 no									
656	33450-B4-656	Wifi Modem 300Mbps or above	1 no									
657	33450-B4-657	Wifi Modem 1200Mbps or above	1 no									
658	33450-B4-658	10,000 mah Power Bank for Android Tablets (1 year warranty)	1 no									
659	33450-B4-659	2 Port VGA Splitter	1 no									
660	33450-B4-660	2 Port HDMI Splitter	1 no									
661	33450-B4-661	4 Port USB Hub	1 no									
662	33450-B4-662	PCI Ethernet Card for Wifi	1 no									
663	33450-B4-663	Wifi External Adapter	1 no									
664	33450-B4-664	MY book 2 TB Extrenal	1 no									
665	33450-B4-665	MY book 4 TB Extrenal	1 no									



666	33450-B4-666	MY book 6 TB Extrenal	1 no								
667	33450-B4-667	MY book 8 TB Extrenal	1 no								
668	33450-B4-668	Branded Laptop Carry Case	1 no								
669	33450-B4-669	Branded Sling Bag for Tablets	1 no								
		<b>Total</b>									

**Note:**

- 1) **The Bidder shall submit the offer by filling up all the columns against each item. Bidders should quote for all items listed above. Partial quote is allowed for this Category. However, the bidder should ensure that the prices are quoted for the corresponding accessories relevant to the items quoted**
- 2) **Warranty: One year minimum warranty or Product Standard warranty whichever is higher**
- 3) **The Rate Contract will be valid for 1 year from the date of signing of the contract or agreement / date of release of the Purchase order, whichever is later.**

**A2.5 Price Bid – Category B5 – Apple Products**

S.N	Product Code	Description	Quantity/ Unit	Basic Unit Price In Rs.	GST in % for Col no.5	GST Value in Rs. For Col No.5	Total Unit Price with GST (Rs.) (5)+(7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	33450-B5-001	iPad 10.2” Wifi 64 GB Storage	1 no				
2	33450-B5-002	iPad Air 10.9” Wifi + Cellular 256GB Storage	1 no				
3	33450-B5-003	iPad Pro 11” Wifi + Cellular 512GB Storage	1 no				
4	33450-B5-004	iPad 10.2” Wifi + Cellular 256 GB Storage	1 no				
5	33450-B5-005	Mac Book Air 13” with 256 GB SSD	1 no				
6	33450-B5-006	Mac Book Air 13” with 512 GB SSD	1 no				
7	33450-B5-007	Mac Book Pro 13” with 256 GB SSD	1 no				
8	33450-B5-008	MacBook Pro 13” with 512 GB SSD	1 no				
9	33450-B5-009	iMac 24” (Desktop)	1 no				
10	33450-B5-010	iPad Pro 12.9” Wifi + Cellular 128 GB Storage	1 no				
11	33450-B5-011	Mac Book Pro 14” with 512 GB SSD	1 no				
12	33450-B5-012	MacBook Pro 16” with 512 GB SSD	1 no				
<b>Accessories</b>							
13	33450-B5-013	Apple Pencil (1st Gen) for iPad	1 no				

14	33450-B5-014	Apple Pencil (2st Gen) for Pad Air and iPad Pro	1 no				
15	33450-B5-015	Smart Keyboard for iPad (9th generation)	1 no				
16	33450-B5-016	Smart Keyboard Folio for iPad Pro 11-inch (3rd generation) and iPad Air (4th generation) - US English	1 no				
17	33450-B5-017	AirPods with Charging Case	1 no				
18	33450-B5-018	Honeywell Type-C Ultra Doc	1 no				
19	33450-B5-019	MS office Home and Student for Mac	1 no				
20	33450-B5-020	Brief - 13" bag	1 no				
21	33450-B5-021	Flip Cases for i-pads (10.2"/10.9"/11"/12.9")	1 no				
22	33450-B5-022	Rugged cases for i-pads (10.2"/10.9"/11"/12.9")	1 no				
23	33450-B5-023	Brief - 14" bag	1 no				
24	33450-B5-024	Brief - 16" bag	1 no				
		<b>Total</b>					

**Note:**

- 1) **The Bidder shall submit the offer by filling up all the columns against each item. Bidders should quote for all items listed above. Partial quote is allowed for this Category. However, the bidder should ensure that the prices are quoted for the corresponding accessories relevant to the items quoted**
- 2) **Warranty: One year minimum warranty or Product Standard warranty whichever is higher**
- 3) **The Rate Contract will be valid for 1 year from the date of signing of the contract or agreement / date of release of the Purchase order, whichever is later.**

**A2.6 Price Bid – Category B6-Server and related items**

S.N	Product Code	Description	Quantity/Unit	Basic Unit Price In Rs.	GST in % for Col no.5	GST Value in Rs. For Col No.5	Total Unit Price with GST (Rs.) (5)+(7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	33450-B6-001	Desktop server	1 no				
2	33450-B6-002	Tower Server Model : 1	1 no				
3	33450-B6-003	Tower Server Model : 2	1 no				
4	33450-B6-004	Rack 1U Model : 1	1 no				
5	33450-B6-005	Rack 2U Model : 1	1 no				
6	33450-B6-006	Rack 2U Model : 2	1 no				
7	33450-B6-007	Rack 4U Model:1	1 no				
8	33450-B6-008	Rack 1U (AMD)	1 no				
9	33450-B6-009	Rack 2U (AMD)	1 no				
10	33450-B6-010	High End Server Model:1	1 no				

11	33450-B6-011	High End Server Model:2	1 no				
12	33450-B6-012	High End Server Model:3	1 no				
13	33450-B6-013	High End Server Model:4	1 no				
14	33450-B6-014	Rack 4U Model:1 - T	1 no				
15	33450-B6-015	Rack 2U Model 2 - T	1 no				
16	33450-B6-016	RACK - 2U- 4 Processor -T	1 no				
17	33450-B6-017	Rack 4U Model : 2 - T	1 no				
18	33450-B6-018	Rack 2U Model : 1 - AT	1 no				
19	33450-B6-019	Rack 2U Model : 1 - BT	1 no				
20	33450-B6-020	Desktop Ryzen 5	1 no				
21	33450-B6-021	Desktop Ryzen 7	1 no				
22	33450-B6-022	AMD Core - R3 Mini PC	1 no				
23	33450-B6-023	AMD Core - R5 Mini PC	1 no				
24	33450-B6-024	Blade chassis shall be 19" rack mountable	1 no				
25	33450-B6-025	Storage Blade	1 no				
26	33450-B6-026	Half Height Server - 2 CPU	1 no				
27	33450-B6-027	Full Height Server - 4 CPU Capable	1 no				

28	33450-B6-028	Wireless Access Point indoor	1 no				
29	33450-B6-029	Wireless Access Point Outdoor	1 no				
30	33450-B6-030	Wireless LAN Controller -On premise	1 no				
31	33450-B6-031	Dedicated AAA Server Appliance	1 no				
32	33450-B6-032	Layer 2 Access Switch (24 Port)	1 no				
33	33450-B6-033	Core Switch 24 Port	1 no				
34	33450-B6-034	Software defined WAN	1 no				
35	33450-B6-035	WAN Optimizer	1 no				
36	33450-B6-036	TOR (Spine) Switch 12 Port	1 no				
37	33450-B6-037	TOR (leaf) Switch 32 Port	1 no				
38	33450-B6-038	DC ORCHESTRATOR	1 no				
		<b>ADD ON</b>					
39	33450-B6-039	Intel Xeon Silver 4208 Processor	1 no				
40	33450-B6-040	Intel® Xeon® Silver 4110 Processor	1 no				
41	33450-B6-041	Intel® Xeon® Gold 5115 Processor	1 no				
42	33450-B6-042	Intel® Xeon® Gold 5215 Processor	1 no				

43	33450-B6-043	Intel® Xeon® Gold 6138 Processor	1 no				
44	33450-B6-044	Intel® Xeon® Gold 6148 Processor	1 no				
45	33450-B6-045	Intel® Xeon® Gold 6240 Processor	1 no				
46	33450-B6-046	Intel 4310 (2.1 Ghz/ 12 core)	1 no				
47	33450-B6-047	Intel 4316 (2.3 Ghz/ 20 core)	1 no				
48	33450-B6-048	Intel Gold 5317 (3.0 Ghz/ 12 core)	1 no				
49	33450-B6-049	Intel Gold 5318N (2.1 Ghz/ 24 core) or (2.0 Ghz/ 20 core)	1 no				
50	33450-B6-050	Intel Gold 6330 (2.0 Ghz/ 28 core)	1 no				
51	33450-B6-051	Intel Gold 6338 (2.0 Ghz/ 32 core)	1 no				
52	33450-B6-052	Intel Gold 6230 (20 core)	1 no				
53	33450-B6-053	Intel Gold 6240 (18 core)	1 no				
54	33450-B6-054	Intel Gold 6240R (24 core)	1 no				
55	33450-B6-055	Intel Gold 6252 (24 core)	1 no				
56	33450-B6-056	Intel Gold 6258R (28 core)	1 no				
57	33450-B6-057	AMD EPYC 72F3 Processor	1 no				
58	33450-B6-058	AMD EPYC 7262 Processor	1 no				

59	33450-B6-059	AMD EPYC 7313 Processor	1 no				
60	33450-B6-060	AMD EPYC 7413 Processor	1 no				
61	33450-B6-061	AMD EPYC 7513 Processor	1 no				
62	33450-B6-062	AMD EPYC 7713 Processor	1 no				
63	33450-B6-063	16 GB DDR4 RDIMM ECC Memory	1 no				
64	33450-B6-064	32 GB DDR4 ECC RDIMM Memory	1 no				
65	33450-B6-065	64 GB DDR4 ECC RDIMM Memory	1 no				
66	33450-B6-066	128GB DDR ECC LRDIMM Memory	1 no				
67	33450-B6-067	600GB SAS 12G 15K	1 no				
68	33450-B6-068	900GB SAS 12G 15K	1 no				
69	33450-B6-069	1.2TB SAS 12G 10K	1 no				
70	33450-B6-070	2.4TB SAS 12G 10K	1 no				
71	33450-B6-071	480GB SATA 6G SSD	1 no				
72	33450-B6-072	960GB SATA 6G Mixed UseSSD	1 no				
73	33450-B6-073	1.6TB SSD SAS Mix Use 12Gbps SSD	1 no				
74	33450-B6-074	3.84TB SSD SATA Read Intensive 6Gbps SSD	1 no				



75	33450-B6-075	3.84TB SSD SAS Read Intensive 12Gbps	1 no				
76	33450-B6-076	7.68TB SSD SAS Read Intensive 12Gbps	1 no				
77	33450-B6-077	1.6TB Enterprise NVMe Mixed Use AG Drive	1 no				
78	33450-B6-078	6.4TB Enterprise NVMe Mixed Use AG Drive	1 no				
79	33450-B6-079	2TB 7.2K RPM NLSAS 12Gbps Hot-Plug Hard Drive	1 no				
80	33450-B6-080	4TB 7.2K RPM NLSAS 12Gbps Hot-Plug Hard Drive	1 no				
81	33450-B6-081	8TB 7.2K RPM SAS 12Gbps Hot-plug Hard Drive	1 no				
82	33450-B6-082	12TB 7.2K RPM SAS 12Gbps Hot-plug Hard Drive	1 no				
83	33450-B6-083	16TB 7.2K RPM SAS 12Gbps Hot-plug Hard Drive	1 no				
84	33450-B6-084	16Gb Single Port Fibre Channel Host Bus Adapter	1 no				
85	33450-B6-085	16Gb Dual Port Fibre Channel Host Bus Adapter	1 no				
86	33450-B6-086	Ethernet 10Gb 2 port Adapter	1 no				
87	33450-B6-087	Ethernet 10Gb - 4 port Adapter	1 no				

88	33450-B6-088	Ethernet 1Gb 2 port Adapter	1 no				
89	33450-B6-089	Ethernet 1Gb - 4 port Adapter	1 no				
90	33450-B6-090	Ethernet 10Gb 2 port SFP+ Adapter	1 no				
91	33450-B6-091	10G SFP+ LC SR Transceiver	1 no				
92	33450-B6-092	10G SFP+ LC LR Transceiver	1 no				
93	33450-B6-093	2m Multimode OM3 LC/LC Optical Cable	1 no				
94	33450-B6-094	5m Multimode OM3 LC/LC Optical Cable	1 no				
95	33450-B6-095	15m Multimode OM3 LC/LC Optical Cable	1 no				
96	33450-B6-096	1x4 USB/PS2 KVM Console Switch	1 no				
97	33450-B6-097	1x4 KVM Console 6ft PS2 cable	1 no				
98	33450-B6-098	1x4 KVM Console 6ft USB cable	1 no				
99	33450-B6-099	0X1X8 G3 KVM Console Switch	1 no				
100	33450-B6-100	0X2X16 G3 KVM Console Switch	1 no				
101	33450-B6-101	1x1x8 G4 KVM IP Console Switch	1 no				

102	33450-B6-102	1x2x16 G4 KVM IP Console Switch	1 no				
103	33450-B6-103	KVM SFF USB Adapter	1 no				
104	33450-B6-104	8 Pack KVM SFF USB Adapter	1 no				
105	33450-B6-105	3ft Qty 4 KVM Cat5 cable	1 no				
106	33450-B6-106	6ft Qty 4 KVM Cat5 cable	1 no				
107	33450-B6-107	12ft Qty 4 KVM Cat5 cable	1 no				
108	33450-B6-108	20ft Qty 4 KVM Cat5 cable	1 no				
109	33450-B6-109	KVM SFF USB Interface Adapter	1 no				
110	33450-B6-110	KVM Console USB 2.0 Virtual Media CAC Interface Adapter	1 no				
111	33450-B6-111	KVM Console USB/Display Port Interface adapter	1 no				
112	33450-B6-112	KVM Console USB Interface adapter	1 no				
113	33450-B6-113	Membrane keyboard	1 no				
114	33450-B6-114	Mechanical keyboard	1 no				
115	33450-B6-115	Bilingual keyboard	1 no				
116	33450-B6-116	Wireless keyboard	1 no				

117	33450-B6-117	USB Mouse	1 no				
118	33450-B6-118	HDD Enclosure	1 no				
119	33450-B6-119	GPU Riser Kit	1 no				
120	33450-B6-120	TCO-07 certified 18.5" / 19" TFT Monitor	1 no				
121	33450-B6-121	10GbE Optical Transceivers SFP+ 10Gb SR	1 no				
122	33450-B6-122	Intel Omni-Path Host Fabric Adapter 100 Series 1 Port PCIe16	1 no				
123	33450-B6-123	Omni Path Cable, Passive Copper 2 Mtr	1 no				
124	33450-B6-124	Omni Path Cable, Passive Copper 5 Mtr	1 no				
125	33450-B6-125	NVIDIA® Tesla™ M10 32GB, Passive, Double Wide, Full Height GPU	1 no				
126	33450-B6-126	NVIDIA Ampere A100, PCIe, 250W, 40GB Passive, Double Wide, Full Height GPU	1 no				
127	33450-B6-127	36 U Rack	1 no				
128	33450-B6-128	42 U Rack	1 no				
		<b>Inlieu Items</b>	1 no				

129	33450-B6-129	Intel Xeon Silver 4214 Processor inlieu of Silver 4208 processor	1 no				
130	33450-B6-130	Intel Xeon Silver 4216 Processor inlieu of Silver 4208 processor	1 no				
131	33450-B6-131	Intel Xeon Gold 6248 Processor inlieu of Gold 6240 processor	1 no				
132	33450-B6-132	Intel Gold 5115 Inlieu of Silver 4110	1 no				
133	33450-B6-133	Intel Gold 6138 inlieu of Silver 4110	1 no				
134	33450-B6-134	Intel Gold 6148 In lieu of Silver 4110	1 no				
135	33450-B6-135	Intel Gold 6138 inlieu of Gold 5115	1 no				
136	33450-B6-136	Intel Gold 6148 inlieu of Gold 5115	1 no				
137	33450-B6-137	Intel Gold 6148 inlieu of Gold 6138	1 no				
138	33450-B6-138	Intel Gold 6338 in lieu of Gold 6330	1 no				
139	33450-B6-139	Intel Platinum 8352M in lieu of Gold 6330	1 no				
140	33450-B6-140	Intel Platinum 8380 in lieu of Gold 6330	1 no				

141	33450-B6-141	Intel Platinum 8352M in lieu of Gold 6338	1 no				
142	33450-B6-142	Intel Platinum 8380 in lieu of Gold 6338	1 no				
143	33450-B6-143	Intel Platinum 8380 in lieu of Platinum 8352M	1 no				
144	33450-B6-144	Intel Gold 5215 in lieu of Intel Silver 4208	1 no				
145	33450-B6-145	Intel Gold 6240 in lieu of Intel Silver 5215	1 no				
146	33450-B6-146	Intel Gold 6240 in lieu of Intel Gold 5215	1 no				
147	33450-B6-147	Intel Xeon Gold 6248 Processor in lieu of Gold 6240 Processor	1 no				
148	33450-B6-148	Intel Xeon Gold 6252 Processor in lieu of Gold 6240 Processor	1 no				
149	33450-B6-149	Intel Xeon Platinum 8270 Processor in lieu of Gold 6240 Processor	1 no				
150	33450-B6-150	Intel Xeon Platinum 8276 Processor in lieu of Gold 6240 Processor	1 no				
151	33450-B6-151	Intel Silver 4316 (2.3 Ghz/ 20 core) in lieu of Silver 4310 (2.1 Ghz/ 12 core)	1 no				

152	33450-B6-152	Intel Gold 5317 (3.0 Ghz/ 12 core) in lieu of Silver 4310 (2.1 Ghz/ 12 core)	1 no				
153	33450-B6-153	Intel Gold 5318N (2.1 Ghz/ 24 core) or (2.0 Ghz/ 20 core)in lieu of Silver 4310 (2.1 Ghz/ 12 core)	1 no				
154	33450-B6-154	Intel Gold 6330 (2.0 Ghz/ 28 core) in lieu of Silver 4310 (2.1 Ghz/ 12 core)	1 no				
155	33450-B6-155	Intel Gold 6338 (2.0 Ghz/ 32 core) in lieu of Silver 4310 (2.1 Ghz/ 12 core)	1 no				
156	33450-B6-156	Intel Gold 6240 ilo 6230	1 no				
157	33450-B6-157	Intel Gold 6240R ilo 6230	1 no				
158	33450-B6-158	Intel Gold 6252 ilo 6230	1 no				
159	33450-B6-159	Intel Gold 6258R ilo 6230	1 no				
160	33450-B6-160	AMD EPYC 7313 in lieu of EPYC 7262	1 no				
161	33450-B6-161	AMD EPYC 7413 in lieu of EPYC 7262	1 no				
162	33450-B6-162	AMD EPYC 7513 in lieu of EPYC 7262	1 no				
163	33450-B6-163	AMD EPYC 7713 in lieu of EPYC 7262	1 no				

164	33450-B6-164	AMD EPYC 7313 in lieu of EPYC 72F3	1 no				
165	33450-B6-165	AMD EPYC 7413 in lieu of EPYC 72F3	1 no				
166	33450-B6-166	AMD EPYC 7513 in lieu of EPYC 72F3	1 no				
167	33450-B6-167	AMD EPYC 7713 in lieu of EPYC 72F3	1 no				
168	33450-B6-168	32GB Ram in lieu of 16Gb Ram	1 no				
169	33450-B6-169	64GB Ram in lieu of 16Gb ram	1 no				
170	33450-B6-170	64GB ram in lieu of 32Gb ram	1 no				
171	33450-B6-171	36 U Rack	1 no				
		<b>Total</b>					

**Note:**

- 1) **The Bidder shall submit the offer by filling up all the columns against each item. Bidders should quote for all items listed above. Partial quote is allowed for this Category. However, the bidder should ensure that the prices are quoted for the corresponding accessories relevant to the items quoted**
- 2) **Warranty: One year minimum warranty or Product Standard warranty whichever is higher**
- 3) **The Rate Contract will be valid for 1 year from the date of signing of the contract or agreement / date of release of the Purchase order, whichever is later.**



**A2.7 Price Bid – Category B7-Biometric Systems**

S.N	Product Code	Description	Quantity/ Unit	Basic Unit Price In Rs.	GST in % for Col no.5	GST Value in Rs. For Col No.5	Total Unit Price with GST (Rs.) (5)+(7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>( Aadhaar Based )</b>							
1	33450-B7-001	Android Tablet based Aadhaar Enabled Biometric Attendance Systems integrated with STQC Certified Finger Print Scanner	1 no				
2	33450-B7-002	Linux based Aadhaar Enabled Biometric Attendance Systems integrated with STQC Certified Finger Print Scanner	1 no				
3	33450-B7-003	Finger Print Enrolment Device ( 4+4+2 Fingers) with STQC Certified	1 no				
4	33450-B7-004	PALM Print Device Specification (Palm and 10 Fingers) with STQC Certified	1 no				
5	33450-B7-005	Single Fingerprint reader with STQC certified	1 no				
6	33450-B7-006	Single IRIS Scanner with STQC Certified	1 no				

7	33450-B7-007	Dual IRIS Scanner with with STQC Certified	1 no				
<b>( Non- Aadhaar Based )</b>							
8	33450-B7-008	Linux based Biometric Attendance Systems(Non Aadhaar) (500 Users) with Battery Backup and Proximity Card Reader	1 no				
9	33450-B7-009	Linux Based Biometric Attendance Systems (Non Aadhaar) (1000 Users) with Battery Backup and Proximity Card Reader	1 no				
10	33450-B7-010	Linux Based Biometric Attendance Systems (Non Aadhaar) (2000 Users) with Battery Backup and Proximity Card Reader	1 no				
11	33450-B7-011	Linux Based Biometric Attendance Systems (Non Aadhaar) (10000 Users) with Battery Backup and Proximity Card Reader	1 no				
12	33450-B7-012	Linux Based Bio Metric System (Non Aadhaar) - with Face Recognition 500 User	1 no				
13	33450-B7-013	Linux Based Bio Metric System (Non Aadhaar) - with Face Recognition 1000 User	1 no				

14	33450-B7-014	Linux Based Bio Metric System (Non Aadhaar) - with Face Recognition 2000 User	1 no				
15	33450-B7-015	LINUX Tablet based Biometric Attendance Systems Long range Face 3000 User (2 meters)	1 no				
16	33450-B7-016	LINUX Tablet based Biometric Attendance Systems Long range Face 1000 User	1 no				
17	33450-B7-017	Multi Door Access Controller - Finger + Card (up to 4 Doors)	1 no				
18	33450-B7-018	Mifare Smart Card Based Door Controller for Access Control and Time Attendance (for Enrolment)	1 no				
19	33450-B7-019	Finger Print and Card Based Door Controller for Access Control and time Attendance with STQC Certified fingerprint sensor	1 no				
20	33450-B7-020	Single Fingerprint Device	1 no				
21	33450-B7-021	ID Card Printer	1 no				
22	33450-B7-022	Finger print scanner - (A)	1 no				
23	33450-B7-023	IRIS Scanner - (A)	1 no				
24	33450-B7-024	Web Camera - (A)	1 no				

25	33450-B7-025	GPS Device - (A)	1 no				
26	33450-B7-026	Finger Print Enrolment Device (4+4+2 Fingers) - (A)	1 no				
27	33450-B7-027	Single Digit finger print scanner - (A)	1 no				
<b>ADD ON</b>							
28	33450-B7-028	Multi Door Access Controller - USB Single Finger Print Scanner for Enrolment	1 no				
29	33450-B7-029	Multi Door Access Controller - USB Card reader for Enrolment	1 no				
30	33450-B7-030	Finger Print Reader for Entry and Exit	1 no				
31	33450-B7-031	Proximity Card Reader for Entry and Exit	1 no				
32	33450-B7-032	Fingerprint and Mifare card based exit reader	1 no				
33	33450-B7-033	Wifi Facility for Linux Based Bio Metric Attendance System	1 no				
34	33450-B7-034	GPRS for Linux Based Bio Metric Attendance System	1 no				

35	33450-B7-035	Metal Enclosure with Lock and key (Linux Based Biometric Attendance System)	1 no				
36	33450-B7-036	Electronic Magnetic Lock ( for Single Door) with suitable bracket and standard accessories	1 no				
37	33450-B7-037	Electronic Magnetic Lock ( for Double Door) with suitable bracket and standard accessories	1 no				
38	33450-B7-038	Exit Manual Switch	1 no				
39	33450-B7-039	Finger Print Reader Optical (Non Aadhar based ADD ON)	1 no				
40	33450-B7-040	RFID Reader ( proximity Card)	1 no				
41	33450-B7-041	RFID Reader ( HID Card)	1 no				
42	33450-B7-042	RFID reader ( Mifare Card)	1 no				
43	33450-B7-043	RFID Reader ( HID Card ) with Finger Print	1 no				
44	33450-B7-044	RFID reader ( Mifare Card ) with finger Print	1 no				
45	33450-B7-045	RFID reader ( proximity Card ) with finger Print	1 no				
46	33450-B7-046	USB Mifare card Reader for Enrolment	1 no				
47	33450-B7-047	USB HID card Reader for Enrolment	1 no				

48	33450-B7-048	Metal Enclosure with Lock and Key (Tablet based Biometric Attendance system)	1 no				
49	33450-B7-049	Commissioning and testing for a range of 25-100 users	1 no				
50	33450-B7-050	CAT 6 LAN Cables with Conduit Pipe with laying charges per meter	1 no				
51	33450-B7-051	Optional Power Back up for 12V, 3A mini UPS for minimum 3-4 Hours backup	1 no				
		<b>INLIEU ITEMS</b>					
52	33450-B7-052	HID Card Reader in lieu of Proximity card reader.	1 no				
53	33450-B7-053	Mifare Card reader in lieu of Proximity Card Reader	1 no				
		Total					

**Note:**

- 1) **The Bidder shall submit the offer by filling up all the columns against each item. Bidders should quote for all items listed above. Partial quote is allowed for this Category. However, the bidder should ensure that the prices are quoted for the corresponding accessories relevant to the items quoted**
- 2) **Warranty: One year minimum warranty or Product Standard warranty whichever is higher**
- 3) **The Rate Contract will be valid for 1 year from the date of signing of the contract or agreement / date of release of the Purchase order, whichever is later.**

**A2.8 Price Bid – Category B8–SSL, Digital Signature Certificates**

S.N	Product Code	Description	Quantity/Unit	Basic Price In Rs.	Unit	GST in % for Col no.5	GST Value in Rs. For Col No.5	Total Unit Price with GST (Rs.) (5)+(7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
1	33450-B8-002	Cryptographic Token One time issue	1 no					
2	33450-B8-004	Form Signing SDK and Encryption SDK One Time	1 no					
3	33450-B8-005	Form Signing SDK One Time	1 no					
4	33450-B8-006	Encryption SDK One Time	1 no					
5	33450-B8-007	Class-3 Digital Signature Certificate for Signature - Individual with One Year validity	1 no					
6	33450-B8-008	Class-3 Digital Signature Certificate for Encryption - Individual with One Year validity	1 no					
7	33450-B8-009	Class-3 Digital Signature Certificate for Signature - Organization with One Year validity	1 no					
8	33450-B8-010	Class-3 Digital Signature Certificate for Encryption - Organization with One Year validity	1 no					

9	33450-B8-011	Class-3 Digital Signature Certificate COMBO for Organization (Signature + Encryption) with One Year validity	1 no				
10	33450-B8-012	Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with OV for 1 year validity	1 no				
11	33450-B8-013	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1 (Server) + 2 (Domains)) for 1 year validity pack.	1 no				
12	33450-B8-014	Wildcard SSL Certificate with OV for 1 year validity	1 no				
13	33450-B8-012A	Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with DV for 1 year validity	1 no				
14	33450-B8-012B	Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with EV for 1 year validity	1 no				
15	33450-B8-012C	Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with OV for 2 years validity	1 no				



16	33450-B8-012D	Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with DV for 2 years validity	1 no				
17	33450-B8-012E	Server Certificate (Secure Sockets Layer- SSL) Single Server Single Domain with EV for 2 years validity	1 no				
18	33450-B8-013A	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+2 (Domains)) for 1 year validity pack	1 no				
19	33450-B8-013B	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+2 (Domains)) for 1 year validity pack	1 no				
20	33450-B8-013C	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+2 (Domains)) for 2 years validity pack	1 no				
21	33450-B8-013D	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+2 (Domains)) for 2 years validity pack	1 no				
22	33450-B8-013E	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+2 (Domains)) for 2 years validity pack	1 no				

23	33450-B8-013F	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+3 (Domains)) for 1 year validity pack	1 no				
24	33450-B8-013G	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+3 (Domains)) for 1 year validity pack	1 no				
25	33450-B8-013H	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+3 (Domains)) for 1 year validity pack	1 no				
26	33450-B8-013I	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+3 (Domains)) for 2 years validity pack	1 no				
27	33450-B8-013J	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+3 (Domains)) for 2 years validity pack	1 no				
28	33450-B8-013K	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+3 (Domains)) for 2 years validity pack	1 no				
29	33450-B8-013L	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+4 (Domains)) for 1 year validity pack	1 no				

30	33450-B8-013M	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+4 (Domains)) for 1 year validity pack	1 no				
31	33450-B8-013N	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+4 (Domains)) for 1 year validity pack	1 no				
32	33450-B8-013O	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with OV (1(Server)+4 (Domains)) for 2 years validity pack	1 no				
33	33450-B8-013P	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with DV (1(Server)+4 (Domains)) for 2 years validity pack	1 no				
34	33450-B8-013Q	Server Certificate (Secure Sockets Layer- SSL) Single Server Multi Domain with EV (1(Server)+4 (Domains)) for 2 years validity pack	1 no				
35	33450-B8-014A	Wildcard SSL Certificate with DV for 1 year validity	1 no				

36	33450-B8-014B	Wildcard SSL Certificate with EV for 1 year validity	1 no				
37	33450-B8-014C	Wildcard SSL Certificate with OV for 2 years validity	1 no				
38	33450-B8-014D	Wildcard SSL Certificate with DV for 2 years validity	1 no				
39	33450-B8-014E	Wildcard SSL Certificate with EV for 2 years validity	1 no				
40	33450-B8-007A	Class-3 Digital Signature Certificate for Signature - Individual with 2 Years validity	1 no				
41	33450-B8-008A	Class-3 Digital Signature Certificate for Encryption - Individual with 2 Years validity	1 no				
42	33450-B8-009A	Class-3 Digital Signature Certificate for Signature - Organization with 2 Years validity	1 no				
43	33450-B8-010A	Class-3 Digital Signature Certificate for Encryption - Organization with 2 Years validity	1 no				

44	33450-B8-011A	Class-3 Digital Signature Certificate COMBO for Organization (Signature + Encryption) with 2 Years validity	1 no				
		<b>Total</b>					

**A2.9 Price Bid – Category B9–Cisco or Equivalent Products**

S.N	Product Code	Description	Quantity/Unit	Basic Price In Rs.	Unit	GST in % for Col no.5	GST Value in Rs. For Col No.5	Total Unit Price with GST (Rs.) (5)+(7)
(1)	(2)	(3)	(4)	(5)		(6)	(7)	(8)
1	33450-B9-001	Core Switch – Type 1 -Cisco Catalyst 9400 or Equivalent	1 no					
2	33450-B9-002	Core Switch – Type 2 - Cisco Catalyst 9600 or Equivalent	1 no					
3	33450-B9-003	Distribution Switch - Type 1 Cisco 9300 or Equivalent	1 no					
4	33450-B9-004	Distribution Switch - Type 2 Cisco 9300 or Equivalent	1 no					
5	33450-B9-005	Access Switch - Type 1- 24 Port (PoE) Cisco 9200 or Equivalent	1 no					
6	33450-B9-006	Access Switch - Type 2- 24 Port (Non-PoE) Cisco 9200 or Equivalent	1 no					
7	33450-B9-007	Access Switch - Type 3- 48 Port (PoE) Cisco 9200 or Equivalent	1 no					

8	33450-B9-008	Access Switch - Type 4- 48 Port (Non-PoE) Cisco 9200 or Equivalent	1 no				
9	33450-B9-009	Wireless LAN Controller Cisco 9800 (Up to 500 Access Point)	1 no				
10	33450-B9-010	Wireless LAN Controller Cisco 9800 (Up to 2000 Access Point)	1 no				
11	33450-B9-011	Access Point – Type 1 Cisco 9100 or Equivalent	1 no				
12	33450-B9-012	Access Point – Type 2 Cisco 9100 or Equivalent	1 no				
13	33450-B9-013	Access Point – Type 3 Cisco 9100 or Equivalent	1 no				
14	33450-B9-014	Access Point – Type 4 (Cloud Managed) Cisco Meraki MR36 or Equivalent	1 no				
15	33450-B9-015	Access Point – Type 5 (Cloud Managed) Cisco Meraki MR46 or Equivalent	1 no				
16	33450-B9-016	Access Switch - Type 1 (Cloud Managed) 24 Port (Non-PoE) Cisco Meraki MR125 or Equivalent	1 no				
17	33450-B9-017	Access Switch - Type 2 (Cloud Managed) 48 Port (Non-PoE) Cisco Meraki MR125 or Equivalent	1 no				

18	33450-B9-018	Access Switch - Type 3 (Cloud Managed) 24 Port (PoE) Cisco Meraki MR125 or Equivalent	1 no				
19	33450-B9-019	Access Switch - Type 4 (Cloud Managed) 48 Port (PoE) Cisco Meraki MR125 or Equivalent	1 no				
20	33450-B9-020	Access Switch - Type 5 ( Cloud Managed) 8 Port (PoE) Cisco Meraki MR 120 or Equivalent	1 no				
21	33450-B9-021	Router Type 1 : CISCO 4451 Series or Equivalent	1 no				
22	33450-B9-022	Router Type 2 : CISCO 4331 Series or Equivalent	1 no				
23	33450-B9-023	Router Type 3 : CISCO 4321 Series or Equivalent	1 no				
24	33450-B9-024	Cisco Firepower Small Office (Model FPR-2130 or equivalent)	1 no				
25	33450-B9-025	Cisco Firepower Medium Office (Model FPR-4112 or equivalent)	1 no				
26	33450-B9-026	Cisco Firepower Large Office (Model FPR-4115 or equivalent)	1 no				
27	33450-B9-027	Rack Server - C220M5 or Equivalent/higher	1 no				
28	33450-B9-028	Cisco Blade Chassis 5108	1 no				



29	33450-B9-029	Cisco Blade server B220M5 or Equivalent/Higher	1 no				
30	33450-B9-030	Cisco Webex Meeting Suites	1 no				
31	33450-B9-031	Cisco Cisco Desk Pro	1 no				
32	33450-B9-032	Cisco Video Conference for small and Medium Room (Cisco WebEx Kit Mini)	1 no				
33	33450-B9-033	Cisco WebEx Room Kit	1 no				
34	33450-B9-034	Cisco Video Conference for Medium Conference Room Cisco WebEx Kit+ with 1 Nos of PTZ camera	1 no				
35	33450-B9-035	Cisco WebEx Desk USB Camera	1 no				
36	33450-B9-036	Cisco Cisco Meeting Server ( Multiparty Conference Unit)	1 no				
37	33450-B9-037	Cisco IP PABX for 1000 Users	1 no				
38	33450-B9-038	Cisco IP Phone 7821	1 no				
39	33450-B9-039	Cisco IP Phone 8841	1 no				
40	33450-B9-040	Access Point (CISCO 9120 or equivalent)	1 no				

41	33450-B9-041	Firewall Cisco FPR4112-NGFW-K9 or equivalent	1 no				
42	33450-B9-042	Core Switch – Type 1 - Specification ( Model : CISCO Catalyst 9400 or Equivalent)	1 no				
43	33450-B9-043	Router Type 1 : Specification (Model : ISR4451-X/K9 or Equivalent)	1 no				
44	33450-B9-044	Wireless LAN Controller Cisco 9800 (Up to 2000 Access Point) - Specification ( Model : CISCO Catalyst 9800-40 or Equivalent)	1 no				
45	33450-B9-045	Distribution Switch - Type 1 Cisco 9300 or Equivalent	1 no				
46	33450-B9-046	Access Switch - Type 4- 48 Port (Non-PoE) Cisco 9200 or Equivalent	1 no				
47	33450-B9-047	Data Center Application Centric Infrastructure (ACI)	1 no				
48	33450-B9-048	Data Center Network Automation (DCNM)	1 no				
49	33450-B9-049	Data Center Network Assurance and Insights (DC Network Day-2 Operations)	1 no				

50	33450-B9-050	Application Resource Mangement & Workload Optimization	1 no				
51	33450-B9-051	Application Performance Management	1 no				
52	33450-B9-052	Nexus Leaf Switch - Copper	1 no				
53	33450-B9-053	Nexus Leaf Switch - Fiber	1 no				
54	33450-B9-054	Nexus Fixed Spine Switch	1 no				
55	33450-B9-055	SD - WAN Controller	1 no				
56	33450-B9-056	Type 1 - Branch Router	1 no				
57	33450-B9-057	Type 2 Branch Router	1 no				
58	33450-B9-058	Head-End Router	1 no				
59	33450-B9-059	SD-WAN Controller – II	1 no				
		<b>Add on items</b>					
60	33450-B9-060	Cisco Catalyst 9400 Series 48-Port 10/100/1000 (RJ-45)	1 no				
61	33450-B9-061	Cisco Catalyst 9400 Series 24-Port 10 Gigabit Ethernet (SFP+)	1 no				
62	33450-B9-062	Cisco Catalyst 9400 Series 24-Port Gigabit Ethernet(SFP)	1 no				
63	33450-B9-063	Cisco Catalyst 9400 Series 48-Port Gigabit Ethernet(SFP)	1 no				
64	33450-B9-064	Cisco Catalyst 9600 Series 24-Port 40GE/12-Port 100GE	1 no				

65	33450-B9-065	Cisco Catalyst 9600 Series 48-Port 25GE/10GE/1GE	1 no				
66	33450-B9-066	Cisco Catalyst 9600 Series 48-port RJ45 Copper - 10GE/5GE/2.5GE/1GE/100Mbps/10Mbps	1 no				
67	33450-B9-067	Cisco Catalyst 9600 Series 48-Port 1GE	1 no				
68	33450-B9-068	Catalyst 9300 Series 4x 1G Network Module	1 no				
69	33450-B9-069	Catalyst 9300 Series 4x Multigigabit Network Module	1 no				
70	33450-B9-070	Catalyst 9300 Series 8x 10G Network Module	1 no				
71	33450-B9-071	Catalyst 9300 Series 2x 40G Network Module	1 no				
72	33450-B9-072	Catalyst 9300 Series 2x 25G Network Module	1 no				
73	33450-B9-073	Catalyst 9300 Series 8x 10G Multigigabit Network Module	1 no				
74	33450-B9-074	Catalyst 9300 Series 8x 1G/10G/25G Network Module	1 no				
75	33450-B9-075	Catalyst 9300 Series 2x 40G/100G Network Module	1 no				

76	33450-B9-076	2 port Multiflex Trunk Voice/Clear-channel Data T1/E1 Module	1 no				
77	33450-B9-077	2-port GE WAN NIM, dual-mode RJ45 & SFP	1 no				
78	33450-B9-078	4-port Network Interface Module - FXO (Universal)	1 no				
79	33450-B9-079	StackWise 320 Stack Module with Cable	1 no				
80	33450-B9-080	StackWise 160 stack module with cable	1 no				
81	33450-B9-081	Performance License for 9800-L (500 AP)	1 no				
82	33450-B9-082	10GBASE-LR SFP Module	1 no				
83	33450-B9-083	10GBASE-SR SFP Module	1 no				
84	33450-B9-084	1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM	1 no				
85	33450-B9-085	1000BASE-SX SFP transceiver module, MMF, 850nm, DOM	1 no				
86	33450-B9-086	1000BASE-T SFP transceiver module for Category 5 copper wire	1 no				
87	33450-B9-087	Cisco power injector	1 no				
88	33450-B9-088	Increases the performance from base performance 1 Gbps to 2 Gbps(ISR4451)	1 no				

89	33450-B9-089	Increases the performance from base performance 100 Mbps to 300 Mbps (ISR4331 )	1 no				
90	33450-B9-090	Increases the performance from base performance 35 Mbps to 75 Mbps (ISR4221)	1 no				
91	33450-B9-091	1 Port Serial card with v.35 Cable	1 no				
92	33450-B9-092	2 Port Serial card with v.35 Cable	1 no				
93	33450-B9-093	SD-WAN Licence - 10MB with 5 Years	1 no				
94	33450-B9-094	SD-WAN Licence - 25MB with 5 Years	1 no				
95	33450-B9-095	SD-WAN Licence -50MB with 5 Years	1 no				
96	33450-B9-096	SD-WAN Licence -100MB with 5 Years	1 no				
97	33450-B9-097	SD-WAN Licence -500MB with 5 Years	1 no				
98	33450-B9-098	SD-WAN Licence -1GB with 5 Years	1 no				
		<b>Total</b>					

**A2.10.1 Price Bid – Category B10-Linux Products**

S.N	Product Code	Description	Quantity /Unit	Basic Unit Price In Rs.	GST in % for Col no.5	GST Value in Rs. For Col No.5	Total Unit Price with GST (Rs.) (5)+(7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	33450-B10-001	Red Hat Enterprise Linux for Virtual Datacenters, Premium - 1 Year	1 no				
2	33450-B10-002	Red Hat Enterprise Linux for Virtual Datacenters, Premium - 3 Years	1 no				
3	33450-B10-003	Red Hat Enterprise Linux for Virtual Datacenters, Standard - 1 Year	1 no				
4	33450-B10-004	Red Hat Enterprise Linux for Virtual Datacenters, Standard - 3 Years	1 no				
5	33450-B10-005	Red Hat Enterprise Linux Server, Premium (Physical or Virtual Nodes) - 1 year	1 no				
6	33450-B10-006	Red Hat Enterprise Linux Server, Premium (Physical or Virtual Nodes) - 3 years	1 no				

7	33450-B10-007	Red Hat Enterprise Linux Server, Standard (Physical or Virtual Nodes) - 1 year	1 no				
8	33450-B10-008	Red Hat Enterprise Linux Server, Standard (Physical or Virtual Nodes) -3 years	1 no				
9	33450-B10-009	Red Hat Enterprise Linux Server with Smart Management, Premium (Physical or Virtual Nodes) - 1 year	1 no				
10	33450-B10-010	Red Hat Enterprise Linux Server with Smart Management, Premium (Physical or Virtual Nodes) - 3 years	1 no				
11	33450-B10-011	Red Hat Enterprise Linux Server with Smart Management, Standard (Physical or Virtual Nodes) - 1 Year	1 no				
12	33450-B10-012	Red Hat Enterprise Linux Server with Smart Management, Standard (Physical or Virtual Nodes) - 3 Years	1 no				
13	33450-B10-013	Red Hat Enterprise Linux Extended Life Cycle Support (Physical or Virtual Nodes)	1 no				
14	33450-B10-014	Red Hat Enterprise Linux Extended Life Cycle Support (Unlimited Guests)	1 no				



15	33450-B10-015	Red Hat Enterprise Linux for SAP Applications, Premium (Physical or Virtual Nodes) - 1 Year	1 no				
16	33450-B10-016	Red Hat Enterprise Linux for SAP Applications, Premium (Physical or Virtual Nodes) - 3 Years	1 no				
17	33450-B10-017	Red Hat Enterprise Linux for SAP Applications, Standard (Physical or Virtual Nodes) - 1 Year	1 no				
18	33450-B10-018	Red Hat Enterprise Linux for SAP Applications, Standard (Physical or Virtual Nodes) - 3 Years	1 no				
19	33450-B10-019	Red Hat Enterprise Linux for SAP Applications for Virtual Datacenters, Premium - 1 Year	1 no				
20	33450-B10-020	Red Hat Enterprise Linux for SAP Applications for Virtual Datacenters, Premium - 3 Years	1 no				
21	33450-B10-021	Red Hat Enterprise Linux for SAP Applications for Virtual Datacenters, Standard - 1 Year	1 no				
22	33450-B10-022	Red Hat Enterprise Linux for SAP Applications for Virtual Datacenters, Standard - 3 Years	1 no				

23	33450-B10-023	Red Hat Enterprise Linux for SAP Solutions, Premium (Physical or Virtual Nodes) - 1 Year	1 no				
24	33450-B10-024	Red Hat Enterprise Linux for SAP Solutions, Premium (Physical or Virtual Nodes) - 3 Years	1 no				
25	33450-B10-025	Red Hat Enterprise Linux for SAP Solutions, Standard (Physical or Virtual Nodes) - 1 Year	1 no				
26	33450-B10-026	Red Hat Enterprise Linux for SAP Solutions, Standard (Physical or Virtual Nodes) - 3 Years	1 no				
27	33450-B10-027	Red Hat Enterprise Linux for Virtual Datacenters for SAP Solutions, Premium - 1 Year	1 no				
28	33450-B10-028	Red Hat Enterprise Linux for Virtual Datacenters for SAP Solutions, Premium - 3 Years	1 no				
29	33450-B10-029	Red Hat Enterprise Linux for Virtual Datacenters for SAP Solutions, Standard - 1 Year	1 no				
30	33450-B10-030	Red Hat Enterprise Linux for Virtual Datacenters for SAP Solutions, Standard - 3 Years	1 no				
31	33450-B10-031	High Availability -1 year	1 no				

32	33450-B10-032	High Availability -3 years	1 no				
33	33450-B10-033	High Availability for Unlimited Guests -1 year	1 no				
34	33450-B10-034	High Availability for Unlimited Guests -3 years	1 no				
35	33450-B10-035	Resilient Storage -1 year	1 no				
36	33450-B10-036	Resilient Storage -3 years	1 no				
37	33450-B10-037	Resilient Storage for Unlimited Guests -1 year	1 no				
38	33450-B10-038	Resilient Storage for Unlimited Guests -3 years	1 no				
39	33450-B10-039	Smart Management -1 year	1 no				
40	33450-B10-040	Smart Management -3 years	1 no				
41	33450-B10-041	Smart Management for Unlimited Guests -1 year	1 no				
42	33450-B10-042	Smart Management for Unlimited Guests -3 years	1 no				
43	33450-B10-043	Red Hat Enterprise Virtualization (2- sockets), Premium -1 year	1 no				
44	33450-B10-044	Red Hat Enterprise Virtualization (2- sockets), Premium -3 year	1 no				
45	33450-B10-045	Redhat Enterprise Virtualization (2-Sockets), Standard - 1 Year	1 no				
46	33450-B10-046	Redhat Enterprise Virtualization (2-Sockets), Standard - 3 Years	1 no				

47	33450-B10-047	Red Hat JBoss Enterprise Application Platform, 4-Core Premium - 1 Year	1 no				
48	33450-B10-048	Red Hat JBoss Enterprise Application Platform, 4-Core Premium - 3 Years	1 no				
49	33450-B10-049	Red Hat JBoss Enterprise Application Platform, 4-Core Standard - 1 Year	1 no				
50	33450-B10-050	Red Hat JBoss Enterprise Application Platform, 4-Core Standard - 3 Years	1 no				
51	33450-B10-051	Red Hat JBoss Enterprise Application Platform, 16-Core Premium -1 year	1 no				
52	33450-B10-052	Red Hat JBoss Enterprise Application Platform, 16-Core Premium -3 years	1 no				
53	33450-B10-053	Red Hat JBoss Enterprise Application Platform, 16-Core Standard -1 year	1 no				
54	33450-B10-054	Red Hat JBoss Enterprise Application Platform, 16-Core Standard -3 years	1 no				
55	33450-B10-055	Red Hat JBoss Enterprise Application Platform, 64-Core Premium -1 year	1 no				

56	33450-B10-056	Red Hat JBoss Enterprise Application Platform, 64-Core Premium -3 years	1 no				
57	33450-B10-057	Red Hat JBoss Enterprise Application Platform, 64-Core Standard -1 year	1 no				
58	33450-B10-058	Red Hat JBoss Enterprise Application Platform, 64-Core Standard -3 years	1 no				
59	33450-B10-059	Red Hat JBoss Enterprise Application Platform, Extended Life Cycle Support Add-On, 4-Core Premium	1 no				
60	33450-B10-060	Red Hat JBoss Enterprise Application Platform, Extended Life Cycle Support Add-On, 4-Core Standard	1 no				
61	33450-B10-061	Red Hat JBoss Enterprise Application Platform ELS Program, 16-Core Standard	1 no				
62	33450-B10-062	Red Hat JBoss Enterprise Application Platform ELS Program, 16-Core Premium	1 no				
63	33450-B10-063	Red Hat JBoss Enterprise Application Platform ELS Program, 64-Core Standard	1 no				

64	33450-B10-064	Red Hat JBoss Enterprise Application Platform ELS Program, 64-Core Premium	1 no				
65	33450-B10-065	Red Hat JBoss Web Server, 16-Core Premium - 1 year	1 no				
66	33450-B10-066	Red Hat JBoss Web Server, 16-Core Premium - 3 years	1 no				
67	33450-B10-067	Red Hat JBoss Web Server, 16-Core Standard - 1 year	1 no				
68	33450-B10-068	Red Hat JBoss Web Server, 16-Core Standard - 3 years	1 no				
69	33450-B10-069	Red Hat JBoss Web Server Plus, 16-Core Premium -1 year	1 no				
70	33450-B10-070	Red Hat JBoss Web Server Plus, 16-Core Premium -3 years	1 no				
71	33450-B10-071	Red Hat JBoss Web Server Plus, 16-Core Standard -1 year	1 no				
72	33450-B10-072	Red Hat JBoss Web Server Plus, 16-Core Standard -3 years	1 no				
73	33450-B10-073	Red Hat Process Automation Manager, Premium (16 Cores) - 1 Year	1 no				
74	33450-B10-074	Red Hat Process Automation Manager, Premium (16 Cores) - 3 Years	1 no				

75	33450-B10-075	Red Hat Process Automation Manager, Standard (16 Cores) - 1 Year	1 no				
76	33450-B10-076	Red Hat Process Automation Manager, Standard (16 Cores) - 3 Years	1 no				
77	33450-B10-077	Red Hat Decision Manager, Premium (16 Cores) - 1 Year	1 no				
78	33450-B10-078	Red Hat Decision Manager, Premium (16 Cores) - 3 Years	1 no				
79	33450-B10-079	Red Hat Decision Manager, Standard (16 Cores) - 1 Year	1 no				
80	33450-B10-080	Red Hat Decision Manager, Standard (16 Cores) - 3 Years	1 no				
81	33450-B10-081	Red Hat Fuse, 4-Core Premium - 1 Year	1 no				
82	33450-B10-082	Red Hat Fuse, 4-Core Premium - 3 Years	1 no				
83	33450-B10-083	Red Hat Fuse, Premium (16 Cores) - 1 Year	1 no				
84	33450-B10-084	Red Hat Fuse, Premium (16 Cores) -3 Years	1 no				
85	33450-B10-085	Red Hat Fuse, 4-Core Standard - 1 Year	1 no				

86	33450-B10-086	Red Hat Fuse, 4-Core Standard - 3 Years	1 no				
87	33450-B10-087	Red Hat Fuse, Standard (16 Cores) - 1 Year	1 no				
88	33450-B10-088	Red Hat Fuse, Standard (16 Cores) - 3 Years	1 no				
89	33450-B10-089	Red Hat Fuse, Extended Lifecycle Support Add-On, Premium (4 Cores)	1 no				
90	33450-B10-090	Red Hat Fuse, Extended Life Cycle Support Add-On, Standard (4 Cores)	1 no				
91	33450-B10-091	Red Hat Fuse ELS Program, Premium (16 Cores)	1 no				
92	33450-B10-092	Red Hat Fuse ELS Program, Standard (16 Cores)	1 no				
93	33450-B10-093	Red Hat 3scale API Management, Premium (4 Cores) - 1 Year	1 no				
94	33450-B10-094	Red Hat 3scale API Management, Premium (4 Cores) - 3 Years	1 no				
95	33450-B10-095	Red Hat 3scale API Management, Standard (4 Cores) - 1 Year	1 no				
96	33450-B10-096	Red Hat 3scale API Management, Standard (4 Cores) - 3 Years	1 no				



97	33450-B10-097	Red Hat 3scale API Management, Premium (16 Cores) - 1 Year	1 no				
98	33450-B10-098	Red Hat 3scale API Management, Premium (16 Cores) - 3 Years	1 no				
99	33450-B10-099	Red Hat 3scale API Management, Standard (16 Cores) - 1 Year	1 no				
100	33450-B10-100	Red Hat 3scale API Management, Standard (16 Cores) - 3 Years	1 no				
101	33450-B10-101	Red Hat OpenShift Container Platform, Premium (2 Cores or 4 vCPUs, for Windows) - 1 Year	1 no				
102	33450-B10-102	Red Hat OpenShift Container Platform, Premium (2 Cores or 4 vCPUs, for Windows) - 3 Years	1 no				
103	33450-B10-103	Red Hat OpenShift Container Platform (Bare Metal Node), Premium (1-2 sockets up to 64 cores) - 1 Year	1 no				
104	33450-B10-104	Red Hat OpenShift Container Platform (Bare Metal Node), Premium (1-2 sockets up to 64 cores) - 3 Years	1 no				
105	33450-B10-105	Red Hat OpenShift Container Platform (Bare Metal Node), Standard (1-2 sockets up to 64 cores) - 1 Year	1 no				

106	33450-B10-106	Red Hat OpenShift Container Platform (Bare Metal Node), Standard (1-2 sockets up to 64 cores) - 3 Years	1 no				
107	33450-B10-107	Red Hat OpenShift Container Platform Premium (2 Cores or 4 vCPUs) - 1 Year	1 no				
108	33450-B10-108	Red Hat OpenShift Container Platform Premium (2 Cores or 4 vCPUs) - 3 Years	1 no				
109	33450-B10-109	Red Hat OpenShift Container Platform Standard (2 Cores or 4 vCPUs) - 1 Year	1 no				
110	33450-B10-110	Red Hat OpenShift Container Platform Standard (2 Cores or 4 vCPUs) - 3 Years	1 no				
111	33450-B10-111	Red Hat Ansible Automation, Standard (100 Managed Nodes) - 1 Year	1 no				
112	33450-B10-112	Red Hat Ansible Automation, Standard (100 Managed Nodes) - 3 Years	1 no				
113	33450-B10-113	Red Hat Ansible Automation, Premium (100 Managed Nodes) - 1 Year	1 no				

114	33450-B10-114	Red Hat Ansible Automation, Premium (100 Managed Nodes) - 3 Years	1 no				
115	33450-B10-115	Red Hat OpenStack Platform, Premium (2-sockets) - 1 Year	1 no				
116	33450-B10-116	Red Hat OpenStack Platform, Premium (2-sockets) - 3 Years	1 no				
117	33450-B10-117	Red Hat OpenStack Platform, Standard (2-sockets) - 1 Year	1 no				
118	33450-B10-118	Red Hat OpenStack Platform, Standard (2-sockets) - 3 Years	1 no				
119	33450-B10-119	Red Hat OpenStack Platform (without guest OS), Premium (2-sockets) - 1 Year	1 no				
120	33450-B10-120	Red Hat OpenStack Platform (without guest OS), Premium (2-sockets) - 3 Years	1 no				
121	33450-B10-121	Red Hat OpenStack Platform (without guest OS), Standard (2-sockets) - 1 Year	1 no				
122	33450-B10-122	Red Hat OpenStack Platform (without guest OS), Standard (2-sockets) - 3 Years	1 no				

123	33450-B10-123	Red Hat OpenShift Kubernetes Engine, Premium (2 Cores or 4 vCPUs) - 1 Year	1 no				
124	33450-B10-124	Red Hat OpenShift Kubernetes Engine, Premium (2 Cores or 4 vCPUs) - 3 Years	1 no				
125	33450-B10-125	Red Hat OpenShift Kubernetes Engine, Standard (2 Cores or 4 vCPUs) - 1 Year	1 no				
126	33450-B10-126	Red Hat OpenShift Kubernetes Engine, Standard (2 Cores or 4 vCPUs) - 3 Years	1 no				
127	33450-B10-127	Red Hat OpenShift Kubernetes Engine (Bare Metal Node), Premium (1-2 sockets up to 64 cores) - 1 Year	1 no				
128	33450-B10-128	Red Hat OpenShift Kubernetes Engine (Bare Metal Node), Premium (1-2 sockets up to 64 cores) - 3 Years	1 no				
129	33450-B10-129	Red Hat OpenShift Kubernetes Engine (Bare Metal Node), Standard (1-2 sockets up to 64 cores) - 1 Year	1 no				

130	33450-B10-130	Red Hat OpenShift Kubernetes Engine (Bare Metal Node), Standard (1-2 sockets up to 64 cores) - 3 Years	1 no				
131	33450-B10-131	Consulting : Consulting Unit	1 no				
132	33450-B10-132	Training : Training Unit	1 no				
133	33450-B10-133	Red Hat Learning Subscription Standard	1 no				
134	33450-B10-134	Red Hat Enterprise Linux Automation with Ansible Classroom Training	1 no				
135	33450-B10-135	Red Hat System Administration I Classroom Training	1 no				
136	33450-B10-136	Red Hat JBoss Application Administration I Classroom Training	1 no				
137	33450-B10-137	Red Hat OpenStack Administration I: Core Operations for Domain Operators Classroom Training	1 no				
138	33450-B10-138	Containers, Kubernetes, and Red Hat OpenShift Administration II Classroom Training	1 no				
139	33450-B10-139	EDB Postgres Enterprise (4 cores) - 1 Year	1 no				
140	33450-B10-140	EDB Postgres Standard (4 cores) - 1 Year	1 no				

141	33450-B10-141	EDB Postgres Developer ? Enterprise (user) 1 user 1 year	1 no				
142	33450-B10-142	EDB Postgres Developer - Standard (user) 1 user 1 year	1 no				
143	33450-B10-143	EDB Postgres Enterprise (4 cores) - 3 Years	1 no				
144	33450-B10-144	EDB Postgres Standard (4 cores) - 3 Years	1 no				
145	33450-B10-145	EDB Postgres Developer ? Enterprise (user) 1 user 3 years	1 no				
146	33450-B10-146	EDB Postgres Developer - Standard (user) 1 user 3 years	1 no				
147	33450-B10-147	EDB Postgres Enterprise (4 cores) - 5 Years	1 no				
148	33450-B10-148	EDB Postgres Standard (4 cores) - 5 Years	1 no				
149	33450-B10-149	EDB Postgres Developer ? Enterprise (user) 1 user 5 years	1 no				
150	33450-B10-150	EDB Postgres Developer - Standard (user) 1 user 5 years	1 no				
		<b>Total</b>					

**Note:**

- 1) The Bidder shall submit the offer by filling up all the columns against each item. Bidders should quote for all items listed above. Partial quote is not allowed for this Category. However, the bidder should ensure that the prices are quoted for the corresponding accessories relevant to the items quoted
- 2) Warranty: One year minimum warranty or Product Standard warranty whichever is higher
- 3) The Rate Contract will be valid for 1 year from the date of signing of the contract or agreement / date of release of the Purchase order, whichever is later.

**A2.12 Price Bid – Category B12- High End Plotters & Scanners**

S.N	Product Code	Description	Quantity/Unit	Basic Unit Price In Rs.	GST in % for Col no.5	GST Value in Rs. For Col No.5	Total Unit Price with GST (Rs.) (5)+(7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	33450-B12-SP001	A4 ADF 8ppm Portable Scanner	1 no				
2	33450-B12-SP002	A4 Flatbed with ADF 20 PPM Scanner	1 no				
3	33450-B12-SP003	A4 ADF 30PPM Scanner	1 no				

4	33450-B12-SP004	A4 Flatbed with ADF 40 PPM Scanner	1 no				
5	33450-B12-SP005	A4 ADF 60PPM Scanner with CCD/CIS	1 no				
7	33450-B12-SP007	A4 ADF 70PPM Scanner	1 no				
8	33450-B12-SP008	A3 ADF 60 PPM Scanner with network	1 no				
9	33450-B12-SP009	A3 Flatbed with ADF 70 PPM Scanner	1 no				
10	33450-B12-SP010	A3 ADF 120PPM Scanner	1 no				
11	33450-B12-SP011	A0 – 36 "LED Monochrome Plotter & Color Scanner	1 no				
12	33450-B12-SP012	A1 24" inch Plotter (color)	1 no				
13	33450-B12-SP013	A0 – 36 " Inkjet Plotter & Color Scanner	1 no				
14	33450-B12-SP014	A4 Flatbed Scanner	1 no				
15	33450-B12-SP015	A4 ADF 25PPM Scanner	1 no				
16	33450-B12-SP016	A4 ADF 40PPM Scanner	1 no				



17	33450-B12-SP017	A3 ADF 90 PPM Scanner	1 no				
18	33450-B12-SP018	A2+ overhead flat bed scanner	1 no				
19	33450-B12-SP019	A0 – 36 " inch Plotter (color)	1 no				
20	33450-B12-MFD-020	A4 -18 PPM -MFD Mono Copier/Printer/ Scanner with Network and wireless with memory	1 no				
21	33450-B12-MFD-021	A4 -25 PPM - MFD Mono Copier/Printer/ Scanner/Fax/D/N/ with ADF and Wifi with memory	1 no				
22	33450-B12-MFD-022	A4 -16 PPM -MFD Colour Copier/Printer/ Scanner/Network/Wi-Fi with memory	1 no				
23	33450-B12-MFD-023	A4 -25 PPM -MFD Colour Copier/Printer/ Scanner/Network and wireless and ADF with memory	1 no				
24	33450-B12-LP-024	Laser Printer - A4 - 20 PPM Mono with Network,Duplex with memory	1 no				
25	33450-B12-LP-025	Laser Printer - A4 - 25 PPM Mono with Duplex, Network & Wi-Fi with memory	1 no				

26	33450-B12- LP - 026	Color Laser Printer - A4 - 20 PPM with Network and Duplex and wireless with memory	1 no				
27	33450-B12- LP - 027	Color Laser Printer - A4 - 25 PPM with Network and Duplex,WiFi with memory	1 no				
28	33450-B12-MFD-028	A4 -35 PPM - MFD Mono Copier/Printer/ Scanner//D/N/ with ADF and wifi	1 no				
		<b>Total</b>					

**Note:**

- 1) **The Bidder shall submit the offer by filling up all the columns against each item. Bidders should quote for all items listed above. Partial quote is allowed for this Category. However, the bidder should ensure that the prices are quoted for the corresponding accessories relevant to the items quoted**
- 2) **Warranty: One year minimum warranty or Product Standard warranty whichever is higher**
- 3) **The Rate Contract will be valid for 1 year from the date of signing of the contract or agreement / date of release of the Purchase order, whichever is later.**

**A2.13 Price Bid – Category B13–IP Camera**

S.N	Product Code	Description	Quantity/Unit	Basic Unit Price In Rs.	GST in % for Col no.5	GST Value in Rs. For Col No.5	Total Unit Price with GST (Rs.) (5)+(7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	33450-B13-CAM-001	2 MP Fixed Lens Dome Camera	1 no				
2	33450-B13-CAM-002	2 MP Fixed Lens Dome Camera With SD card and audio	1 no				
3	33450-B13-CAM-003	2 MP Dome camera with motorised varifocal lens	1 no				
4	33450-B13-CAM-004	2 MP Fixed lens Bullet Camera	1 no				
5	33450-B13-CAM-005	2 MP Fixed Lens Bullet Camera With SD card and audio	1 no				
6	33450-B13-CAM-006	2 MP Bullet camera with motorised varifocal lens	1 no				
7	33450-B13-CAM-007	2 MP 20x PTZ Camera	1 no				
8	33450-B13-CAM-008	5 MP 30x Auto Tracking PTZ Camera	1 no				

9	33450-B13-CAM-009	5 MP Fixed Lens Dome Camera With SD card and audio	1 no				
10	33450-B13-CAM-010	5 MP Dome camera with motorised varifocal lens	1 no				
11	33450-B13-CAM-011	5 MP Fixed Lens Bullet Camera With SD card and audio	1 no				
12	33450-B13-CAM-012	5 MP Bullet camera with motorised varifocal lens	1 no				
13	33450-B13-CAM-013	5 MP Bullet camera with motorised varifocal lens with analytics	1 no				
14	33450-B13-CAM-014	5 MP box camera	1 no				
15	33450-B13-CAM-015	8 MP Dome camera with motorised varifocal lens	1 no				
16	33450-B13-CAM-016	8 MP Bullet camera with motorised varifocal lens	1 no				
17	33450-B13-NVR-017	Network Video Recorder 8 Channels 1 HDD	1 no				
18	33450-B13-NVR-018	Network Video Recorder 16 Channels 2 HDD	1 no				
19	33450-B13-NVR-019	Network Video Recorder 32 Channels 4 HDD	1 no				
20	33450-B13-NVR-020	Network Video Recorder 64 Channels 8 HDD	1 no				

21	33450-B13-IP-021	Video Management Software	1 no				
22	33450-B13-IP-022	Video Analytics Software with ANPR	1 no				
23	33450-B13-IP-023	Video Analytics Software with Face Recognition features	1 no				
		<b>Optional Items</b>					
24	33450-B13-IP-024	2 MP Bullet camera with motorised varifocal lens with ANPR (optional)	1 no				
25	33450-B13-IP-025	2 MP 30x Auto Tracking PTZ Camera (optional)	1 no				
26	33450-B13-IP-026	8 MP box camera (optional)	1 no				
27	33450-B13-IP-027	8 MP 30x Auto Tracking PTZ Camera (optional)	1 no				
		<b>Accessories</b>	1 no				
28	33450-B13-IP-028	13 Feet GI Pole	1 no				
29	33450-B13-IP-029	15 Feet GI Pole	1 no				
30	33450-B13-IP-030	Outdoor weather proof Junction Box	1 no				
31	33450-B13-IP-031	4 TB AV Hard Disk	1 no				
32	33450-B13-IP-032	6TB AV Hard Disk	1 no				

33	33450-B13-IP-033	8 TB AV Hard Disk	1 no				
34	33450-B13-IP-034	10 TB AV Hard Disk	1 no				
35	33450-B13-IP-035	12 TB AV Hard Disk	1 no				
36	33450-B13-IP-036	Indoor Microphone	1 no				
37	33450-B13-IP-037	Outdoor Microphone	1 no				
38	33450-B13-IP-038	HDMI Splitter 1 in and 2 Out	1 no				
39	33450-B13-IP-039	64GB SD card class 10	1 no				
40	33450-B13-IP-040	128GB SD card class 10	1 no				
41	33450-B13-IP-041	HDMI Cable per Meter	1 no				
42	33450-B13-IP-042	VGA Cable Per Meter	1 no				
43	33450-B13-IP-043	Site Survey per site	1 no				
		Total					

**Note:**

- 1) **The Bidder shall submit the offer by filling up all the columns against each item. Bidders should quote for all items listed above. Partial quote is allowed for this Category. However, the bidder should ensure that the prices are quoted for the corresponding accessories relevant to the items quoted**
- 2) **Warranty: One year minimum warranty or Product Standard warranty whichever is higher**

- 3) The Rate Contract will be valid for 1 year from the date of signing of the contract or agreement / date of release of the Purchase order, whichever is later.

**A2.14 Price Bid – Category B14- Firewall**

S.N	Product Code	Description	Quantity/Unit	Basic Unit Price In Rs.	GST in % for Col no.5	GST Value in Rs. For Col No.5	Total Price with GST (Rs.) (5)+(7)	Unit with
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
1	33450-B14-001	Next Generation Firewall cum SDWAN Router - Category -1 (Suitable for upto 300 Users)	1 no					
2	33450-B14-002	Next Generation Firewall cum SDWAN Router - Category -2 (Suitable for upto 100 Users)	1 no					
3	33450-B14-003	Next Generation Firewall cum SDWAN Router - Category -3 (Suitable for upto 50 Users)	1 no					
4	33450-B14-004	Next Generation Firewall cum SDWAN Router - Category -4 (Suitable for upto 25 Users)	1 no					
5	33450-B14-005	Data Center Firewall cum SDWAN Core Router - Category -1 (Suitable for upto 5000 Users)	1 no					

6	33450-B14-006	Data Center Firewall cum SDWAN Core Router - Category -2 (Suitable for upto 2500 Users)	1 no				
7	33450-B14-007	SD-WAN Manager for Central Management and Monitoring	1 no				
8	33450-B14-008	Web Application Firewall (Category-1)	1 no				
9	33450-B14-009	Web Application Firewall (Category-2)	1 no				
		<b>Add on</b>					
10	33450-B14-010	10 user upgrade for item code 33450-B14-007	1 no				
		<b>Total</b>					

**Note:**

- 1) **The Bidder shall submit the offer by filling up all the columns against each item. Bidders should quote for all items listed above. Partial quote is allowed for this Category. However, the bidder should ensure that the prices are quoted for the corresponding accessories relevant to the items quoted**
- 2) **Warranty: One year minimum warranty or Product Standard warranty whichever is higher**
- 3) **The Rate Contract will be valid for 1 year from the date of signing of the contract or agreement / date of release of the Purchase order, whichever is later.**



**A2.15 Price Bid – Category B15- Laptop**

S.N	Product Code	Description	Quantity/Unit	Basic Unit Price In Rs.	GST in % for Col no.5	GST Value in Rs. For Col No.5	Total Unit Price with GST (Rs.) (5)+(7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	33450-B15-001	Laptop Intel Pentium / AMD	1 no				
2	33450-B15-002	13.3" Laptop with i5 G series Processor, SSD	1 no				
3	33450-B15-003	13.3" Laptop with i7 G series Processor, SSD	1 no				
4	33450-B15-004	14" Laptop with i3 G series Processor	1 no				
5	33450-B15-005	14" Laptop with i5 G series Processor, SSD	1 no				
6	33450-B15-006	14" Laptop with i5 G series Processor, FHD, SSD	1 no				
7	33450-B15-007	14" Laptop with i5 G series Processor, 1 TB SATA HDD with 8 GB	1 no				
8	33450-B15-008	14" Laptop with i7 G series Processor , 1 TB SATA HDD with 16GB	1 no				
9	33450-B15-009	14" Laptop with i7 G series Processor SSD with 16GB	1 no				
10	33450-B15-010	14" Laptop with i7 G series Processor, FHD, m2 SSD with 16GB	1 no				

11	33450-B15-011	14" Laptop with AMD Ryzen 3 Processor	1 no				
12	33450-B15-012	14" Laptop with AMD Ryzen 5 Processor	1 no				
13	33450-B15-013	14" Laptop with AMD Ryzen 7 Processor	1 no				
14	33450-B15-014	15.6" Laptop with i3 G series Processor, SSD with 8 GB	1 no				
15	33450-B15-015	15.6" Laptop with i5 G series Processor, SSD with 8 GB	1 no				
16	33450-B15-016	15.6" Laptop with i7 G series Processor, FHD, SSD with 16GB	1 no				
17	33450-B15-017	Convertible 360 Degree Laptop - i5 G series Processor, SSD	1 no				
18	33450-B15-018	2 in 1 Laptop - i5 G series Processor, SSD	1 no				
19	33450-B15-019	Light weight Laptop with i5 G series Processor	1 no				
20	33450-B15-020	Surface Laptop with 256 GB SSD	1 no				
21	33450-B15-021	Surface Laptop with 512 GB SSD	1 no				
22	33450-B15-022	14" Laptop with i7 - (A)	1 no				
23	33450-B15-023	Surface Go2 M3/4/64	1 no				
24	33450-B15-024	Surface Go 2 M3/8/128	1 no				
25	33450-B15-025	Surface Pro 7 i5/8/256	1 no				
26	33450-B15-026	Surface Pro 7 i7/16/256	1 no				

27	33450-B15-027	14" Laptop with i5 - (A)	1 no				
		<b>Add on Items</b>					
28	33450-B15-028	4 GB DDR4 RAM	1 no				
29	33450-B15-029	8 GB DDR4 RAM	1 no				
30	33450-B15-030	16 GB DDR4 RAM	1 no				
31	33450-B15-031	500 GB HDD SATA 5400 RPM	1 no				
32	33450-B15-032	1TB HDD SATA 5400 RPM	1 no				
33	33450-B15-033	2TB HDD SATA 5400 RPM	1 no				
34	33450-B15-034	500GB HDD SATA 7200 RPM	1 no				
35	33450-B15-035	1 TB HDD SATA 7200 RPM	1 no				
36	33450-B15-036	2 TB HDD SATA 7200 RPM	1 no				
37	33450-B15-037	256 GB SSD	1 no				
38	33450-B15-038	512 GB SSD	1 no				
39	33450-B15-039	1 TB SSD	1 no				
40	33450-B15-040	256 GB M.2 SSD	1 no				
41	33450-B15-041	512 GB M.2 SSD	1 no				
42	33450-B15-042	1 TB M.2 SSD	1 no				

43	33450-B15-043	2 GB Graphics Card	1 no				
44	33450-B15-044	4 GB Graphics Card	1 no				
45	33450-B15-045	Li-On Battery (35 WHr) with minimum 5 hours backup	1 no				
46	33450-B15-046	Li-On Battery (40 WHr) with minimum 5 hours backup	1 no				
47	33450-B15-047	Li-On Battery (45 WHr) with minimum 7 hours backup	1 no				
48	33450-B15-048	DVD RW (External Drive)	1 no				
49	33450-B15-049	Wireless Keyboard(OEM)	1 no				
50	33450-B15-050	Wireless Mouse(OEM)	1 no				
51	33450-B15-051	Wireless keyboard & Mouse (Combo)(OEM)	1 no				
52	33450-B15-052	Pre-Loaded Windows 10 Pro, 64bit with 1 year antivirus software	1 no				
53	33450-B15-053	Pre-Loaded Windows 10 Home, 64bit with 1 year antivirus software	1 no				
54	33450-B15-054	Pre-Loaded Windows 10 Pro National Academic Edition	1 no				
55	33450-B15-055	Active pen (OEM Make) for Convertible 360 Degree Laptop	1 no				
56	33450-B15-056	Active pen (OEM Make) for 2 in 1 Laptop	1 no				
		<b>In lieu items</b>					

57	33450-B15-057	16 GB DDR4 RAM in lieu of 8 GB RAM	1 no				
58	33450-B15-058	1 TB HDD in lieu of 500GB SATA HDD	1 no				
59	33450-B15-059	2 TB HDD in lieu of 1TB SATA HDD	1 no				
60	33450-B15-060	512 GB SSD in lieu of 256 GB SSD	1 no				
61	33450-B15-061	1 TB SSD in lieu of 256 GB SSD	1 no				
62	33450-B15-062	1 TB SSD in lieu of 512 GB SSD	1 no				
63	33450-B15-063	512 GB M.2 SSD in lieu of 256 GB M.2 SSD	1 no				
64	33450-B15-064	1 TB M.2 SSD in lieu of 256 GB M.2 SSD	1 no				
65	33450-B15-065	256 GB M.2 SSD in lieu of 256 GB SSD	1 no				
66	33450-B15-066	512 GB M.2 SSD in lieu of 256 GB SSD	1 no				
67	33450-B15-067	1 TB M.2 SSD in lieu of 256 GB SSD	1 no				
68	33450-B15-068	Pre-Loaded Windows 10 Pro, 64bit with 1 year antivirus software in lieu of Linux OS	1 no				
69	33450-B15-069	Pre-Loaded Windows 10 Home, 64bit with 1 year antivirus software in lieu of Linux OS	1 no				
70	33450-B15-070	Pre-Loaded Linux OS in lieu of Windows OS	1 no				
		<b>Total</b>					

**Note:**

- 1) **The Bidder shall submit the offer by filling up all the columns against each item. Bidders should quote for all items listed above. Partial quote is allowed for this Category. However, the bidder should ensure that the prices are quoted for the corresponding accessories relevant to the items quoted**
- 2) **Warranty: One year minimum warranty or Product Standard warranty whichever is higher**
- 3) **The Rate Contract will be valid for 1 year from the date of signing of the contract or agreement / date of release of the Purchase order, whichever is later.**

**Annexure-2.16 CAMC for Group B**

S.No	Category	Standard Product Warranty (in yrs) 'n'	CAMC in % for 'n'+ 1 year	CAMC in % for 'n'+ 2year	CAMC in % for 'n'+ 3 year	CAMC in % 'n'+ 4 year	GST in % for Col (4), (5) ,(6) & (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Category B5						
2.	Category B6						
3.	Category B7						
4.	Category B9						
5.	Category B11						
6.	Category B12						
7.	Category B13						
8.	Category B14						
9.	Category B15						

**Note:**

- a) The Bidders should specify the Standard Product Warranty period in Years under Column (3) for each Bidding category.
- b) CAMC should be quoted without fail. CAMC cost means cost toward all the spares, service charge and all taxes.
- c) CAMC percentage quoted should be less than 10%.
- d) If the bidder quotes 0% or leaves the column unfilled or empty, it will be treated as the bidder would render CAMC at free of cost.