



REQUEST FOR PROPOSAL

Onboarding Service Provider for LAN & Wi-Fi
Networking and Augmenting with the existing
network in the Premises of
Purnea College of Engineering
Purnea

RFP Number:- PCE/Networking/01/2024

Issued on: 14/03/2024

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Purnea College of Engineering

Polytechnic Chowk, Subhas Nagar, Purnea Bihar

**Department of Science, Technology and Technical Education
Government of Bihar**

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1. Abbreviations and Definitions

Abbreviations	Descriptions
AP	Access point
DSTTE	Department of Science, Technology and Technical Education
DSC	Digital Signature Certificate
EMD	Earnest Money Deposit
FAT	Final Acceptance Test
GST	Goods & Service Tax
INR	Indian Rupees
IP	Internet Protocol
LOI	Letter of Intent
LAN	Local Area Network
NIT	Notice Inviting e-Tender
PBG	Performance Bank Guarantee
PAN	Permanent Account Number
PSU	Public Sector Undertaking
SLA	Service Level Agreement
UOM	Unit of Measures

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2. Notice Inviting Tenders

1. Purnea College of Engineering has been constituted under the Department of Science, Technology and Technical Education, Government of Bihar to cater to the needs of technical education. The Purnea College of Engineering intends to invite bids from eligible entities Onboarding Service Provider for LAN & Wi-Fi networking and augmenting with the existing network in the institute Premises as mentioned in the tender document.
2. The contract will be signed between Principal, Purnea College of Engineering and the successful agency/bidder.
3. To participate in the e-tendering process, the bidder/agency are required to get themselves registered with eproc2.bihar.gov.in.

4. Schedule of Events:

Sn.	Event Description	Timeline
4.1	Last date & time of downloading the RFP	Till 03 April 2024 up to 03:00 PM , on eproc2.bihar.gov.in
4.2	Pre-bid meeting	20 March 2024 at 11:00 AM
4.3	Submission (upload) of online bidding document.	03 April 2024 till 05:00 PM , on eproc2.bihar.gov.in
4.4	Submission of EMD	Offline by 07 April 2024 to "Purnea College of Engineering" via post/courier.
4.5	Opening of Technical Bid	08 April 2024 on the eproc2.bihar.gov.in
4.6	Opening of Financial Bid	11 April 2024 on eproc2.bihar.gov.in
4.7	Pre- bid meeting venue	Conference Hall, PCE Purnea, Near Polytechnic Chowk, Subhas Nagar, Purnea, 854301
4.8	Contact person	Principal Purnea College of Engineering Mobil no 9416234153 Email ID principal.pcep@gmail.com

Note

- i.) Interested bidders may obtain further information about this Notice Inviting Tender (NIT) from the office of Purnea College of Engineering.
 - ii) No tender will be accepted after closing date and time in any circumstances.
5. Bidder may also download the tender document available from eproc2.bihar.gov.in and submit the tender by using the downloaded document.
 6. The Purnea College of Engineering will select the bidder based on Least Cost Selection (LCS) method for Onboarding Service Provider for LAN & Wi-Fi networking and augmenting with the existing network in the Institute Premises.
 7. The tender shall be accompanied by Earnest Money Deposit (EMD) of Rs. 25,000/- (Twenty-five thousand rupees only) in the shape of Demand Draft from any Schedule Bank in favour of Principal, Purnea College of Engineering.
 8. The technical and financial bids must be submitted through eproc2.bihar.gov.in before the date and time specified in the tender document. The Purnea College of Engineering doesn't take any responsibility for the delay / Non-Submission of Tender / Non-Reconciliation of online Payment caused due to Non-availability of Internet Connection, Network Traffic/ Holidays, or any other reason.

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9. The bidders shall submit their eligibility and qualification details, Certificates as mentioned in the tender document, in the online standard formats given in eproc2.bihar.gov.in at the respective stage(s) only.
10. The bidders shall upload the scanned copies of all the relevant certificates, documents etc., in support of their eligibility criteria / technical bids and other certificate /documents in the eproc2.bihar.gov.in.
11. The bids must be uploaded (e-mode/online) at the eproc2.bihar.gov.in.
12. All prospective bidders may attend the Pre-Bid meeting. The venue, date and time are indicated in Schedule of Events as in above **section 4**.
13. The Earnest Money should be deposited on or before the closing date & time indicated above in the Purnea College of Engineering, failing which the tenders will be treated as late tender and would be summarily rejected. Proof of the same shall be uploaded on the eproc2.bihar.gov.in during the bid submission.
14. In the event of any of the above-mentioned dates being declared as a holiday/ closed day for the Purnea College of Engineering the tenders/EMD will be opened/received on the next working day at the scheduled time.
15. Purnea College of Engineering reserves the right to accept or reject any or all tender or change the terms and condition of NIT or cancel the NIT without assigning any reasons at any stage and time.
16. For further enquiry and information, contact the following officer during office hours 10:00 AM to 05:00 PM- Dr. Md. Shahbaz Akhtar, 8409576858.
17. All further notifications/Corrigendum/Addendum if any shall be posted on eproc2.bihar.gov.in.
18. When reading this document if you identify any errors or omissions, please advise Principal, Purnea College of Engineering in writing, in 5 calendar days, giving a brief description of the problem, its location within document and your contact details.

Confidentiality

This document contains privileged and confidential information pertaining to the "Onboarding Service Provider for LAN & Wi-Fi networking and augmenting with the existing network in the Institute Premises" at Purnea College of Engineering. The access level for the document is specified above. The addressee should honour access rights by preventing intentional or accidental access outside access scope.

Dr. Md. Shahbaz Akhtar
13.03.24
Principal/ Principal In charge
Purnea College of Engineering

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Sahibul
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Dheeraj Kumar
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3. Instruction to Bidders

- a. Purnea College of Engineering invites proposals from experienced and eligible service provider for LAN & Wi-Fi networking and augmenting with the existing network in the Institute Premises (All Academic, Examination Hall, Auditorium, Administrative, Residential, Hostel Blocks, outdoor open area etc.) of the Institute campus.
- b. The bidder shall submit his bid/tender on eproc2.bihar.gov.in.
- c. The bidder may use their Digital Signature Certificate (DSC) if they already have. They can also take Digital Signature Certificate (DSC) from any of the authorized agencies.
- d. For user-id they must get registered themselves on eproc2.bihar.gov.in and submit their bids online. Offline bids shall not be entertained by the Tender Inviting Authority (TIA).
- e. Bids not submitted, as per the above Performa / Instructions mentioned in this RFP document, will be summarily rejected.
- f. The bidders shall submit their eligibility and qualification details, technical bid, financial bid, etc., in the online standard formats given on eproc2.bihar.gov.in.
- g. The bidders shall upload the scanned copies of all the relevant certificates, documents etc. with indexing and paging, in support of their eligibility criteria / technical bids and other certificates / documents on the eproc2.bihar.gov.in.
- h. The bidder shall digitally sign the supporting statements, documents, certificates, uploaded by him, owning responsibility for their correctness/authenticity. The bidder shall attach all the required documents for the specific tender after uploading the same during the bid submission as per the tender notice and bid document.
- i. The rate quoted by the bidder shall remain same throughout the contract period including any extension thereon. No increment in rates would be permitted in any circumstances.
- j. The Bidder is obliged to work closely with Purnea College of Engineering act within its own authority and abide by directives issued by Purnea College of Engineering from time to time.
- k. All the required documents should be attached at the proper place and with proper nomenclature (as mentioned in the e-forms) otherwise the tender of the bidder will be rejected.
- l. The bid (technical and financial details of the bidder) shall be submitted on or before the last date of submission in online mode only. Tenders submitted after the stipulated date & time (closing date and time for uploading the tender and submission of EMD as mentioned in Clause 4, Notice Inviting Tender (NIT)) shall not be considered and would summarily be rejected.
- m. The decision of Principal, Purnea College of Engineering in regard to interpretation of the Terms & Conditions and the Agreement shall be final and binding on the bidder.
- n. In case of any disputes on execution of the work during the period of contract, the decision of the principal, Purnea College of Engineering shall be binding and final, agreeable in full by both the parties. Any legal disputes shall be subject to Bihar jurisdiction.
- o. Any change/corrigendum/extension of closing/ opening dates in respect of this RFP shall be issued through website only and no press notification will be issued in this regard. Bidders are therefore requested to regularly visit Purnea College of Engineering website (<https://www.pcepunia.org/>) for updates.
- p. All available technical literature, catalogues, and other data in support of the specifications and details of the items should be furnished along with the offer.
- q. Samples of any product, if called for, should be submitted free of all charges by the tenderer and purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of non-acceptance of tender, the tenderer will have to remove the samples at his own expenses.

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- r. Equipment's offered should strictly conform to the specifications. The tenderer should also indicate the Make/Type number of the equipment's offered and provide catalogues, technical literature, and sample, whatever necessary along with the quotation. Test certificates wherever necessary should be forwarded along with supplies.
 - s. The bidder will be liable to replace if any hardware faulty during the contract period without any extra cost during the warranty period.
 - t. The bidder has to arrange necessary insurance coverage to the workmen/machines/equipment's etc deployed by him and shall arrange necessary safety measures before starting the work.
 - u. In the case of more than one Bidder has quoted same minimum price the bid shall be evaluated through a lottery system and the videography of the complete process shall be kept as a record (as per order no 2988, dated 24.03.2023 of the Department of Finance, Government of Bihar – Annexure -5).
4. Inspection of Site and Equipment
- The Bidders are advised to physically visit and inspect, all the existing networking facilities, building and premises as such, etc. that may be necessary for preparing the bid and for entering into an agreement for the execution of the project. The bidder should take into account of all existing infrastructure available with the Institute during preparation of the bid. Bidder at its own expense should survey the site. No complaints of any nature would be entertained later.
5. Tendering Expense
- The bidder shall bear all costs and expenditure incurred and/or to be incurred by it in connection with its tender including preparation, mailing and submission of its tender and subsequently processing the same. The Purnea College of Engineering shall in no case be responsible or liable for any such cost, expenditure etc. regardless of the conduct or outcome of the tendering process.
6. Right to Accept Any Offer and to Reject Any or All Offers
- Purnea College of Engineering reserves the right to accept or reject any tender offer, and to terminate the tendering process and reject all tenders at any time prior to award of contract, without thereby incurring any liability to the affected vendor(s) or any obligation to inform the affected vendor(s) of the grounds for such action.
7. Language of the tender
- The tender submitted by the bidder and documents relating to the tender shall be written in the English language only.
8. Taxes
- The Bidders shall fully familiarize themselves about the applicable domestic taxes (such as GST, income taxes, duties, fees, levies, etc.) on amounts payable by the Purchaser under the resultant Agreement. All such taxes must be included by Bidders in the financial proposal.
9. Concessions permissible under statutes
- The Bidders while quoting against this tender, must take cognizance of all concessions permissible, if any, under the statutes and ensure the same is passed on to the purchaser, failing which it will have to bear extra cost. In case Bidder does not avail concessional rates of levies like customs duty, excise duty, Cess etc. Purnea College of Engineering will not take responsibility towards this.

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10. Amendments to Tender Documents

At any time prior to the deadline for submission of tenders, the Purnea College of Engineering may, for any reason deemed fit by it, modify the tender document/s by issuing suitable amendment(s) to it. Such an amendment will be notified on Purnea College of Engineering website (<https://www.pccpurnia.org/>) and the same shall be binding to all prospective bidders. Purnea College of Engineering will not issue any separate communication in this regard.

11. Pre-Bid Meeting

To provide response to any doubt regarding terms and conditions, scope of work and any other matter given in the tender document, a pre-bid meeting has been scheduled to be held in the office of Purnea College of Engineering or an online meeting may be scheduled. The clarification sought by representative of prospective bidders shall be responded appropriately. However, they shall clarify and will be asked to submit their written request by close of office next working day. The Purnea College of Engineering shall upload written response on the Purnea College of Engineering (<https://www.pccpurnia.org/>) website to such requests for clarifications, without identifying its source. In case required, amendments issued, shall be binding on all prospective bidders. Further, the issue raised having been clarified shall be final. Bidders are advised to visit the Purnea College of Engineering (<https://www.pccpurnia.org/>) website regularly for any updates/ corrigendum/ amendments etc.

12. Earnest Money Deposit (EMD)

- a) The tender shall be accompanied by **Earnest Money Deposit (EMD) of 25000/- (Twenty-five thousand rupees only) in the shape of Demand Draft from any Schedule Bank in favour of Principal, Purnea College of Engineering** must be submitted offline, as per the terms and conditions mentioned in this document. EMD should not have been issued on a date later than the last date for submission of bidding document i.e., **03/04/2024**.
- b) The EMD of unsuccessful bidder will be returned to them without any interest, after execution of the contract. The EMD of the successful bidder will be returned without any interest, after receipt of performance security as per the terms of contract.
- c) The EMD shall be forfeited by Purnea College of Engineering hereunder or otherwise, under the following conditions:
 - If a bidder engages in a corrupt practice, fraudulent practice, coercive practice, undesirable practice, or restrictive practice.
 - If a bidder withdraws its bid during the period of bid validity as specified in this Tender and as extended by the Purnea College of Engineering from time to time.
 - In the case of selected bidder, if it fails within the specified time limit:
 - i. to sign the contract and/or
 - ii. to furnish the Performance Security (PS), before signing the contract agreement, within the period prescribed in the Letter of Intent (LoI).

13. Bid Validity

The submitted bids shall remain valid for a period of 180 days after the date of submission.

14. Licensing

The Implementing Agency will follow the following licensing conditions:

- a) The bidder shall procure the licenses of the third-party software wherever applicable/ required in accordance with its procedures by payment of applicable license fees on behalf of Purnea College of Engineering. The licenses thus procured would be in the Purnea College of Engineering. The bidder shall ensure that third party vendors provide standards-

based customer interface and considers other factors like regular updates and support etc. The Bidder should provide adequate licenses for all the modules mentioned in the scope so that all users can access their respective functionalities as per their role without any constraints.

- b) All licenses should be either supported by OEMs/subscription providers for entire contract period.
- c) All the aforesaid products should have a roadmap for updates and patch management either from OEM or Subscription provider and providing the same would be the responsibility of the bidder for the contract period.

15. Signing of the Contract

The Contract document/Agreement between Purnea College of Engineering and selected bidder should be executed within 21 days of the issue of the Letter of Intent (LoI). The selected bidder will have to submit the Performance Security (PS), as applicable before signing of the agreement. Non-fulfilment of this condition will result in cancellation of the award and forfeiture of the EMD with consequential action if so desire.

16. Duration

The contract, if awarded, shall be valid for a period of one year from the date of award. In case of breach of contract or in the event of not fulfilling the minimum requirements/ statutory requirements, Purnea College of Engineering shall have the right at any time to terminate the contract forthwith in addition to forfeiting the Performance Security amount deposited by the bidder and initiating administrative actions for blacklisting, etc.

17. Modification to Contract

The contract when executed by the parties (Purnea College of Engineering and the bidder) shall constitute the entire contract between the parties (Purnea College of Engineering and the bidder) in connection with the services and shall be binding upon the parties (Purnea College of Engineering and the bidder). Modification, if any, to the contract shall be in writing and with the consent of both the parties (Purnea College of Engineering and the bidder) and not otherwise.

18. Performance Security

- a. The successful bidder shall have to furnish a performance security equivalent 5% of the Project cost, in the shape of a Bank Guarantee issued by a scheduled Bank in favour of Principal, Purnea College of Engineering. The Bank guarantee shall be as per proforma at "Annexure 3" and remain valid for a period, which is six months beyond the date of expiry of the contract. The Performance Security will be returned to the bidder, upon validation of completion of all contractual obligations including warranty.
- b. The performance security should be submitted before executing the contract /signing of the contract document positively.
- c. If the bidder violates any of the terms and conditions of tender document of this Notice Inviting Tender/Tender in any manner, the Performance Security shall be liable for forfeiture, wholly or partly, as decided by the Purnea College of Engineering and the contract may also be cancelled/terminated. Further, the bidder may be blacklisted for a reasonable period as decided by the Department of Science, Technology and Technical Education/ Purnea College of Engineering.

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19. Eligibility & Evaluation Criteria

This invitation is open to organisation who fulfil the eligibility & qualification criteria specified here under.

Sn	Eligibility Criteria	Mandatory Documents to be submitted by the bidders
1	The Bidder should be an established entity registered under Companies Act 1956/2013 or Partnership Act 1932 or Limited Liability Partnership Act 2008 or Proprietorship Firm/ Government Organization/ Public Sector Undertaking.	<ul style="list-style-type: none"> For Company- Copy of the Certificate of Incorporation issued by the Registrar of Companies (RoC) under companies act 1956/2013. For Partnership Firm- Registration Certificate issued under Partnership Act 1932, along with Partnership deed. For Limited Liability Partnership (LLP) Firm- Copy of the Certificate of Incorporation issued by the Registrar of Companies (RoC) under Limited Liability Partnership Act 2008. For Proprietorship: Registration Certificate issued under Shops and Establishment Act/Copy of Income Tax Return in the Name of proprietor / Copy of GST Registration Certificate or certificate from a Chartered Accountant under her/his seal and signature declaring the firm to be Proprietorship Firm. Certificate of registration in India
2	The bidder should have a registered office / Branch Office for operational support in the state of Bihar.	Documentary evidence
3	The Bidder must have average annual turnover of not less than INR 1 Crore in last three financial year. (FY 2020-21, FY 2021-22 & FY 2022-23)	Audited Balance sheet and Profit & Loss Account for last 3 financial year (FY 2020-21, FY 2021-22 & FY 2022-23)
4	The bidder must have at least 3 years' experience in installation, commissioning, and maintenance / LAN & WI-FI Network Services and associated software with Central / State Government Organization / Public Sector Unit (PSU)/ Private University Recognized /affiliated to UGC/ AICTE in India.	Workorder/Purchase Order along with Payment receipt
5	Number of Project Experience in Setting Up Campus Network/ City Wide Area Network / establishment of network connectivity for a Central / State Government Organization / Public Sector Unit (PSU)/ Private University Recognized	Workorder/Purchase Order along with Payment receipt

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Sn	Eligibility Criteria	Mandatory Documents to be submitted by the bidders
	/affiliated to UGC/ AICTE in India With a minimum contract value of 5 lakh	
6	The Bidder should have Manufacturers authorization and a direct back-to-back support agreement with the OEM for the equipment. The Support agreement should include the activities like Technical Assistance support, Spares support etc. Submit supporting documents for same	Bidder has to provide an Ink Signed Manufacturer's Authorization Form (MAF) from the OEM
7	The bidder must not be blacklisted by a Central / State / Local Government Organization / Institution / PSU	Self-declaration (As per annexure 4)

Note: Bidder shall ensure compliance to Land Border Clause including amendments thereon. Self-declaration as per the clauses mentioned in Land Border Clause. Non-compliant bid(s) will be summarily rejected.

20. Technical Evaluation criteria (Annexure 1)

Criteria	Details	Marks	Details	Marks
Number of Project Experience in installation, commissioning, and maintenance / LAN & WI-FI Network Services and associated software for a Central / State Government Organization / Public Sector Unit (PSU)/ Private University Recognized /affiliated to UGC/ AICTE in India. With a minimum contract value of 5 lakh	= 2 Projects	10	=>3 projects	20
Average turnover of the company in the last 3 years (FY 2020-21, FY 2021-22 & FY 2022-23)	=> Rs 1 crore <1.5 crore	10	=>1.5 crore	20
Bidder's experience in installation, commissioning, and maintenance / LAN & WI-FI Network Services and associated software with Central / State Government Organization / Public Sector Unit (PSU)/ Private University Recognized /affiliated to UGC/ AICTE in India.	= 3Years & < 5 years	10	> 5 yrs.	20
Total				60

Note: Bidders score 50% or more i.e., 30 marks or more, shall qualify for the financial evaluation.

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21. Financial Evaluation (As per Annexure 2)

Financial bids shall be opened only for the vendors whose bids are found to be Technically fit/ substantially responsive and complying with minimum eligibility criteria.

- i) Purnea College of Engineering will open the financial bids of only Technically Qualified bidders as per eproc2.bihar.gov.in.
- ii) Discrepancy in the financial bid, it will be dealt as per the following:
 - a. If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail, and the total shall be corrected.
 - b. If there is a discrepancy between words and figures, the amount in words shall prevail.
- iii) Of all the Financial Bids opened, the bidder whose financial bid is lowest (hereby referred to as L1 bidder) will be considered eligible and award of contract.
- iv) In the case of more than one Bidder has quoted same minimum price the bid shall be evaluated through a lottery system and the videography of the complete process shall be kept as a record (as per order no 2988, dated 24.03.2023 of the Department of Finance, Government of Bihar – Annexure -5).

22. Scope of Work:

Broad scope of work should be:

To enable the institute premises with networking and Wi-Fi services with augmentation of existing infrastructure, (if available):

- To Set up network & WIFI services inside Institutes premises, which would consist of LAN, optical fibre, Switches, Routers, Wireless Access Points (Indoor and Outdoor), Security equipment (Firewall) etc.
- To provide wired and wireless connection in Admin Blocks, Academic Blocks, Library, Auditorium, Laboratory, Hostels, Classrooms, Examination Hall, etc. also provide internet access through wireless medium to the students, staff, faculty, and guest visitors, as per the requirement of the institute.
- To enable Authentication, Authorization, and Accounting (AAA) security service for controlling and tracking user access both in LAN and Wi-Fi network.
- To install Access Points at suitable location to receive the maximum coverage and has no interference. Access points inside the main building must be covered with a protective mesh that can withstand any human-caused damages.
- Access Points shall provide seamless coverage within its range as well as between different Access Points of the proposed Wi-Fi Network.
- Each Access point must support minimum of 50 concurrent clients/devices/users.
- Insure Installation, commissioning, and maintenance of any mounting structure for Access Points like Pole (as per requirement) along with required accessories at each site/location.
- Provide module for keeping a log of Wi-Fi services to be utilized by the end user such as IP details, URL visited, Time stamp, End user Authentication, Mobile No. MAC & IP Address, access time, duration, data consumed, Access pointwise (bandwidth, Download/ Upload Speed) etc. to meet the compliance with all regulatory and legal guidelines issued by DoT/TRAI time to time.
- Provide Solution compliant with applicable guidelines of DoT & TRAI.
- Ensure that all software / firmware etc, should be updated periodically for patches/release

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etc.

- Solution should be scalable to efficiently support a bandwidth of 1Gbps/2 Gbps or more (as case maybe) as required by Institute in future. A certificate should be given by the bidder in this regard.
- Solution should have capabilities to support separate SSID's and Group Policies for Students, Faculty, Staff and Guest Visitors of the Institute with separate time/bandwidth-based policy for all categories.
- Ensuring adherence to the agreed Service Levels and Service Quality for each of the deliverables executed by them.
- Ensure the delivery of equipment and installation of entire network systems at the institute within 8 weeks from the date of award of contract.
- Solution should cater at least 1000 concurrent users at institute level, which should be scalable for future need. Self-declaration should be given by the bidder in this regard.
- Maximum of two devices authenticated per registered user at any point of time.
- Provide solution for the ability to filter the type of content allowed (e.g., blacklist URLs etc)
- The solution must have a Network Management System (NMS) with following features:
 - a) Web based user interface (secured).
 - b) Should support fault, and performance management.
 - c) Ability to present graphical view of the network.
 - d) Capability to view the network topology. The NMS should be able to monitor all the active components, Wired, and Wireless elements, of the network.
 - e) The NMS should have the capabilities to support all the hardware in the existing Network irrespective of OEM.
- Provide appropriate training to the designated/nominated staffs of the institute.
- Should carry necessary civil and related restoration work etc.
- Provide 24x7 helpdesk for customer support to the end users.

23. Bill of Quantity (As per Annexure 6 & 7)

Sn.	Components	Type of Device	UOM	Quantity
1	Firewall with minimum 8 numbers of 1G port and 2 Nos of fibre Optic port.	Physical	No's	1
2	Distribution Switch - L3 Switch with 24 SFP ports 2 10GBASET ports 4 10G SFP ports L3 Stackable Managed Switch	Physical	No's	2
3	Access Switch- 24 PoE+ port L2 with minimum 2 SFP (Managed)	Physical	No's	8
4	Access Switch- 16 port L2 PoE with minimum 2 SFP (Unmanaged)	Physical	No's	1
5	Access Switch- 8 port L2 PoE with minimum 2 SFP (Managed)	Physical	No's	12
6	Indoor AP (With Mounting Kit & Controller) - I	Physical	No's	68
7	Indoor AP (With Mounting Kit & Controller) - II	Physical	No's	20
8	Rugged and waterproof Outdoor IP 65 AP (With Mounting Kit)	Physical	No's	8
9	16 U Rack	Physical	No's	1

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Sn.	Components	Type of Device	UOM	Quantity
10	6 U rack (With PDU) inside Gallery	Physical	No's	21
11	CAT6 cable (Per Box 305 meter)	Physical	Box	50
12	IO box for CAT-termination	Physical	No's	200
13	6 Core Fibre with LIU and termination accessories	Physical	Meter	2500
14	LC to LC patch code	Physical	No's	48
15	OFC Patch Panel	Physical	Unit	5
16	RJ 45 Connector	Physical	No's	1000
17	Conduit for both electrical & LAN wiring & all required material	Physical	R mtr	4500
18	24 port LAN patch panel	Physical	No's	15
19	UPS (2KVA)	Physical	No's	3
20	Installation and Commissioning Charge			1

Note:

- The detail specification of the abovementioned components is attached in Annexure-6.
- Prices should be quoted in Indian Rupee only and indicated both in figures and words. The amount mentioned in words will prevail.
- It is bidders' responsibility to install, commission, test, and go live.
- All the items' counts mentioned above is only tentative number, it may exceed or less as per the work.
- The BoQ mentioned in the RFP is for the entire scope of work and duration mentioned in this RFP. Bidders are requested to do site visits to check the feasibility and to ensure achievement of the objective and scope of work of this RFP.

24. Warranty Services

The bidders will provide comprehensive warranty details for all the Hardware/ software. It would be the bidder's responsibility to arrange all updates and upgrades through respective OEMs. The bidder must provide all updates and upgrades for the proposed devices free of cost during warranty period.

The bidder shall put in place all back-to-back support agreements for the proposed network components with respective OEMs for warranty services and submit documents in support of the same.

Note: Warranty support services for all network equipment during the execution of the project before the project is signed off shall be provided by the bidder at no cost to Purnea College of Engineering.

25. Documentation

The Bidder shall provide the following documentation. The content and format of the documentation will be discussed and agreed with Purnea College of Engineering prior to development/delivery of the documentation.

- Comprehensive configuration of all devices
- Manuals of all devices (hard and/or soft copies).
- Back up policy and procedure for various network devices.

13/03/24
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13/3/24
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13/03/24
Sheeraj Kumar
13/03/24
13/03/24

- d) Network Monitoring Manual: A comprehensive document on what needs to be monitored daily (or at specified intervals) and how the records to be maintained.
- e) A comprehensive test report covering all the areas.

26. Service Level Agreement:

- The purpose of this Service Level Agreement (hereinafter referred to as SLA) is to clearly define the levels of service to be provided by the Bidder to Purnea College of Engineering for the duration of this contract. SLA defines the terms of the Bidder's responsibility in ensuring the timely delivery of the deliverables and the correctness of the same based on the agreed Performance Indicators as detailed in the Agreement.

S. No.	Activity/SLA Parameter	Target Service Level	Penalty on Breach of Service Level
1	Resumption of monitoring and security services	Firewall and related items, NMS, Helpdesk solution within 1 day from reporting	Penalty of INR 5,000/ per day shall be charged.
2	Resumption of network services -switches.	Within 24 hours for unserviceability of switches and access points	Penalty of INR 1000/ day shall be charged on hourly basis (Priority shall be to resume services by shifting load to serviceable switches, in case of Access switch, reserve access switch be used.
3	Repair of un-serviceable component listed in BoQ.	Within 5 working days	Penalty of INR 5,000 shall be charged per day basis
4	Repair of cut OFC.	Underground OFC – within 48 hours Overground OFC – within 24 hours	Penalty of INR 8,000/ per day shall be charged
5	Response Time	Average Time taken to acknowledge, respond and close once a ticket/incident is logged through one of the agreed channels (like Ticketing solution, Telephone, Email etc.). This is calculated for all tickets/incidents reported within the reporting month. 95% of the incidents should be responded within 15 minutes.	<ul style="list-style-type: none"> • <95% & >=90%: 2% of the Residual amount (Payment schedule phase 4) • < 90% & >= 85%: 5% of the residual amount (Payment schedule phase 4) • < 85%: 7% of the residual amount (Payment schedule phase 4)
6	Availability of Monthly SLA Reports covering all the above SLA parameters required for monitoring within the defined time	Report of last month shall be submitted by First week of the current month.	Penalty of INR 5,000/- Per month

Ran
13/03/24

Mkumar
13/3/24

Sachin
13/3/24

R
13/03/24

Dhruv Kumar
13/03/24

13/3/24

Lib

7	Any Security Breach <ul style="list-style-type: none"> • Successful hacking of any active component on the network by any unauthorized user. • Any cyber-attack into the network. • Or any other privacy rule is broken as per Govt. of India guidelines or Govt. of Bihar 	For any reported security breach	For every security breach reported and proved, there shall be a penalty of INR 50,000/-.
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SLA Monitoring: In the duration of the contract, the selected bidder shall be required to provide the reports for monitoring the SLAs.

- The penalty shall be calculated and deducted from residual amount (Payment Schedule phase 4).
- All above-mentioned penalties are exclusive to each other.
- The maximum penalty at any point of time and for any period should not exceed 25% of residual amount (Payment Schedule phase 4).
- Penalties shall not be levied on the successful bidder in case of is a Force Majeure event affecting the SLA which is beyond the control of the successful bidder.
- The decision of Purnea College of Engineering regarding interpretation of the Terms & Conditions and the Agreement shall be final and binding on the Bidder.

27. Payment Schedule:

27.1. Payment Schedule for Phase – 1

40 % of the total cost on delivery of material/equipment's –

The Bidder shall submit the invoice along with following documents: -

- Physical verification by the Institute supported by Delivery challan/Courier receipt or any other supporting document.
- Document clearly mapping list of the materials with Make, Model, Serial number.

27.2. Payment Schedule for Phase – 2

20% of the total cost – On completion of Supply and installation

The Bidder shall submit the invoice along with following documents: -

- Delivery challan signed by competent authority of institutes/sites.
- Installation report

27.3. Payment Schedule for Phase – 3

10% of the total cost - On completion Final acceptance test by the institute, commissioning and Go-Live

The Bidder shall submit the invoice along with following documents.

- Site visits for physical check/functionality checks of the commissioned devices/software.
- Link commissioning report duly signed off by the competent authority of Institute.

[Signature]
13/03/24

[Signature]
13/03/24

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[Signature]
13/03/24

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13/03/24

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13/03/24

[Signature]

- c. Asset register needs to be submitted along with SOP and other documents.
- d. Training to designated staff of the institute.
- e. Self-declaration by the Bidder
- f. Warranty document form OEM.

27.4. Payment Schedule for Phase – 4 (Final Settlement)

30% of the total cost would be linked with the SLA which will be paid after deduction of the penalties. The payment terms for the phase-4 shall be mutually agreed by the bidder and Purnea College of Engineering.

28. Penalty

The bidder shall ensure the delivery of equipment and installation of entire network systems at the institute within 8 weeks from the date of award of contract. If not completed in the specified timeline suitable penalty would be imposed as decided by the principal of Purnea College of Engineering.

29. Indemnity

The supplier shall indemnify, protect, and save Purnea College of Engineering against all claims, losses, costs, damages, expenses, action suits and other proceedings resulting from infringements in respect of all hardware and software supplied to Purnea College of Engineering. Purnea College of Engineering also stand indemnified from any compensation arising out of accidental loss of life or injury sustained by any manpower while working on the project.

30. Termination, Dispute Resolution & Other

30.1. Termination of Contract

- a) If bidder found to be involved in fraudulent practices (misrepresentation or omission of facts or suppression/hiding of facts or disclosure of incomplete facts), in order to secure eligibility to the bidding process during the submission of bid or after release of Letter of Intent (LoI) or agreement formalization after signing of contract, shall be liable for punitive action amounting to blacklisting of the bidder, including the forfeiture of concerned EMD and/or Performance Security also, whatever it relates.
- b) Notwithstanding contained here, the Purnea College of Engineering prejudice to any other contractual rights and remedies available to it, shall by written notice of any default in service / installation/ testing /commissioning etc. sent to the bidder, terminate the contract in whole or in part, if the bidder fails to perform services as specified in the present contract read with the terms of the contract agreement or any other contractual obligations within the time period specified in the contract and the firm may be blacklisted, consequently the performance security may be forfeited.
- c) **Termination for Insolvency** - If the bidder becomes bankrupt or otherwise insolvent, it will inform to the Purnea College of Engineering within 30 days written notice to terminate the contract. Purnea College of Engineering reserves the right to terminate, without any compensation, whatsoever, to the bidder, and may forfeit the performance security.
- d) **Termination by mutual consent** - In the event the Purnea College of Engineering and the bidder mutually agrees to the terminate the contract, either party shall give 90 days' written notice to the other party and after the consent of both the parties contract may be terminated without any Legal or financial obligation on any party to the contract.

[Signature]
13/03/24

[Signature]
13/03/24

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13/03/24

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13/03/24

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13/03/24

[Signature]

30.2. Force Majeure

- a) For purposes of this clause, Force Majeure means an event beyond the control of the bidder and not involving the bidder's fault or negligence, and which is not foreseeable and not brought about at the instance of, the party claiming to be affected by such event and which has caused the non – performance or delay in performance. Such events may include wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, earthquake, epidemics, quarantine restrictions, strikes excluding by its employees, lockouts excluding by its management, and freight embargoes.
- b) If a Force Majeure situation arises, the bidder shall promptly notify the Purnea College of Engineering in writing of such conditions and the cause thereof within 7 days of occurrence of such event. Unless otherwise directed by the bidder in writing, the bidder shall continue to perform its obligations under the contract as far as reasonably practical and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- c) If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period exceeding thirty days, either party may at its option terminate the contract without any financial repercussion on either side.

30.3. Notices

Notice, if any, relating to the contract given by one party to the other, shall be sent in writing or e-mail or by post. The addresses of the parties for exchanging such notices will be the addresses as incorporated in the contract between the Purnea College of Engineering and the bidder.

30.4. Resolution of Disputes

- a) Any dispute, difference, or claim arising out of or in relation to this Agreement, will be settled by reaching a mutual understanding between the parties.
- b) If any further dispute arises between the parties thereupon, the same will be settled as per the extant law of land through the competent court of law under the territorial jurisdiction of Purnea only.

30.5. Applicable Law

The contract shall be governed by and interpreted in accordance with the laws of India for the time being in force.

S. Acharya
13/03/24

M. Kumar
13/3/24

AS
13/03/24

Dheeraj Kumar
13/03/24

Rajiv
13/03/24

13/3/24

<Company Letter head>

TECHNICAL DATA SHEET

Details of contractor/ service provider

S.I No.	Description	Information	
1	Name of Tenderer & Contact person with complete address, email & mobile No: -		
2	Status of the Tenderer (attach documents if registered company / partnership / proprietorship / LLP) with year of establishment.		
3	Statutory details (photocopy to be attached) a) Registration No. of the Firm- b) PAN- c) GST Reg. No.-		
4	Number of Project Experience in Setting Up Campus Network/ City Wide Area Network / establishment of network connectivity for a Central / State Government Organization / Public Sector Unit (PSU)/ Private University Recognized /affiliated to UGC/ AICTE in India. With minimum contract value of 5 lakhs		
	Name of the Project	Client Name & Contact information	Project Value (INR)
	1.		
	2.		
	3.		
5	Average turnover of the company in the last 3 years		
	FY 2020-21	FY 2021-22	FY 2022-23
6	The bidder must have at least 3 years' experience in Campus Wide Network installation, commissioning, and maintenance with a Central / State Government Organization / Public Sector Unit (PSU)/ Private University Recognized /affiliated to UGC/ AICTE in India.		
	Name of the Project	Client Name & Contact information	Duration (Year)
	1.		
	2.		
	3.		
7	Declaration that the bidder has not been debarred / blacklisted by any Government/Semi-Government/ PSU (As per Annexure 4)		
8	Self-declaration as per the clauses mentioned in Land Border Clause		

Note: Attach necessary documentary evidence to substantiate information mentioned above.

< Authorised Signature >

Name:

Designation:

Sachin
13/3/24Ankur
13/3/24

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AS
13/03/24Dheeraj Kumar
13/03/24Ravi
13/03/24Sachin
13/03/24

ANNEXURE-2

<Company Letter head>

FINANCIAL BID FORMAT (Rs in Lakh)

To,

Dr. Manoj Kumar,
Principal, Purnea College of Engineering,
Subhash Nagar, Purnea 854301

S/N	Components	UOM	Quantity	Amount (A)	GST /Tax amount (B)	Total Amount (C=A+B)
1	Firewall with minimum 8 numbers of 1G port and 2 Nos of fibre Optic port.	No's	1			
2	Distribution Switch - L3 Switch with 24 SFP ports 2 10GBASET ports 4 10G SFP ports L3 Stackable Managed Switch	No's	2			
3	Access Switch- 24 PoE+ port L2 with minimum 2 SFP (Managed)	No's	8			
4	Access Switch- 16 port L2 PoE with minimum 2 SFP (Unmanaged)	No's	1			
5	Access Switch- 8 port L2 PoE with minimum 2 SFP (Managed)	No's	12			
6	Indoor AP (With Mounting Kit & Controller) - I	No's	68			
7	Indoor AP (With Mounting Kit & Controller) - II	No's	20			
8	Rugged and waterproof Outdoor IP 65 AP (With Mounting Kit)	No's	8			
9	16 U Rack	No's	1			
10	6 U rack (With PDU) inside Gallery	No's	21			
11	CAT6 cable (Per Box 305 meter)	Box	50			
12	IO box for CAT-termination	No's	200			
13	6 Core Fibre with LIU and termination accessories	Mtr	2500			
14	LC to LC patch code	No's	48			
15	OFC Patch Panel	Unit	5			
16	RJ 45 Connector	No's	1000			
17	Conduit for both electrical & LAN wiring & all required material	R mtr	4500			
18	24 port LAN patch panel	No's	15			
19	UPS (2KVA)	No's	3			
20	Installation and Commissioning Charge		1			
	Grand Total					

Quoted Price: Total Amount (C=A+B) (< Price in Word and Figure>)

Note: -

- Prices should be quoted in Indian Rupee only and indicated both in figures and words. The amount mentioned in words will prevail.
- It is bidders' responsibility to install, commission, test, and go live. Any other cost for accessory or any other sundry items needed for installation would be borne by the Bidder only.
- All the items' counts mentioned above is only tentative number, it may exceed or less as per the work.
- The BoQ mentioned in the RFP is for the entire scope of work and duration mentioned in this RFP. Bidders are requested to do site visits to check the feasibility and to ensure achievement of the objective and scope of work of this RFP.

• **<Authorised Signature>**

Name:

Designation:

Sachin
13/3/24

M Kumar
13/3/24

B
13/03/24

Pheeraj Kumar
13/03/24

P
13/03/24

S. S. S. M
13/3/24

Format for Performance Bank Guarantee**Ref:****Bank Guarantee No:****Date:****To**

Dr. Manoj Kumar,
Principal, Purnea College of Engineering,
Subhash Nagar, Purnea 854301

Against contract vide Advance Acceptance of the Tender No. Dated covering "RFP for Onboarding Service Provider for LAN & Wi-Fi Networking and Augmenting with the existing network in the Premises of the Institute Premises under Department of Science, Technology and Technical Education, Government of Bihar" (hereinafter called "the Bid"). (hereinafter called the said 'contract') entered into between Purnea College of Engineering (hereinafter called the Purchaser) and M/s., a Company incorporated under the Companies Act, 1956/2013 or Partnership Act 1932 or Limited Liability Partnership Act 2008 or Proprietorship Firm/ Government Organization/ Public Sector Undertaking and having its Registered Office at(hereinafter called the Bidder) this is to certify that at the request of the Bidder we (name of the Bank / Branch) a body corporate constituted under the Banking Companies [Acquisition and Transfer of Undertakings] Act, 1970 and having its, Registered Office at and a branch office at are holding in trust in favour of the Purchaser, an amount of Rs (Rupees only) to indemnify and keep indemnified the Purchaser against any loss or damage that may be caused to or suffered by the Purchaser by reason of any breach by the Bidder of any of the terms and conditions of the said contract and/or in the performance thereof. We agree that the decision of the Purchaser, whether by any breach of any of the terms and conditions of the said contract and/or in the performance thereof has been committed by the Bidder and the amount of loss or damage that has been caused or suffered by the Purchaser shall be final and binding on us and the amount of the said loss or damage shall be paid by us forthwith on demand and without demur to the Purchaser.

1. We (Name of the Bank /Branch) 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 Bidder i.e. till hereinafter called the said date and that if any claim accrues or arises against us (Name of the Bank /Branch) by virtue of this guarantee before the said date, the same shall be enforceable against us(Name of the Bank/Branch) notwithstanding the fact that the same is enforced within six months after the said date, provided that notice of any such claim has been given to us(Name of the Bank/Branch) by the Purchaser before the said date. Payment under this guarantee shall be made promptly upon our receipt of notice to that effect from the Purchaser.
2. It is fully understood that this guarantee is effective from the date of the said contract and that we..... (Name of the Bank /Branch) undertake not to revoke this guarantee during its currency without the consent in writing of the Purchaser.

Sachin
13/3/24

M. Kumar
13/3/24

13/03/24

Manoj Kumar
13/03/24

13/03/24

13/3/24

13/3

3. We undertake to pay to the Purchaser any money so demanded notwithstanding any dispute or disputes raised by the Bidder in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present bond being absolute and unequivocal.
4. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Bidder shall have no claim against us for making such payment.
5. We (Name of the Bank / Branch) further agree that the Purchaser 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 Bidder from time to time or to postpone for any time or from time to time any of the powers exercisable by the Purchaser against the said Bidder and to forebear or enforce any of the terms and conditions relating to the said contract and we, (Name of the Bank / Branch) shall not be released from our liability under this guarantee by reason of any such variation or extension being granted to the said Bidder or for any forbearance by the Purchaser to the said Bidder or for any forbearance and or omission on the part of the Purchaser or any other matter or thing whatsoever, which under the law relating to sureties, would, but for this provision have the effect of so releasing us from our liability under this guarantee.
6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Bidder. Notwithstanding anything contained herein:
 - a. Our liability under this Bank Guarantee shall not exceed of Rs.....(Rupees in words only).
 - b. The Bank Guarantee shall be valid up to; and;
 - c. We..... (Name of the Bank / Branch) 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 ##.....

Authorised Signatory of the Bank

Signature

Full Name/designation/ Address of the official and date WITNESS NO. 1

Signature

Full Name/designation/ Address WITNESS NO. 2

Signature

Full Name/designation/ Address

Sachin
13/3/24

M. Kumar
13/3/24

AS
13/03/24

Shrey Kumar
13/03/24

13/03/24

13/03/24

ANNEXURE 4

Format for Declaration by the bidder for not being Blacklisted/ Debarred:

(To be executed on a non-judicial stamp paper of appropriate stamp duty (as per Stamp Act of Bihar)

Date:

To,

Principal,
Purnea College of Engineering,
Subhash Nagar, Purnea 854301

Subject: Submission of proposal in response to the Tender for " _____ "

Ref: Tender No.:

Dear Sir,

I, authorized representative of _____, hereby solemnly confirm that the Company _____ is not blacklisted / banned / debarred/ declared ineligible / declared having dissatisfactory performance and not banned by the Government of Bihar/ Any other State Government/ Government of India which includes any Government Department, Public Sector Undertakings of the Government, Statutory Department formed by the Government, Local Bodies in the State, Co-operative Institutions in the State, Universities and Societies formed by the Government for any reason as on last date of submission of the Bid. In the event of any deviation from the factual information/ declaration, Purnea College of Engineering reserves the right to reject the Bid or terminate the Contract without any compensation to the Company.

Thanking you.

Yours faithfully,

<Authorized Signatory >

Name:

Designation:

Address:

Telephone & Fax:

S. K. Singh
13/3/24

M. Kumar
13/3/24

A.
13/03/24

Shreyas Kumar
13/03/24

R. K.
13/03/24

13/3/24
h. b.

निबन्धन संख्या पी0टी0-40



बिहार गजट

असाधारण अंक

बिहार सरकार द्वारा प्रकाशित

3 चैत्र 1945 (श10)

(सं० पटना 251) पटना, शुक्रवार, 24 मार्च 2023

सं० एन-4-06/2023/2988/वि०,

वित्त विभाग

संज्ञक

23 मार्च 2023

विषय :- आउटसोर्सिंग के माध्यम से मानव बल की सेवाएँ प्राप्त करने एवं पारिश्रमिक भुगतान हेतु प्रक्रिया निर्धारण के सम्बन्ध में।

सम्प्रति विभागों एवं विभागान्तर्गत कार्यरत बॉर्डर/निगम/सासाईटी इत्यादि के द्वारा आउटसोर्सिंग के आधार पर विभिन्न प्रकार के मानव बल की सेवाएँ प्राप्त की जा रही हैं। इस क्रम में विभिन्न विभागों द्वारा आउटसोर्सिंग के माध्यम से मानव बल की सेवा प्राप्त करने की प्रक्रिया में सेवा शुल्क की दर के संबंध में वित्त विभाग से परामर्श की अपेक्षा की जा रही है।

2. ऐसा पाया जा रहा है कि इस प्रकार की निविदा के क्रम में कई निविदादाता द्वारा निविदा प्राप्त करने हेतु न्यूनतम बोली के रूप में सेवा शुल्क की अव्यवहारिक दर (यथा, 1.00 रुपये से भी कम) अंकित कर दिया जाता है। इस प्रकार के दर का कुप्रभाव सेवा में रत मानव बल के पारिश्रमिक पर पड़ता है, क्योंकि ऐसी स्थिति में एजेंसी द्वारा सेवा शुल्क की भरपाई हेतु अनुचित तरीके अपनाने की संभावना रहती है।

3. ऐसी स्थिति में सेवा शुल्क की दर के साथ-साथ आउटसोर्सिंग से प्राप्त मानव बल के न्यूनतम पारिश्रमिक एवं अन्य पैमानिक दायता का भुगतान ससमय सुनिश्चित कराये जाने हेतु प्रक्रिया एवं दिशा-निर्देश निर्धारित किये जाने की आवश्यकता है। वित्त मंत्रालय, व्यय प्रभाग, भारत सरकार के Office Memorandum संख्या-F.8/1/2023-PPD दिनांक-08.01.2023 द्वारा आउटसोर्सिंग के आधार पर मानव बल की सेवाएँ प्राप्त करने हेतु सेवा शुल्क की न्यूनतम एवं अधिकतम दर निर्धारित की गई है।

4. संचक विभागपरांत आउटसोर्सिंग के आधार पर मानव बल की सेवा प्राप्त करने हेतु सेवा शुल्क की दर एवं इस मानव बल के पारिश्रमिक का ससमय भुगतान हेतु निम्नवत् प्रक्रिया निर्धारित की जाती है:-

S. K. Chakraborty
13/3/24

M. Kumar
13/3/24

K.
13/3/24

Shreyas Kumar
13/3/24

R. K.
13/3/24

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- (i). आउटसोर्सिंग को माध्यम से मानव बल की सेवा प्राप्त करने हेतु सेवा शुल्क न्यूनतम 3.85 प्रतिघण्टा (3 प्रतिघण्टा लाभ और 0.85 प्रतिघण्टा संव्यवहार शुल्क के रूप में) तथा अधिकतम 7 प्रतिघण्टा (संव्यवहार शुल्क सहित) होगी। इसी आधार पर निविदा आमंत्रित की जायेगी।
- (ii). उक्त निर्धारित न्यूनतम सेवा शुल्क की अभिसीमा से न्यून एवं निर्धारित अधिकतम सेवा शुल्क की अभिसीमा से उच्च दर अंकित करने वाले निविदादाता की विनीय निविदा विचारणीय नहीं होगी। सेवा शुल्क के दर में अंकित रूपरेखा में दशमलव के पश्चात 2 अंकों से आगे अंकित अंकों को नजरअंदाज कर दिया जायेगा।
- (iii). निविदा में यदि एक से अधिक निविदादाता द्वारा उद्धृत (Quoted) न्यूनतम सेवा शुल्क की दर समान पाई जाती है तो ऐसी स्थिति में लॉटरी के माध्यम से निविदा का निष्पादन किया जायेगा तथा इस पूरी प्रक्रिया की विडियोग्राफी कराई जायेगी। निविदा के निष्पादन की पूरी प्रक्रिया में बिहार पित नियमावली के सुसंगत प्रावधानों का अनुपालन अपेक्षित होगा।
- (iv). मानव बल को श्रम संसाधन विभाग द्वारा निर्धारित न्यूनतम मजदूरी एवं उस पर लागू वैधानिक देयता का भुगतान अनिवार्य होगा और इसे निविदा (Bid) का आधार नहीं बनाया जायेगा।
- (v). पर्यन्त एजेंसी द्वारा सेवा प्रदान कर रहे मानव बल को प्रतिमास पारिश्रमिक के भुगतान में श्रम संसाधन विभाग, बिहार सरकार द्वारा अभिसूचित न्यूनतम पारिश्रमिक के प्रावधानों का अनुपालन किया जाना आवश्यक होगा। इसके साथ ही पारिश्रमिक का भुगतान मानव बल के आधार संबंध बैंक खाता में Real Time Gross Settlement (RTGS) की प्रक्रिया से किया जायेगा। यह भुगतान सेवा प्राप्त कर रहे विभाग/प्राधिकार द्वारा आउटसोर्सिंग एजेंसी को राशि विमुक्ति की तिथि के तीन कार्य दिवस के अन्दर संबंधित एजेंसी द्वारा किया जायेगा। संबंधित कार्यालय/प्राधिकार द्वारा आउटसोर्सिंग एजेंसी को प्रत्येक मास की 5वीं तारीख तक प्राप्त विपत्र के आलोक में राशि का भुगतान किया जाना होगा। साथ ही सभी वैधानिक कटौती की राशि को ससमय संबंधित प्राधिकार (यथा, कर्मचारी भविष्य निधि संगठन एवं कर्मचारी राज्य बीमा निगम इत्यादि) में आउटसोर्सिंग एजेंसी द्वारा जमा कराना होगा।
- (vi). आउटसोर्सिंग एजेंसी द्वारा कर्मियों/मानव बल के मासिक पारिश्रमिक भुगतान (आधार संबंध खातों में) का साक्ष्य अगले मास के विपत्र के साथ उपलब्ध कराया जाना आवश्यक होगा, अन्यथा विपत्र की राशि का भुगतान अनुमान्य नहीं होगा। साथ ही वैधानिक कटौती/देयता (यथा, कर्मचारी भविष्य निधि एवं कर्मचारी राज्य बीमा अंशदान) की राशि जमा करने का साक्ष्य सहित त्रैमासिक प्रतियोगन भी आउटसोर्सिंग एजेंसी द्वारा सेवा प्राप्त कर रहे विभाग/प्राधिकार को उपलब्ध कराया जाना आवश्यक होगा।

नोट:- नोटिस पत्र पत्रा है कि इस संकेत के बिना एम्पल के कलाकारन में न प्रकटित किया जाय।

बिहार-राज्यपाल के आदेश से,

सोनेब कुमर सिंह,
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SPECIFICATIONS OF ITEMS MENTIONED IN BOQ

(1) Firewall with minimum 8 numbers of 1G port and 2 Nos of fibre Optic port.	Compliance (Yes/No)	Remarks
The proposed firewall should not consume more than 1RU Rack-mountable space.		
The appliance should have multicore processor based architecture.		
The appliance should have minimum 8 x 10/100/1000 Base T Ethernet Port.		
The appliance should have minimum 2 Ports of 1Gbps SFP Port.		
The appliance should have minimum 2 x USB 3.0 port and one Console Port		
The appliance Should have minimum 2GB of RAM & 4 GB of more Built in flash Storage from day 0		
General Firewall Features		
The Firewall should support BGP,OSPF, RIP v1/v2 routing protocol and IPv4 & IPv6 functionality (Both phase 1 and Phase2).		
Solution should support Dead Peer Detection, DHCP Over VPN, IPSec NAT Traversal, Route-based VPN over OSPF, RIP, BGP.		
The Firewall solution should support policy based routing, Application based routing and also Multi Path routing.		
Should support Zero-Touch registration & provisioning using mobile App.		
Proposed solution should have bandwidth quota and time quota for manageability of users.		
Solution should support policy based routing, Application based routing and also Multi Path routing.		
Performance & Scalability		
The appliance should have minimum Firewall Throughput of 3 Gbps or better		
The appliance should able to handle minimum 12K new session per second or better		
The appliance should able to handle minimum 2 Gbps Application inspection Throughput or better		
The appliance should have minimum Antivirus/Anti-malware Throughput of 1.5 Gbps or better		
The appliance should have minimum IPS Throughput of 2 Gbps or better		
The appliance should have minimum Firewall Threat prevention Throughput of 1.5 Gbps or better		
The appliance should have minimum IPSec-VPN Throughput of 1.5 Gbps or better		

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The appliance should have minimum 150 Number of Ipsec VPN Peers supported (Site to Site)		
The appliance should have minimum 200 Number of Ipsec VPN Peers supported (Client to Site)		
The appliance should have minimum 150 Number of SSL VPN Peers supported (Client to Site)		
The appliance should have minimum 1M Concurrent Session/Concurrent Connection		
The appliance should have minimum 600 Mbps TLS/SSL inspection throughput (DPI SSL)		
The appliance Should support 80+ Web categories		
The appliance Should support 3000+ application Signature		
The appliance Should support 5000+ IPS Signature		
The appliance should have minimum 250K Deep Packet Connection.		
Firewall Security Features		
The Firewall should scan for threats in both inbound and outbound and intra-zone traffic for malware in files of unlimited length and size across all ports and TCP streams by GAV & Cloud AV.		
The proposed firewall should support Bi-directional raw TCP inspection that scans raw TCP streams on any port .		
The Firewall must support Proxy-less and non-buffering inspection technology for DPI scanning without introducing file and stream size limitations.		
The Firewall should support deep packet SSL to decrypt HTTPS traffic for scanning(IPS, Gateway Antivirus, Content Filtering, Application control) transparently for future requirement and then re-encrypt and send to destination if no threat found.		
The firewall must support cloud & appliance based Sandbox technology and OEM must have own Sandboxing & Advanced Threat Protection solutions .		
The cloud or appliance based sandbox should have technology that detects and blocks malware that does not exhibit any malicious behavior and hides its weaponry via encryption. Should detect and block mass-market, zero-day threats and unknown malware.		
The Firewall should have the capability to block/prevent from Side Channel attacks, memory based attack as well as zeroday malware and Never-before-seen malware attack .		
Should support both for analysis of a broad range of file types, either individually or as a group, including executable programs (PE), DLL, PDFs, MS Office documents, archives, JAR, and APK plus multiple operating systems including Windows, Android, Mac OS X and multi-browser environments.		

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Should have ability to prevent potentially malicious files from entering the network and those files sent to the sandbox for analysis to be held at the gateway until a verdict is determined.		
The Firewall should have Pictorial view of a particular access rule, NAT and Routing rule which helps in finding real-time statistics. Displays the rules which are actively used or not being used & enabled or disabled.		
The proposed system should have the future option to integrate with cloud-based management & reporting system to manage Firewall. Both solutions should be from the same OEM.		
The proposed system should be SD WAN Enable without adding any additional hardware components & Necessary licenses, if required, need to be provisioned from day 1.		
The integrated cloud based sandboxing must have capability to scans 10Mb of files size at a time.		
The proposed Firewall should have ability to prevent potentially malicious files from entering the network and files sent to the cloud based or on-premises sandbox for analysis to be held at the gateway until a verdict is determined.		
The Firewall should detect and prevent hidden attacks that leverage cryptography, blocks encrypted malware downloads, ceases the spread of infections, and thwarts command and control (C&C) communications and data exfiltration		
License , Certification And Warranty		
Warranty - 3 years comprehensive onsite warranty including 24x7 telephone, email and web-based technical support.		
OEM should have TAC and R&D center in INDIA.		
Manufacturer's warranty should be mentioned minimum 03 (three) years warranty including all services like GAV, IPS, Antispyware or antimalware, CFS, Application control, Bot protection , Advance Threat Protection, Patch & Firmware upgrade and Hardware.		
Bidder must carry out on site installation, testing and commissioning.		
OEM should have scored minimum 97% in Exploit Block rate in the last NSS Lab report for NGFW (2019)		
The Firewall OEM must be ICSA Lab certified for Network Firewall, Anti-virus and ATD and should have detection rate of 99% or higher.		
The proposed appliance should come from firewall appliance family which has ICSA labs certification/NSS/NDP/ Indian Standard, IC3S/Common Criteria.		

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(2) Distribution Switch - L3 Switch with 24 SFP ports 2 10GBASET ports 4 10G SFP ports L3 Stackable Managed Switch	Compliance (Yes/No)	Remarks
<p>Switch Specification</p> <p>Switch with at least 24 X SFP Ports, 2 x 10G Base-T and 4 X SFP+ Ports.</p> <p>Switch should have console port for accessing the CLI of the switch.</p> <p>Switch should have RJ-45 port for out-of band-management port</p> <p>Switch should have USB port for connecting a USB storage device.</p> <p>Switching capacity should be 168 Gbps or higher or non-blocking architecture.</p> <p>Switch shall have 64 Bytes packet forwarding rate should be 125 Mpps or higher</p> <p>Switch MAC table should be at least 16K or higher.</p> <p>Switch should be standard 19 inch 1U rack mountable.</p> <p>Switch should Support Internal/External Redundant Power Supply.</p> <p>Switch should support Physical Stacking up to 9 units per stack. Stacking bandwidth should be up to 80G and up to 32 devices per virtual stack.</p> <p>Operating temperature should be 0 to 50 °C.</p> <p>Switch should be EMI Certificates FCC, CE and Safety Certifications cUL/UL, CB.</p> <p>Switch Software Specification</p> <p>Should have 802.1D STP, 802.1w RSTP and 802.1s MSTP Spanning Tree Protocol and ERPS as per standard ITU-T G.8032 to provide protection for Ethernet traffic in ring topology.</p> <p>Should support BPDU Filter, BPDU restriction, Root restriction</p> <p>Should support Loopback detection (LBD) to detect the loop created by a specific port.</p> <p>Should support IGMP Snooping v1/V2/V3 & IGMP groups 1K or more IGMP groups and require support for IGMP Snooping Fast Leave.</p> <p>Should support MLD Snooping v1/v2 & MLD group 1K or more and require support for MLD Snooping Querier.</p> <p>Should support 16 L3 IP interfaces and IPv4/IPv6 Loopback interface.</p> <p>Should support IPv6 Neighbor Discovery (ND).</p> <p>Should support VRRPv3, Equal-Cost Multi-Path (ECMP) and UDP helper.</p> <p>Should support Static route for both IPv4 and IPv6, OSPFv1, v2 & v3, RIP V1/V2/ng.</p> <p>Should have Policy-based Route (PBR).</p>		

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Switch should support IEEE 802.1Q VLAN with different type of VLAN like Port based, Voice VLAN, Private, Double (Q-In-Q), Multicast VLAN (ISM VLAN for IPv4/IPv6), 802.1v Protocol VLAN, VLAN Trunking, Super VLAN
should have per-port broadcast, multicast, and unicast storm control to prevents faulty end stations from degrading overall systems performance.
Should support port security to secures the access port based on MAC address.
Require prevention of DoS attacks, which include Land, Blat, TCP Null Scan, TCP Xmas Scan, TCP SYNFIN, Ping of Death Attack and TCP Tiny Fragment attack.
Should support DHCP snooping and DHCP server screening, DHCP server.
Should support 802.1X port based and 802.1X host based access control, Identity-driven Policy (VLAN, ACL or QoS) Assignment
Should support RADIUS and TACACS+ authentication.
Should support Authentication database failover.
Switch should support QoS (quality of service) IEEE 802.1P for traffic prioritization. It should support 8 queues per port.
Different type of QoS priority like Strict Priority Queue and Weighted Round Robin, Strict + WRR, Congestion control using Weighted Random Early Detection (WRED) or WTD
Should support Remark 802.1p priority, Remark ToS/DSCP and Rate limiting in Policy map.
Support at least 2K ingress & 512 egress access control entries. ACL based on MAC, IPv4 and IPv6, TCP/UDP port number, User-defined packet content, CPU Interface Filtering. Should support time based ACL.
Able to manage trough Web-GUI, Fully functional CLI interface and Telnet.
Should have multiple Image and configuration support to reduced down time for the switches.
Should support sFlow for monitoring traffic in data networks, SNMP v1, v2c, v3 and SNMP Traps and RMON.
Support for DHCP Client support for IPv4/IPv6, DHCP server, DHCP Relay and DNS client.
Should have Sntp/NTP protocol for time synchronization.

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Should support CDP/UDLD, Link Layer Discovery Protocol (LLDP) and LLDP-MED.		
(3) Access Switch- 24 PoE+ port L2 with minimum 2 SFP (Managed)	Compliance (Yes/No)	Remarks
Switch with at least 24 X 10/100/1000 Mbps PoE Ports and 4 x 10G SFP+ Ports.		
Switching capacity should be 128Gbps or higher or non-blocking architecture.		
Switch packet forwarding rate should be 95.24 Mpps or higher or non-blocking architecture.		
Switch Should Support IEEE 802.3af & at compliance (for PoE ports) and 370W Power Budget.		
Switch MAC table should be at least 16K or higher.		
Switch should be standard 19 inch 1U rack mountable.		
Support for the Energy Efficient Ethernet (IEEE 802.3az) standard.		
Power input should be 100 to 240 VAC, 50/60 Hz, internal power supply.		
Operating temperature should be -5 degree celsius to +50 degree celsius.		
Certification: CE, FCC, BSMI, RoHS and cUL.		
Switch Software Specification		
Should support Head of Line blocking prevention for lower latency and better performance.		
Support Jumbo Frame up to 12K Bytes or higher.		
Should support IGMP Snooping, Able to create 250 or more IGMP groups and require support for IGMP Snooping Fast Leave, IGMP Snooping Querier		
Should support MLD Snooping, Able to create 250 or more MLD groups, Per VLAN MLD Snooping and require support for MLD Snooping Fast Leave.		
Should have 802.1D STP, 802.1w RSTP and 802.1s MSTP Spanning Tree Protocol.		
Should support Spanning tree Root restriction		
Should support Loopback detection (LBD) to detect the loop created by a specific port.		

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Should support Multicast Filtering to filters or forward all unregistered groups.		
Switch should support IEEE 802.1Q VLAN tagging for Ethernet frames.		
Different type of VLAN like Port based, Auto Surveillance, Auto Voice, Asymmetric Vlan etc. should be available for configuration.		
Switch should support QoS (quality of service) IEEE 802.1P for traffic prioritization. It should support 8 queues per port.		
Different type of QoS priority like Strict Priority Queue and Weighted Round Robin.		
Port based ingress / egress rate limit function should be available with limit in increments as low as 16 Kbps		
Switch should support Neighbor Discovery (ND) protocol for IPv6.		
Switch should support to create at least 4 IP interface		
Should support default routing and static routing with minimum 100 IPv4 static route entries and minimum 50 IPv6 static route entries.		
Support at least 700 rules shared by IPv4, MAC, and IPv6 & Each rule can only be associated with a single port.		
Should support port security to secures the access port based on MAC address.		
should have broadcast, multicast, and unicast storm control to prevents faulty end stations from degrading overall systems performance.		
Support Traffic Segmentation to restricted traffic flow from a single or group of ports, to a another group of ports.		
Should have SSH and SSL for IPv4 and IPv6.		
Require prevention of DoS attacks, which include Land, Blat, TCP Null Scan, TCP Xmas Scan and TCP SYNFIN.		
Should support 802.1X port based authentication.		
Should support ARP spoofing prevention.		
Should support DHCP snooping and DHCP server screening.		
Switch should able to create a binding table for IP + MAC + Port to prevents a malicious user from spoofing or to restrict the unauthorized users.		
Should support 802.1X RADIUS and local server database authentication.		

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Should have option to check the status of copper cables using the cable-diagnostics time domain reflectometer (TDR).		
Able to manage through Web-GUI, CLI, Telnet & SNMP		
Should support SNMP v1, v2c, v3 and SNMP Traps and Remote Monitoring (RMON).		
Should have dual Image support to reduced down time for the switches.		
Switch should support dynamic host configuration protocol (DHCP) auto configuration of multiple switches through a boot server eases switch deployment.		
Should have SNTP/NTP protocol for time synchronization.		
Switch should be IPv6 Ready Compliance.		
Should support Link Layer Discovery Protocol (LLDP) and LLDP-MED.		
Note		
Switch should be supplied with the all necessary components like Power cord, Rack-mount bracket, Installation Guide, etc. and necessary software image file to fulfil all above mention feature set from day 1.		
(4) Unmanaged POE Switch (16GE PoE+ 2SFP Uplink, 120Watt PoE switch)	Compliance (Yes/No)	Remarks
Switch Should Support 16 10/100/1000BASE-T PoE & 2 SFP ports		
Switch Should Support Min. 36 Gbps Switching Capacity and Maximum 64 Byte Packet Forwarding Rate : 10M: 14,800pps 100M: 148,800pps 1000M: 1488,000pps		
Switch Should Support IEEE 802.3af & at compliance for all PoE ports and 150W Power Budget		
Isolating ports each other, restrain network storms effectively and improve network performance		
Switch Should Support for IEEE 802.3at/af Power over Ethernet (PoE) on ports 1 to 8 allows for powering of PoE-powered devices up to 250mand ports 9 to 16 up to 100M		
Automatic detection power of port, power off and restart the device if find PD device crash		
Customize application prioritization and increase network sensitivity. For example, video priority, monitoring transmission more smoothly		

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6 Kv Surge protection on all ports.		
(5) Access Switch- 8 port L2 PoE with minimum 2 SFP (Managed)	Compliance (Yes/No)	Remarks
Switch Should Support 8 10/100/1000BASE-T PoE and 2 SFP ports		
Switch Should Support Min. 20 Gbps Switching Capacity and Maximum 64 Byte Packet Forwarding Rate is 14.88 MPPS		
The Switch shall have the intelligence to detect the loop occurring from the unmanaged network segment.		
Switch Should Support IEEE 802.3af & at compliance (for PoE ports) and 130W Power Budget.		
Switch Should Support IGMP Snooping v1, v2 and MLD snooping v1/v2		
Switch shall support IEEE 802.1AB Link Layer Discovery Protocol (LLDP) & LLDP-MED.		
Switch Should Support IEEE 802.3az Energy Efficient Ethernet (EEE) Power saving Technology, Power Saving by Link Status, Time-based PoE, System hibernation, Port shut off, Cable length detection Etc.		
Switch Should Support 4K VLAN ID's, Min 256 static VLAN		
Switch Should Support Port Mirroring One to one/Many to One		
Switch should support Quality of Service (QoS), 802.1p, Strict, Weighted Round Robin (WRR), Bandwidth Control.		
Switch Should Support Min 4 IP interfaces, Static routing for inter-VLAN Communication		
Switch should support Access Control List (ACL), Port Base, MAC Base, IP Based, L2 & L3 ACL (IPv4 and IPv6)		
Switch Should Support Security Features like Broadcast/Multicast/Unicast Storm Control, Traffic segmentation, TLS, DoS attack prevention, 802.1X Port-based Access Control, Port Security, ARP Spoofing Prevention, DHCP Server Screening, IP-MAC-Port Binding, ARP Inspection, DHCP Snooping.		
Switch Should Support 802.1X Authentication local/RADIUS database (IPv4 & IPv6), port-based access control, EAP, OTP, TLS, TTLS, PEAP and Support MD5 authentication		

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Switch Should Support features Cable diagnostics, IPv4 & IPv6 Inspection, SSH v2 feature, 802.3x Flow Control and HOL Blocking Prevention		
Switch Should Support Management thru Web-based and compact CLI.		
Switch Should Support SNMP v1/v2c/v3, SNTP, ICMP v6, IPv4/v6 Dual Stack, Dual image, Dual configuration		
Certifications • EMI: CE , VCCI, FCC, BSMI and Safety: CB, UL, BSMI, CCC		
(6) Indoor AP (With Mounting Kit & Controller) - I	Compliance (Yes/No)	Remarks
AP shall have hardened enclosures for indoor deployment and shall have a robust design for durability		
It shall have dual radios for concurrent dual band (5 GHz / 2.4 GHz) operation		
It shall have Simultaneous 450Mbps on 2.4GHz and 867Mbps on 5GHz totals 1350 Mbps Wi-Fi speeds		
Minimum 1 number of 1 Gbps Ethernet port RJ-45.		
AP shall support Multi user MIMO		
AP shall support Outfitted with the latest 802.11ac Wave 2 technology		
The AP shall comply with IEEE 802.11ac at a minimum and be backwards compatible to IEEE 802.11a/b/g/n standards.		
AP shall operate at least in full 2x2:2 MIMO or more mode without any loss of features or capabilities		
AP shall Support PoE 802.3af and passive PoE for convenient and affordable installation		
AP must support 20 MHz, 40 MHz and 80 MHz channels.		
Each AP must support minimum 50+ concurrent clients in total (including both 2.4GHz and 5GHz radios).		
The AP shall provide a minimum of 20 dBm EIRP for both 2.4 GHz and and 23 dBm for 5 GHz frequencies. Field deployment shall be with EIRP as per regulatory guidelines.		
AP shall support QoS and WMM latest technology		

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AP shall support Multiple operating modes including managed AP and standalone AP mode		
AP shall support Band Steering, Beamforming, Airtime Fairness and Load Balance features		
AP shall support rogue access point detection		
AP shall have dual-Band Omni-directional Antenna, either internal or external. Field deployment shall be with EIRP as per the WPC guideline.		
AP should be compatible for Simple mounting on any wall or ceiling surface		
AP should support management VLAN		
AP should support Captive portal and Rate limit feature		
AP shall support Reboot Schedule, Wireless Schedule and Wireless Statistics based on SSID/AP/Client		
Intelligent RF control plane for self-healing, and self-optimization		
AP Shall support Wireless Mac Address Filtering, Wireless Isolation Between Clients and SSID to VLAN Mapping		
AP shall support 802.1X authentication and external radius server		
AP shall be able to assign end User the IP address as received from backend core DHCP Server.		
AP shall support Hardware controller or software controller		
Shall support Operating Temperature of 32°F~144°F		
Device OEM must be ISO 9001 and 14001 Certified		
(7) Indoor AP (With Mounting Kit & Controller) - II	Compliance (Yes/No)	Remarks
AP shall have hardened enclosures for indoor deployment and shall have a robust design for durability		
It shall have dual radios for concurrent dual band (5 GHz / 2.4 GHz) operation		
It shall have Simultaneous 574 Mbps on 2.4GHz and 1201 Mbps on 5GHz totals 1775 Mbps Wi-Fi speeds		
Minimum 1 number of 1 Gbps Ethernet port RJ-45.		
AP shall support Multi user MIMO		

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S. S. S.
13/3/24

AP shall support Outfitted with the latest 802.11ac Wave 2 technology		
The AP shall comply with IEEE 802.11ac at a minimum and be backwards compatible to IEEE 802.11a/b/g/n standards.		
AP shall operate at least in full 2x2:2 MIMO or more mode without any loss of features or capabilities		
AP shall Support PoE 802.3af and passive PoE for convenient and affordable installation		
AP must support 20 MHz, 40 MHz and 80 MHz channels.		
Each AP must support minimum 50+ concurrent clients in total (including both 2.4GHz and 5GHz radios).		
The AP shall provide a minimum of 20 dBm EIRP for both 2.4 GHz and and 23 dBm for 5 GHz frequencies. Field deployment shall be with EIRP as per regulatory guidelines.		
AP shall support QoS and WMM latest technology		
AP shall support Multiple operating modes including managed AP and standalone AP mode		
AP shall support Band Steering, Beamforming, Airtime Fairness and Load Balance features		
AP shall support rogue access point detection		
AP shall have dual-Band Omni-directional Antenna, either internal or external. Field deployment shall be with EIRP as per the WPC guideline.		
AP should be compatible for Simple mounting on any wall or ceiling surface		
AP should support management VLAN		
AP should support Captive portal and Rate limit feature		
AP shall support Reboot Schedule, Wireless Schedule and Wireless Statistics based on SSID/AP/Client		
Intelligent RF control plane for self-healing, and self-optimization		
AP Shall support Wireless Mac Address Filtering, Wireless Isolation Between Clients and SSID to VLAN Mapping		

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R. K. S. S. S.
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13/03/24

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AP shall support 802.1X authentication and external radius server		
AP shall be able to assign end User the IP address as received from backend core DHCP Server.		
AP shall support Hardware controller or software controller		
Shall support Operating Temperature of 32°F~144°F		
Device OEM must be ISO 9001 and 14001 Certified		
Shall support Operating Temperature of -30°C~70°C		
Device OEM must be ISO 9001 and 14001 Certified		
(8) Rugged and waterproof Outdoor IP 65 AP (With Mounting Kit)	Compliance (Yes/No)	Remarks
AP shall have Durable, weatherproof enclosure for outdoor Wi-Fi deployment and shall have a robust design for durability		
It shall have dual radios for concurrent dual band (5 GHz / 2.4 GHz) operation		
It shall have Simultaneous 1700 Mbps on 2.4GHz and 5GHz Wi-Fi speeds		
Minimum one number of 1 Gbps Ethernet port RJ-45.		
AP shall support Multi user MIMO		
AP shall support Outfitted with the latest 802.11ac technology		
The AP shall comply with IEEE 802.11ac at a minimum and be backwards compatible to IEEE 802.11a/b/g/n standards.		
AP shall operate at least in full 2X2:2 MIMO or more mode without any loss of features or capabilities		
AP shall Support PoE 802.3af and passive PoE for convenient and affordable installation		
AP must support 20 MHz, 40 MHz Channel Width		
The AP shall provide a minimum of 20 dBm EIRP for both 2.4 GHz and and 27 dBm for 5 GHz frequencies. Field deployment shall be with EIRP as per regulatory guidelines.		
AP shall support WDS or MESH networking*		

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S Akhla
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Preraj Kumar
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AP shall support QoS and WMM latest technology		
AP shall support Multiple operating modes including managed AP and standalone AP mode		
AP shall support Band Steering, Beamforming, Airtime Fairness and Load Balance features		
AP shall support rogue access point detection		
AP shall have dual-Band Omni-directional Antenna, either internal or external.		
AP should be compatible for Simple mounting on any wall or ceiling surface		
AP should support management VLAN and SSID VLAN		
AP should support Captive portal and Rate limit feature		
AP shall support Reboot Schedule, Wireless Schedule and Wireless Statistics based on SSID/AP/Client		
Intelligent RF control plane for self-healing, and self-optimization		
AP Shall support Wireless Mac Address Filtering, Wireless Isolation Between Clients and SSID to VLAN Mapping		
AP shall support 802.1X authentication and external radius server		
AP shall be able to assign end User the IP address as received from backend core DHCP Server.		
AP shall support Hardware controller or software controller and must be SDN Ready		
AP Shall support ZTP (Zero Touch Provisioning) for seamless Installations		
Shall support L3 management, SNMP, Email notification		
Shall support Operating Temperature of -30°C~70°C		
Device OEM must be ISO 9001 and 14001 Certified		

(11) Cat 6 Cable (Per Box 305 meter)		Compliance (Yes/No)
Features	Category 6 Unshielded Twisted Pair 4 pair cable shall be compliant with ANSI/TIA/EIA-568-C.2 channel performance.	

	Category 6 UTP cables shall extend between the work area location and its associated telecommunications closet and consist of 4 pair, 23 AWG, UTP.	
	The 4 pair Unshielded Twisted Pair cable shall be ETL Verified	
Mechanical Characteristics		
Construction: 4 twisted pairs separated by internal X shaped, 4 channel, full separator. Half shall not be accepted.		
Conductor dia	23 AWG	
Insulation	POLYETHYLENE	
Pairing	TWISTED INTO TWO CORE	
No.of Pair	4 PAIR TWISTED TOGETHER	
Color of sheath	PVC GREY- Single sheath	
RIP CORD	YES	
Sequential meter marking	YES	
Temperature Rating	(- 20 to +60 C)	
Filler Required	YES	
Packing	305 Mtrs.	
Low Frequency Electrical Parameter		
CONDUCTOR RESISTANCE (DC)	93.8 OHMS/1000 MTR @20 Degree C. MAX.	
RESISTANCE UNBALANCE	5%MAX	
MUTUAL CAPACITANCE	5.6 nF/100 mtrs Max.	
CAPACITANCE UNBALANCE PAIR/GROUND	330PF/100M MAX	
Propagation Delay Skew	536 nS/100M	
Nominal Velocity of Propagation	69%	
Charcteristics IMPEDANCE	100±15%OHMS	

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Worst Case cable skew	45ns/100m	
Generally confirming to EIA/TIA 568-C.2 and IEC/ISO 11801		
(12) IO box for CAT-termination		Compliance (Yes/No)
Single Port	Write on labels in transparent plastic window – supplied with plate	
	Face Plate with shutter	
	Should be able to support variety of jacks – UTP, STP etc.	
	Category 6, TIA568 C.2	
	All information outlets for 22-26 AWG copper cable shall:	
	Use insulation displacement connectors (IDC)	
	Allow for a minimum of 200 re-terminations without signal degradation below standards compliance limits.	
Insertion force:	20N max	
	Jack Specification:	
Plastic Housing:	Polycarbonate, UL94V-2 rated or equivalent	
Operating Life:	Minimum 750 insertion cycles	
Contact Material:	Phosphor Bronze with nickel plated	
	Contact Plating: 50 pinches gold on plug contact area	
IDC :	Housing PC , UL 94 V-2, 568A/B configuration	
	Operating Life: Minimum 200 Re-terminations	
IDC Contact Plating:	Phosphor bronze with tin plated	
Operation Temp	: -10 C to 60 C	
(13) 6 Core Fibre with LIU and termination with all accessories		Compliance (Yes/No)
FIBER CABLING COMPONENTS	Optical Fiber Cable	

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Single mode (SM) Fiber, Standard properties		
GENERAL:	The 6 core armored fiber cable type is a Matched Cladding Single Mode	
	Fiber dual coated with acryl ate coating.	
	The fiber is optimized for operation at 1310 nm and at 1550 nm.	
	Should fulfill the requirements of:	
	• IEC 60793-1/60794-1-2	
	• ISO 11801	
	• ITU-T REC G.652.D	
GEOMETRICAL PROPERTIES:	Nominal mode field diameter: 9.2 μm	
	Mode field diameter tolerance: $\pm 4\%$	
	Cladding diameter: 125 μm	
	Cladding diameter tolerance : $\pm 1 \mu\text{m}$	
	Mode field concentricity error : $< 1 \mu\text{m}$	
	Cladding non-circularity: $< 2 \%$	
MATERIALS	Germanium doped core with no phosphorus i.e. reduced tendency for hydrogen degradation.: CORE	
	UV-curable dual layer acryl ate coating, which ensures excellent micro bending and abrasion resistance.: COATING	
	Stripping force after conditioning at $23 \pm 5 ^\circ\text{C}$ at 40 - 60 % RH for 24 h.	
	Min.: 1.0 N	
	Max.: 3.5 N	
	Stripping force after ageing in water at 70 ± 5 $^\circ\text{C}$ for 168 h.	
	Min.: 1.0 N	

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L. S.

	Max.: 3.5 N	
OPTICAL PROPERTIES	Attenuation (of cable with fibers):	
	At 1310 nm: ≤ 0.36 dB/km	
	In the range 1285-1330 nm: ≤ 0.40 dB/km	
	At 1550 nm: ≤ 0.22 dB/km	
	Cut-off wavelength λ_c :	
	High limit: 1330 nm	
	Low limit : 1180 nm	
	Cut-off wavelength λ_{cc}	
	High limit: 1260 nm	
	Loss increase at 1550 nm for 100 turns of fiber loosely wound with a 37.5 mm radius:	
	Max. : 0.1 dB	
	Dispersion:	
	Zero dispersion wavelength: 1310 nm	
	Tolerance of zero dispersion	
	Wavelength: $-10/+12$ nm	
	Zero-dispersion slope:	
	Max.: $0.092 \text{ ps}/(\text{nm}^2 \cdot \text{km})$	
	Chromatic dispersion coefficient:	
	In 1285 nm - 1330 nm interval:	
	Max. : $3.5 \text{ ps}/\text{km} \cdot \text{nm}$	
	In 1270 nm - 1340 nm interval	
	Max. : $6 \text{ ps}/\text{km} \cdot \text{nm}$	
	At 1550 nm	
	Max.: $18 \text{ ps}/\text{km} \cdot \text{nm}$	
	Polarisation Mode Dispersion (PMD):	
	Max.: $\leq 0.2 \text{ ps}/\text{km}$	

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	In homogeneity of OTDR trace for any two 1000 meter fiber lengths	
	Max.: 0.1 dB/km	
	Proof test level : 1%	
LIU- RACK MOUNT – 12 port LIU Loaded Single mode		Compliance (Yes/No)
Characteristic	Min. Required Specification	
	12 port Loaded LIU accommodate LC Single mode adapters.	
	Cold steel base material with powder coating. Aluminum top and front cover for light mounting	
	can manage both splices and terminations	
	should have fiber magic sticker provision inside for 900um tight buffered fiber storing	
	Accessory kit consists of cable ties, mounting ear screw earthing.	
	Front-Mounted Cable Saddles for jumper management	
	Removable Top & Front cover for better access to interior of LIU	
	Rubber grommet allow for pre-terminated fiber trunk installation, protects cable and minimizes dust build-up	
	Adapter panel - Cold steel	
	Adapters should have compact design & high precision.	
	which perform well under various circumstances & maintain good plug retention strength.	

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(14) Optical Fiber Pigtail – LC Type 1 Meter		Compliance (Yes/No)
Characteristic	Min. Required Specification	
Features	Provide a field installable Single mode LC pigtails to terminate fiber optic cables from cable-to-cable, cable-to-equipment and equipment-to-equipment.	
	Utilize a UPC polishing on the tip to provide high yield during installation.	
	Meet TIA/EIA 568.C.3 standards for repeatability.	
Insertion Loss (Max)	<0.3 db Max.	
Mating Cycle	200 times	
Return Loss	>= 50 db for UPC	
Connector ferrule	Ceramic	
Operating Temp.	(- 20 deg. C to + 60 deg. C)	
buffer diameter	900um Tight buffer	
Types	LC Type Simplex	
Optical Fiber Equipment Cords (minimum 1 meter) - LC-LC Duplex		Compliance (Yes/No)
Characteristic	Min. Required Specification	
Features	Optical fiber patch leads shall comprise of Single mode 9/125µm fiber with LC-LC fiber connectors terminated at each end. The optical fiber patch leads shall comply with the following specifications:	
Optical Fiber –	Single mode	
Connector:	Zirconia ceramic ferrule	
	Pre-radiuses and pre-polished ferrule	
	Duplex Type	
Color-coded	yellow	
Insertion Loss	<0.3 db	
Cable	9/125, SM	

Return Loss	>= 50dB for UPC	
Durability	200 mating cycle	
Working Temp	(- 20 deg. C to + 60 deg. C)	
Length	1 Meter	
(17) CONDUIT		Compliance (Yes/No)
	PVC and Rectangular	
(18) 24 port LAN patch panel		Compliance (Yes/No)
Characteristic	Min. Required Specification	
Features	Patch Panel made of powder coated steel, in 24 port configurations.	
	Allow for a minimum of 200 re-terminations without signal degradation below standards compliance limit.	
	Have port identification numbers on the front of the panel.	
	Should have self adhesive, clear label holders (transparent plastic window type) and white designation labels with the panel	
	IDC: Suitable for 22-26 AWG stranded and solid wire compatible with both 110 & Krone punch down tools	
	Improved cable management with optional cable management bar	
	The Cat-6 transmission performance is in compliance with the ANSI/TIA/EIA 568C.2 standard and ISO 11801 Class D/E/EA	
Mechanical Characteristics	Plastic Housing: PBT+Glass Fiber, UL94V-0 rated	
Jack Connector	Operating Life: Minimum 750 insertion cycles	
	Material: Phosher bronze with nickel plated	
	Contact Plating: 50µ" Gold plated on plug contact area	
	Contact Force: 20N max	

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IDC Connector	Plastic Housing: Polycarbonate, UL94V-2 rated or equivalent	
	IDC Contact Plating: Phosphor bronze with tin plated	
	Wire Accommodation: 22-26 AWG solid	
	Voltage Rating: 125V AC RMS	
	Contact resistance: 20Milliohms	
	Insulation resistance: 100 MegaOhms @ 500V DC	
(19) UPS (2KVA)		Compliance (Yes/No)
PHASE:	SINGLE PHASE WITH GROUND	
ONLINE UPS CAPACITY:	2000VA/1600W	
NO. OF BATTERIES REQUIRED:	6	
TYPE OF BATTERY REQUIRED:	VRLA SMF	
EFFICIENCY:	87-90%	
WAVEFORM:	PURE SINE WAVE	
WARRANTY:	24 MONTHS	

M. Kumar
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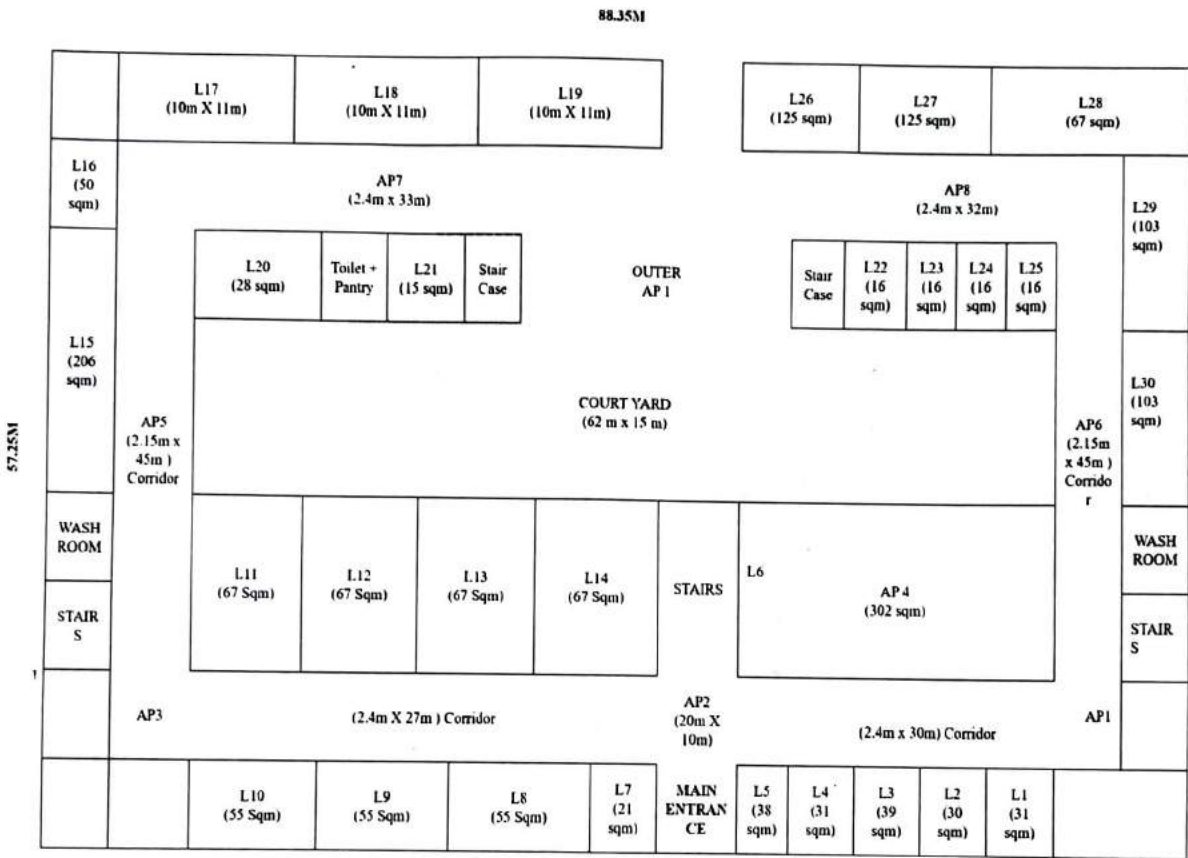
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LAYOUT OF VARIOUS BUILDINGS

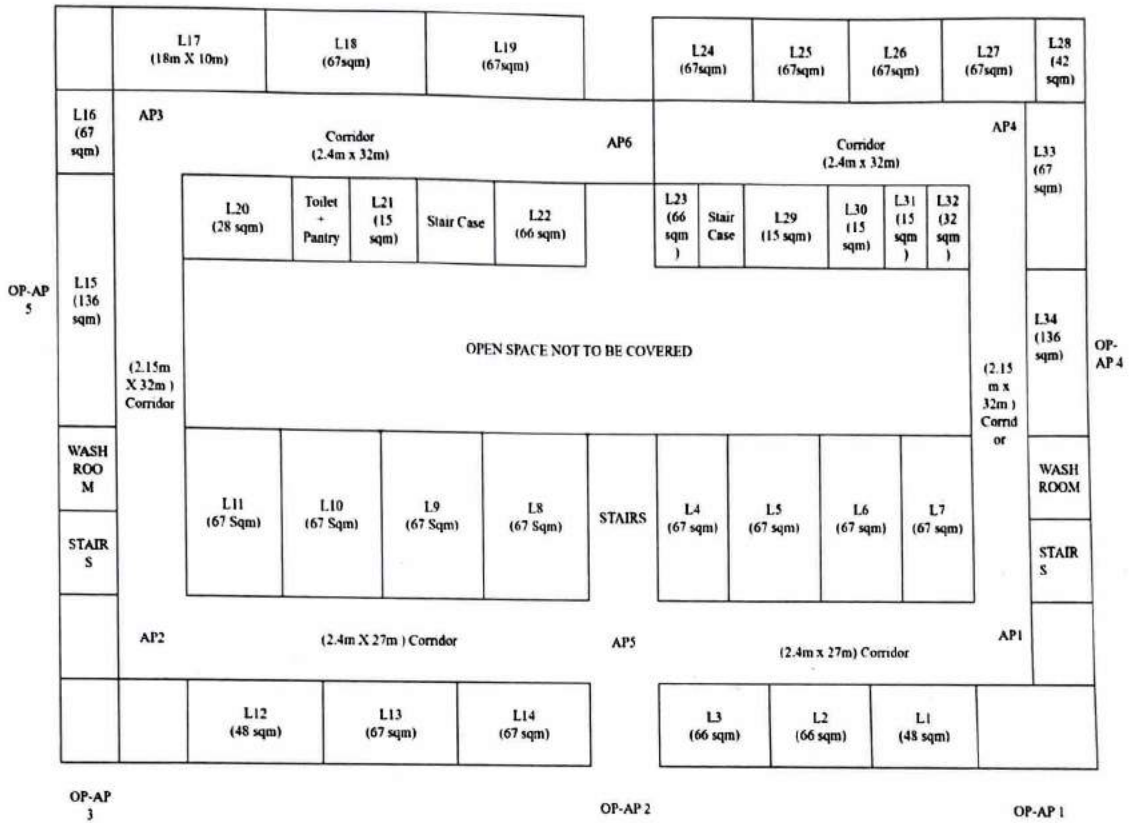
GROUND FLOOR ACADEMIC BUILDING



FIRST FLOOR ACADEMIC BUILDING

88.35M

57.25M



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13/3/24

SAKSHI
13/3/24

Raj
13/03/24

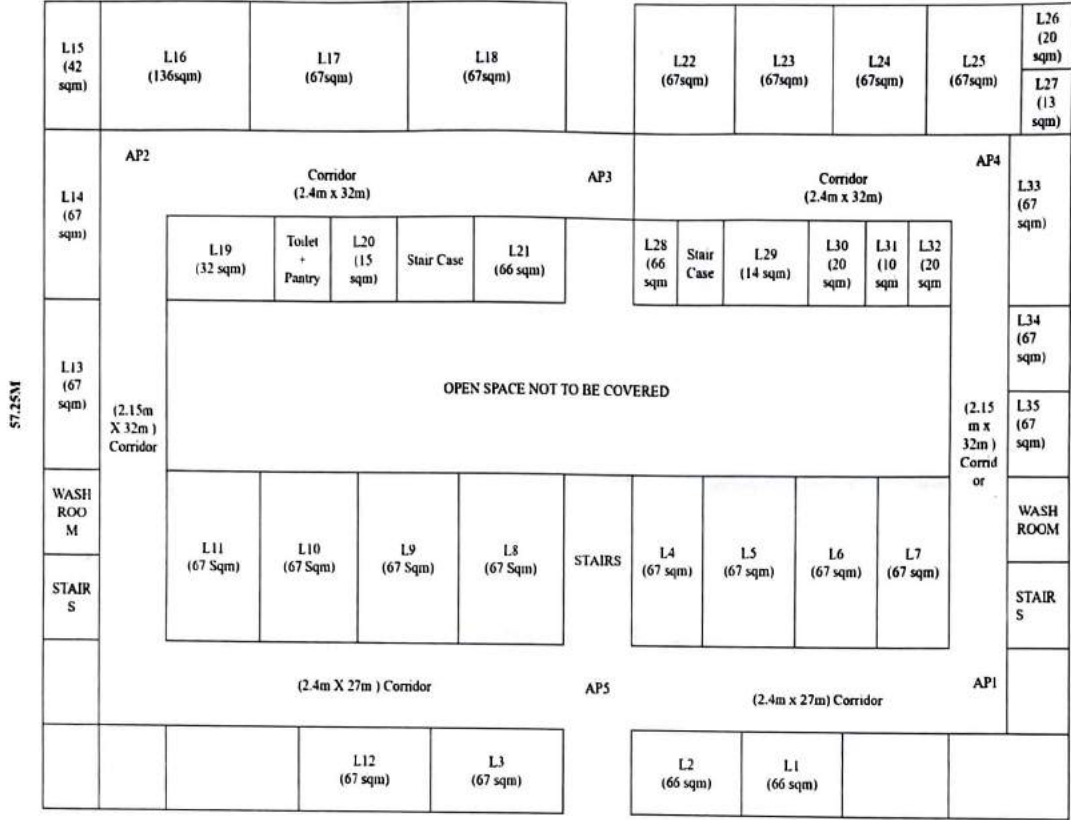
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SECOND FLOOR ACADEMIC BUILDING

88.35M



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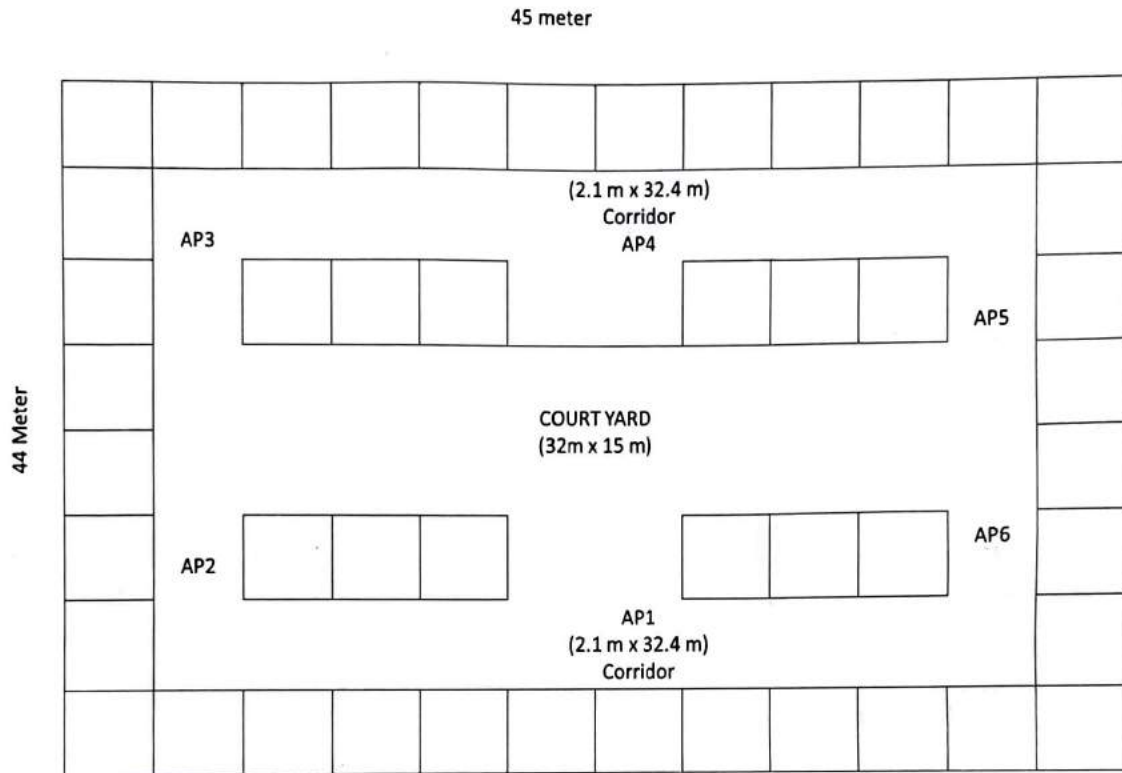
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GROUND FLOOR HOSTEL BUILDING



NOTE:

There are two boys' hostel and one Girls hostel.

In each boys' hostel there is Four Floors (G +3) of similar architecture and Girls hostel has two floor (G +1).

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Roy
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Shreej Kumar
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