



NATIONAL INSTITUTE OF TECHNOLOGY

G.E. ROAD, RAIPUR 492010, CHHATTISGARH, INDIA

Website: www.nitr.ac.in

NOTICE INVITING TENDER

NITRR/CCC&TPO/2016/OT/461

Date: 26/05/2016

National Institute of Technology, Raipur invites bids in two-bid format for “Supply and Installation of Furniture Items, Electrical and Network Cabling, Accessories and Furnishings for CCC and TPO Building in Institute” including one year comprehensive warranty maintenance and three years post warranty maintenance support services at the site. Detailed information to the bidders including Instructions, Terms and Conditions, Schedule of Requirements, Specifications and Allied Technical Details, Price Schedule, Contract Form, and some other forms are available in the tender document which may be downloaded from the Institute Website <http://www.nitr.ac.in/tenders.html>

Schedule of Tender

S.No.	Schedule	Particulars
1.	Tender Enquiry Number	Tender No. NITRR/CCC&TPO/2016/OT/461 Date: 26/05/2016
2.	Tender Processing Fee (Non-Refundable)	INR 10,000/- (Rs. Ten Thousand Only)
3.	Earnest Money Deposit	INR 10,00,000/- (Rs. Ten Lakhs Only)
4.	Date and Time of Mandatory Site Visit	15/06/2016 at 11:00am
5.	Date of hosting clarifications to the pre-bid queries sent by the bidders through e-mail to cccfur@nitr.ac.in	25/06/2016 at 03:00pm
6.	Last Date and Time for Submission of the Tender	08/07/2016 by 03:00pm
7.	Date and Time of opening of Techno-commercial bid	08/07/2016 at 03:30pm

Registrar
NIT Raipur

CHAPTER 1: INSTRUCTIONS TO BIDDERS

1. This chapter Includes General Instructions, Bidders Eligibility Criteria, Primary Furniture Manufacturer's Eligibility Criteria.
2. NIT Raipur invites bids for supply and installation of furniture items, electrical and network cabling, accessories and furnishings on turnkey basis for its' i) **Central Computer Centre (CCC)** and ii) **Training and Placement Office (TPO) buildings**. Furnishings and accessories for the building include electronic and electrical items essential for smooth functioning.
3. This is an open tender. Sealed bids under the two-part bid system consisting of a) Techno-commercial part and b) Financial part are invited from technically experienced bidders for the same.
4. **Techno-commercial Part:** Techno-commercial part shall contain the specification sheets (where applicable) for technical compliance or brief notes on individual product compliances specifically mentioning the deviations (if any)
 - a. Bidders shall submit the technical datasheets of the passive network components including racks, rodent repellent system *etc.* with their techno-commercial bids along with line-by-line compliance of the same.
 - b. The cable trays, electrical cables and components supplied should meet ISI/BIS standards and the *make* must be approved by the **CCC** before delivery and installation.
 - c. Passive network components including racks quoted must be supported by the manufacturer's datasheets / catalog and must include the table for line by line compliances with the Techno-commercial part. This also applies for audio-visual systems, public address systems, IP based surveillance systems, *etc.* whose technical details are also included in tabular form in Chapter 3: Specifications and Allied Technical Details.
 - d. Bidders are required to quote only those products which meet the specifications and allied technical details mentioned in this tender document.
 - e. Bidder shall submit the plan, elevation, and isometric drawings along with the dimensions of the **modular workstations** with the techno-commercial bid.
 - f. Bidder has to submit proposed drawing or colored photographs (of good image resolution) of each item quoted along with model numbers, if any. Isometric drawings of the workstations with dimensions to be mandatorily included. Failure to provide such drawings or photographs along with the technical bid will result in rejection of the bid.
 - g. Bidder has to submit a detailed cable tray layout showing the locations of electrical and data posts, if any, along with the Techno-commercial bids.
 - h. Techno-commercial part must contain documents in support of eligibility criteria of the bidder and the primary furniture manufacturer, along with the original EMD document.
 - i. **Tender Processing Fee:** Bidders have to deposit a non-refundable tender processing fee in the form of an account payee demand draft of Rs. 10,000/- in favor of the Director, NIT Raipur along with the techno-commercial bid.
 - j. **Techno-commercial part shall not contain any price related information.**
5. **Financial Bid:** The Financial bid shall contain the signed and sealed price schedule submitted by the bidder.
 - a. All-inclusive prices are to be mentioned in the price bid. The price will be firm and fixed throughout the period of the contract.

- b. The all-inclusive prices should include the costs of procurement, freight, transit insurance if any, labour charges for movement to the actual site of installation, and any other charges etc. and there shall be no escalation in the cost of labour or material.
- c. NIT Raipur shall not pay any idle wages for labour or machinery nor any interest on any payment due but not released for any reason, whatsoever.
- d. Government duties and tax percentages included in the price shall be mentioned separately.
- e. In case of the prices being affected by a hike in government duty or taxes, NIT Raipur shall make the payment for the increase, if any. All necessary documents in this regard shall be submitted by the bidder for approval by the competent financial authority of the Institute.
- f. In case of price reduction between the duration of bid opening to supply of the items, the benefit must be forwarded to NIT Raipur by the bidder.

6. Mandatory Site Visit:

- a. The bidder has to mandatorily visit the site of work *i.e.*, **CCC** and **TPO** buildings and must study/inspect the drawings and design and to involve their authorized professionals for furniture, electrical and networking domains and carry out all necessary assessments before bidding for the tender.
- b. The site visit shall be convened on 15/06/2016 at 11:00am and the prospective bidders must attend at their own cost.
- c. Bids from bidders who fail to attend the site visit, shall not be considered.
- d. Bidders are advised to be observant during site visit and submit quote after close consideration and observation of all local conditions which may have a bearing on the cost. Excuses for ignorance of such situations / factors will not be entertained.
- e. No requests for modifying the quotes after submission of the bid by the bidder shall be entertained.

7. Evaluation of Tender and Award of Work:

- a. Evaluation of the tender shall be done purely on the basis of the tentative quantities for all the items mentioned in this tender document.
- b. Tenders shall be evaluated according to the terms of this tender and no new conditions shall be brought in at the time of evaluation.
- c. The work shall be awarded to the bidder who
 - i. successfully meets the eligibility criteria (including bidder's eligibility criteria as well as primary furniture manufacturer's eligibility criteria), and
 - ii. submits a bid complete in all respects and contains products which are technically compliant with the specifications and allied technical details mentioned in this tender, submits suitable furniture designs based on the specifications as mentioned in this tender document, and
 - iii. whose bid is the lowest in terms of all inclusive prices of all the items and services F.O.R. NIT Raipur including annual maintenance contract (the grand total as mentioned in price schedule-refer Chapter: 4) .

8. Pre-bid Clarifications:

- a. Any clarification in connection with this tender or a pre-bid query may be addressed to cccfur@nitrr.ac.in. The pre-bid query must contain the postal address and email address of the bidder.
- b. The pre-bid queries will be only entertained by those bidders who visit the site on the mentioned date and time and the queries should be sent within 7 working days from the date of site visit.

9. Clarifications and Amendments:

- a. Amendments, either as an initiative of the Institute or in response to the clarifications by the prospective bidders, shall be posted on the Institute website www.nitr.ac.in, which will be part of this tender document.
- b. Amendments to the tender shall be published on the website within 10 working days from the date of site visit. Bidders are therefore advised to submit their bids after this.
- c. The bidders have to take note of this and keep visiting the website regularly till the last date of submission of the bid. NIT Raipur shall not be responsible if information posted on the Institute website has been ignored by the bidder.

10. EMD:

Bidders shall submit an EMD of Rs. 10,00,000/- (Rs. Ten Lacs) in favour of the Director, NIT Raipur in the form of Account Payee demand draft/ Fixed Deposit Receipt / Bank Guarantee (Please refer Chapter:7 for the bank guarantee format). The EMD is to be submitted along with the technical Bid and shall be refunded on furnishing of performance bank guarantee by the successful bidder. EMD of unsuccessful bidders shall be released after receiving claim letter from such bidder.

11. Variation in Quantities:

- a. Actual quantities may vary from the tentative quantities mentioned in this tender document, but the total value of the variation of quantities shall not exceed 10% of the work order value.
- b. Payment for the items shall be made strictly in accordance with the actual quantities supplied and installed.
- c. Electric and Passive Data Network cables and components are subject to 30% variation on either side.
- d. Payment for the workstations shall be made in accordance with the actual numbers erected as per the final approved drawing by the CCC.
- e. The total payment for the project, taking into account of all the variations, after the work order shall not exceed 10% of the original work order value.

12. Bid Submission:

- a. Both the parts (Techno-commercial and Financial) shall be sealed in separate envelopes and the two envelopes shall be placed in a third sealed envelope, which should be titled as '**Bid for CCC and TPO**'.
- b. Both the envelopes shall be labeled appropriately with the part enclosed (Techno-commercial / Financial), the tender (Tender Name, Date and Number), and the bidder (Name, Complete Postal Address and E-mail ID).
- c. Complete bid (single sealed envelope containing two separate sealed covers of techno-commercial and financial bids) must be labeled appropriately with the tender details (Tender Name, Date and Number), and the bidder (Name, Complete Postal Address and E-mail ID) submitted on or before 08/07/2016 up to 03:00PM.
- d. The bids should be addressed to the Registrar, National Institute of Technology, Raipur 492010.
- e. Method of submission of the bid: Bids should be dropped in the Tender Box, especially kept for the purpose in the Central Stores in Main Office.
- f. The Assistant Registrar (Stores and Purchase) may be contacted in case of any difficulty related to submission.

13. Bid Opening:

Techno-commercial bid will be opened on 08/07/2016 at 03:30PM. The bidder or their authorized representatives may attend the opening of the bids.

Date and Time of Opening of Financial Bids shall be communicated to the techno-commercially qualified bidders through E-mail.

14. PRE-QUALIFICATION CRITERIA OF THE BIDDER (All the declarations should be made point wise on Rs. 100/- stamp paper)

S.No.	Eligibility Criteria	Document Required, if any
1.	Bidder should be an ISO 9001 certified organization and should have experience in comprehensive physical infrastructure design and implementation of IT spaces which should include interior furnishing, furniture, storage, racks, electrical power distribution, network, voice communication and cabling.	ISO Certificate and Relevant Work Orders
2.	Bidder should declare that the supply and installation of all the items and services will be made as per the requirement of the tender and as approved by the end user (i.e. CCC and TPO) in accordance with Chapter 3 (Specifications and Allied Technical Details).	Declaration
3.	Bidder should submit the following documents: • Registration of company • Trade License • Income Tax Return Copy of 2013-14 and /or 2014-15. • PAN No. • CST Registration. • VAT No. • EPF Registration No. • Service Tax Registration No.	Copies of Documents
4.	Bidder should agree and undertake to provide comprehensive warranty for a period of one year from the date of installation for all the items supplied and Bidder should agree to provide three years post warranty maintenance support services at the site.	Declaration
5.	Bidder should have a functional service center set up based at Raipur or must enter into a contract with a service center for providing necessary services, within three months from the date of receipt of order. First Response Time for service should be within 24 working hours (excluding Sundays/ holidays).	Address of existing service centre / Declaration to open service centre and Declaration for first response time
6.	Copies of original documents (as applicable) defining the constitution or legal status, place of registration, and principal place of business like Memorandum & Articles of Association/ Registered Partnership deed should be submitted with the tender.	Copies of Documents
7.	Audited balance sheet should be provided for the latest three (03) years available to show the financial capability of the bidder. Turnover of the company should be minimum of Rs. Ten (10) Crores in each of latest three consecutive years available. The bidder must also submit a certificate from the Auditor / Chartered Accountant in this respect.	Copies of Documents
8.	Bidder should not have been black listed/non conformity of contract from any state government, central government or any PSU. The bidder must also not be referred to or under BIFR.	Declaration

9.	Work orders and work completion certificates of similar projects containing installation of Physical Infrastructure including interior furnishing, furniture, storage, racks, electrical power distribution, network, data and/or voice communication etc. works to be submitted along with the technical bid. The works should be of any of the following: i) One (01) order of 200 Lakhs and above, OR ii) Two (02) orders for 125 Lakhs and above, OR iii) Three (03) orders of 100 Lakhs and above.	Work orders and work completion certificates
10.	A sample of any item, on demand, to be provided at NIT Raipur site for technical verification, at the cost of the bidder as a part of technical bid and before opening of the financial bid, failing which the bid will be rejected.	Declaration

QUALIFICATION CRITERIA OF THE PRIMARY FURNITURE MANUFACTURER

S.No.	Qualification Criteria	Document Required, if any
1.	The common manufacturer of furniture worth at least 80% of the gross value of furniture items listed in this project is defined as the primary furniture manufacturer. The primary furniture manufacturer brand quoted should have completed at least three (03) fit-out projects of INR 50 Lakhs and above, in last seven (07) years, in India.	Completion certificate from the manufacturer should be submitted by the bidder along with the technical bid to substantiate.
2.	The primary furniture manufacturer should have a Sales/Support <i>Hotline Number</i> and such numbers should be visible in their official website. The primary furniture manufacturer must have minimum two of the following certifications: ISO 9001, 14001 and OHSAS 18001 certified. Certificate to be enclosed.	Copies of certificates to be enclosed
3.	The manufacturer should be registered with ESIC.	Copies of Certificate to be enclosed.
4.	The primary furniture brand quoted by the bidder must have their own factory setup in India for a minimum period of ten years. NIT Raipur reserves the right to visit the factory premises of the primary furniture manufacturer quoted by the bidder, at the cost of the Institute for verification of the same.	The address and the contact person should be mentioned.

CHAPTER 2: CONDITIONS OF CONTRACT

1. **Bid Preparation Expenses:** NIT Raipur shall not bear any expenses incurred by the bidder for preparing this bid.
2. **Detailed Project Report (DPR):** After opening of financial bids and issue of letter of intent (LoI) from NIT Raipur, the successful bidder, i.e., the contractor is required to prepare a detailed project report and submit the same within 21 days of acknowledgement of receipt of LoI.
 - a. The detailed project report shall be prepared after detailed site survey. One of the important activities during site survey shall be true estimation of quantities and formalization of requirements of cable routes, floor plans, drawings etc.
 - b. Contractor has to prepare a detailed work plan and must ensure to execute different activities in parallel.
 - c. The work order shall be issued on the basis of the DPR. Subsequent additions, if any, (within the variations allowed in this tender) shall be treated as part of this work order and no separate work order shall be issued for the same.
3. **Responsible Departments:**

For the purpose of this tender, NIT user departments – CCC and TPO shall be separately responsible and take required decisions for their respective sections.

 - a. The working drawings shall also be prepared in close consultation with the user departments i.e., CCC and TPO for their respective sections.
 - b. These estimates and drawings shall be included by the contractor in the detailed project report and used for issue of the formal work order.
 - c. The detailed project report shall be approved by the CCC and TPO for their respective sections.
4. **LoA:** The letter of acceptance of the work order has to be sent within 7 working days of receiving the work order from NIT Raipur.
5. **Formal Contract:** Before commencement of work, NIT Raipur shall sign an agreement with the bidder on stamp paper of Rs. 100/- reiterating all terms and conditions mentioned in this tender document.
6. **PBG:** Successful bidder shall be required to deposit an amount of 10% of the order value towards performance guarantee within 15 days from the date of issue of Work Order failing which NIT Raipur reserves the right to cancel the tender & forfeit the earnest money already submitted.
7. NIT Raipur reserves the right to drop any item, completely or in part prior to issue of the work order.
8. **Time of Completion:**
 - a. The entire work including supply and installation of all the items under this project has to be completed within six calendar months from the date of acceptance of the technically and commercially clear work order given by NIT Raipur
 - b. Bidder has to plan the schedule accordingly and execute different tasks in parallel. Details of the schedule will have to be submitted by the bidder and shall be used for the purpose of periodic progress monitoring.
9. **Payment Terms:**
 - There shall be no advance payments against this contract.
 - 40 percent of the total contract value to be paid on supply of workstation items (Item -1 to 5).
 - 20 percent of the total contract value to be paid on supply of furniture items (Item -6 to 68).
 - 20 percent of the total contract value to be paid on supply of 'Electronic / Electric Furnishing' Items, including Electrical & Network cabling.
 - 20 percent of the total contract value to be paid within 30 days from the date of installation of all items, as per scope of work of this tender.
 - User Acceptance after checking of technical compliances against actual installation by respective user sections i.e., CCC and TPO shall be required for payment release.

- Bills have to be submitted in triplicate to CCC and TPO against material supplied and installed in their sections.
10. The common manufacturer of furniture worth at least 80% of the net value of furniture items listed in this project is defined as the primary furniture manufacturer.
 11. At least 80% of the net value of furniture items shall be from the same manufacturer who is the primary furniture manufacturer.
 12. Telegraphic or conditional bid will not be accepted.
 13. Even though a bidder meets the above qualifying criteria, it may be subject to be disqualified at any stage of the tender process , if they have:
 - a. made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements (NIT, in this regard always reserves the right to verify from any person, banker of the applicant or companies issuing credentials in favor of the applicant) and/or
 - b. record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures *etc.*
 14. Bidder to give detailed compliance to the technical specifications, for each item and should strictly adhere to the same. Technical compliances shall be verified by CCC and TPO.
 15. In case of requirement where it is possible to position a readily available product from the market, or one that has to be custom fabricated as per requirement or which the primary furniture manufacturer does not manufacture, the furniture can be of a different make.
 16. Bidder shall be completely responsible for the conduct of the workers deployed by him in the Institute for the purpose of execution of this work and to the extent possible coordinate with other agency working in the Institute where required.
 17. **Bill Payment Policy:**
 - a. As per the normal practices prevalent in the Institute, bills shall take 15-30 days from submission till payment release, if all the required papers and documentation are in order.
 - b. Any inquiries related to pending payments shall be made beyond this period.
 - c. Any reminders or pursuance for bill clearance shall be done through e-mail, letter, fax and other official correspondence only.
 - d. Any personal contact with the NIT personnel involved in the project for payment of bills, etc. shall be construed as malpractice.
 18. **Financial Bid Validity:** Financial Bids should be valid for a period of 90 Days from the date of opening of techno-commercial bid.
 19. **Price Validity:** The prices quoted in the financial bid should remain valid for 10 months from the date of opening of the financial bid.
 20. **Liquidated Damages:**
 - a. If there is delay which cannot be attributed to force majeure reasons such as natural causes, war, etc. or site unavailability / site not ready conditions, LD shall be deducted.
 - b. LD shall be deducted at the rate of 0.5% of work order value per week, subject to a maximum of 10% of work order value.
 - c. Contractor should immediately inform in writing by mailing a scanned copy of the letter on his official letterhead to cccfur@nitrr.ac.in if the site is not ready for some reason. Genuine delay due to SNR conditions will not be treated for imposition of LD. The contractor is also not eligible to claim any extra payment for such delay.
 21. **Damage to Institute Property during Execution of Work:** If any damage is caused to any institute property during execution of the work by the contractor then the same shall be got repaired / replaced depending on the case by the contractor or equivalent amount shall be deducted.
 22. **Arbitration:**
 - a) All disputes arising out of or relating to this contract shall be resolved amicably by mutual discussions and negotiations between the parties.

- b) If any dispute remains unresolved as per the above procedure, it shall be referred to a sole arbitrator to be appointed by the Director or Head of NIT Raipur, by whatever designation he is known. Arbitrator shall be appointed within 30 days of receipt of a request being made by the party. The party shall make the request within 60 days from the date on which the dispute arose.
 - c) The arbitration shall be governed by the provisions of Indian Arbitration and Conciliation Act, 1996 as amended from time to time and the award passed by the arbitrator shall be final and binding on both the parties.
 - d) The Arbitrator shall give reasons for this award and the language of arbitration shall be English.
23. **Jurisdiction:** The Honourable High Court of Bilaspur has exclusive jurisdiction to determine any proceeding or arbitration award in relation to this contract.

24. **Contract Form:**

- a) A suitable contract agreement shall be signed before starting the work.
- b) Successful bidder shall be required to enter into a contract with the Institute after the issue of the work order.
- c) Submission of the bid against this open tender enquiry by a bidder implies that the bidder is in full agreement with the terms and conditions mentioned in this tender document. The successful bidder shall be required to affix his signature and seal on each page of this tender document and submit the same as proof of having accepted the terms and conditions mentioned herein.
- d) The contract with the successful bidder will be on Rs. 100/- stamp paper and shall contain the terms and conditions mentioned under the different chapters and sections of this tender document.

CHAPTER 3: SCHEDULE OF REQUIREMENTS (Including Scope of Work)

Items 6,7,19, 61 and 62 are left blank. Bidder must ignore them.

S.No.	ITEM	QTY FOR CCC	QTY FOR TPO	NET QTY
1.	50 mm thick 1000mm.ht. Workstation / Table top size 900X600mm	160	0	160
2.	50 mm thk 1200mm.ht. Panel Based Workstation / Table Top size 750mm x 600mm	225	0	225
2(a)	50 mm thk 1000mm.ht. Panel Based Workstation / Table Top size 750mm x 600mm	0	5	5
3.	50 mm thk 1200mm.ht. Panel Based Workstation / Table Top size 1050mm x 600mm	35	0	35
4	KBPT	460	15	475
5	CPU Trolley	460	15	475
6	--	--	--	--
7	--	--	--	--
8	Self Standing Table Desk with Pedestal	14	0	14
8(a)	Self Standing Table Desk with Pedestal	0	3	3
9	Workstation Chair Medium Back Revolving Chair	435	5	440
10	Visitor Chair	52		
11	Single Bed	8	0	8
12	Corner Table	4	0	4
13	Comfortable Chair	8	0	8
14	Mattress 1950mm X 1000mm	8	0	8
15	Pillow	8	0	8
16	Bedsheet and Blankets	8	0	8
17	Wardrobe	4	0	4
18	Heavy Duty Work Table of Depth WxDxH 1800mm x 900mm x 750mm	4	0	4
19	--	--	--	--
20	High back chair	6		
21	Steel Almirah	24	3	27
22	4 Seater Table Plyboard Top	6	0	6
23	Reception Table - 1800mm X 600mm (for 3 persons)	3	0	3
24	Personal Locker Unit	15	0	15
25	Executive Desk (2400 X 1050 X 750) mm with pedestal & Side Unit	1	1	2
26	Back Unit (1000W X 450D X2100H)mm.	2	2	4
27	Executive High Back Chair	1	5	6
28	Magnetic board (900 X 600)mm.	3	1	4
29	White board (900 X 750)mm.	3	1	4
30	Medium Chair	4	0	4
31	Executive sofa (3+1+1)	1	1	2
32	Premium lounge Chair (3 Seater)	10	4	14
33	Corner Table	2	4	6
34	Coffee Table with Shelves	1	1	2
35	Executive Desk (2100 X 900 X 750)mm. with Pedestal Storage Unit & Side unit	1	0	1
36	Back unit (2250 X 400 X 2000)mm	1	0	1
37	Executive High Back Chair	1	0	1
38	Medium back Chair	3	0	3
39	Coffee Table with Shelves	1	0	1
40	Corner table	2	0	2
41	3 seater Sofa	1	0	1
42	Single seater sofa	2	0	2
43	Movable Storage System: Single faced static unit - 1980H X 1830W X 457D mm	2	1	3
44	Movable Storage System: Single faced movable unit 1980HX1830WX457D mm	2	1	3
45	Movable Storage System: Double faced movable unit - 1980H X 1830W X 914D mm	2	1	3
46	Channel 9 ft.	2	1	3
47	3 seater Sofa	1	0	1
48	Single seater sofa	2	0	2

48(a)	Comfortable Sofa Set (3+1+1)	0	1	1
48(b)	Sofa set (3 seater)	0	1	1
49	High back chair	0	20	20
50	Medium back Chair	31	32	63
51	4 door Book case (914mm Wx 380mm Dx 1750mm H)	8	3	11
52	Executive Table(1650 X 750) mm., side unit & Back storage unit	1	1	2
53	10-Seater Conference table	0	2	2
54	Discussion/Meeting table (4 seater)	0	8	8
55	Fixed type educational training chair	0	140	140
56	Self Standing Table with pedestal (1800 X 900 X 750)mm	1	0	1
57	Mesh High back chair	0	1	1
58	Fixed Visitor Chair	0	9	9
59	Coffee Table: size is 1200mm (W) x 600mm (D) x 450mm (H)	1	0	1
60	Coffee table: size is 1000mm (W) x 600mm (D) x 450mm (H)	1	1	2
61	—	—	—	—
62	—	—	—	—
63	Self Standing Table with metal leg(1200 X 600)mm. & pedestal	4	0	4
64	Mesh high back Chair	3	0	3
65	Self Standing Table with metalic leg & pedestal (1650 X 900 X 750)mm.	16	0	16
66	Curtains with Fixtures	As per site requirement	As per site requirement	
67	Stackable Cafeteria Chair	0	150	150
68	Slotted Angle Rack	5	0	5
69	1' x 2' Mirrors	0	4	4
	PASSIVE CABLING AND NETWORKING RELATED Bidders must ignore Item No. 2			
1.	Network Cabling: Horiz. UTP cabling for approx. 500 nodes dual port across 3 floors			
1 (a)	Cat6 UTP Cable, Blue (Box of 305 mtrs)	100		100
1 (b)	Cat6 Patch Cord, 1 Mt., Green	500		500
1 (c)	Cat6 Patch Cord, 2 Mts., Green	500		500
1 (d)	24 Port unloaded modular Jack Panel	42		42
1 (e)	Cat6 UTP Jack, White	2000		2000
1 (f)	Dual shuttered Face Plate	500		500
2.	—	—	—	—
3.	Network Cabling: Racks for 3 floors			
3(a)	12U, Wall Mount Rack with all accessories	6	4	10
3 (b)	42U (600 x 1000 mm) Rack with vertical cable channels, 6 horizontal cable manager, two vertical power manager Castor wheel, Fan, 4 pkt of Hardware Front Panel and other accessories, as per specifications.	4		4
4.	Network Cabling: BIS/ISI marked perforated cable trays of make approved by CCC for laying electrical and data cables. The trays shall have to be fixed on mounting brackets on the floor or suspended from the ceiling, as per site requirement and approval of the client. Cable tray sheet thickness: 1.2 / 1.5 / 1.6 / 2.0 & 2.5 mm. The cable tray height shall be 50 or 75 mm. Tray widths shall be 50, 100, 150, 300, 450 & 600 mm and shall be installed as per site requirement. Cable trays shall either be hot-dipped galvanized or powder coated, as per standards. The cable tray system should include all mounting & fixing accessories, e.g. vertical / horizontal bends, inside / outside bends, reducers, etc. The trays shall have to be pre-painted in order to distinguish between a power and network. The bidder has to submit a detailed cable tray layout detailing various cable tray types with quantities along with the bid.	As per site requirement		As per site requirement
5.	PVC Conduit, in meters	600		600
6.	Network Cabling: Snap-on columns and DLP U-PVC/aluminium/snap-on trunking system for power and data distribution, as per site requirement.	As per site requirement		As per site requirement
7.	Network Cabling: Floor boxes /groumets /desktop extensions/ pop-up boxes for cable junction/termination, as per site requirement.	50		50

7 (a)	Consolidation Boxes, (2U+2U) for termination of network cables.	4		4
7 (b)	Raised Access Flooring (in Sqmt), using steel panel having a cementitious core, HPL pre-fixed, PVC beads with edge support rigid grid understructure system. Access floor system to be installed shall provide a maximum finished floor height of 450 mm from the existing floor level. The system shall provide for suitable floor tiles, pedestals and stringers designed to withstand a minimum UDL of 500 Kgs / Sqmt.	20		20
8.	Network Cabling: Installation Services			
8 (a)	Laying of UTP Cable	30500		30500
8 (b)	Termination of 24 Port Cat6 Jack Panel	42		42
8 (c)	Termination of Cat6 I/O	2000		2000
8 (d)	Installation of 12U Rack	As per site requirement		As per site requirement
8 (e)	Installation of 42U Rack	4		4
8 (f)	Installation of Raceway	As per site requirement		As per site requirement
8 (g)	Fixing of PVC Conduit	600		600
8 (h)	Fixing of consolidation boxes	4		4
8 (i)	Installation of Raised Access Floor including necessary tile cuttings, etc.	20		20
	ELECTRICAL CABLING RELATED			
1.	Flexible Cu cable, 3 x 2.5 sq. mm.; rodent and fire resistant; BIS/ISI marked; make approved by CCC	3000		
2.	Modular Power Sockets and Switches with back boxes / face plate; BIS/ISI marked; make approved by CCC	500		
3.	Power Distribution Boards (PDB); BIS/ISI marked; make approved by CCC	12		
	RODENT REPELLANT SYSTEM			
.1.	Rodent Repellent System: Rodent Repellent System shall be provided to protect the premises against any rodent infestation, the technical specification of Rodent Repellent System are as given below: (a) General Objective: The objective is to protect the entire premises against rodents. The purpose is to keep the rodents away from the floor by generating very high frequency sound waves (above 20 KHz) which are not audible to human ear but irritates rodents. The objective is to protect all the cables below floor, above ceiling & room void from damage caused by rodents. (b) Scope: The system proposed should protect all the ICT equipments with relevant type of high frequency sound producing device called satellites or transducers. The number of transducers should ensure that the premises are rodent free.			
2.	Rodent Repellent System: Ultrasound Satellites: a. The satellites or transducers shall be circular ceiling mounted low profile units that produce high decibel sound waves at very high frequency not less than 20 KHz. b. These satellites shall cover an area not less than 400 Sq.ft for Room void application, for ceiling voids & floor void applications. c. No looping is permitted while connecting the satellites to the main controller. d. Every satellite connected to the controller shall have a dedicated connection with the controller.	96		
3.	Rodent Repellent System: Controller Features: a. The controller shall support 12 Transducers and shall come with a pair of stands and brackets. b. The controller shall be installed in the Control / Switch Room and the transducers in the problematic areas i.e. above and below false ceiling and below false flooring. c. 2500 Sq. Feet of Area Coverage per system/ Controller d. Shall drive up to 12 Transducers. With minimum @ 250sft coverage each e. LCD display with on-board controls for changing parameters	8		
4.	Rodent Repellent System: Mounting Rack	8		
5.	Rodent Repellent System: Flexible cable	3000		
6.	Rodent Repellent System: Installation Services	8		
	ELECTRONIC/ELECTRIC FURNISHING ITEMS			

1.	Audio Visual System			
1.1	240W Power Amplifier with gain control and high-pass filter, as per specifications. (01 per classroom)	4	1	5
1.2	Professional high quality Gooseneck Microphone, as per specifications. (01 per classroom)	4	1	5
1.3	Miniature omni directional electret condenser lavalier type microphone. (01 per classroom)	4	1	5
1.4	Wall mount column speakers, 20 W RMS, Frequency response 150 Hz - 10 KHz, along with mounting accessories, as per specifications. (04 per classroom)	16	4	20
1.5	Wall mount rack, 6U, as per specifications. (01 per classroom)	4	1	5
1.6	Portable Wireless LCD Projector, brightness of 4500 lumens, built-in speaker, along with ceiling mounting bracket, as per specifications. (01 per classroom)	4	1	5
1.7	Interactive / Electronic Whiteboard, as per specifications. (01 per classroom)	4	1	5
1.8	Cables & conduits, as per site requirement.	600 Mtrs	200 Mtrs	800 Mtrs
1.9	Installation, Commissioning & Testing, of the above.	4 lots	1 lot	5 lots
2.	Public Address System			
2.1	250 W Amplifier with built-in MP3 player	6	0	6
2.2	Ceiling Speaker, 6W, as per specifications	36	0	36
2.3	Professional high quality Gooseneck Microphone, as per specifications.	6	0	6
2.4	6-Zone Paging Microphone	1	0	1
2.5	Cables & conduits, as per site requirement.	2000 Mtrs	1000 Mtrs	3000 Mtrs
2.6	Installation, Commissioning & Testing, of the above.	4 Lot	2 Lots	6 Lots
3.	Water Coolers with complete RO & UV system, as per specifications.	3	1	4
4.	Two-door refrigerators, as per specifications	2	1	3
5.	Microwave Oven, as per specifications. To be supplied with standard cookware set	1	1	2
6.	Induction Cooker with Cookware Set	1	0	1
7.	Coffee Tea Soup Vending Machine	1	1	2
8.	IP Surveillance System			
8.1	Indoor High Definition IP Dome Camera , IR upto 30 Mtrs, IP 66, Motion Detection, ONVIF Compliant with accessories and as per specifications. All cameras should be CE & FCC certified.	As per site requirement	As per site requirement	45
8.2	Network Video Recorder supporting a minimum of 16 cameras, four (04) SATA interfaces, capable of recording individual camera at a selectable frame rate, having sufficient storage capacity for recording video footage for 30 days and as per specifications.	3	0	3
8.3	Digital Video Management System (DVMS) software and as per specifications.	1	0	1
8.4	Rack mount server along with supporting operating system and as per specifications	1	0	1
8.5	42 inch Full HD LED TV, as per specifications	1	2	3
8.6	60 inch Smart LED Full HD TV with Ethernet Port / Wi-Fi, USB, HDMI port, as per specifications.	2	0	2
8.7	Cables & conduits, as per site requirement.	1000	500	1500
8.8	Installation, Commissioning & Testing of the above.	1	0	1
A.	AMC for 1 st year post-warranty			
B.	AMC for 2 nd year post-warranty			
C.	AMC for 3 rd year post-warranty			

SCOPE OF WORK

1. Project shall involve supply and installation of ready factory made furniture items
2. Project is likely to involve the supply and installation of some custom fabricated furniture items.
3. Project shall involve supply and installation of passive network components and cables including accessories like cable trays, casing and capping, false flooring and consolidation boxes etc. in the main distribution switch room, racks, etc.
4. Bidder is required to supply and install several hundred IO boxes to the furniture and also carry out the associated structured network cabling which will include supply and installation of such items as IO box

assemblies, CAT6 UTP cables, network racks, patch panels etc. whose specifications are mentioned in this document.

5. Project shall involve supply and fixing of electrical cables and components.
6. Several hundred electric switches and sockets have to be fitted to the furniture items and wired to the electrical distribution boards. These shall be use to power the enterprise grade PCs and workstations.
7. In case there is shortage of electric distribution points which has to be identified and brought to notice prior to the bidding itself, the bidder shall be required to supply and install the required numbers of distribution boards/panels also.
8. KBPTs shall be attached to all workstations and other tables except those where instructions are given.
9. Individual workstations and tables have to be equipped with four switches and sockets of 6A Indian round type.
10. Individual workstations and tables have to be equipped with one twin port IO box.
11. Project shall involve supply and installation of rodent repellent system to safeguard the cables from rodents.
12. Project shall also involve supply and installation of audio visual system, public address system, IP surveillance system, water coolers with RO and UV, refrigerator, vending machine, microwave, induction set etc.
13. Bidder has to route the cables through specially built underground raceways to the extent feasible.
14. Bidder may have to erect data and electrical posts to route the network cables (from the main network switch room of the building) and electric cables (from the electrical distribution boards) over the false ceiling in appropriate channels to the furniture to cover spaces where the underground raceways prove to be inadequate to carry requisite numbers of cables or have not been built. Use of wall and column mounted channels for vertical routing shall however be preferred over erection of separate electrical and data posts.
15. Bidder has to install the overhead data and electrical wiring in different cable trays. They must also have readily distinguishable colors like red for power and blue for data etc.
16. Separation between power and data cables, minimum bend radius of cables etc. has to be maintained as per structured cabling standards.
17. In networking and electrical cabling the proper terminations of the cables and testing are important and so are feruling, labeling of the cable terminations.
18. Contractor shall be required to do the same and also get the network channels tested and submit the pentascan reports thereof. Electrical cables must also be duly tested.
19. Bidder has to undertake to get the site certified from the manufacturer of the passive components supplied under this project.
20. Bidder has to ensure that the passive cables, components and accessories supplied under this project are strictly as per the technical specifications mentioned in this tender document
21. Bidder has to ensure that the electrical cables, switches, sockets, distribution boards etc. supplied under the project are of ISI/BIS mark and the make is duly approved by CCC before the installation. Power cables must have rodent and fire protection mechanisms.
22. Dimensions of the furniture mentioned in the specifications are approximate except for the workstations. Bidders shall try to match them as closely as possible. NIT user departments - CCC and TPO shall, in general, not be insistent on such matters and where minor technicalities e.g., lifting or locking mechanism, material etc. are involved, if the functional, aesthetic, proportionality, ergonomic, strength and safety requirements are by and large met.
23. Customizations for meeting the requirements are also permitted. However, it is in the interest of the bidder to clarify any and all such issues during the pre-bid meeting. The decision of NIT user departments in such matters shall be final and binding on the bidder.
24. Bidder has to ensure that the manufacturer of passive components extends a defect liability period of 3 years and a performance warranty of 25 years or lifetime to the passive cables and components supplied under the project.

CHAPTER 4: SPECIFICATIONS AND ALLIED TECHNICAL DETAILS

Items 6,7,19, 61 and 62 have been left blank. Bidder is to ignore them. Where non-bracketed and bracketed values are mentioned, bidder may ignore the bracketed values, otherwise where only bracketed values are mentioned, bidder has to consider the same.

S.No.	ITEM	QTY	SPECIFICATION	Compliance (Yes/No)	Deviations, if any	Remarks
1.	50 mm thick 1000mm.ht. Workstation / Table top size 900X600mm	160	Modular panel based linear workstations to be supplied under this project should preferably have the following minimum technical specifications: Modular Panel based Linear Workstations with 50 mm thick partition of 1200 mm height. The entire structural frame viz. horizontals and verticals shall be made out of 50 mm thick high quality aluminum extruded interlocking sections. Semi-circular top and vertical trims shall be made of aluminum extrusions which shall be of snap fit type. Provision of dual management facility shall be available. As per the international standards corner caps and top caps shall be made of Zinc moulds. Levelers are provided to overcome unevenness in the flooring. Snap fit tiles comprise of 4 mm MDF board on both side making 48 mm thick over all. The back could either made of natural glass 4/5mm or magnetic fabric board or plain white/marker board. All 50 mm snap fit panel fixtures shall be made out of zinc moulds. The top, vertical and corner trims are available in standard powder coating (moon shell grey) finish of international standards. The table top shall either be (750 X 600 mm.) or (1050 X 600 mm.) or (1350 X 600 mm.). Top fabricated out of 25 mm thick plain particle board interior grade conforming to IS 12823:1990 and the top with laminate of thickness 0.7 mm as per IS 12823: 1990 of approved brand. All components like tops, sides etc. are finished with machine pressed 2mm thick PVC EDGE binding tape glued with hot melt EVA glue. Support shall be through Gable Ends. Wire Management: Raceway to be provided which shall run below table top for termination of power and data sockets, as per requirement.			
2.	50 mm thk 1200mm.ht. Panel Based Workstation / Table Top size 750mm x 600mm	225				
2(a)	50 mm thk 1000mm.ht. Panel Based Workstation / Table Top size 750mm x 600mm	(5)				
3.	50 mm thk 1200mm.ht. Panel Based Workstation / Table Top size 1050mm x 600mm	35				
			As an alternative to manufacturers who make such workstations with steel frames, the following minimum technical specifications are stipulated: Modular Tile Based System with nominal thickness of 50 mm, wherein the system takes care of the functional, ergonomic, aesthetical requirements. The trim width is 56.5 mm and the thickness of panel after fitting the tiles on frame is 52 mm. Main structure of combination of frames varying in heights from 2.9 feet to 5.3 feet and widths varying from 1.0 foot to 4 feet. It has Vertical upright made from 1.5mm thick CRCA M.S. Grade D formed into "C" channel of 28.4 X 40. The top horizontal is a 1.2 mm thick M.S. tube			

			of 25.4 X 25.4 mm (1 X 1 inch). The bottom horizontal is a 1.5 mm thick M.S. 'C' channel of size 38.1mm x 25.4 mm (1½ in x 1 in). The frame is powder coated in standard black colour. The pitch for mounting the brackets on the upright is 25.4 mm. The rectangular slot for wires on the upright is 60mm (H) x 18 mm (W), 1 no. at the bottom and 2 nos. at the intermediate level wherein each slot can allow 9 power cables of Dia.10 or 32 data cables of Dia. 6. The bottom horizontal would also have 2 slots for carrying wires, which are of the size 100mm (L) X 20mm (W) for wire carrying. At 180° joinery, a vertical gap of 4.8mm would be present between 2 adjacent tiles. Free standing modules can be offered with Stability post. The frames are fitted with removable tiles, which can be offered in various finishes & sizes as follows. Fabric Magnetic Tile: Fabric magnetic tiles are 0.6 mm thick GI Sheet metal tiles, which are fabric upholstered. Including the fabric thickness of 0.7 mm. Fabric Tackable tiles are fabric upholstered metal tiles in 0.6 mm thick GI Sheet, with P.E. foam in the tile for tackability. These tiles are upholstered with Fabric. Plain Metal tiles are powder coated metal tiles in 0.6 mm thick M.S. CRCA Grade D as per IS:513 -1994. Frames are fitted with Flat Trims of 56.5 mm X 10.5mm and average wall thickness of 1.0 mm. These trims are made from Powder coated aluminum alloy (of grade He-9 – 63400) extrusions. The trims are fitted on the top horizontal using M6 X 35L Nut-bolts and the open vertical ends of the upright using M6 X 25L Bolt & Nut. Joinery Trims: The open vertical joineries for the configurations of 2 way and 3 way 90° will be covered with 2 way 90° (square type) and 3 way 90° aluminum alloy (of grade He-9 – 63400) Vertical trims of 1.2 mm average wall thickness, which will be powder coated and press-fitted onto the universal connector made of 2.0mm thick M.S. using the 0.5mm thick spring steel snap fit clip. Support Brackets: The worksurfaces are mounted on the New 13" inch worksurface bracket of 2.0mm thick M.S. A corner bracket is used to support the worksurface at the corner junction of the frames. Side panels will be attached to the upright using the side panel brackets. Transaction top will be mounted on the transaction top brackets. Worktop 25 mm thick prelaminated (with PVC lipping) - Work top shall be made of 25mm thick Prelaminated particle board (As per IS:12823). All the edges of work surface shall be with edge banding.			
4	KBPT	475	Workstation should be provided with Metal Key board Pull Out tray and CPU trolley on castors wheel. All these workstations should have Metal Key board Pull Out tray of size 522 mm (W) X 415 mm (D) X 110 mm (H). The metal tray to be made out of 0.9 mm thick MS CRCA 'D' grade as per IS:513. The ball slides are to be made of a combination of 1.2 mm and 1.5 mm thk toll formed CRCA 'D' grade as per IS:513. A retro fit mouse pad along with Key board MS Sheet should be provided which is to be made out of 0.9 mm thk CRCA 'D' grade as per IS:513.			

5	CPU Trolley	475	CPU trolley on castors wheel will be part of each workstation. The tray should be made of 1mm thk MS CRCA sheet and side supports are made of 0.8mm thk MS CRCA sheet. Castors should be injection moulded in black nylon.			
6	--	--	--	--	--	--
7	--	--	--	--	--	--
8	Self Standing Table Desk with Pedestal	14	Self Standing Table comprising of table top, side panels and a pedestal unit. The overall dimension of the desk unit to be 1500 (L) x 750 (D) X 750 (H) mm. The table top shall be made out of 25 mm thick prelaminated particle board finished with 2 mm edge lipping. Support of the unit shall be through gable ends. The right mounted pedestal shall be of size 450 (W) x 450 (D) x 725 mm (H). The mobile pedestal 2D+1F to be provided with handles and central locking system.			
8(a)	Self Standing Table Desk with Pedestal	(3)	Self Standing Table comprising of table top, side panels and a pedestal unit. The overall dimension of the desk unit to be 1200 (L) x 750 (D) X 750 (H) mm. The table top shall be made out of 25 mm thick prelaminated particle board finished with 2 mm edge lipping. Support of the unit shall be through gable ends. The right mounted pedestal shall be of size 450 (W) x 450 (D) x 725 mm (H). The mobile pedestal 2D+1F to be provided with handles and central locking system.			
9	Workstation Chair Medium Back Revolving Chair	440(5)	Medium Back Staff chair with tilting mechanism with locking systems, Approved colour fabric for seat & back with fixed armrest and arm pad, gas lift for height adjustment, Chrome base with castors. Seat Pan Height shall be adjustable in the range of 15"- 20" . Seat Pan Depth shall be in the range of 15"-17" with a waterfall sloping front edge. Seat Pan width shall be in the range of 18"-20". Seat Pan angle shall be adjustable in the range of 0-10 degrees. Seat Back height shall be minimum 15". Back Width shall be minimum 18". Padding shall be provided on seat pan, backrest and armrests. Lumbar support shall be in the range of 1.2"- 2" placed in the lumbar region of the back. Base shall have 5 castors minimum. It shall be possible to make all the adjustments from the seated position.			
10	Visitor Chair	52	Medium Back. P.U. arms & castors with Foam Cotton upholstery. Seat Pan Height shall be in the range of 16"- 21". Seat Pan depth shall be in the range of 15"-17. Seat Pan width shall be in the range of 18"-20". Seat Back height shall be minimum 24". Padding shall be provided on seat pan & backrest The fixed type chair unit shall be supported by a rectangular tubular frame (which is available either in black /powder coated or SS). To be supplied as per approved color and with/without castors.			

11	Single Bed	8	Single Bed made of Green (Ecotec) Ply having frames and legs made of wood. The head partition shall be rectangular type having smooth edges and polished. The rectangular frame of the bed would form a 25 mm cavity inside to support a mattress. The steel legs shall be round shaped with smooth edges. Overall Dimensions 1950 (L) x 1000 (W) x 900 (H).			
12	Corner Table	4	Rectangular Corner Table consisting of an under frame, made of rubber wood, and a designer top of high density plywood. The table top shall be 25-30 mm thick, size 600 (L) x 600 (W) and the under table would be of size 450 x 450 mm, approx. The overall finished height of the table shall be 600 mm.			
13	Comfortable Chair	8	The Premium Lounge Chair is a relaxing armchair in a classic mould-high back cosy seat and an elegant transitional design style that can fit into any decor. With classic blends and soothing colors, this chair fits perfectly as a relaxing lounge chair. The seat and the fixed high back are highly cushioned and fabric finished. The chair is supported with four strong square shaped wooden legs finished with natural polish.			
14	Mattress 1950mm X 1000mm	8	It has breathable fabric cover, soft quilting and extra support. The overall thickness should be 100mm. Good quality cotton bed sheet appropriate for the bed size.			
15	Pillow	8	Open cell structure that reacts to the body heat and weight by moulding to the sleepers Body. Organic Cotton Fabric for extra comfort. Anti fungal and anti allergic. Durable and excellent neck support. Size : 400mm X 600mm.			
16	Bedsheet and Blanket	8	Premium quality bedsheets and soft blankets for single beds of approved color and print.			
17	Wardrobe	4	This double swing door wardrobe has a classy touch and has been designed for ease of use. Designed to give you ample storage space, with handy drawers for neat arrangement of your things. This two-door wardrobe shall have a three way bolting mechanism and shutters supported by SS hinges. The wardrobe shall consist of multiple shelves having space for other items. The top will have adequate space for hanging clothes from a metal rod. The wardrobe shall be made out of MS structure with 22 gage non corocive sheet metal and finished with 40 micron powder coating. Dimensions : 2'6" (Width) X 1'9" (Depth) X 6'3" (Height).			

18	Heavy Duty Work Table of Depth WxDxH 1800mm x 900mm x 750mm	4	Heavy Duty tables should be of modular type. Based on latest technology, these lab tables are widely used in clean rooms, laboratory and in zones that demand high non-contamination conditions. The modules should be designed in such a way that the modules can be dismantled very easily in case of maintenance, if required. The table top shall come in two options - either with solid wood or with black granite. The under storage modules will be independent and entire load on the work surface will be sustained by the base frame. Under bench storage modules will have drawer and bottom cupboard and front open shutter. The drawer and cupboards will have necessary locking arrangements. The table should have an overall load carrying capacity of 250 Kgs or more.			
19	--	--				
20	High back chair	6	High Back. P.U. arms hydraulic, tilting & Chrome finish base with Cotton upholstery. Seat Pan Height shall be adjustable in the range of 16"- 21". Seat Pan Depth shall be in the range of 15"-18" with a waterfall sloping front edge. Seat Pan Width shall be in the range of 18"-20". Seat Pan Angle shall be adjustable in the range of 0-10 degrees. Seat Back Height shall be minimum 30". Back Width shall be minimum 18". Seat Back Tilt shall be adjustable in the range of 0-15 degrees. Padding shall be provided on seat pan, backrest and armrests. Lumbar Support shall be in the range of 1.2"- 2" placed in the lumbar region of the back. Armrests shall be adjustable up and down (7"- 11' minimum) and in and out (arm rest separation range 18"- 22"). Base shall have 5 castors minimum. It shall be possible to make all the adjustments from the seated position.			
21	Steel Almirah	27 (3)	It should have multi bend construction with interlocking design and full length over lapping doors and sides. It should have three way bolting mechanism. All steel components should undergo eight tank anti rust treatment and oven baked epoxy polyester powder coated with 50-60 dry film thickness. The CRCA steel sheet used for the body should be 0.9 mm thick, as per IS-513 1994. It should have 4 shelves made of 0.8 mm thick CRCA steel sheet. It should have six lever Mazak Zinc Plated Lock. It should have scratch hardness of 3 Kgs as BS-3900 part E2 1970, IS-101. It should sustain salt spray test of 1000 hrs. as per IS 101. Overall size: 2000 mm (H) x 900 mm (W) x 450 mm (D)			
22	4 Seater Table Plyboard Top	6	The table is to be made of commercial IS:303 plyboard with thickness 25 mm. Top size (1200 x 600) mm. The height of the table should be 600mm. Four legs to be made from Solid Wood, size 8 x 8 x 60 cm. Laminate of thickness 1mm			

23	Reception Table - 1800mm X 600mm (for 3 persons)	3	Supply of self standing reception table made of MDF board of 25, 18 mm thick, conforming to IS 12823 of latest edition with PVC edge banding, and 18mm MDF board front modesty panel. The unit will have two pencil drawer and one filing drawer fixed with drawer chanel and with central locking system. The table would have three glass tops (12mm.thick) at a hight of 150mm. from the front panel and supported by round ss studs and fixed with ss bolts. The work would include by colour wooden wall paneling (100 sq. ft. approx) on the back ground wall. the paneling would have provision for fixing light fixtures as per approved drawing. The overall size of the reception table (1800mm x 600mm X 750mm).			
24	Personal Locker Unit	15	The personal locker unit will be a unit with 18 personal lockers each having a depth of (450mm. approx). There shall be six rows with three lockers in each row. It should have roll formed side, back and sides of drawers. It should have 10 lever cam lock. All the drawers should be mounted on nickel chrome plated ball slides. It should have anti tilt mechanism and anti rebound mechanism. All steel components should undergo eight tank anti rust treatment and oven baked epoxy polyester powder coated with 50-60 dry film thickness. The CRCA steel sheet used should be 0.6 mm thick as per IS-513 1994 and powder coat finished. It should have scratch hardness of 3 Kgs. The overall dimension of the personal locker cabinet would be: 2000 mm (H) x 900 mm (W) X 450mm. (D) along with ss rectangular legs at a ht. of 100mm.			
25	Executive Desk (2400 X 1050 X 750) mm with pedestal & Side Unit	2(1)	Supply of self standing executive table made out of MDF board of 25, 18 mm thick, conforming to IS 12823 of latest edition. Supply of side unit made out of MDF board of 19mm thickness with PVC edge banding, and 50mm MDF board on the top. The unit will have two pencil drawer and one filing drawer fixed with drawer chanel and with central locking system. The main table is of size 2400mm (W) x 1050mm (D) x 750 mm (H), with top thickness of 50 mm. The top of main table and ERU is to be made of Medium Density Fiber Board. Veneer with PU coating is to be pasted on this MDF. Supplying of side unit with shelves made out of 18 mm MDF on all sides including shutters, except back. Back shall be made out of 9 mm Medium Density Fiber board. It should have a PVC edge bending. The entire structure should be completed with proper hardware and fittings as necessary. Dimension: 1350 mm (W) X 450mm. (D) X 725mm. (H) Pedestal unit is to be made of MDF, Veneer to be pasted on the same and then PU coating is to be applied. Size should be (W – 450 mm x D – 450 mm x H – 725 mm.) Back Unit is made of Medium Density Fiber Board with double glass doors on the top and with double door sutter unit with handles and lock at the bottom and as per approved drawing. Veneer with PU coating is to be pasted on this MDF. Back unit size shall be (1000 W x 450 D x 2100 H.) with glass thickness 5 mm., with two such unit placed side to side to form a single unit. The colour and polish shall be as per approvals.			
26	Back Unit (1000W X 450D X 2100H)mm.	4(2)				

27	Executive High Back Chair	6(5)	High Back. P.U. arms hydraulic tilting & chrome finish base with foam leather upholstery with extra lumbar support with fine tuning for depth adjustment, with swivel & depth Adjustable arm pad & option of PVC padding, gas lift for height adjustment, five-prong base with castors. Seat Pan Height shall be adjustable in the range of 16"- 21" . Seat Pan Depth shall be in the range of 17"-22" with a waterfall sloping front edge. Seat Pan width shall be in the range of 22"-28". Seat Pan angle shall be adjustable in the range of 0-15 degrees. Seat Back height shall be minimum 30". Back Width shall be minimum 20". Seat Back Tilt shall be adjustable in the range of 0-15 degrees. Padding shall be provided on seat pan, backrest and armrests. Lumbar support shall be in the range of 1.2"- 2" placed in the lumbar region of the back. Armrests shall be adjustable up and down (7"- 11' minimum) and in and out (arm rest separation range 18"- 22"). Base shall have 5 castors minimum. It shall be possible to make all the adjustments from the seated position.			
28	Magnetic board (900 X 600)mm.	4(1)	Magnetic Tack Board: Magnetic board with platform, Fabric finish and aluminium extrusion on top and side edges. Fabric finish on front side.			
29	White board (900 X 750)mm.	4(1)	White Board of suitable and approved size shall be wall hanging whiteboard with aluminium extrusion on all edges.			
30	Medium Chair	4(0)	Medium Back Staff chair with tilting mechanism with locking systems, Black Fabric for seat, Mesh back with Adjustable arm pad, gas lift for height adjustment, Chrome base with castors. Seat Pan Height shall be adjustable in the range of 16"- 21". Seat Pan Depth shall be in the range of 15"-17" with a waterfall sloping front edge. Seat Pan Width shall be in the range of 18"-20". Seat Pan Angle shall be adjustable in the range of 0-10 degrees. Seat Back Height shall be minimum 14". Back Width shall be minimum 12". Seat Back Tilt shall be adjustable in the range of 0-15 degrees. Padding shall be provided on seat pan, backrest and armrests. Lumbar Support shall be in the range of 1.2"- 2" placed in the lumbar region of the back. Armrests shall be made out of ss tubes with PU padding. Base shall have 5 SS casters. It shall be possible to make all the adjustments from the seated position. Color shall be as per design approvals,			
31	Executive sofa (3+1+1)	2(1)	These high end Sofa sets address the concern about comfort and aesthetics with plush upholstery and strong cushion base. The Polyurethane Foam and S- spring webbing adds a cozy and sinking feeling to the sofa. The wooden arms and legs perfectly match with the aesthetics of the sofa. Generous armrest structure and extended lumbar support of these sofa provides a floating and exceptional comfort. Also the back rest and the arms are filled with Silicon Fill which provides maximum comfort. WxDxH = 1 seater (1020x920x950) & 3 seater (1960x920x950). Leather : Synthetic. Frame Material : Tropical Solid Wood. Seat Foam : Polyurethane Foam with recon			

			sheet. Foam Density : 36 kg/ cubic cm. Back Foam : Polyurethane Foam with silicon fill. Foam Density : 36 kg/cubic cm. Seating Material : Pocket spring polyurethane foam encased. Webbing Material : S-spring.			
32	Premium lounge Chair (3 Seater)	14(4)	Crafted from high quality steel and chrome and with leatherette cushioned seats & backrest, these public or visitor seating chair units are sturdy and strong. The whole unit shall be a welded assembly of seat back and side frame. The side frame and back to be made of CR steel sheet with oblong perforations. They shall be welded to the side frame assembly. The seats shall be sloped backward for comfort seating against a full back seat. The 3-seat unit shall be supported by twin armrests only at the two side ends. The 3-seat unit shall be around 1775 mm (L) and 675 mm (D). The overall height should not exceed 500 mm from the floor. The unit shall either be freely placed or bolted to the floor to give a fixed floor position.			
33	Corner Table	6(4)	Corner Table with semi-transparent toughened glass top having either a plain or chequered surface and wooden frame having size of (500x 500x 700) mm. The entire wood structure to be finished with natural polish.			
34	Coffee Table with Shelves	2(1)	Coffee table top made of clear toughened glass, 12mm thick. The frame and supporting legs shall be made from solid wood having smooth edges and finished with natural polish. The table shall have a shelf which is made out of semi-transparent glass supported or hard wood framework. As per approved drawing and design. 1200 (L) x 450 (W) x 600 (H) mm.			
35	Executive Desk (2100 X 900 X 750)mm. with Pedestal Storage Unit & Side unit	1	Supply of self standing executive table made out of MDF board of 25, 18 mm thick, conforming to IS 12823 of latest edition. Supply of side unit made out of MDF board of 19mm thickness with PVC edge banding, and 54mm MDF board on the top. The unit will have two pencil drawer and one filing drawer fixed with drawer channel and with central locking system. The main table is of size 2100mm (W) x 900mm (D) x 750 mm (H), with top should be postform, thickness of 50 mm. The side table is of size 1200mm (W) x 450 mm (D) x 725mm			

36	Back unit (2250 X 400 X 2000)mm	1	(H), top thickness of 25 mm, in matching finish of the main table. The top of main table and ERU is to be made of Medium Density Fiber Board. Veneer with PU coating is to be pasted on this MDF. Drawer unit is to be made of MDF, Veneer to be pasted on the same and then PU coating is to be applied. Size should be (W – 450 mm x D – 450 mm x H – 725 mm.) Modesty panel thickness to be provided (same material as of the table top). Back Unit is made of Medium Density Fiber Board with double glass doors on the top and with double door sutter unit with handles and lock at the bottom and as per approved drawing. Veneer with PU coating is to be pasted on this MDF. Back unit size is (2250 W x 400 D x 2000 H.) with glass thickness 5 mm.			
37	Executive High Back Chair	1	High Back. P.U. arms hydraulic, tilting & Chrome finish base with Foam Leather upholstery with extra lumbar Support with fine tuning for depth adjustment, with swivel & depth Adjustable arm pad & option of PVC padding, gas lift for height adjustment, Standard 5-prong P base with castors. Seat Pan Height shall be adjustable in the range of 16"- 21". Seat Pan Depth shall be in the range of 15"-18" with a waterfall sloping front edge. Seat Pan Width shall be in the range of 18"-20". Seat Pan Angle shall be adjustable in the range of 0-10 degrees. Seat Back Height shall be minimum 30". Back Width shall be minimum 18". Seat Back Tilt shall be adjustable in the range of 0-15 degrees. Padding shall be provided on seat pan, backrest and armrests. Lumbar Support shall be in the range of 1.2"- 2" placed in the lumbar region of the back. Armrests shall be adjustable up and down (7"- 11' minimum) and in and out (arm rest separation range 18"- 22"). Base shall have 5 castors minimum. It shall be possible to make all the adjustments from the seated position.			
38	Medium back Chair	3	Medium Back. P.U. arms hydraulic, tilting & Chrome finish base with foam leather upholstery. Seat Pan Height shall be adjustable in the range of 16"- 21". Seat Pan Depth shall be in the range of 15"-18" with a waterfall sloping front edge. Seat Pan Width shall be in the range of 18"-20". Seat Pan Angle shall be adjustable in the range of 0-10 degrees. Seat Back Height shall be minimum 30". Back Width shall be minimum 18". Seat Back Tilt shall be adjustable in the range of 0-15 degrees. Padding shall be provided on seat pan, backrest and armrests. Lumbar Support shall be in the range of 1.2"- 2" placed in the lumbar region of the back. Armrests shall be adjustable up and down (7"- 11' minimum) and in and out (arm rest separation range 18"- 22"). Base shall have 5 castors minimum. It shall be possible to make all the adjustments from the seated position.			

39	Coffee Table with Shelves	1	Coffee table top made of clear toughened glass, 12mm thick. The frame and supporting legs shall be made from solid wood having smooth edges and finished with natural polish. The table shall have a shelf which is made out of semi-transparent glass supported on hard wood framework. As per approved drawing and design. 1200 (L) x 450 (W) x 600 (H) mm.			
40	Corner table	2	Exquisite Corner Table with semi-transparent toughened glass top having either a plain or chequered surface and wooden frame having size of (500x 500x 700) mm. The entire wood structure to be finished with natural polish.			
41	3 seater Sofa	1	This executive leatherette sofa set brings in opulent feel and look. Defined cuts and a refined silhouette exude modernity and style. A sturdy solid wood frame layered with fine leather ensures durability. This 3+1+1 seater sofa set offers quality seating with a generous dose of style. Salient Features: * Use of premium quality solid wood * Made using top grade leatherette. Dimensions : 37 inch (Height) x 98 inch (width) x 39 inch (depth) ; 1 Seater : 37 inch (height) x 38 inch (width) x 39 inch (depth). The design and color of the sofa should have to be pre-approved before delivery.			
42	Single seater sofa	2				
43	Movable Storage System: Single faced static unit - 1980H X 1830W X 457D (mm.)	3(1)	Single faced movable unit - 1980H X 1830W X 457D (mm.) Overall height of compactor from ground level to compactor top panel = 2080mm. (i.e. 1980mm. Body + 65mm. Base frame + 35mm. Track & moving clearance) Load bearing capacity per shelf – 70Kgs. Attractive Body With Fine Finish: Body is made of prime quality Pre-coated sheet of 0.8 mm. thickness with protective film material. Body is Weld less with multiple bends & inbuilt upright in front panel. Back panel of the body is in two parts for achieving more strength of the body. Central partition (Shear side) is made of two parts one is side panel & second one is vertical channel which are joint by special clinching process i.e. a process which is used for joining two parts by pressing it in pneumatic pressure. Protective Film On All The Body Components: Provide all the body components like Side panels, Common side panels, Top panels, Back panels & Shelves with protective film to avoid any scratches in transportation & installation. Shelf with 10 –Folds: Shelf with 10 folds for better strength & better load bearing capacity. It is made of prime quality Pre-coated sheet of 0.8mm. Each body is with 5-compartments with 4-adjustable shelves.			
44	Movable Storage System: Single faced movable unit - 1980H X 1830WX 457D (mm.)	3(1)				
45	Movable Storage System: Double faced movable unit - 1980H X 1830W X 914D (mm.)	3(1)				

46	Channel 9 ft.	3(1)				
47	3 seater Sofa	1	Modern Leatherette 3 Seater sofa set made out of seasoned and treated solidwood internal framework, top quality foam with spring seat construction, plain cushioned seat, backrest and full squared side arms supported on solid wood or SS legs. Dimensions: 32 inch (Height) x 68 inch (width) x 29 inch (depth) ; 1 Seater : 32 inch (height) x 30 inch (width) x 29 inch (depth). The design and color of the sofa should have to be pre-approved before delivery.			
48	Single seater sofa	2				
48(a)	Comfortable Sofa Set (3+1+1)	(1)	This smart, soft and silky leatherette sofa set comes with a perfectly matched PU upholstery on the sides and back. Cozy pillowtop seating and added foam padding throughout promise ultimate comfort. These leatherette sofas are made of ultra strong wood and is built in a octangular framework that makes it a very strong and durable. Finished with special 38 density supersoft foam and the outer filling is done with original recron that gives a very special seating experience. These sofas are ergonomically designed with pub backs so you can fully sit back and relax. These sofas have distinguished PU artificial leather, fine upholstery and a finished seat height at 18 inches. Dimensions: 34 inch (Height) x 81 inch (width) x 35 inch (depth) ; 1 Seater : 34 inch (height) x 30 inch (width) x 35 inch (depth). The design and color of the sofa should have to be pre-approved before delivery.			
48(b)	Sofa set (3 seater)	(1)	Modern Leatherette 3 Seater sofa set made out of seasoned and treated solidwood internal framework, top quality foam with spring seat construction, plain cushioned seat, backrest and full squared side arms supported on solid wood or SS legs. Dimensions : 32 inch (Height) x 68 inch (width) x 29 inch (depth) ; 1 Seater : 32 inch (height) x 30 inch (width) x 29 inch (depth). The design and color of the sofa should have to be pre-approved before delivery.			
49	High back chair	(20)	High Back. P.U. arms hydraulic, tilting & Chrome finish base with fabric upholstery.Seat Pan Height shall be adjustable in the range of 16"- 21". Seat Pan Depth shall be in the range of 15"-18" with a waterfall sloping front edge. Seat Pan Width shall be in the range of 18"-20". Seat Pan Angle shall be adjustable in the range of 0-10 degrees. Seat Back Height shall be minimum 30". Back Width shall be minimum 18". Seat Back Tilt shall be adjustable in the range of 0-15 degrees. Padding shall be provided on seat pan, backrest and armrests. Lumbar Support shall be in the range of 1.2"- 2" placed in the lumbar region of the back. Armrests shall be adjustable up and down (7"- 11' minimum) and in and out (arm rest separation range 18"- 22"). Base shall have 5 castors minimum. It shall be possible to make all the adjustments from the seated position. Colour: black			

50	Medium back Chair	63(32)	High Back. P.U. arms hydraulic, tilting & Chrome finish base with Cotton upholstery. Seat Pan Height shall be adjustable in the range of 16"- 21". Seat Pan Depth shall be in the range of 15"-18" with a waterfall sloping front edge. Seat Pan Width shall be in the range of 18"-20". Seat Pan Angle shall be adjustable in the range of 0-10 degrees. Seat Back Height shall be minimum 28". Back Width shall be minimum 18". Seat Back Tilt shall be adjustable in the range of 0-15 degrees. Padding shall be provided on seat pan, backrest and armrests. Lumbar Support shall be in the range of 1.2"- 2" placed in the lumbar region of the back. Armrests shall be adjustable up and down (7"- 11' minimum) and in and out (arm rest separation range 18"- 22"). Base shall have 5 castors minimum. It shall be possible to make all the adjustments from the seated position. Colour: black			
51	4 door Book case (914mm Wx 380mm Dx 1750mm H)	11(3)	4 door book case made of Four door bookcase is a rigid knock down construction with Top panel, side panel and back panel are made of 0.7mm high yield strength CRCA, Rest in 0.8mm CRCA. Each door has 6 lever cam lock with common key, 3mm thick transparent glass for clear inside vision secured in a metal frame through rubber gasket. Each door has a scissor mechanism for receding inside the top of respective compartment & ensures parallel & smooth movement. Each door has a plastic side end caps as handle which is easy to grip. Each compartment has storage shelf which has the load capacity of 80 Kg max. 4 Door has inside metal top panel. Wherever applicable, Epoxy polyester powder coated to the thickness of 50microns.			
52	Executive Table(1650 X 750) mm., side unit & Back storage unit	2(1)	Supply of self standing executive table made out of MDF board of 25, 18 mm thick, conforming to IS 12823 of latest edition. Supply of side unit made out of MDF board of 19mm thickness with PVC edge banding, and 25mm MDF board on the top. Supplying of side unit with shelves made out of 18 mm MDF board on all sides including shutters, except back. Back shall be made out of 9 mm MDF board. It should have a PVC edge banding. The entire structure should be completed with proper hardware and fittings as necessary. Supplying of full height back storage unit with shelves made out of 18 mm prelaminated particle board on all sides including shutters, except back. Back shall be made out of 9 mm. It should have a PVC edge bending. The entire structure should be completed with proper hardware and fittings as necessary. Dimension main desk 1650W X 750D X 750H; Side Unit: 1000W X 450D X750 H; Back Unit: 1650W X 450D X 1800H; White Board: 1200W X 600HX 18mmthk; Provision for wire management			
53	10-Seater Conference table	(2)	Supply of self standing conference table made of prelaminated particle board of 25, 18 mm thick, conforming to IS 12823 of latest edition Product. The basic tabletop should be made of 25 MM thick PLB, with 2 mm thk. PVC lipping of the same colour. Side panels to be made of 18 mm thick PLB with 2 mm thick PVC lipping of matching colour. The Modesty Panel is to be in two pieces and in two colours. : The overall dimension of the Conference Table shall be 2400 (L) x			

			1200 (D) x 750 (H). Table top : 25mm thick Pre- laminated particle board finished with 2mm edge lipping. Support : 18mm Gable End and Modesty Panel; Provision for wire management			
54	Discussion / Meeting table (4 seater)	(8)	Supply of self standing round table of 600mm dia made of 25 mm thick MDF Board, conforming to IS 12823. The basic table top should be made of 30 mm thick MDF board (Double Layer), with post formed edge, as per approved design and colour. The table top shall be supported on two right angled intersecting rectangular cross legs made out of 25 mm thk medium density fibre board. Provision for wire management			
55	Fixed type educational training chair	(140)	Fixed type educational training chair with full desklet (made out of 18mm pre-laminated MDF board) as per specifications. Seat/ Back: The seat and back shall be made of 12mm thick hot pressed plywood. Upholstered with fabric (as per approved color) and moulded polyurethane foam together with PVC lipping all around. The back foam to be designed with contoured lumbar support for extra comfort. Back Size : 490mm W x 470mm H, Seat Size 490 mm W x 440 mm D . Polyurethane foam: Moulded with density 45 +/- 2 Kg/m3 and hardness 20 +/- 2 Kg. on Hampden Machine at 25% compression. The armrests are fitted to the seat with seat/ armrest connecting strip assembly made of 0.5 cm thick HR steel . The tubular frame shall be powder coated cantilever type and made of 25mm. Powder Coating:Dry film thickness more than 45 microns. The chair should have a MS powder coated wire mesh rectangular tray under the seat and fixed to the frame.			
56	Self Standing Table with pedestal (1800 X 900 X 750)mm.	1	Self Standing Table fabricated out of 25 mm thick Plain Particle Board interior grade conforming to IS 12823 : 1990 and the top with laminate of thickness 0.7 mm as per IS 12823 : 1990 of approved brand All components like tops, sides etc. are finished with machine pressed 2mm thick PVC EDGE binding tape glued with hot melt EVA glue. Supply of pedestal storage unit (27"high x 14"wide x 18"depth) made out of prelaminated particle board of 19mm thickness with PVC edge banding, and 25mm thick post formed board on the top. The unit will have two pencil drawer and one filing drawer fixed with drawer chanel and with central locking system. 2D+1F			

57	Mesh High back chair	(1)	High back Executive chair with head rest synchronized tilting mechanism with Multiple locking systems, ABS for seat, Mesh back with extra lumbar Support with fine tuning for depth adjustment, with swivel & depth Adjustable arm pad & option of PVC padding, gas lift for height adjustment, Standard 5-prong P base with castors. Seat Pan Height shall be adjustable in the range of 18"- 21". Seat Pan Depth shall be in the range of 15"-18" with a waterfall sloping front edge. Seat Pan Width shall be in the range of 18"-20" Seat Pan Angle shall be adjustable in the range of 0-10 degrees. Seat Back Height shall be minimum 30". Back Width shall be minimum 18". Seat Back Tilt shall be adjustable in the range of 0-15 degrees. Padding shall be provided on seat pan, backrest and armrests. Lumbar Support shall be in the range of 1.2"- 2" placed in the lumbar region of the back. Armrests shall be adjustable up and down (7"- 11' minimum) and in and out (arm rest separation range 18"- 22"). Base shall have 5 castors minimum. It shall be possible to make all the adjustments from the seated position.			
58	Fixed Visitor Chair	(9)	The seat is made of plywood with seat & back cotton upholstery. The back is made up of two piece injection moulded frame. The inner frame is made upholstered with mesh fabric and mounted on the main assembly. Sub assembly seat size: 527mm Wx 540mm H, Leg frame assembly is the sled base welded assembly made, from MS round tube with base plate for seat fixing. Full dimension of the seat is Width 550mm, Depth 655mm, Height 980mm.			
59	Coffee Table: size is 1200mm (W)x600mm (D)x 450mm (H)	1	Coffee table top made of toughened glass. The top of the table is of 12 mm thick and have a higher load bearing capacity than glass top. Table under structure is made of PVC lamination. with ethnic design (effectively fits with any decor) and Load bearing capacity of 50 Kg. Size of the Table is 1200x 600x 450mm.			
60	Coffee table: size is 1000mm (W)x600mm (D)x 450mm (H)	2(1)	Coffee table with PU painted strip on Glass. Table under structure is made of PVC lamination. Table having tempered glass. Table size is 1000 mm (W) x 600 mm (D) x 450 mm (H). Table top should be of tempered glass, MDF understructure with PVC covering, PU paint strip on glass top with silver powder, Glass top attached to the understructure via UV disc and Load bearing capacity of 30 Kg. Tempered glass has greater load bearing capacity.			
61	—	—	—	—	—	—
62	—	—		—	—	—

63	Self Standing Table with metal leg(1200 X 600)mm. & pedestal	4	Two seater self standing student table with top fabricated out of 25 mm thick Plain Particle Board interior grade conforming to IS 12823 : 1990 and the top with laminate of thickness 0.7 mm as per IS 12823 : 1990 of approved brand All components like tops, sides etc. are finished with machine pressed 2mm thick PVC EDGE binding tape glued with hot melt EVA glue. Legs to be made from 1.6mm Matt silver Anodized Aluminium extrusion. Legs assembled together with 8mmthick MS powder coated plate at bottom and 5mm thick MS powder coated plate at top, The Base support plate should have provision for wire entry and glide fixing, The wire carrying to be facilitated through the hollow space between two leg extrusions and the wires to be concealed between removable rigid PVC extrusion in the leg & a provision for max. 20 nos. of Dia 6 wires to be passed through the space between two leg extrusions. Table Support brackets to be powder coated support brackets made from 2mm thick MS sheet provided for overall product stability. Powder coated stopper to be made from 1.5mm thick Aluminium extrusion fixed with work-surface by powder coated stopper bracket made from 3mm thick MS sheet. Pedestal storage unit: Providing and positioning of pedestal storage unit (27"high x 14"wide x 18"depth) made out of MDF of 19mm thickness with PVC edge banding, and 25mm thick post formed board on the top. The unit will have two pencil drawer and one filing drawer fixed with drawer chanel and with central locking system. 2D+1F.			
64	Mesh high back Chair	3	High back Executive chair with head rest synchronized tilting mechanism with Multiple locking systems, ABS for seat, Mesh back with extra lumbar Support with fine tuning for depth adjustment, with swivel & depth Adjustable arm pad & option of PVC padding, gas lift for height adjustment,Standard 5-prong P base with castors. Seat Pan Height shall be adjustable in the range of 18"- 21". Seat Pan Depth shall be in the range of 15"-18" with a waterfall sloping front edge. Seat Pan Width shall be in the range of 18"-20" Seat Pan Angle shall be adjustable in the range of 0-10 degrees. Seat Back Height shall be minimum 30". Back Width shall be minimum 18". Seat Back Tilt shall be adjustable in the range of 0-15 degrees. Padding shall be provided on seat pan, backrest and armrests. Lumbar Support shall be in the range of 1.2"- 2" placed in the lumbar region of the back. Armrests shall be adjustable up and down (7"- 11' minimum) and in and out (arm rest separation range 18"- 22"). Base shall have 5 castors minimum. It shall be possible to make all the adjustments from the seated position.			

1.	Network Cabling		Horizontal UTP Cabling for approx. 500 nodes dual port across 3 floors			
1 (a)	Cat6 UTP Cable, Blue	100	- Compliant to TIA / EIA 568-C.2 Category 6 cable specifications - Central X-shaped polymer spine maintaining 4 pairs separation. - CM rated cable - Conductor: Solid Bare Copper - AWG: 23 - Insulation: PE - Filler: PE - Jacket: Fire Retardant PVC - UL listed			
1 (b)	Cat6 Patch Cord, 1 Mt., Green	500	- Pre-terminated with RJ45 plugs and Slim clear anti-snag slip on boots - LSOH sheath - RoHS Compliant - Conductor size: 24 AWG stranded copper wire - Operating temperature range: -20°C to 60°C - RJ45 plug and boot material: Clear polycarbonate - Contact material: 0.35mm thick copper alloy - Contact plating: Selective gold - RJ45 plug dimensions compliant with: ISO/IEC 60603-7-4 and FCC 47 Part 68			
1 (c)	Cat6 Patch Cord, 2 Mts., Green	500	- Pre-terminated with RJ45 plugs and Slim clear anti-snag slip on boots - LSOH sheath - RoHS Compliant - Conductor size: 24 AWG stranded copper wire - Operating temperature range: -20°C to 60°C - RJ45 plug and boot material: Clear polycarbonate - Contact material: 0.35mm thick copper alloy - Contact plating: Selective gold - RJ45 plug dimensions compliant with: ISO/IEC 60603-7-4 and FCC 47 Part 68			
1 (d)	24 Port unloaded modular Jack Panel	42	- Constructed of cold rolled steel with Graphite Grey powder coated finish. - Universal front labelling system easy to use and change. - To be loaded with 1 to 24 modules allowing for easy maintenance if jacks have to be removed or replaced.			
1 (e)	Cat6 UTP Jack, White	2000	- Spring-Loaded Shutter - IDC V-shaped contacts that flex not fatigue when terminated - Jack Connector : Plastic Housing: Polycarbonate, UL94V-0 rated or equivalent - Contact Material: Copper Alloy - Contact Plating: 50μ Gold / 100μ Nickel			

			• Contact Force: 100g minimum • Wire Accommodation: 22-24 AWG solid • TIA/EIA-568-C.2 Component Compliant • FCC Subpart F 68.5 Compliant • IEC-603-7 Compliant • ISO 11801 Class E Compliant • ETL Verified for Category 6 Component Compliance • UL listed			
1 (f)	Dual shuttered Face Plate	500	• Protected labelling facility • Icon Port Identification labeling • Material: VE10 ABS			
2.	—	—	—	—	—	—
3.	Network Cabling		Racks for 3 floors			
3 (a)	12U, Wall Mount Rack with all accessories	As per site req	12U, Wall Mount Rack with all accessories			
3 (b)	42U Rack	4	42U (600 x 1000 mm) Rack with vertical cable channels, 6 horizontal cable manager, two vertical power manager Castor wheel, Fan, 4 pkt of Hardware Front Panel and other accessories			
4.	Network Cabling : Cable Trays	As per site req	BIS/ISI marked Perforated cable trays of make approved by CCC for laying electrical and data cables. The trays shall have to be fixed on mounting brackets on the floor or suspended from the ceiling, as per site requirement and approval of the client. Cable tray sheet thickness: 1.2 / 1.5 / 1.6 / 2.0 & 2.5 mm. The cable tray height shall be 50 or 75 mm. Tray widths shall be 50, 100, 150, 300, 450 & 600 mm and shall be installed as per site requirement. Cable trays shall either be hot-dipped galvanized or powder coated, as per standards. The cable tray system should include all mounting & fixing accessories, e.g. vertical / horizontal bends, inside / outside bends, reducers, etc. The trays shall have to be pre-painted in order to distinguish between a power and network. The bidder has to submit a detailed cable tray layout along with the bid.			
5.	Network Cabling : PVC Conduit	600	• PVC Conduit : 20 ~ 25 mm • Adaptable to standard concealed wiring system as per IS: & BS • Unplasticised PVC Formulation to Improve the mechanical strength • UV stabilised • Color : Ivory • Tensile Strength - 390-420 Kg./cm2 • Dielectrical Strength = 36 Ky/mm • Electric Strength = No breakdown at 2 Kv x 50 hz. For 15 minutes • Working Temp. = 70°C • Flammability = UL94V-0 • As per IS:9537 part-III - 1983 standards			

6.	Network Cabling : PVC Trunking	As per site req	Snap-on columns and DLP U-PVC/aluminium/snap-on trunking system for power and data distribution, as per site requirement.			
7.	Network Cabling : Junction Box	50	Floor boxes/groumets/ desktop extensions/ pop-up boxes for cable junction/termination, as per site requirement.			
7 (a)	Network Cabling : Consolidation Box	4	Consolidation Boxes, (2U+2U) for termination of network cables.			
7 (b)	Raised Access Flooring	20	Raised Access Flooring (in Sqmt), using steel panel having a cemetitious core, HPL (1.5 ~ 2.0 mm) pre-fixed, PVC beads with edge support rigid grid understructure system. Access floor system to be installed shall provide a maximum finished floor height of 450 mm from the existing floor level. The system shall provide for suitable floor tiles, pedestals and stringers designed to withstand a minimum UDL of 500 Kgs / Sqmt. The system should be provided with all tools and tackles to move the tiles from one place t another. Gaps between the wall / partition and raised floor, if any, should be suitably blocked. The installation of the system would include any tile cutting, as may be required as per site conditions.			
8.	Network Cabling : Installation Services	1	This would include fixing of conduits and cable trays, laying of UTP cable through cable trays / conduits, as applicable, termination of jack panel, termination of I/O, fixing of consolidation boxes, installation of raised access floor system and installation of racks.			
ELECTRICAL CABLING RELATED						
1.	Electrical cabling	3000	Flexible Cu cable, 3 x 2.5 sq. mm.; rodent and fire resistant; BIS/ISI marked; make approved by CCC			
2.	Electrical cabling	500	Modular Power Sockets and Switches with back boxes / face plate; BIS/ISI marked; make approved by CCC			
3.	Electrical cabling	12	Power Distribution Boards (PDB); BIS/ISI marked; make approved by CCC			
RODENT REPELLANT SYSTEM FOR THE INSTALLED CABLING						
1.	Rodent Repellent System	96	Rodent Repellent System: Rodent Repellent System shall be provided to protect the premises against any rodent infestation, the technical specification of Rodent Repellent System are as given below: (a) General Objective: The objective is to protect the entire premises against rodents. The purpose is to keep the rodents away from the floor by generating very high frequency sound waves (above 20 KHz) which are not audible to human ear but irritates rodents. The objective is to protect all the cables below floor, above ceiling & room void from damage caused by rodents. (b) Scope: The system proposed should protect all the ICT equipments with relevant type of high frequency sound producing device called satellites or transducers. The number of transducers should ensure that			

			the premises are rodent free.			
2.	Rodent Repellent System	8	Rodent Repellent System: Ultrasound Satellites: e. The satellites or transducers shall be circular ceiling mounted low profile units that produce high decibel sound waves at very high frequency not less than 20 KHz. f. These satellites shall cover an area not less than 400 Sq.ft for Room void application, for ceiling g. Voids & floor void applications. h. No looping is permitted while connecting the satellites to the main controller. i. Every satellite connected to the controller shall have a dedicated connection with the controller.			
3.	Rodent Repellent System	8	Rodent Repellent System: Controller Features: f. The controller shall support 12 Transducers and shall come with a pair of stands and brackets. g. The controller is installed in the control / BMS room and the transducers in the problematic areas i.e. above and below false ceiling and below false flooring. h. 2500 Sq. Feet of Area Coverage per system/ Controller i. Shall drive up to 12 Transducers. With minimum @ 250sft coverage each j. LCD display with on-board controls for changing parameters			
4.	Rodent Repellent System	1	Rodent Repellent System: Mounting Rack			
5.	Rodent Repellent System	1	Installation Services			

TECHNICAL SPECIFICATIONS FOR ELECTRONIC FURNISHING ITEMS

Sn	Technical Specifications	Compliance (Yes / No)	Deviations, if any	Remarks
1	Audio System for Classrooms			
1.1	Power Amplifiers			
	• 250 watts amplifier with AC & 24V DC Operation			
	• Preamplifier and Line Output for connecting to a booster amplifier and for recording the programme.			
	• Resettable circuit breaker for protection against overload and short circuit.			

	Instant transfer to DC power if AC power fails.			
1.2	Gooseneck Microphone			
	Unidirectional Dynamic Microphones			
	Wide frequency response.			
	High front-to-back rejection for more gain before feedback.			
	Built-in XLR socket.			
1.3	Omni directional Microphone			
	- Microphone can be clipped on to a tie or the collar. - Electret condenser lavalier type microphone. - Wide angle pick-up for lectures. - Powered by a single pencil cell. - Cable length along with the microphone should be six (06) meters or more.			
1.4	Wall mount column speakers			
	Input Power : 20W RMS, 30W Max			
	Impedance/Voltage : 16Ω, 100V			
	Frequency Response : 150-10,000Hz			
	Speaker connections through a terminal strip at the rear.			
1.5	Wall mount rack			
1.5.1	6U Wall Mount Rack			
1.5.2	Top and Bottom covers: Multi-bend one piece construction for accentuating cantilever stress. Design incorporates a 45mm cavity which is used to accommodate exhaust at the top and cable length at the bottom . Top and bottom covers are ventilated on all sides for assisting natural air flow.			
1.5.3	Cable entry provision : Is provided by 35mm round knock outs in the top and bottom covers which are edge protected by rubber grommets to prevent cable damage.			
1.5.4	Side panels : Side panels are provided with hinges and slam latches for easy access of the equipments from the sides. Side access ensures proper reach to the accessories mounted on the rear 19" panel mounts.			
1.5.5	Vertical member : A set of 4 vertical pillars (multibend design) with a gusset welded to close the ends at the top and bottom to ensure high lateral stability under cantilever load condition.			
1.5.6	Front toughened glass door : Ventilated metal trims with a toughened tinted glass pasted permanently. Ventilation provided on the trims to avoid creation of heat pockets between the equipment face and the glass door.			
1.5.7	19" panel mounts : L- Angle construction with 9.5mmx9.5mm square shots provided in 1U pitch pattern to hold standard cage-nuts. Mounting Dimensions to IEC-297-3 for all electronic equipment.			
1.6	Portable Wireless LCD Projector			
	Brightness : 4500 lm			
	Diagonal Screen Size : 0.76–7.62 m (30–300 in), 4:3 aspect ratio			
	Technology : LCD			
	Resolution : 1024 × 768			
	Power Consumption : 100–240 V: 320 W			
	HDMI & LAN Port : Yes			
	USB Ports : Two			
	Built-In Speaker : Yes			
	Wireless Standard : 2.4 GHz: IEEE802.11b/g/n, 5 GHz: IEEE802.11a/n			
	Managed Meeting Mode : Up to 10 users can connect and take turns presenting for easy collaboration.			
	Mounting : Ceiling mount accessories included.			

	Type : Portable			
1.7	Interactive / Electronic Whiteboard			
	View, Save and Share - All in Color			
	External Dimensions (H x W x D, without stand) : 44.3 in. x 78.6 in. x 8.8 in. (1,125 mm x 1,998 mm x 224 mm)			
	Power Supply : AC 100 - 120 V / AC 220 - 240 V, 50/60 Hz			
	Power Consumption : 0.7 A / 0.23 A (Operational / Standby)			
	Operating Environment : Temperature: 50 – 95°F (10 – 35°C), Humidity: 30 – 80 % RH			
	Panel Dimensions (H x W) : 33.0 in. x 68.5 in (838 mm x 1,740 mm)			
	Number of Sheets : 2 (endless type)			
	Copying Area (H x W) : 31.1 in. x 67.7 in. (790 mm x 1,722 mm)			
	Time Required for Scanning : Color – approx. 30 sec/sheet ; B/W – approx 20 Sec/sheet			
	Store File Format : Color Scanning: PDF or JPEG Black and White Scanning: PDF or JPEG			
	Supported Memory Type : SD Card / USB Flash Memory			
	Printer Interface : USB 2.0 (Full Speed, USB Slave, B-Type Connector)			
	PC Interface : USB 2.0 Full Speed or USB 1.1			
	The Interactive / Electronic whiteboard has to be supplied with stand, replacement film, color markers, eraser, including all accessories.			
2	Public Address system (For labs, classrooms, staff rooms and corridors)			
2.1	250 W Amplifier with built-in MP3 player			
	Power Output : 300 W Max.			
	Input channels : 6 Mic / 2 Aux / 1 Line			
	Frequency Response : 50 -15 KHz			
	Speaker Output : 4Ω, 8Ω, 70V & 100V			
	Digital Player : MP3 Player with USB, SD and MMC Card Reader			
	Power Supply : AC: 220-240V 50/60Hz DC: 24V (2 × 12V Battery)			
	Power Consumption : AC: 460VA DC: 6A			
2.2	Ceiling Speaker, 6W / 100 V			
	Input Power : 6W RMS			
	Frequency Response : 60 – 15 KHz			
	SPL (1W/1m) : 92dB			
	Dimensions : ø200 × H85 mm			
	Weight : Less than 900 Gms			
2.3	Gooseneck Microphone			
	Unidirectional Dynamic Microphones			
	Wide frequency response.			
	High front-to-back rejection for more gain before feedback.			
	Built-in XLR socket.			
2.4	6-Zone Paging Microphone			
	Compact & elegant 6-zone paging microphne comprising of a paging console and a distribution unit.			

	The paging mic has one-touch ON/OFF switches for zone selection, ALL CALL, RESET & CHIME function.			
	Comes with 16" long gooseneck microphone with dynamic unidirectional cartridge.			
	Frequency Response : 70 – 10 KHz			
	Output : 250mV nominal			
	Power Requirement : AC 220-240V 50/60Hz DC: 24V Battery			
3.	Water Coolers with complete RO system			
A.	ISI marked			
B.	Blue fins on condenser coil			
C.	Rugged stainless steel/ galvanized steel body			
D.	Compressor : Reciprocating			
E.	Cooling Capacity (Ltr /hr) : 150			
F.	Number of Faucets : 2			
G.	Rated current (amp) : 7.5			
H.	Refrigerant : R-22			
I.	Total storage capacity (Lt) : 150			
J.	The water cooler has to be supplied with a complete RO system comprising of RO, UV, UF etc. to be fitted at the water source			
4.	Refrigerator			
A.	2-Door			
B.	Gross Capacity(L) : 480			
C.	UI Intellisensor : Yes			
D.	RC Lamp : LED			
E.	Number of Shelves : Three (03)			
F.	Microblock : Yes			
G.	Width (mm) : 700 Depth (mm) : Less than 750 Height (mm) : Less than 1850			
5	Microwave Oven			
A.	Type : Convection, OTG			
B.	Color : White			
C.	Capacity : 45 Litres			
D.	Control type : Mechanical knob			
E.	Timer : Yes			
F.	Power consumption : 1200 watts			
G.	Voltage : 240 V			
H.	Includes Baking Tray, Grill Rack, Tong, Crumb Tray, Skew Rods			
I.	To be supplied with cookware set, comprising of 3 pcs set of cookware having 3 layered non-stick coating.			
6	Induction Cooker			
A.	Width : 300 – 350 mm			
B.	Height : Less than 100 mm			
C.	Number of preset menus : 7			
D.	Fast heating : Yes			
E.	Digital display : Yes			
F.	Automatic shut-off : Yes			

G.	Cool Touch : Yes			
H.	Timer : Yes			
I.	Visible & Audible Alarm Signals : Yes			
J.	Power Input : 220 – 240 V			
K.	Power Consumption : 1800 W			
L.	To be supplied with cookware set, comprising of 3 pcs set of cookware having 3 layered non-stick coating.			
7	Coffee Vending Machine			
A.	Number of Selections : Minimum Three (3), Tea, Coffee & Soup			
B.	Premix Capacity (each lane) : 1 Kg			
C.	Dispensing Rate (cups/min) : 6 -7 cups			
D.	Max. Load : 2.2 Kw			
E.	Power Supply : 230 v AC 15 Amp			
F.	Auto Cleaning : Yes			
G.	Machine Body : 1.2mm,M S			
H.	Boiler : Stainless Steel 304 Grade			
I.	Digital Counters : Yes			
8	IP based Surveillance System			
8.1	The surveillance cameras shall cover all the three floors of the building including classrooms and supporting rooms. Surveillance system shall include cameras, video management software. The storage shall be sized to keep all the cameras online for 30 days. The technical specification of surveillance system is given below:			
A	The IP based Closed Circuit Camera surveillance system shall use state of the art technology.			
B	The IP based systems shall either use integrated or encoders for their camera systems.			
C	All the cameras proposed shall have power over Ethernet with option for 24 V AC input.			
D	The system shall support open architecture and shall not have any proprietary equipments to ensure future compatibility with third party systems			
E	The scope shall include supply, installation, testing, commissioning and maintenance of the IP based CCTV system proposed.			
F	Scope shall include supply , installation , testing and commissioning of cameras, managed network switches / network video recorders/severs, Digital Video Management Software (DVMS) workstations, monitors, racks, consoles cables, etc. UPS power shall be provided by NIT. The specifications for these components shall be as mentioned below.			
G	The cameras shall be located in all labs, classrooms and corridors except staff rooms.			
H	Indoor High Definition Camera			
	1. 1/3" Progressive Scan CMOS Sensor			
	2. Shutter Time: 1/3 s to 1/100,000 s			
	3. Minimum Illumination: 0.01Lux @AGC ON ,0 Lux with IR			
	4. Lens: 4mm@ F2.0			
	5. Adjustment Range: Pan:0° - 325°, Tilt: 0° - 70°, Rotation: 0-325°			

	6. Wide Dynamic Range: Digital WDR			
	7. 3D Noise reduction: ON/Off			
	8. Tamper Alarm: On/Off			
	9. Compression: Dual stream, H.264			
	10. Max. Image Resolution: 1280x960			
	11. Channel Bandwidth: 20/40MHz Support			
	12. motion detection			
	13. Protocols: TCP/IP, ICMP, HTTP, FTP, DHCP, DNS, DDNS, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, Bonjour			
	14. Communication Interface: 1 RJ45 10M / 100M Ethernet interface			
	15. IR Range: Up to 30m			
	16. Weather Proof: IP66			
	17. CE and FCC certified			
	18. ONVIF (S & G) & ISAPI Compliance			
8.2	Network Video Recorder / Server supporting 64 video streams			
A	The Network video recorder / sever shall support a minimum of 16 cameras.			
B	The total NVR shall have an internal hard disc capacity of upto 30 days of video storage (whichever is maximum) at 4CIF resolution, for the installed cameras.			
C	Hard Disk: 4 SATA interfaces for 2 HDDs + 1 DVD-R/W (default), or 4HDDs; 1 eSATA interface. Capacity: Up to 4TB capacity for each HDD			
D	The NVR shall be able to record individual camera with selectable frame rate			
E	The NVR shall support remote/Local administration, monitoring and management of video, audio and data.			
F	USB interface 3 × USB 2.0			
H	The NVR should at least support H.264, MJPEG formats			
I	Playback resolution 5MP /3MP /1080P /UXGA /720P /VGA /4CIF /DCIF /2CIF /CIF /QCIF			
J	Necessary operating system and the system software licenses required shall be included.			
8.3	Digital Video Management System (DVMS) software features			
A	The software shall manage and support video from IP cameras and encoders through the Ethernet.			
B	The software shall be in a position to provide remote administration, monitoring and management of video and audio.			

C	The DVMS software shall be able to display a minimum of 16 videos on the screen. It shall be possible to get the following information.			
	a. Host name			
	b. IP address			
	c. Serial number			
	d. Software version			
	g. System name Number of hard drives on system			
	h. Number of system cameras			
	l. Camera names			
	j. Camera status (recording, no signal, scene loss)			
	k. Number of days of video storage on disk			
	l. Licensed product name			
	m. Alarm events			
	n. Video deleted sooner than expected y. Windows events			
D	The DVMS software shall allow users to monitor and manage any IP devices through a single digital video surveillance application.			
E	The DVMS shall support open architecture platform expands the capabilities of legacy devices and maximizes investments in current and future security technology.			
F	The DVMS shall support third-party applications, video analytics and data transaction information.			
G	The cameras shall be provided for all the entry/exit doors, corridors, labs & classrooms except staff rooms.			
8.4	Rack Mount Server			
i.	1 U Rack Mountable			
ii.	One number of latest generation Intel six Core E5-2600v3 processor operating at 1.9 Ghz			
iii.	15 MB (1 x 15 MB) L3 cache (MIN) or better.			
iv.	Intel® C610 Series Chipset			
v.	64 GB DIMMS scalable to at least upto 512GB, using DDR4 Load Reduced DIMM (LRDIMM) memory modules. Should be capable of identifying and reporting whether genuine OEM memory is installed. Each LRDIMM should work at 2133MHz, 1. 2V even after populating all the DIMMs in the channel.			
vi.	Advanced ECC with multi-bit error protection and memory online spare mode			
vii.	Up to 8 SFF/4 LFF max, HDD/SSD			
viii.	One optional optical drive bay to install DVD-ROM or DVD-RW .			
ix.	3 nos of 600 GB SAS 10 K RPM hard disk drives.			
x.	Embedded 6Gb/s SATA controller RAID controller with RAID 0/1/10/5 for SATA Disk. OR PCIe 3.0 based 12Gb/s Raid Controller with RAID 0/1/1+0/5/50/6/60/1 Advanced Data Mirroring/10 Advanced Data Mirroring with 4GB battery backed write cache (onboard or in a PCI Express slot)			
xi.	Server should support 1Gb 2-port network adaptor supporting advanced features such as TCP segmentation offload, VLAN tagging, MSI-X, Jumbo frames, IEEE 1588, and virtualization features such as VMDQ.			

xii.	Video - 1 4 USB ports (standard) Micro SD slot - 1			
xiii.	Three PCI-Express 3.0 slots, atleast two x8 and one x16 slots			
xiv.	Integrated Matrox G200 video standard 1280 x 1024 (32 bpp) 1920 x 1200 (16 bpp)			
xv.	ACPI 2.0b Compliant PCIe 3.0 Compliant PXE Support WOL Support Microsoft® Logo certifications USB 3.0 Support ASHRAE A3/A4			
xvi.	Should support monitoring ongoing management, service alerting, reporting and remote management with embedded Gigabit out of band management port Server should support configuring and booting securely with industry standard Unified Extensible Firmware System should support RESTful API integration System management should support provisioning servers by discovering and deploying 1 to few servers with Intelligent Provisioning System should support embedded remote support to transmit hardware events directly to OEM or an authorized partner for automated phone home support			
xvii.	Power-on password Serial interface control Administrator's password TPM 1.2 UEFI			
xviii.	Microsoft Windows Server Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) Oracle Solaris VMware			
xix.	System should support Encryption of the data on both the internal storage and cache module of the array controllers using encryption keys. Should support local key management for single server and remote key management for central management for enterprise-wide data encryption deployment.			
xx.	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.			
xxi.	Essential tools, drivers, agents to setup, deploy and maintain the server should be embedded inside the server. There should be a built -in Update manager that can update firmware of system by connecting online.			
xxii.	System remote management should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. Server should have dedicated 1Gbps remote management port. Remote management port should have 4GB NAND flash with 1GB available for user access. NAND flash should be used for keeping system logs and downloading firmware from OEM's website or internal repository Server should support agentless management using the out-of-band remote management port. The server should support monitoring and recording changes in the server hardware and system configuration. It			

	assists in diagnosing problems and delivering rapid resolution when system failures occur. Remote console sharing upto 6 users simultaneously during pre-OS and OS runtime operation, Console replay - Console Replay captures and stores for replay the console video during a server's last major fault or boot sequence. Microsoft Terminal Services Integration, 128 bit SSL encryption and Secure Shell Version 2 support. Should provide support for AES and 3DES on browser. Should provide remote firmware update functionality. Should provide support for Java free graphical remote console.			
xxiii.	The Systems Management software should provide Role-based security			
xxiv.	Should help provide proactive notification of actual or impending component failure alerts on critical components like CPU, Memory and HDD. Should support automatic event handling that allows configuring policies to notify failures via e-mail, pager, or SMS gateway or automatic execution of scripts.			
xxv.	Should provide an online portal that can be accesible from anywhere. The portal should provide one stop, online access to the product, support information and provide information to track warranties, support contrats and status. The Portal should also provide a Personalised dashboard to monitor device heath, hardware events, contract and warranty status. Should provide a visual status of individual devices and device groups. The Portal should be accessible on premise (at customer location - console based) or off premise (using internet).			
xxvi.	Should support scheduled execution of OS commands, batch files, scripts, and command line apps on remote nodes			
xxvii.	Should be able to perform comprehensive system data collection and enable users to quickly produce detailed inventory reports for managed devices. Should support the reports to be saved in HTML, CSV or XML format.			
xxviii.	Should help to proactively identify out-of-date BIOS, drivers, and Server Management agents and enable the remote update of system software/firmware components.			
xxix.	The Server Management Software should be of the same brand as of the server supplier.			
xxx.	Infra Platform /Infra Software to support a variety of different hypervisors, such as VMware, Microsoft Hyper-V, Red Hat KVM, and OEM's Integrity VM			
xxxi.	Solution available to Deploy a fast and easy installation via software appliance delivery mode. With its own OS and Database to provide infra and lifecycle management			
xxxii.	Management software should support integration with popular virtualization platform management software like vCenter, SCVMM and RedHat RHEV			
8.5	42 inch Full HD LED TV			
A.	Screen Type : LED			
B.	Display Size : 106.68 cm (42)			
C.	Display Feature : Full HD			
D.	Screen Resolution : 1920 x 1080p			
E.	Picture Processor : Triple XD			
F.	Aspect Ratio : 7 modes (16:9, Just scan, Original, 4:3, 14:9, Zoom, Cinema Zoom)			
G.	View Angle : 178 Degree			
H.	Refresh Rate : 100 Hz (50) Dynamic MCI			
I.	Speakers : 1 way 2 speakers			
J.	Sound Output : 10W			
K.	Sound Technology : Dolby Digital Decoder			
L.	- HDMI : 2 (Rear) - USB : 1 (Side)			
M.	Noise Reduction			
N.	Advanced IPS LED LCD Panel			

O.	Smart Energy Saving			
P.	- Power Supply : AC 100-240V, 50-60Hz - Power Consumption : 90W (Typ), 0.5W (Standby Mode)			
8.6	Smart LED Full HD TV			
A.	Screen size : 60 inches			
B.	Resolution : 1080p Full HD (1920 x 1080)			
C.	Picture Processor : Triple XD			
D.	Processor : Dual			
E.	Natural Voice Recognition : Yes			
F.	Screen Share : Yes			
G.	Audio Output : 20W			
H.	Dolby Digital Recorder : Yes			
I.	Wi-Fi : Built In			
J.	Wi-Fi Direct : Yes			
K.	USB : DivX HD (Video)			
L.	Smart Star Qualified			
M.	- HDMI : 3 (Side) - USB : 3 (Side) - LAN : 1 (Rear)			
N.	Power Supply (Voltage, Hz) : 100~240Vac 50-60Hz			
O.	Power Consumption Standby Mode : 0.3W			
8.7	Cables & conduits, as per site requirement.			
8.8	Installation, Commissioning & Testing			

SPECIFICATIONS AND REQUIREMENTS OF CABLES AND COMPONENTS FOR PASSIVE NETWORKING

GENERAL REQUIREMENTS

Following are the general requirements.

All the passive network cabling components i.e., UTP CAT 6, IO Box Assemblies and Patch Panels must be from the same manufacturer and ROHS compliant.

The manufacturer must have ISO 9001:2000, QS:9000 and ISO14001 certifications.

The network cables must cover a performance warranty of minimum 25 years or lifetime and a defect liability period of 3 years. Bidder shall ensure that these requirements are provided by the manufacturer.

UTP CAT6 components should have independent lab verification like ETL certificates and UL numbers

Manufacturer of the passive network cabling components to be supplied by the bidder must have complete structured cabling system which must be upgradeable in future to intelligent system by retrofitting of sensors or any other means.

Written declaration from manufacturer shall be provided to NIT Raipur by the bidder in this regard.

UTP CABLE

SN	Specification	Compliance Yes/No	Deviation if any	Remarks
1.	Category 6 Unshielded Twisted Pair 4 pair cable shall be compliant with ANSI/TIA/EIA-568-B.2-1 Additional Transmission Performance Specifications for 4-pair Category 6 Cabling.			
2.	Category 6 UTP cables shall extend between the work area location and its associated telecommunications closet and consist of 4 pair, 23 AWG, UTP with FR PVC jacket.			
3.	Supports ultrahigh speed data networks such as Gigabit Ethernet (1000 Base-T and 1000 Base-TX) and beyond.			
4.	The cable jacket shall be FR PVC			

5.	Incorporates central spine maintaining pair separation during installation to ensure premium performance after installation.			
6.	Construction: 4 twisted pairs separated by internal X shaped, 4 channel, polymer spine / full separator. Half shall not be accepted. Conductor Solid Copper Conductor Diameter 0.56±0.005mm (23 AWG) Insulator Polyolefin Jacket FR PVC Outer Diameter 6.0±0.4mm Max. Temperature 75°C			
7.	ROHS/ELV Complied			

MODULAR JACKS / IO

S.No.	Specification	Compliance (Yes/No)	Deviations, if any	Remarks
1.	CAT 6 Data Gate Plus Jack shall be designed for maintaining clean and secure connections RJ 45 Jack shall have spring-loaded shutter which protects it from dust and contaminants as well as provides tactile feedback – the spring loaded shutter shall pop out an improperly seated patch cord all with single handed plug-in and removal			
2.	Wire Terminal: 200 Termination Cycles			
3.	Modular Jack: 750 Mating Cycles			
4.	Plastic Housing: Polycarbonate, UL94V-0 rated or equivalent			
5.	IDC Contact Plating: Tin/Lead Plate			
6.	Faceplate: Square Shuttered Plate with 1/2 ports, 86 mm x 86mm			
7.	ROHS/ELV compliant			

FACE PLATES

S.No.	Specification	Compliance (Yes/No)	Deviations, if any	Remarks
1.	86mm x 86mm Face/Wall Plate			
2.	Should accept up to 4 keystone modules. Should load shuttered or non-			

	shuttered modules, designation label, clear label cover, mounting screws and screw covers			
3.	Should have channel identification via color matched snap-in plastic icons that are pre-printed with graphic symbols or text labels			
4.	Text icon labels in seven bright colours pre-printed with Category 5e and 6, phone, fax, LAN and ISDN			
5.	Image icons shall be available in seven brightly coloured grey, green, purple, blue, yellow, orange, and red.			
6.	The Face/Wall Plates should: (a)Accept RJ45 Keystone Modular Jacks (b)Have a Grid Plate with Standard White Colour Surrounds (c)Have protected clear designation label windows (d)Be supplied complete with self-tapping screws			
7.	Face/Wall Plates shall have the following Dimensions (H x W) Grid Plate Only British Standard Faceplates: UK Style Faceplate Frame Fitting Standard 86x86 mm U.K. Backboxes			

CAT6 Modular Patch Panel / Jack Panel:

S.No.	Specification	Compliance Yes/No	Deviations, if any	Remarks
1.	19" 24-port, loaded with Jack , A key product used in both Category 6 link and channel gigabit Ethernet applications. The IDC section consists of V-shaped contacts that flex not fatigue when terminated. Each port features spring-loaded shutter and can be colour coded to match jack outlets. Offering both front and rear labeling options, the patch panel is constructed of cold-rolled steel for additional strength and durability.			
2.	Ports : 24 and 48			
3.	Plastic Housing Jack Connector :Polycarbonate, UL94V-0 rated or equivalent			
4.	Contact Plating: 50µ" Gold/100µ" Nickel			
5.	Front Connector interface : RJ45			
6.	Circuit Identification Scheme : Icons on each of 24-ports			
7.	Port Identification : 9mm or 12mm Labels on each of 24-ports (to be included in supply)			
8.	Height 1 U (1.75 inches)			
9.	ROHS/ELV Compliant			

F.O. SM Cable**SM 6 Core Armored Unitube 9/125µm OS1 Type Optical Cable:**

SN	Specification	Compliance Yes/No	Deviations, if any	Remarks
1.	Cable shall be suited for ducts and of the following type: SM 6 Core Armored Unitube Gel filled OS1 Cable shall comply with the following minimum standards: ISO.IEC 11801:2002 - 2nd Ed., OS1; AS/ACIF S008; AS/NZS 3080, ITU-T REC G 652D for low water peak fiber, IEC 60793/60794, TIA 568, EIA 455			
2.	Max. short term tensile strength shall be 1000N			
3.	Max. short term crush resistance: 2000N/10CM			
4.	-10° C to + 70°C operating temp range			
5.	Thickness of Corrugated Steel Tape Armour shall be greater than or equal to 0.125mm			
6.	Strength members shall comprise of two Steel wires			
7.	Covering sheath shall be made of UV stabilized HDPE			
8.	Fibre protecting tube shall be made of Polybutylene Terephthalate material			
9.	Thixotropic Gel (Tube) with Petroleum Jelly (Interstices) shall be used for water blocking			
10.	Max. Bending Radius at the time of installation shall be 20 times the overall dia			
11.	Overall dia of cable: 9.5-9.9 mm			
12.	Nominal mass shall be 95 kilograms per kilometer			
13.	Attenuation at 1310 nm shall be less than or equal to 0.34 dB/KM while at 1550nm it shall be less than or equal to 0.22 dB/KM			
14.	Numerical Aperture value of 0.14			
15.	Core/Mode-Field: 9 micrometer; 1310nm mode field dia shall be 9.2 + 0.4 µm			
16.	Cladding Dia shall be 125 ± 1.0µm			
17.	Bandwidth shall be greater than 1GHz-Km at 1310nm			
18.	Attenuation Discontinuity in both windows shall be less than 0.10dB			
19.	The cable shall be ROHS compliant			

20.	The minimum expected life of the cable shall not be less than 25 years			
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SC-LC SM FO Patch Cords:

S.No.	Specification	Compliance Yes/No	Deviations, if any	Remarks
1.	ROHS Compliant SC to LC Duplex/Simplex tuned optic fiber Patch Cord 3m length, 9/125 μ m			
2.	-10°C to +60°C operating temperature			
3.	LSZH cable sheath			
4.	Insertion loss up to 0.3 decibels			
5.	Return Loss shall be greater than 45 decibels			
6.	1.8mm twin zip cable dia			
7.	Ceramic ferrule			
8.	Tight buffer			

Rack Mount Fiber Panels:

S.No.	Specification	Compliance Yes/No	Deviations, if any	Remarks
1	ROHS Compliant 1U rack mount configurable fiber drawer unit for storing and terminating incoming fiber cable. Using 6 Pak Plates the fiber system can be configured for most applications. Sliding drawer for ease of reconfiguring fibers.			
2	Rugged steel construction with attractive finish; Weight approx 5 kg; Compact size (mm): 45mm H x 485mm W x 255mm D			
3	Configurable; Fits up to four 6 Pak / Angled 6 Pak plates			
4	In-system management rings for accommodating excess fiber cordage behind trough adapters and maintaining fiber bend radius			
5	Accommodates 2 x 12 fiber Splice Trays			
6	F.O. Adapter Plates Loaded : SC Duplex 6 Fiber SM Adapter Plate			
7	LIU Should be provided with Lock & Key			

8	No of Adapter Plates Reqd : As per Requirement			
9	Pigtails : SC, Single mode, 9/125 µm qty depend on Connection			

Fiber Pigtails:

S.No.	Specification	Compliance Yes/No	Deviations, if any	Remarks
1.	ROHS Complaint 900µm Tight Buffered cable pigtail of 1.5m length			
2.	Attenuation at 1310 nm ≤ 0.36 dB/KM at 1550nm ≤ 0.22 dB/KM			
3.	100% Factory Tested and Guaranteed Performance polishing			
4.	Connector End: 1 X SC Connector S.M Zirconia ceramic ferrule.			
5.	-10 Degrees to + 60 ° C range of operating temperature			
6.	LSZH sheath			
7.	30mm min bend radius			
8.	Retention Strength : 100N			

42U, 15U, 12U and 6U racks must be from the same manufacturer for uniformity.

42U Rack:

Sl. No	Specification	Compliance Yes/No	Deviations, if any	Remarks
1	Made of steel sheet punched, formed, welded and powder coated			
2	Manufacturer must be ISO 14001 Certified & UL Listed			
3	Welded frame with side panel and vented top cover			
4	Perforated Metallic Front Door and Rear Metal Door			
5	Provision for Floor Mounting			
6	Rack 42U (1U = 44.45 mm) in Height.			
7	600MM Wide & 800MM Deep			
8	Conforms to DIN 41494 or Equivalent EIA /ISO / EN/CEA Standard			
9	Adjustable mounting depth			

10	Rack 4 No Adjustable, 19" verticals with Punched 10mm Square Hole and Universal 12.7mm-15.875mm-15.875mm alternating hole pattern			
11	Numbered U positions			
12	100% assured compatibility with all equipment conforming to DIN 41494			
13	Powder coated finish with seven Tanks pre-treatment process meeting IS			
14	Proper Grounding & Bonding Provision			
15	One number heavy duty Full tray			
16	Should have Fan module Mount Provision on top Cover with 4 Fan Housing unit			
17	Should have 2 Nos. 1Ph, 230V, 32A, Zero U standard Vertical rack mount power distribution unit with 12 X Indian Round Pin 5/15A, (Inlet Plug Not Installed, Recommended IEC30932A 2P +E), 16A MCB X 2 Circuits- PDU Rating 7.3KVA			
18	Should have 2 Nos. Horizontal & Vertical Cable Organizer with Plastic Loops.			
19	Provision for cable entry - exit from Both top & Bottom.			
20	Should have 1 Packet of mounting hardware, Pack of 20.			

15U/12U/6U Wall Mount Rack:

Sl. No	Specification	Compliance Yes/No	Deviations, if any	Remarks
1	Shall be manufactured out of steel sheet punched, formed, welded and Powder coated			
2	Manufacturer must be ISO 14001 & IS18001 & UL Listed.			
3	Welded frame and vented top cover			
4	Perforated Metallic Door with lock & Key			
5	15U(1U=44.45 mm) in Height, 550MM Width, 600MM Depth			
6	Conforms to DIN 41494 or Equivalent EIA /ISO / EN/CEA Standard			
7	Adjustable mounting depth,			

8	4 No Adjustable, 19" verticals with Punched 10mm Square Hole and Universal 12.7mm-15.875mm-15.875mm alternating hole pattern			
9	Numbered U positions,			
10	100% assured compatibility with all equipments conforming to DIN 41494			
11	Powder coated finish with seven Tank pre-treatment process meeting IS			
12	Provision for Proper Grounding & Bonding			
13	Shall have one cantilever shelf			
14	Fan module Mount Provision on top Cover with 2 fans			
15	Shall have one 1Ph, 230V, 16A, 2U standard rack mount power distribution unit with 6 X Indian Round Pin 5/15A, Inlet Plug type 16A Indian Round Pin, 16A MCB - PDU Rating 3.6KVA			
16	Shall have 1 No Horizontal Cable Organizer with Plastic Loops.			
17	Shall have provision for cable entry Exit from Both top & Bottom.			
18	Shall have 1 Packet of Mounting hardware, Pack of 10			

CHAPTER 5: PRICE SCHEDULE (To be utilised by the bidders for quoting their prices)

Items 6,7,19, 61 and 62 have been left blank. Bidder is to ignore them. Where non-bracketed and bracketed values are mentioned, bidder may ignore the bracketed values, otherwise where only bracketed values are mentioned, bidder has to consider the same. Mention tax and duty percentages separately.

S.No.	ITEM	QTY FOR CCC	QTY FOR TPO	NET QTY	UNIT PRICE	PRICE FOR NET QUANTITY
1.	50 mm thick 1000mm.ht. Workstation / Table top size 900X600mm	160	0	160		
2.	50 mm thk 1200mm.ht. Panel Based Workstation / Table Top size 750mm x 600mm	225	0	225		
2(a)	50 mm thk 1000mm.ht. Panel Based Workstation / Table Top size 750mm x 600mm	0	5	5		
3.	50 mm thk 1200mm.ht. Panel Based Workstation / Table Top size 1050mm x 600mm	35	0	35		
4	KBPT	460	15	475		
5	CPU Trolley	460	15	475		
6	--	--	—	—	—	—
7	—	—	—	—	—	—
8	Self Standing Table Desk with Pedestal	14	0	14		
8(a)	Self Standing Table Desk with Pedestal	0	3	3		
9	Workstation Chair Medium Back Revolving Chair	435	5	440		
10	Visitor Chair	52				
11	Single Bed	8	0	8		
12	Corner Table	4	0	4		
13	Comfortable Chair	8	0	8		
14	Mattress 1950mm X 1000mm	8	0	8		
15	Pillow	8	0	8		
16	Bedsheet and Blankets	8	0	8		
17	Wardrobe	4	0	4		
18	Heavy Duty Work Table of Depth WxDxH 1800mm x 900mm x 750mm	4	0	4		
19	--	--	--	--		
20	High back chair	6				
21	Steel Almirah	24	3	27		
22	4 Seater Table Plyboard Top	6	0	6		
23	Reception Table - 1800mm X 600mm (for 3 persons)	3	0	3		
24	Personal Locker Unit	15	0	15		
25	Executive Desk (2400 X 1050 X 750) mm with pedestal & Side Unit	1	1	2		
26	Back Unit (1000W X 450D X2100H)mm.	2	2	4		
27	Executive High Back Chair	1	5	6		
28	Magnetic board (900 X 600)mm.	3	1	4		
29	White board (900 X 750)mm.	3	1	4		
30	Medium Chair	4	0	4		
31	Executive sofa (3+1+1)	1	1	2		

32	Premium lounge Chair (3 Seater)	10	4	14		
33	Corner Table	2	4	6		
34	Coffee Table with Shelves	1	1	2		
35	Executive Desk (2100 X 900 X 750)mm. with Pedestal Storage Unit & Side unit	1	0	1		
36	Back unit (2250 X 400 X 2000)mm	1	0	1		
37	Executive High Back Chair	1	0	1		
38	Medium back Chair	3	0	3		
39	Coffee Table with Shelves	1	0	1		
40	Corner table	2	0	2		
41	3 seater Sofa	1	0	1		
42	Single seater sofa	2	0	2		
43	Movable Storage System: Single faced static unit - 1980H X 1830W X 457D mm	2	1	3		
44	Movable Storage System: Single faced movable unit 1980HX1830WX457D mm	2	1	3		
45	Movable Storage System: Double faced movable unit - 1980H X 1830W X 914D mm	2	1	3		
46	Channel 9 ft.	2	1	3		
47	3 seater Sofa	1	0	1		
48	Single seater sofa	2	0	2		
48(a)	Comfortable Sofa Set (3+1+1)	0	1	1		
48(b)	Sofa set (3 seater)	0	1	1		
49	High back chair	0	20	20		
50	Medium back Chair	31	32	63		
51	4 door Book case (914mm Wx 380mm Dx 1750mm H)	8	3	11		
52	Executive Table(1650 X 750) mm., side unit & Back storage unit	1	1	2		
53	10-Seater Conference table	0	2	2		
54	Discussion/Meeting table (4 seater)	0	8	8		
55	Fixed type educational training chair	0	140	140		
56	Self Standing Table with pedestal (1800 X 900 X 750)mm	1	0	1		
57	Mesh High back chair	0	1	1		
58	Fixed Visitor Chair	0	9	9		
59	Coffee Table: size is 1200mm (W) x 600mm (D) x 450mm (H)	1	0	1		
60	Coffee table: size is 1000mm (W) x 600mm (D) x 450mm (H)	1	1	2		
61	--	--	--	--	--	--
62	--	--	--	--	--	--
63	Self Standing Table with metal leg(1200 X 600)mm. & pedestal	4	0	4		
64	Mesh high back Chair	3	0	3		
65	Self Standing Table with metalic leg & pedestal (1650 X 900 X 750)mm.	16	0	16		
66	Curtains with Fixtures and 1'x 2' Designer Mirrors	As per site requirement	As per site requirement			
67	Stackable Cafeteria Chair	0	150	150		
68	Slotted Angle Rack	5	0	5		
69	1' x 2' Mirrors	0	4	4		

	PASSIVE CABLING AND NETWORKING RELATED Bidders must ignore Item No. 2					
1.	Network Cabling: Horiz. UTP cabling for approx. 500 nodes dual port across 3 floors					
1 (a)	Cat6 UTP Cable, Blue (Box of 305 mtrs)	100		100		
1 (b)	Cat6 Patch Cord, 1 Mt., Green	500		500		
1 (c)	Cat6 Patch Cord, 2 Mts., Green	500		500		
1 (d)	24 Port unloaded modular Jack Panel	42		42		
1 (e)	Cat6 UTP Jack, White	2000		2000		
1 (f)	Dual shuttered Face Plate	500		500		
2.	—	—	—	—	—	—
3.	Network Cabling: Racks for 3 floors					
2(a)	12U, Wall Mount Rack with all accessories	6	4	10		
2 (b)	42U (600 x 1000 mm) Rack with vertical cable channels, 6 horizontal cable manager, two vertical power manager Castor wheel, Fan, 4 pkt of Hardware Front Panel and other accessories, as per specifications.	4		4		
4.	Network Cabling: BIS/ISI marked perforated cable trays of make approved by CCC for laying electrical and data cables. The trays shall have to be fixed on mounting brackets on the floor or suspended from the ceiling, as per site requirement and approval of the client. Cable tray sheet thickness: 1.2 / 1.5 / 1.6 / 2.0 & 2.5 mm. The cable tray height shall be 50 or 75 mm. Tray widths shall be 50, 100, 150, 300, 450 & 600 mm and shall be installed as per site requirement. Cable trays shall either be hot-dipped galvanized or powder coated, as per standards. The cable tray system should include all mounting & fixing accessories, e.g. vertical / horizontal bends, inside / outside bends, reducers, etc. The trays shall have to be pre-painted in order to distinguish between a power and network. The bidder has to submit a detailed cable tray layout detailing various cable tray types with quantities along with the bid.	As per site requirement		As per site requirement		
5.	PVC Conduit, in meters	600		600		
6.	Network Cabling: Snap-on columns and DLP U-PVC/aluminium/snap-on trunking system for power and data distribution, as per site requirement.	As per site requirement		As per site requirement		
7.	Network Cabling: Floor boxes /groumets /desktop extensions/ pop-up boxes for cable junction/termination, as per site requirement.	50		50		
7 (a)	Consolidation Boxes, (2U+2U) for termination of network cables.	4		4		
7 (b)	Raised Access Flooring (in Sqmt), using steel panel having a cemetitious core, HPL pre-fixed, PVC beads with edge support rigid grid understructure system. Access floor system to be installed shall provide a maximum finished floor height of 450 mm from the existing floor level. The system shall provide for suitable floor tiles, pedestals and stringers designed to withstand a minimum UDL of 500 Kgs / Sqmt.	20		20		
8.	Network Cabling: Installation Services					
8 (a)	Laying of UTP Cable	30500		30500		

8 (b)	Termination of 24 Port Cat6 Jack Panel	42		42		
8 (c)	Termination of Cat6 I/O	2000		2000		
8 (d)	Installation of 12U Rack	As per site requirement		As per site requirement		
8 (e)	Installation of 42U Rack	4		4		
8 (f)	Installation of Raceway	As per site requirement		As per site requirement		
8 (g)	Fixing of PVC Conduit	600		600		
8 (h)	Fixing of consolidation boxes	4		4		
8 (i)	Installation of Raised Access Floor including necessary tile cuttings, etc.	20		20		
	ELECTRICAL CABLING RELATED					
1.	Flexible Cu cable, 3 x 2.5 sq. mm.; rodent and fire resistant; BIS/ISI marked; make approved by CCC	3000				
2.	Modular Power Sockets and Switches with back boxes / face plate; BIS/ISI marked; make approved by CCC	500				
3.	Power Distribution Boards (PDB); BIS/ISI marked; make approved by CCC	12				
	RODENT REPELLANT SYSTEM					
.1.	Rodent Repellent System: Rodent Repellent System shall be provided to protect the premises against any rodent infestation, the technical specification of Rodent Repellent System are as given below: (a) General Objective: The objective is to protect the entire premises against rodents. The purpose is to keep the rodents away from the floor by generating very high frequency sound waves (above 20 KHz) which are not audible to human ear but irritates rodents. The objective is to protect all the cables below floor, above ceiling & room void from damage caused by rodents. (b) Scope: The system proposed should protect all the ICT equipments with relevant type of high frequency sound producing device called satellites or transducers. The number of transducers should ensure that the premises are rodent free.					
2.	Rodent Repellant System: Ultrasound Satellites: j. The satellites or transducers shall be circular ceiling mounted low profile units that produce high decibel sound waves at very high frequency not less than 20 KHz. k. These satellites shall cover an area not less than 400 Sq.ft for Room void application, for ceiling voids & floor void applications. l. No looping is permitted while connecting the satellites to the main controller. m. Every satellite connected to the controller shall have a dedicated connection with the controller.	96				

3.	Rodent Repellant System: Controller Features: k. The controller shall support 12 Transducers and shall come with a pair of stands and brackets. l. The controller shall be installed in the Control / Switch Room and the transducers in the problematic areas i.e. above and below false ceiling and below false flooring. m. 2500 Sq. Feet of Area Coverage per system/ Controller n. Shall drive up to 12 Transducers. With minimum @ 250sft coverage each o. LCD display with on-board controls for changing parameters	8				
4.	Rodent Repellent System: Mounting Rack	8				
5.	Rodent Repellent System: Flexible cable	3000				
6.	Rodent Repellent System: Installation Services	8				
	ELECTRONIC/ELECTRIC FURNISHING ITEMS					
1.	Audio Visual System					
1.1	240W Power Amplifier with gain control and high-pass filter, as per specifications. (01 per classroom)	4	1	5		
1.2	Professional high quality Gooseneck Microphone, as per specifications. (01 per classroom)	4	1	5		
1.3	Miniature omni directional electret condenser lavalier type microphone. (01 per classroom)	4	1	5		
1.4	Wall mount column speakers, 20 W RMS, Frequency response 150 Hz - 10 KHz, along with mounting accessories, as per specifications. (04 per classroom)	16	4	20		
1.5	Wall mount rack, 6U, as per specifications. (01 per classroom)	4	1	5		
1.6	Portable Wireless LCD Projector, brightness of 4500 lumens, built-in speaker, along with ceiling mounting bracket, as per specifications. (01 per classroom)	4	1	5		
1.7	Interactive / Electronic Whiteboard, as per specifications. (01 per classroom)	4	1	5		
1.8	Cables & conduits, as per site requirement.	600 Mtrs	200 Mtrs	800 Mtrs		
1.9	Installation, Commissioning & Testing, of the above.	4 lots	1 lot	5 lots		
2.	Public Address System					
2.1	250 W Amplifier with built-in MP3 player	6	0	6		
2.2	Ceiling Speaker, 6W, as per specifications	36	0	36		
2.3	Professional high quality Gooseneck Microphone, as per specifications.	6	0	6		
2.4	6-Zone Paging Microphone	1	0	1		
2.5	Cables & conduits, as per site requirement.	2000 Mtrs	1000 Mtrs	3000 Mtrs		
2.6	Installation, Commissioning & Testing, of the above.	4 Lot	2 Lots	6 Lots		
3.	Water Coolers with complete RO & UV system, as per specifications.	3	1	4		
4.	Two-door refrigerators, as per specifications	2	1	3		
5.	Microwave Oven, as per specifications. To be supplied with standard cookware set	1	1	2		
6.	Induction Cooker with Cookware Set	1	0	1		

7.	Coffee Tea Soup Vending Machine	1	1	2		
8.	IP Surveillance System					
8.1	Indoor High Definition IP Dome Camera , IR upto 30 Mtrs, IP 66, Motion Detection, ONVIF Compliant with accessories and as per specifications. All cameras should be CE & FCC certified.	As per site requirement	As per site requirement	45		
8.2	Network Video Recorder supporting a minimum of 16 cameras, four (04) SATA interfaces, capable of recording individual camera at a selectable frame rate, having sufficient storage capacity for recording video footage for 30 days and as per specifications.	3	0	3		
8.3	Digital Video Management System (DVMS) software and as per specifications.	1	0	1		
8.4	Rack mount server along with supporting operating system and as per specifications	1	0	1		
8.5	42 inch Full HD LED TV, as per specifications	1	2	3		
8.6	60 inch Smart LED Full HD TV with Ethernet Port / Wi-Fi, USB, HDMI port, as per specifications.	2	0	2		
8.7	Cables & conduits, as per site requirement.	1000	500	1500		
8.8	Installation, Commissioning & Testing of the above.	1	0	1		
A.	AMC cost for 1 st year post-warranty					
B.	AMC cost for 2 nd year post-warranty					
C.	AMC cost for 3 rd year post-warranty					
	Grand Total (in figures)					

CHAPTER 6: CONTRACT FORM

Please refer point no. 24 of Chapter 2: Conditions of Contract of this tender document.

Chapter 7 : Other Standard Forms
To be utilised by the purchaser and the bidders.

FORM 1: BIDDER'S SELF INFORMATION FORM

1. Tender Enquiry No. and Date
2. Bidder's Reference No. and Date
3. Name of firm
4. Address of firm
5. Telephone No.
6. Fax No.
7. E-mail Id:
8. Website, if any
9. Permanent Account No:
10. Sales Tax Registration No.
11. Service Tax Registration No.
12. Financial turnover of 2012-2013 In INR in figures as well as words
13. Financial turnover of 2013-2014 In INR in figures as well as words
14. Financial turnover of 2014-2015 In INR in figures as well as words*

*Note: If Financial turnover data of 2014-2015 is not available, please provide turnover of 2011-2012

15. Details of the authorized signatory of the bidder including name, designation and Postal address with telephone, mobile, fax and email (Add rows to include all authorized signatories) (Affix authorized signatory's signature in this space) (Affix authorized signatory's recent coloured passport size photo in this space)
16. Details of the officer (Bidder's Prefect Manager for this project) to whom all references shall be made regarding this tender enquiry including name, designation and postal address with telephone, mobile, fax and email (Affix officer's signature in this space) (Affix officer's recent coloured passport size photo in this space)
17. Bid Processing fee Details
18. EMD Details Attach Attested Copies

Date:

Place:

Signature:

Name:

Designation:

Company:

Seal of the company

FORM 2: BANK GUARANTEE FORMAT FOR EARNEST MONEY DEPOSIT

To

.....
.....
.....
.....

WHEREAS _____ (Name of Bidder) (hereinafter called "the Bidder" has submitted its Bid dated _____ (Date) for the execution of contract "Supply and Installation of Furniture Items, Furnishings, Electrical and Network Cabling for CCC and TPO Building in NIT Raipur" (hereinafter called "the Bid") in favour of National Institute of Technology Raipur hereinafter called the "Employer";

KNOW ALL MEN by these presents that we, _____ (name of the issuing Bank), a body corporate constituted under the _____ having its Head Office at _____ amongst others a branch/office at _____ (hereinafter called "the Bank" are bound unto the employer for the sum of Rs. 15,00,000/- (Rupees Fifteen lacs only) for which payment well and truly to be made to the said Employer, the Bank binds itself, its successors and assigns by these presents;

THE CONDITION of this obligation is: If the bidder withdraws or amends their quotation before the issue of work-order to the successful bidder by the employer, or fails to submit PBG within stipulated time, (in case he becomes the successful Bidder), We undertake to pay to the Employer up to the above amount upon receipt of his first written demand without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of any of the above conditions. Notwithstanding anything contained herein

i) Our liability under this Bank Guarantee shall not exceed Rs15,00,000/- (Rupees Fifteen lacs only)

ii) This Bank Guarantee is valid up to _____ (date) and

iii) We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand On or before _____ (mention period of guarantee as found under clause (ii) above plus claim period)

Dated _____ day of _____ 20_____

SIGNATURE AND SEAL OF THE BANK

**FORM 3: BANK GUARANTEE FOR 5% OF CONTRACT VALUE FOR CONTRACT PERFORMANCE GUARANTEE BOND
FOR CAMPUS WIDE EXTENSION OF INSTITUTE BUILDING LAN (WIRED AND WIRELESS) AND IP TELEPHONY AT
NIT RAIPUR**

Ref

Date.....

Bank Guarantee No

To

Director

National Institute of Technology

G.E. Road

Raipur

1. Against contract vide Advance Acceptance of the Tender No dated..... covering supply/ installation/ commissioning of hereinafter called the 'Contract'), entered into between the Director, National Institute of Technology, Raipur (hereinafter called the NIT Raipur) and (hereinafter called the 'Contractor') this is to certify that at the require of the Contractor we Bank Ltd., are holding in trust in favour of the Director, NIT Raipur, the amount of (write the sum here in words) to indemnify and keep indemnified the Director, NIT Raipur against any loss or damage that may be caused or likely to be caused to or suffered by Director, NIT Raipur by reason of any breach by the Contractor of any of the terms and conditions of the said contract and/or the performance thereof whether any breach of any of the terms and conditions of the said contract and or in the performance thereof has been committed by the Contractor and amount of loss or damage that has been caused or suffered by Director, NIT Raipur shall be final and binding on us and the amount of the said loss or damage shall be paid by us forth with on demand and without demur to Director, NIT Raipur.

2. We, Bank Ltd., further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for satisfactory performance and fulfilment in all respects of the said contract by the Contractor i.e. till (viz. the date up to 3 months after the last date of warranty on goods/services supplied under the contract) hereinafter called the "said date" and that if any claim accrues or arises against us, Bank Ltd., by virtue of this guarantee before the said date, the same shall be enforceable against us Bank Ltd., notwithstanding the fact that the same is enforced within six months after the said date. Payment under this letter of guarantee shall be made promptly upon our receipt of notice to that effect from Director, NIT Raipur.

3. It is fully understood that this guarantee is effective from the date of the said contract and that we, Bank Ltd., undertake not to revoke this guarantee during its currency without the consent in writing of Director, NIT Raipur.

4. We Bank Ltd., further agree that the NIT Raipur shall have the fullest liberty, without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend time of performance by the Contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by NIT Raipur against the said Contractor and to forbear or enforce any of the terms and conditions relating to the said contract and We Bank Ltd., shall not be released from our liability under this guarantee by reason of any such variation of extension being granted to the said Contractor or for any forbearance and or omission on the part. of NIT Raipur or any indulgence by NIT Raipur to the said Contractor or by any other matter the effect of so releasing us from our liability under this guarantee.

5. We Bank Ltd., further agree that the guarantee herein contained shall not be affected by any change in the constitution of the said Contractor.

Date **Signature**.....

Place **Printed Name**.....

Witness

(Designation)

.....

(Bank's Common Seal)