

ALL INDIA INSTITUTE OF MEDICAL SCIENCES



TENDER DOCUMENT

Name of Work :- Renovation and modernization of Lecture Theaters at AIIMS, New Delhi.

Sub head: Audio-visual systems, Video Conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, False ceiling, Wall Paneling, Furnishing and Other Civil Work.

INDEX

Name of Work: Renovation and modernization of Lecture Theaters at AIIMS, New Delhi

Sub Head: Audio-visual systems, Video-conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, False ceiling, Wall Paneling, Furnishing and Other Civil Work.

S.No.	Description	Page Nos.
1.	Press Notice	3
2.	Notice Inviting Tender for website	4-7
3.	Section –I (Brief Particular of Work)	8-10
4.	Section –II (Information and Instructions to Bidder)	11-15
5.	Section –III (Information regarding Pre-qualification)	16-22
6.	Annexure –I MOU	23-27
7.	CPWD 6	28-32
8.	Integrity Pact	33-39
9.	Letter of submission	40-41
10.	General Rules and Directions	42-45
11.	Conditions of Contract	46-48
12.	Form of Performance Security and Earnest Money Deposit– Bank Guarantee Bond	49-52
13.	Performa of Schedules A to F	53-57
14.	Special Conditions	58-63
15.	List of approved material	64-68
16.	Additional conditions	69-78
17.	Particular Specifications	79-98
18.	Schedule of Quantities for Technical bid (Part – I)	99-115
19.	Schedule of Quantities for Price bid (Part – II)	116 - 132

PRESS NOTICE

NOTICE INVITING TENDERS

The Executive Engineer (E) - I, All India Institute of Medical Sciences, New Delhi on behalf of the Director, AIIMS invites sealed (offline) item rate tender from the specialized firm in interior civil work, Audio-video system, Electrical & Air conditioning work and operation & maintenance of audio-video equipment in Seminar Halls, Auditoriums, Lecture Theaters and Conventional Halls fulfilling the eligibility criteria as per bid documents, in two bid system (Eligibility-Cum-Technical Bid, Price Bid preceded with Pre-bid meeting)for following work (s):-

(a)	NIT No.	91 /EE(E)-I/2016-17
(b)	Name of Work	Renovation and modernization of Lecture Theaters at AIIMS, New Delhi. Sub head: Audio-visual systems, Video-conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, False ceiling, Wall Paneling, Furnishing and Other Civil Work.
(c)	Estimate Cost	Rs. 4,70, 17, 667/-
(d)	Earnest Money	Rs. 9,40,354/-
(e)	Tender Processing fee	Rs. 1,500/- (Non- refundable)
(f)	Period of Completion	4 Months
(g)	Last date& Time of sale of tender documents	20.03.2017 till 04:00PM.
(h)	Time and date of Pre-bid meeting	24.03.2017 at 03:00 PM at conference room of ESD , 2 nd floor, Administrative block, AIIMS, New Delhi.
(i)	Time & date of submission of tender document	05.04.2017 at 03:30 PM
(j)	Time and date of opening of Eligibility	05.04.2017 at 03:30 PM
(k)	Time and date of opening of Price bid	Will be intimated lateron to eligible bidder.

The bid forms and the other details can be seen and down loaded from the website www.aiims.ac.in/www.aiims.edu

NOTICE INVITING TENDER

The Executive Engineer (E) - I, All India Institute of Medical Sciences, New Delhi on behalf of the Director, AIIMS invites sealed (offline) item rate tender from the specialized firm in interior civil work, Audio-video system, Electrical & Air conditioning work and operation & maintenance of audio-video equipment in Seminar Halls, Auditoriums, Lecture Theaters and Conventional Halls fulfilling the eligibility criteria as per bid documents, in two bid system (Eligibility-Cum-Technical Bid, Price Bid preceded with Pre-bid meeting)for following work (s):-

(a)	NIT No.	91 /EE(E)-I/2016-17
(b)	Name of Work	Renovation and modernization of Lecture Theaters at AIIMS, New Delhi. Sub head: Audio-visual systems, Video-conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, False ceiling, Wall Paneling, Furnishing and Other Civil Work.
(c)	Estimate Cost	Rs. 4,70, 17, 667/-
(d)	Earnest Money	Rs. 9,40,354/-
(e)	Tender Processing fee	Rs. 1,500/- (Non- refundable)
(f)	Period of Completion	4 Months
(g)	Last date& Time of sale of tender documents	20.03.2017 upto 04:00PM.
(h)	Time and date of Pre-bid meeting	24.03.2017 at 03:00 PM at conference room of ESD , 2 nd floor, Administrative block, AIIMS, New Delhi.
(i)	Time & date of submission of tender document	05.04.2017 at 03:30 PM
(j)	Time and date of opening of Eligibility	05.04.2017 at 03:30 PM
(k)	Time and date of opening of Price bid	Will be intimated lateron to eligible bidders.

1. Individual agencies or consortium that fulfills the following requirements shall be eligible to apply.:-

Individual Agencies or partners of consortium with respective specialization should have satisfactorily completed during last **seven years** ending **last day of the month previous to the one in which tenders are invited:-**

2. Three similar works each costing not less than 40% of the estimated cost or two similar works each costing not less than 60% of the estimated cost or one similar work costing not less than 80% of the estimated cost in their Respective trades / specialization.

Note:

- Estimated cost which shall be considered for evaluation for each trade / specialization is mentioned in **Section I** of tender document.
- The total member of consortium should not be more than four.
- For the four specialization i.e. as per 1.3.1 to 1.3.4 of section - I, the sole bidder has to qualify individually. In case of member of consortium each member has to qualify in the specialization (one or more out of four). No two members can club their performances/work done for qualifying in an individual specialization.
- Similar work means work of respective trade/specialization (as mentioned in section I) in seminar halls, auditoriums, Lecture Theaters and Convention Halls .
- The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of receipt of application/tender for pre qualification. Similar works completed in private sector shall be allowed subject to the submission of income tax deducted (TDS Certificate) for payment received for the same work.
 - AIIMS may inspect the qualifying work & it would be the responsibility of bidder to arrange the inspection.
 - The BOQ/Agreement copy of qualifying work has to be attached with bid to assess the relevance of the work executed viz a viz qualifying/eligibility criteria. Self certification shall not be considered.
- The Lead agency should have an average annual financial turnover of at least **50% of estimated cost** during the immediate last three years ending 31st March, 2016. This should be duly audited by a chartered accountant. Year in which no turnover is shown would also be considered for working out the average. Certified copies by Chartered Accountant be given in case there is no balance sheet.
- Individual member of consortium should not have incurred any loss in more than two years during the immediate last five consecutive financial years ending 31st March 2016.
- The lead agency should have a solvency of **Rs. 150 Lakhs**
- There should be MOU amongst them the consortium members in the format suggested at **Annexure-I** of the tender document. Once an MOU is drawn up individual member should stick together and deliver the services as stipulated in contract. MOU must identify a team leader (Lead agency) who shall be responsible for overall progress of amongst AIIMS, AIIMS representatives & consultant etc.

3. Intending firms / agencies / contractors may obtain tender document on request in writing personally or through their authorized representatives from Executive Engineer (E) - I, E.S.D., 2nd Floor, Administrative Block, AIIMS, Ansari Nagar, New Delhi – 110029 on any working day on payment of Rs 1500 (Non refundable) in form of demand draft in favour of Director, AIIMS, New Delhi upto 1600 Hrs. **20.03. 2017** or can download the same from website www.aiims.ac.in/ www.aiims.edu. Agencies who wish to submit their bid on downloaded document, shall have to pay requisite cost of tender document along with their Bid as described above along with the eligibility-cum-technical bid.

Earnest money shall be in shape of Fixed Deposit receipt of a Scheduled Bank or Demand Draft of a scheduled Bank issued in favour of Director, AIIMS, New Delhi. A part of earnest money is acceptable in the form of bank guarantee also. In such case, 50% of earnest money or Rs.20 lacs, whichever is less, will have to be deposited in shape prescribed above, and balance in shape of Bank Guarantee.

4. There shall be **pre-bid meeting**, which is proposed to be held in the conference room of ESD at Administrative block, AIIMS, Ansari Nagar, New Delhi, at **3.00 PM on 24.03.2017** for intending firms/contractors in which any doubt of firms/contractors shall be clarified besides discussion on any additional condition proposed by the perspective bidders
5. If any information furnished by the applicant is found incorrect at a later stage, he shall be liable to be debarred from tendering/ taking up of work in AIIMS. The department reserves the right to verify the particulars furnished by the applicant independently.
6. The department reserves the right to reject any prospective bid without assigning any reason and to restrict the list of pre-qualified contractors to any number deemed suitable by it, if too many bids are received satisfying the basic PQ criteria.
7. Tender shall be processed in 2 (Two) stages as below:-

Part-I: Eligibility-cum-Technical bid

Part-II: Price Bid

The tenderer shall fill part I & II at the time of submitting bid documents. However these will be opened stage by stage as defined below.

- The eligibility documents will be opened on defined date & time and processed first. The time and date of Price Bid of contractors qualifying the Eligibility shall be communicated to them at later date.
 - The price bid will be opened at the defined time and date of only those firms who are eligible.
8. Bidder should submit an Authorization certificate from OEM for the following items:
1. Projector
 2. Full HD Video Conferencing System
 3. Interactive Screen/Monitor
 4. Audio System (Digital Conference System, Digital Signal Processor, FOH Speakers, Amplifier and Central Control System)
 5. Multi Point Conferencing Unit
 6. Controller and Switcher,

Authorizing Firm (Bidder) to quote OEM's product. They shall submit the certificate from OEM mentioning the continued supply of spare parts, repairing of faulty modules over a minimum period of 5 years from the date of supply of the material. The certificate for authorization should be specific to this work from OEM.

9. The sole firms / contractors or all members in case of consortium shall individually submit an undertaking for the following on their letter head that during last five years ending **last day of the month previous to the one in which tenders are invited** :-

- I/We have not been blacklisted / debarred by any Department / Organization.
- There is no case of bad performance for the works executed by me / us.
- That I / We have not abandoned any work incomplete.
- That no work executed by me / us has been rated poor / bad quality.

If applicant does not submit the aforesaid undertakings, his application shall be rejected and no claim shall be entertained on this account.

10.0 List of Documents to be submitted alongwith Eligibility-cum-technical bid.(PART-I)

10.1 EMD in prescribed form

10.2 Tender fee, if tender document downloaded from website.

10.3 Copy of PAN Card of individual firms

10.4 Copy of valid electrical License of individual firms (Not required in specialization of interior Civil Work)

10.5 Copy of certificate of ESIC & EPF registration of individual firms.

10.6 Certificates of registration for Sales Tax / VAT , Service Tax and acknowledgment of up to date filled return.

10.7 MOU amongst the consortium member in the suggested format as per Annexure-I(if applicable)

10.8 Bank Solvency Certificate on letter head of Bank as per FORM –B.

10.9 Duly filled forms of A, C, D, & E (at page no. 18 – 22).

10.10 Letter of Transmittal

10.11 Certificate from OEM authorizing firm (Bidder) as per sr. no. 8.of NIT.

10.12 Duly signed Tender document as purchased from AIIMS (Rates not to be filled in PART-I)

11.0 PRICE BID (PART – II)

11.1 The Part – II comprises of BOQ on item rate basis, same is to be filled neatly and legibly. Contractor must ensure to quote rate of each item. If no rate is quoted by the bidder, rate of such item shall be treated as "0" (Zero).

11.2 The eligibility-cum-technical bid shall be opened first on due date and time as mentioned above. The time and date of Price bid of contractors qualifying the eligibility criteria shall be communicated to them at later date. Price bid should be in separate sealed envelope.

Details of Tender Notice may be seen at website www.aiims.ac.in/www.aiims.edu

**Executive Engineer (E) - I,
ESD,AIIMS**

SECTION-I
BRIEF PARTICULARS
OF THE WORK

1.1 INTRODUCTION

The **All India Institutes of Medical Sciences (AIIMS)** are a group of autonomous public medical colleges of higher education. These institutes have been declared by Act of Parliament as Institution of national importance. AIIMS New Delhi, the fore-runner parent excellence institution, was established in 1956 and operates autonomously under the **Ministry of Health and Family Welfare**. AIIMS intend to carry out the interior and audio-visual work of five Lecture Theaters at PC & Teaching Block and Convergence Block , AIIMS, Ansari Nagar, New Delhi – 110029.

1.2 GENERAL FEATURES & SITE

- i) The site (Lecture Theaters) is located in ALL INDIA INSTITUTE OF MEDICAL SCIENCES, Ansari Nagar, New Delhi - 110029.
- ii) All five Lecture Theaters are to be renovated. These are located in PC & Teaching Block and Convergence Block of AIIMS, Ansari Nagar, New Delhi- 110029.
- iii) The basic civil structure of Lecture Theaters, steps for seating, control area are already constructed in Lecture Theater. The Lecture Theaters are to be renovated after dismantling the existing arrangements.
- iv) These Lecture Theaters are to be used for seminars, video conferencing, lectures etc.

1.3 MAJOR TRADES / SPECILIZATION AND ESTIMATE COST

1.3.1 Interior Civil Work

- i) False Ceiling
- ii) Wall Panelling
- iii) Acoustics
- iv) Flooring
- v) Chairs
- vi) Civil work like Brick work, Painting etc.
- viii) **Estimated Cost : Rs. 119.20 lakh.**

1.3.2 Audio-Visual System, Video Conferencing, Streaming & Networking

- i) Audio system with speakers, amplifiers, digital signal processors, microphones etc.
- ii) Video projection including projector, motorized screen, interactive tablet for writing, erasing, annotation, lecture recording.
- iii) Digital Interactive Podium
- iv) Multi Conferencing Unit, Server, Networking equipments, wi fi system with routers, Control units, racks, LED TV, cabling etc.
- v) Touch Panel for integration of AV system, conferencing & Networking System and lights.
- vi) **Estimated Cost : Rs. 250.50 lakh.**

1.3.3 Electrical & Air-conditioning Work

- i) Internal electrification with light fittings, wiring
- ii) Dimmable lights with dimmer in all LTs.
- iii) Power supply cabling, distribution board etc.
- iv) Works related to air-conditioning of halls, Lecture Theaters, Conventional Halls etc.
- iv) **Estimated Cost : Rs. 41.10 lakh**

1.3.4 Operation & Comprehensive maintenance of Audio-Visual equipments.

- i) **Estimated Cost : Rs. 59.30 lakh**

1.4 The work shall be executed as per General Conditions of Contract with upto date corrections, CPWD specifications, relevant BIS codes, Manufacturer specifications where ever applicable and as per instruction of Engineer in Charge.

Executive Engineer (E) - I
All India Institute of Medical
Sciences, New Delhi - 110029

SECTION- II

INFORMATION & INSTRUCTIONS TO BIDDERS

1.0 GENERAL

- 1.1** Letter of transmittal and forms for pre qualification are given in Section III.
- 1.2** The Bid and all correspondence incidental and related to Bid shall be in English language. Any printed literature and document submitted in any other language should be accompanied by authenticated English translation, in which case, for purpose of interpretation of the Bid, English translation shall govern. Responsibility for correctness in translation shall lie with the Bidder.
- 1.3** All information called for in the enclosed forms should be furnished against the relevant columns in the forms. If for any reason, information is furnished on a separate sheet, this fact should be mentioned against the relevant column. Even if no information is to be provided in a column, a “nil” or “no such case” entry should be made in that column. If any particulars/ query is not applicable in case of the bidder, it should be stated as “**not applicable**”. The bidders are cautioned that not giving complete information called for in the Document or not giving it in clear terms or making any change in the prescribed forms or deliberately suppressing the information may result in the bidder being liable to be disqualified. Applications made by fax or telex and those received late will not be entertained.
- 1.4** The bid should be typed written. The applicant or authorized representative should sign on each page of the bid with stamp and date. The Bid must be complete in all respect leaving no scope for ambiguity. It is in the interest of Bidder to submit complete and comprehensive proposal leaving no scope any further questionnaires.
- 1.5** Overwriting should be avoided. Correction, if any, should be made by neatly crossing out, initialing, dating and rewriting. Pages of the bid document are numbered. Additional sheets, if any added by the contractor, should also be numbered by him. They should be submitted as a package with signed letter of transmittal.
- 1.6** Bids shall be submitted in hard copies as per Instructions to Bidders. Bids sent through Fax/ E-Mail/ Computer floppy shall not be accepted. Bids in prescribed form duly signed, completed should be submitted in a sealed cover superscribed with name of work, sub head and due date of opening.
- 1.7** Owner reserves the right to reject any or all Bids received without assigning any reason or incurring any liability to the applicant.

- 1.8** If any information furnished by the Bidder is found incorrect either immediately or at a later stage, would render such Bidder liable to be debarred from tendering / taking up work in AIIMS.
- 1.9** The owner reserves the right to verify the particulars furnished by the Bidder independently.
- 1.10** Prospective applicants may request clarification on the project requirements and bid documents in the pre bid meeting. Any clarification given by the department will be forwarded by mail/website only to all those who have purchased the bid document.

2.0 **SPECIAL CONDITIONS**

- 2.1 The individual agency or consortium to whom work is awarded has to execute the Audio Video, Civil, Electrical, air-conditioning duct work and other associated works. Individual agency should either be eligible contractor himself as per eligibility criteria or associate with himself specialized agencies / contractors for execution of these works. If the individual agency does not meet the eligibility criteria, the bid shall be considered as non responsive and hence rejected. Owner will accept associates after verifying their credentials and experience. If any of the associate contractors do not meet the eligibility criteria, the bids of the main agency shall be considered as non responsive and hence rejected. In case the applicant himself has executed specialised works in his own name, he will be considered for pre qualifying for specialised subheads of work. He should support his claim with full detail as required.
- 2.2 There should be MOU amongst the consortium members in the format suggested at **Annexure-I** of the bid document. There shall be only one member representing one trade. Once a MOU is drawn up and submitted, the agencies should stick together and deliver the services as stipulated in contract. MOU must identify a team leader who shall be responsible for overall progress of work, coordination amongst associated agencies, represent all of them, interact and correspond with the owner.
- 2.3 In case the associated agency fails to deliver, execute, backs out during the course of execution, Lead Agency, which submitted the bids, shall get the alternate agency approved from the owner based on the same experience criteria as defined in eligibility criteria for execution of balance work.

- 2.4 In case of dispute between the associate agency/ies or lead agency or any other situation necessitating change or replacement of an associate, only lead agency can make application to the owner in this regard. No other associate is allowed to make any application for change of associate. The owner reserves the right to allow or disallow change of partner for which decision of owner shall be final and binding.
- 2.5 Authorized representative of the Individual agency or lead agency will sign the agreement.

3.0 DEFINITIONS

- 3.1 'Owner' means ALL INDIA INSTITUTE OF MEDICAL SCIENCES (AIIMS) represented by Director and shall include its successors and assigns.
- 3.2 'Bidder' shall mean the Individual agency or Lead agency that has submitted the Bid in response to tender Document.
- 3.4 'Engineering' shall mean Basic Design & Detailed Engineering.
- 3.5 'Engineer-in-Charge' shall mean Executive Engineer (E) –I, All India Institute of Medical Sciences, Ansari Nagar, New Delhi- 110029.

4.0 METHOD OF APPLICATION

- 4.1 If the applicant is an individual, the application shall be signed by him above his typewritten name and current address with contact no.
- 4.2 If the applicant is a proprietary firm, the application shall be signed by the proprietor above his type written name, full name of the firm with its current address and contact no.
- 4.3 If the applicant is a firm in partnership, the application shall be signed by all the partners of the firm above their typewritten names, current addresses with contact no. or alternatively by a partner holding power of attorney for the firm. In that case a certified copy of the power of attorney should accompany the application. In both cases certified copy of the partnership deed and current address of all the partners of the firm should accompany the application.
- 4.4 If the applicant is a limited company or a corporation, the application shall be signed by a duly authorized person holding power of attorney for signing the application accompanied by a certified copy of the power of attorney. The applicant should also furnish a copy of the Memorandum of Articles of Association duly attested by a Public Notary.

4.5 In case of consortium the application shall be signed by the lead member.

5.0 SITE VISIT

The applicant is advised to visit the site of work, at his own cost, and examine it and its surroundings to himself collect all information that he considers necessary for proper assessment of the prospective assignment.

6.0 LETTER OF TRANSMITTAL

The bidder should submit the letter of transmittal attached with the document on the letter head of the firm / agency / contractor.

7.0 Any effort on the part of the bidder or his agent to exercise influence or to pressurize the employer would result in rejection of his bid. Canvassing of any kind is prohibited.

Executive Engineer (E) - I
AIIMS, Ansari Nagar, New
Delhi.

SECTION III
INFORMATION REGARDING PRE-QUALIFICATION

LETTER OF TRANSMITTAL

From:

To

The Executive Engineer (E) - I
2nd floor, Administrative Block,
AIIMS, Ansari Nagar, New Delhi.

Subject: Submission of bids for the work of Renovation and modernization of Lecture Theaters at AIIMS, New Delhi.

Sub Head: Audio-Visual Systems, Video Conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, False Ceiling, Wall Paneling, Furnishing and Other Civil Work.

Sir,

Having examined the details given in Notice Inviting Tender and bid document for the above work, I/we hereby submit the pre qualification bid and other relevant information.

1. I/we hereby certify that all the statement made and information supplied in the enclosed forms A to E and accompanying statement are true and correct.
2. I/we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
3. I/we submit the requisite certified solvency certificate and authorize the Executive Engineer (E) – I, Engineering Service Department, AIIMS, Ansari Nagar, New Delhi to approach the Bank issuing the solvency certificate to confirm the correctness thereof.
4. I/we also authorize Executive Engineer (E) – I, ESD, AIIMS, Ansari Nagar, New Delhi to approach individuals, employers, firms and corporation to verify our competence and general reputation.
5. I/we submit the following certificates in support of our suitability, technical knowledge and capability for having successfully completed the following works:

Name of work

Certificate from

Enclosures:

Seal of bidder

Date of submission:

Signature(s) of Bidder(s).

FINANCIAL INFORMATION

- I. Financial Analysis – Details to be furnished duly supported by figures in balance sheet/ profit & loss account for the last five years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Copies to be attached).

S.No.	Particulars	2015-16	2014-15	2013-14	2012-13	2011-12
1	Gross Annual turn over on similar works.					
2	Profit / Loss					

- II. Financial arrangements for carrying out the proposed work.

- III. Following Certificates are to be attached

- a) Solvency Certificate from Bankers of the bidder in the prescribed Form "B".
- b) Copy of Annual turn over and profit / loss in above format for last five years certified by chartered accountant.

Signature of Chartered Accountant with Seal

Signature of Bidder(s).

FORM OF BANKERS' CERTIFICATE FROM A SCHEDULED BANK

This is to certify that to the best of our knowledge and information that M/s./
Sh..... having
marginally noted address, a customer of our bank are/is respectable and can be treated as good for any
engagement upto a limit of Rs.....
(Rupees.....)

This certificate is issued without any guarantee or responsibility on the bank or any of the officers.

(Signature)
For the Bank

NOTE

- (1) Bankers certificates should be on letter head of the Bank, sealed in cover addressed to tendering authority.
- (2) In case of partnership firm, certificate should include names of all partners as recorded with the Bank.

FORM 'C'

DETAILS OF ALL QUALIFYING WORKS OF SIMILAR CLASS COMPLETED DURING THE LAST SEVEN YEARS ENDING LAST DAY OF THE MONTH PREVIOUS TO THE ONE IN WHICH APPLICATIONS ARE INVITED.

S.No.	Name of work / project and location *	Owner or sponsoring organization	Cost of work in Rs Lakhs	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Litigation / arbitration pending / in progress with details **	Name & Address / telephone number of officer to whom reference may be made	Remarks
1	2	3	4	5	6	7	8	9	10

* Dissimilar work should not be included

** Indicate gross amount claimed and amount awarded by the arbitrator.

Signature of Bidder(s)

Note :

1. Above information is to be submitted separately for individual agency or lead agency and every associated agency for every trade / specialization whose letter of consent has been submitted by the lead agency.
2. Only those works which meet the eligibility criteria should be included in the list in above format.
3. The relevant technical details of the each work like audio video equipment installed, civil & interior work and electrical & airconditioning works carried out along with quantity and value to establish similarity of work must be shown in column 10.
4. Copy of agreement / BOQ to be attached to authenticate the claim of quantum of each specialization.

FORM 'D'

PERFORMANCE REPORT OF WORKS REFERRED IN FORM 'C'

1. Name of Firm / Agency / Contractor :
2. i) Name of work/ Project & Location :
ii) Name of Client and Address :
3. Agreement No./ Work Order No. :
4. Estimated Cost : Rs.
5. Tendered Cost : Rs.
6. Actual cost of completion : Rs
7. Date of start :
8. Date of completion
i) Stipulated date of completion :
ii) Actual date of completion :
9. Amount of compensation levied for delayed completion, if any : Rs.
11. Performance Report
1) Quality of work Satisfactory / Not Satisfactory

Dated : (Signature & Stamp of Executive Engineer or Equivalent)

Note :

1. This FORM should be submitted separately for each work completed by the Bidder & associate agencies, whose letter of consent has been submitted, during last 07 (seven) years and the works indicated in FORM 'C'
2. This FORM shall be signed & stamped by the Bidder's Client not below the rank of Executive Engineer or equivalent.
3. The above certificate can be in any form, but should contain all the information as above.
4. Information given above may be verified by the owner.

DETAILS OF LEAD AGENCY AND ASSOCIATE AGENCIES

S.No.	Name of Agency	Trade Specialization	Whether Agency or Associate Agency	Lead or	Name of Representative, address and contact no.	Principal current
1	2	3	4		5	

Stamp & Signature of Bidder(s)

Note : Details of agencies to be furnished whose letter of consent has been submitted.

MEMORANDUM OF UNDERSTANDING (MOU)

AGREEMENT

BETWEEN

TEAM LEADER

M/s _____
Address _____
Phone No. _____

AND OTHER FOLLOWING MEMBERS OF THE CONSORTIUM OF ENGINEERS
& CONTRACTORS FOR AUDIO-VISUAL SYSTEMS, VIDEO CONFERENCING &
STREAMING, NETWORKING, GENERAL LIGHTING, AIR-CONDITIONING
DUCT, FALSE CEILING, WALL PANELING, FURNISHING AND OTHER WORK.

M/s _____
Address _____
Phone No. _____

AND

M/s _____
Address _____
Phone No. _____

AND

M/s _____
Address _____
Phone No. _____

Whereas, the above stated parties are desirous to join together in a Consortium for the preparation of a bid for Pre-qualification, for submission of tender for the

Name of Work: Renovation and modernization of Lecture Theaters at AIIMS, New Delhi

Sub head: Audio-Visual Systems, Video Conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, false Ceiling, Wall Paneling, Furnishing and Other Civil Work.

As called for by AIIMS and in the event of an award, for execution of the same under AIIMS.

Therefore, it has been agreed as follows:

Clause 1- Formation of the Consortium

1.1 The Consortium shall be unincorporated and shall be established for the exclusive purpose and scope as set forth herein and the parties do not intend to create a partnership or any other legal entity or any ongoing or continuing relationship or commitment between them other than as specifically set out herein.

1.2 The Operation of the Consortium shall be subjected to the rules and regulations of the Reserve Bank of India and other relevant authorities and laws of India.

Clause 2- Name of Team Leader and Names & Legal Address

2.1 The name of the Consortium shall “_____ as Lead Agency and _____, _____, as Associate Agents” be titled as _____ Consortium.

2.2 The domicile of the Consortium shall be Lead Agency office address in Delhi.

2.3 _____ shall be the team leader of the Consortium.

Clause 3- Allocation of the works and Structure & Participating Interest.

3.1 Unless mutually agreed otherwise, _____ shall be responsible for all the _____ Works of the Contract that being awarded. _____ shall execute all works in connection with _____. _____ shall execute all works in connection with _____. The _____ Lead Partner shall be individually fully responsible for the execution of the works allocated

to them under this MOU. They shall keep the other Party harmless from all claims and damages, which may arise as a consequence of such execution.

3.2 The all parties hereto shall be severally and jointly liable towards the client and any other agencies. Unless specified otherwise in the contract of the work with _____, the Payment shall be directly taken by the Leader_____ & then distributed amongst other associated Parties as per the percentage decided at the time of the Tendering of the Work.

3.3 For the participation the Earnest Money Deposit, Performance Guarantee, procurement of Bonds and Insurance as well as in the payment of third party cost, which are not directly related to the scope of work of any Consortium partners the percentage of Participation shall be as per the percentage of payment of work as decided in each work of participation of the Consortium as mentioned in Clause 3.2.

3.4 Subject to what is mentioned in Clause 3.1, 3.2 & 3.3 above, the all partners hereto shall share any costs, claims or damages arising in favour of the Consortium or against the Consortium from the client or any other party, in the ratio decided percentage of participation as mentioned in the Clause 3.2, provided such costs, claims or damages cannot be attributed as arising out of the scope of works of the respective Consortium partners.

3.5 The infrastructure facilities required by each Consortium partner shall be done by respective partners.

3.6 All other permanent and temporary works will be executed Lead Partner to the extent as it mutually agreed between the parties.

3.7 Lead Partner shall be responsible for the preparation and monitoring of the work programme and each party shall make its best efforts to abide to it respectively to make good for delays regardless any dispute, which may arise in connection with the cause of such delay.

3.8 Unless otherwise provided herein or unless otherwise specifically agreed in writing between the parties, each party shall bear the cost it incurs in connection with the preparation and submission the Tender.

3.9 We agree that we will work individually and we will be responsible individually for our Scope of Work in totality to AIIMS.

3.10 We also agree that we are totally responsible to AIIMS for Guarantee of Material, Workmanship, Quality, Payment, Receipt of Payment, Investment, Advances from concept to commissioning in totality.

3.11 We also agree to work together to carry out the work awarded by AIIMS as a Combined Team of Total Solution to AIIMS in their endeavor to give us a complete project which we will do together and as decided by our Team Leader in case of all differences of opinion, our Team Leader have full power to Adjudicate the dispute among us and provide the solution if required during the execution of the Project/Payment & Receipt etc.

Clause 4- Effectiveness

4.1 This MOU shall become effective upon its signing and shall remain in full force till the completion of the contract entered with the AIIMS or until the below described events has occurred:

- a) The tender was unsuccessful or cancelled by the Owner and the bid bond has been returned.
- b) The date when the partners agree to terminate this MOU.

Clause 5- Consortium Agreement

5.1 In the event that tender has been accepted by the Client, a detailed Consortium agreement, will be entered into between the partners hereto, which shall reflect the terms and conditions of this MOU and that being decided separately for each work.

Clause 6 - Exclusivity

6.1 The Partners agree to co-operate on an exclusive basis in respect of the object set out in Opening Paragraph. No Party shall, along or together with any other party, prepare or submit any other tender or proposal for the Contract or separately participate in any manner in the execution of the Contract mentioned in the Opening Paragraph, without the prior written consent of the other Parties. The subsidiaries direct controlled by any Party shall also be bound by the provisions of this article.

6.2 None of the rights or obligations in whole or part under this MOU shall be assignable by any Party without the prior written consent of the other Party.

Clause 7- Confidentiality

7.1 No Party shall disclose to any third party, without the prior written consent of the other Parties, any of the contents of the Tender and shall keep strictly secret and

confidential, except as required by law, all technical financial or marketing information acquired from the other Party until such information is or has become generally available to the public. The obligations of this article shall survive the termination of his MOU.

This MOU has been prepared in _____ original of which one will submitted to AIIMS and the remaining sets will be distributed to the parties hereto.

In Witness thereof the parties have cause this MOU to be executed by their duly authorized representatives in conformity with their respective constitutions, on the _____ day of _____ 2017.

NOTE: 1) This MOU shall be on Non-Judicial Stamp Paper of Rs. 100/-

) All the blank space of the draft MOU should be filled properly.

Signature of Associates(S)

\

Signature of Applicant(S)

NOTICE INVITING TENDER

- 1. The Executive Engineer (E) - I, All India Institute of Medical Sciences, New Delhi** on behalf of the Director, AIIMS invites sealed (offline) item rate tender from **the specialized firm in interior civil work, Audio-video system, Electrical & Air conditioning work and operation & maintenance of audio-video equipment in Seminar Halls, Auditoriums, Lecture Theaters and Conventional Halls fulfilling the eligibility criteria as per bid documents, in two bid system (Eligibility-Cum-Technical Bid, Price Bid preceded with Pre-bid meeting)**for following work (s):-

Name of Work: Renovation and modernization of Lecture Theaters at AIIMS, New Delhi

Sub Head: Audio-visual systems, Video-conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, False ceiling, Wall Paneling, Furnishing and Other Civil Work.

1.1 The work is estimated to cost **Rs. 4,70,17,677/-**. This estimate, however, is given merely as a rough guide.

1.2.1 Intending bidders is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:-

Criteria of eligibility for submission of tender documents

1.2.1 Conditions for CPWD as well as Non-CPWD contractors.

- a) Individual Agencies or partners of consortium with respective specialization should have satisfactorily completed during last **seven years** ending **last day of the month previous to the one in which tenders are invited:-**
- i) Three similar works each costing not less than 40% of the estimated cost or two similar works each costing not less than 60% of the estimated cost or one similar work costing not less than 80% of the estimated cost in their respective trades / specialization.

Note:

- Estimated cost which shall be considered for evaluation for each trade / specialization is mentioned in **Section I** of bid document.
- The total member of consortium should not be more than four.
- For the four specialization i.e. as per 1.3.1 to 1.3.4, the sole bidder has to qualify individually. In case of member of consortium each member has to qualify in the

specialization (one or more out of four). No two members can club their performances/work done for qualifying in an individual specialization.

- Similar work means work of respective trade/specialisation(as mentioned in section I)inseminar halls, auditoriums, Lecture Theaters and ConventionHalls .
 - The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of receipt of application/tender for pre qualification. Similar works completed in private sector shall be allowed subject to the submission of income tax deducted (TDS Certificate) for payment received for the same work.
 - AIIMS may inspect the qualifying work & it would be the responsibility of bidder to arrange the inspection.
 - The BOQ/Agreement copy of qualifying work has to be attached with bid to assess the relevance of the work executed viz a viz qualifying/eligibility criteria. Self certification shall not be considered.
 - The Lead agency should have an average annual financial turnover of at least **50% of estimated cost** during the immediate last three years ending 31st March, 2016. This should be duly audited by a chartered accountant. Year in which no turnover is shown would also be considered for working out the average. Certified copies by Chartered Accountant be given in case there is no balance sheet.
 - Individual member of consortium should not have incurred any loss in more than two years during the immediate last five consecutive financial years ending 31st March 2016.
 - The lead agency should have a solvency of **Rs. 150 Lakhs**
 - There should be MOU amongst them the consortium members in the format suggested at **Annexure-I** of the tender document. Once an MOU is drawn up individual member should stick together and deliver the services as stipulated in contract. MOU must identify a team leader (Lead agency) who shall be responsible for overall progress of amongst AIIMS, AIIMS representatives & consultant etc.
2. Agreement shall be drawn with the successful tenderer on prescribed Form No. C.P.W.D. 8 which is available as a Govt. of India Publication. Tenderer shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
 3. Tender documents consisting of plans, specifications, the schedule of quantities of the various classes of work to be done and the set of terms & conditions of contract to be complied with by the contractor whose tender may be accepted and other necessary documents can also be seen in the office of the EE (E)-I/ ESD between hours of 11:00 AM & 4:00 PM from **05/03/2017 to 20/03/2017** everyday except on Sundays and Public Holidays. Tender is also available on website www.aiims.ac.in / www.aiims.edu

4. Agencies may submit the tender documents along with Earnest Money **Rs. 9,40,354/- (Rupees Nine Lakhs Forty Thousand Three Hundred Fifty Four only)** in the shape of fixed deposit receipt of a scheduled bank or demand draft of a scheduled bank issued in favour of Director, AIIMS. **50%** of earnest money or **Rs.20,00,000/-**, whichever is less, will have to be deposited in the shape prescribed above and balance amount of the earnest money can be accepted in the form of Bank Guarantee issued by scheduled bank having validity of 6 months or more from the last date of receipt of tenders.
5. Pre bid conference shall be at 3:00 pm on **24/03/2017** at Engineering Services Department Conference room, 2nd floor, Administrative Block, Ansari Nagar, New Delhi for clarifications of any doubts on contract conditions, specifications before quoting the tender.
6. The tender shall be submitted as under.

1.) **Envelop-1** (Superscribed as “Eligibility-cum-technical bid (PART-I)” on the envelop) :- This will consist of following documents.

- a. EMD in prescribed form
- b. Tender fee, if tender document downloaded from website.
- c. Copy of PAN Card of individual firms
- d. Copy of valid electrical License of individual firms (Not required in specialization of interior Civil Work)
- e. Copy of certificate of ESIC & EPF registration of individual firms.
- f. Certificates of registration for Sales Tax / VAT , Service Tax and acknowledgment of up to date filled return.
- g. MOU amongst the consortium member in the suggested format as per Annexure-I. (If applicable)
- h. Bank Solvency Certificate on letter head of Bank as per FORM –B.
- i. Duly filled forms of A, C, D, & E (at page no. 18 – 22).
- j. Letter of Transmittal
- k. Certificate from OEM authorizing firm (Bidder) as per sr. no. 8 of NIT.
- l. Duly signed Tender document as purchased from AIIMS (Rates not to be filled in PART-I)

2.) **Envelop – 2** (Superscribed as “Price bid (PART-II)” on the envelop) :- This will consists of rates duly filled in Schedule of quantities.

Both the envelopes shall be placed in another envelope super scribed with name of work and date of opening. The last date of submission of tender is **upto 3:00 pm on 05/04/2017** and same shall be opened on same day **at 3:30pm**. Envelope No. 1 shall be opened first. Price bid of only those tenderers shall be opened on define date & time who are found eligible as per eligibility criteria.

7. The time allowed for carrying out the work will be **4 months** from the date of start as defined in Schedule ‘F’ or from the first date of handing over of site, whichever is later, in accordance with phasing, if any, indicated in the tender documents.

8. The site of work is available.
9. Last date for submission of tender document is **05/04/2017 upto 3:00 pm.**
10. The Contractor whose tender is accepted, will be required to furnish performance guarantee of 5% (Five Percent) of the tendered amount within the period specified in Schedule F. This guarantee shall be in the form of Banker's Cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any scheduled bank (in case guarantee amount is less than **Rs.1,00,000/-**) or Fixed Deposit Receipts of any Schedule Bank or in the form of an irrevocable bank guarantee bond of any scheduled nationalized bank in accordance with the form prescribed.
11. The description of the work is as follows:

Name of Work: Renovation and modernization of Lecture Theaters at AIIMS, New Delhi.

Sub Head: Audio-visual systems, Video-conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, False ceiling, Wall Paneling, Furnishing and Other Civil Work.
12. Copies of other drawings and documents pertaining to the works will be open for inspection by the tenderers at the office of Executive Engineer (E)-I, ESD. Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves the form and nature of the site, the means of access to the site, the accommodation they may require and before submitting their tenders and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity, access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract document. Submission of a tender by tenderer implies that he has read this letter and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the AIIMS and local conditions and other factors having a bearing on the execution of the work.
13. The competent authority on behalf of the Director, AIIMS does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without assigning any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer shall be summarily rejected.
14. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.

15. The competent authority on behalf of the Director, AIIMS reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
16. The Contractor shall not be permitted to tender for works in the ESD responsible for award and execution of contracts, in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any officer in the AIIMS. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
17. The tender for the works shall remain open for acceptance for a period of (60) Sixty days from the date of opening of tenders/sixty days from the date of opening of financial bid in case tenders are invited on 2/3 envelope system. If any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the AIIMS, then the AIIMS shall, without prejudice to any other right or remedy, be at liberty to forfeit **50%** of the said earnest money as aforesaid. Further, the tenderer shall not be allowed to participate in the re tendering process of the work.
18. This notice inviting Tender shall form a part of the contract document. The successful tenderer/contractor, on issue of letter of Commencement of work by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of:
 - a) Notice inviting tender, Tender document including Schedule of Quantities, Contract clauses, Special conditions, particular specifications and drawings, if any, forming part of the tender document as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
 - b) Standard Contract form 8 of 2014 with correction slips upto date of receipt of tender.
 - c) Integrity Pact.
 - d) MoU with associate agency in case of consortium.
19. The AIIMS reserve the right to reject any or all prospective applications without assigning any reason and to restrict the list of contractors to any number deemed suitable by it.

**Executive Engineer (E)-I
AIIMS, Ansari Nagar,
New Delhi.**

INTEGRITY PACT

To

Sub: NIT No.91/EE(E)-I/2016-2017

Name of Work: Renovation and modernization of Lecture Theaters at AIIMS, New Delhi

Sub Head: Audio-visual systems, Video-conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, False ceiling, Wall Paneling, Furnishing and Other Civil Work.

Dear Sir,

It is here by declared that AIIMS is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer/bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the AIIMS.

Yours faithfully

Executive Engineer(E) -I
AIIMS, Ansari Nagar,
New Delhi.

INTEGRITY PACT

To,

Executive Engineer(E)-I,
AIIMS, Ansari Nagar,
New Delhi.

Sub: Submission of Tender for the work of

**Name of Work: Renovation and modernization of Lecture Theaters at AIIMS,
New Delhi**

**Sub Head: Audio-visual systems, Video-conferencing & Streaming, Networking,
General Lighting, Air-conditioning duct, False ceiling, Wall Paneling,
Furnishing and Other Civil Work.**

Dear Sir,

I/We acknowledge that AIIMS is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed Integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that **THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE** of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by AIIMS. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, AIIMS shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid in accordance with terms and conditions of the tender/bid.

Yours Faithfully

(Duly authorized signatory of the Bidder)

INTEGRITY PACT

INTEGRITY AGREEMENT

THIS Integrity Agreement is made at _____ on this _____ day of _____ 2017

BETWEEN

AIIMS represented through Executive Engineer (E)-I, ESD, (Hereinafter referred as the **'Principal/Owner'**, which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

_____ through _____ (Hereinafter referred as the **"Bidder/Contractor"** and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal/Owner has floated the Tender (NIT No.91/EE(E)-I/2016-17) (hereinafter referred to as **"Tender/Bid"**) and intends to award, under laid down organizational procedure, contract for **Name of Work: Renovation and modernization of Lecture Theaters at AIIMS, New Delhi**
Sub Head: Audio-visual systems, Video-conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, False ceiling, Wall Paneling, Furnishing and Other Civil Work.

hereinafter referred to as the **"Contract"**.

And WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as **"Integrity Pact"** or **"Pact"**), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants in this pact, the parties hereby agree as follows and this pact witnesses as under:

Article 1: Commitment of the Principal/Owner

- 1) The Principle/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the

- Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
- b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
 - c) The Principal/Owner shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- 2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder(s)/Contractor(s)

- 1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government/Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- 2) The binder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
 - a) The bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
 - b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
 - c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will; not use improperly;, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the

business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

- d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
 - e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
- 3) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
 - 4) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of other and/or to influence the procurement process to the detriment of the Government interests.**
 - 5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach or this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right:

- 1) If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the

severity of transgression and determined by the Principal/Owner. **Such exclusion may be forever or for a limited period as decided by the Principal/Owner.**

- 2) **Forfeiture of EMD/Performance Guarantee/Security Deposit:** If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1) the principal/owner apart from exercising any legal right that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.
- 3) **Criminal Liability:** If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

- 1) The bidder declares that no previous transgressions occurred in the last 5 year with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
- 2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/holiday listing of the Bidder/Contractor as deemed fit by the Principal/Owner.
- 3) If the Bidder/Contractor can prove that he has resorted/recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors

- 1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation (s) of the principles laid down in this agreement/Pact by any of its Sub-contractor/Sub-vendors.
- 2) The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
- 3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article 6: Duration of the Pact

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.

If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, AIIMS.

Article 7: Other Provisions

- 1) This pact is subject to Indian Law, place of performance and jurisdiction is the **Head quarters of the Division** of the Principal/Owner, who has floated the Tender.
- 2) Changes and supplements need to be made in writing. Side agreements have not been made.
- 3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
- 4) Should one or several provisions of this pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intensions.
- 5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement/Pact or any action taken by the Owner/Principal in accordance with this **Integrity agreement /pact interpretation thereof shall not be subject to arbitration.**

Article 8: Legal and Prior Rights

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contract documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHERE OF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

(For and on behalf of Principal/Owner)

(For and on behalf of Bidder/Contractor)

WITNESSES:

1. _____

2. _____

Place:

Dated:

Letter of Submission
Item Rate Tender

(A) Tender for work of

Name of Work: Renovation and modernization of Lecture Theaters at AIIMS, New Delhi

Sub Head: Audio-visual systems, Video-conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, False ceiling, Wall Paneling, Furnishing and Other Civil Work.

- i) To be submitted by **up to 3:00pm on 05/04/2017** to Executive Engineer (E)-I, ESD, 2nd Floor, Administrative Block, AIIMS, Ansari Nagar, New Delhi-110029
- ii) To be opened in presence of tenderers who may be present at **3:30pm on 05/04/2017** in the office of **Executive Engineer(E)-I**, ESD, 2nd Floor, Administrative Block, AIIMS, Ansari Nagar, New Delhi-110029.

Issued to -----
Signature of officer issuing the documents -----
Designation -----
Date of Issue -----

T E N D E R

I/ We have read and examined the Notice inviting tender, specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, special condition, particular Specification, Schedule of Quantities & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the AIIMS within the time specified in Schedule 'F', viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respects in accordance with, such conditions so far as applicable.

We agree to keep the tender open for Sixty (60) days from the due date of opening of financial bid and not to make any modifications in its terms and conditions.

The earnest money of **Rs.9,40,354/-** has been deposited in the shape of fixed deposit receipt of a scheduled bank/ demand draft of a scheduled bank/bank guarantee of scheduled bank issued in favour of Registrar, AIIMS. If I/we, fail to furnish the

prescribed performance guarantee within prescribed period, I/We agree that the said AIIMS or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/we fail to commence work as specified, I/we agree that AIIMS or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the clauses of contract. Further, I/We agree that in case of forfeiture of earnest money or both Earnest Money & Performance Guarantee as aforesaid, I/We shall be debarred for participation in the retendering process of the work.

I/we hereby declare that I/we shall treat the tender documents drawings and other records connected with the work as secret/ confidential documents and shall not communicate information derived there from to any person other than a person to whom I/we am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Date -----

Signature of Contractor
Postal Address

Witness :
Address :
Occupation :

A C C E P T A N C E

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the AIIMS for a sum of Rs.----- (Rupees -----
-----)

The letters referred to below shall form part of the Agreement :

- a)
- b)
- c)

**Executive Engineer (E)- I,
AIIMS, Ansari Nagar,
New Delhi.**

**ALL INDIA INSTITUTE OF MEDICAL SCIENCES
ANSARI NAGAR, NEW DELHI-110029.**

1. Notice Inviting Tender will state the work to be carried out, as well as the date for submission and opening of tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited at the time of submission of tender. The performance Guarantee to be deposited by the successful tenderer and the amount of security deposit to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the contractor at the office of officer inviting tender during office hours.
2. In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power of attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act, 1952.
2. Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.
3. Any person who submits a tender shall fill up the Schedule of Quantity form, stating at what rate he is willing to undertake each item of the work. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort, including conditional rebates, will be summarily rejected. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tenders for each. Tender shall have the name and number of the works to which they refer, written on the envelopes.
- 4A In case of Percentage Rate Tenders, contractor shall fill up the usual printed form, stating at what percentage below/above (in figures as well as in words) the total estimated cost given in schedule of quantities at Schedule-A, he will be willing to execute the work. The tender submitted shall be treated as invalid if:
 - (i) The contractor does not quote percentage above/below on the total amount of tender or any section/sub head of the tender.
 - (ii) The percentage above/below is not quoted in figures & words both on the total amount of tender or any section/sub head of the tender.
 - (iii) The percentage quoted above/below is different in figures & words on the total amount of tender or any section/sub head of the tender:Tenderers which propose any alteration in work specified in the said form of invitation of tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort including conditional rebates, will be summarily rejected. No single tender shall

include more than one work, but contractor who wish to tender for two or more works shall submit separate tender for each. Tender shall have the name and number of of the works to which they refer, written on the envelops.

4B: In case the lowest tendered amount (estimated cost + amount worked on the basis of percentage above/below) of two or more contractors is same, such lowest contractors will be asked to submit sealed revised offer in the form of letter mentioning percentage above/below on estimated cost of tender including all sub sections/ sub heads as the case may be, but the revised percentage quoted above/below on tendered cost or on each sub section/sub head should not higher than the percentage quoted at the time of submission of tender. The lowest tender shall be decided on the basis of revised offers.

If the revised tendered amount of two more contractors received in revised offer is again found to be equal, the lowest tender, among such contractors, shall be decided by draw of lots in the presence of SE of the circle, EE(s) in-charge of major & minor component (s) (also DDH in case Horticulture work is also included in the tender), two members as decided by DIRECTOR, AIIMS& the lowest contractors those have quoted equal amount of their tenders.

In case all the lowest, contractors those have quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each contractor.

Contractor(s), whose earnest money is forfeited because of non-submission of revised offer, shall not be allowed to participate in the re-tendering process of the work.

5. The officer inviting tender or his duly authorized representatives, will open tenders in the presence of any intending contractors who may be present at the time, and will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, a receipt for the earnest money forwarded at the time of purchase of tender shall thereupon be given to the contractor who shall thereupon for the purpose of identification sign copies of the specifications and other documents mentioned in Rule-I. In the event of a tender being rejected, the earnest money of unaccepted tenders shall thereupon be returned to the contractor, without any interest.
6. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.
7. The receipt of an accountant or clerk for any money paid by the contractor will not be considered as any acknowledgement or payment to the officer inviting tender and the contractor shall be responsible for seeing that he procures a receipt signed by the officer inviting tender or a duly authorized Cashier.
8. The memorandum of work tendered for and the schedule of materials to be supplied by the department and their issue rates, shall be filled and completed in the office of the officer inviting tender before the tender form is issued. If a form is issued to an intending tenderer without having been so filled in and incomplete, he shall request the officer to have this done before be completes and delivers his tender.
9. The tenderers shall sign a declaration under the officials Secret Act 1923, for maintaining secrecy of the tender documents drawings or other records connected with the work given to them.

- 9A. Use of correction fluid, anywhere in tender document is not permitted. Such tender is liable for rejection.
10. In case of percentage rate tenders only percentage quoted shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the contractor in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy.
11. In the case of any tender where unit rate of any item/ items appear unrealistic, such tender will be considered as unbalanced and in case the tenderer is unable to provide satisfactory explanation, such a tender is liable to be disqualified and rejected.
12. In Percentage Rate Tender, the tenderer shall quote percentage below/above (in figures as well as in words) at which he will be willing to execute the work. He shall also work out the total amount of his offer and the same should be written in figures as well as in words in such a way that no interpolation is possible. In case of figures, the word 'Rs.' should be written before the figure of rupees and work 'P' after the decimal figures, e.g. 'Rs. 2.15P and in case of words, the word 'Rupees' should precede and the word 'Paise' should be written at the end.
13. i) The contractor whose tender is accepted shall be required to deposit an amount equal to 5% of the tendered value of the work as performance guarantee within the period as specified in schedule-'F' in the form of an irrevocable bank guarantee bond of any scheduled bank in accordance with the form prescribed, fixed deposit receipt or demand draft in favour of DIRECTOR, AIIMS.
- ii) The contractor whose tender is accepted, will also be required to furnish by way of Security Deposit for the fulfillment of his contract, an amount equal to 5% of the tendered value of the work. The Security deposit will be collected by deductions from the running bills of the contractor at the rate of 5% and the earnest money deposited at the time of tenders, will be treated as a part of the Security Deposit. The Security amount will also be accepted in the shape of Fixed Deposit Receipt of a Scheduled Nationalized Bank or State Bank of India will also be accepted for this purpose provided confirmatory advice is enclosed.
14. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated in writing to the Engineer-in-Charge.
15. Sales Tax/VAT (except service tax) purchase tax, turnover tax or any other tax on material in respect of this contract shall be payable by the Contractor and AIIMS will not entertain any claim whatsoever in respect of the same.
16. The contractor shall give a list of both gazetted and non-gazetted AIIMS employees related to him.
17. The tender for the work shall not be witnessed by a contractor or contractors who himself/themselves has/have tendered or who may and has/have tendered for the same work. Failure to observe this condition would render, tenders of the contractors tendering, as well as witnessing the tender, liable to summary rejection.

18. The tender for composite work includes, in addition to building work, all other works such as sanitary and water supply installations, drainage installation, electrical work, horticulture work, roads and paths etc. The tenderer, apart from being a registered contractor (B&R) of appropriate class, must associate himself with agencies of appropriate class which are eligible to tender for sanitary and water supply, drainage, electrical and horticulture works in the composite tender.
19. The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued thereunder from time to time. If he fails to do so, his failure will be a breach of the contract and the AIIMS may, in his discretion, without prejudice to any other right or remedy available in law, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

CONDITIONS OF CONTRACT**Definitions**

1. The Contract means the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of the AIIMS and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:
 - i) The expression works or work shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.
 - ii) The Site shall mean the land/ or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work, is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
 - iii) The Agency / Contractor / Tenderer shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assigns of such individual, firm or company.
 - iv) The AIIMS means the All India Institute of Medical Sciences and his successors.
 - v) The Engineer-in-Charge means the Executive Engineer (E)-I, ESD.
 - vi) Accepting Authority shall mean the authority mentioned in Schedule 'F'.
 - vii) Excepted Risk are risks due to riots (other than those on account of contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Government, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by Government of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Government's faulty design of works.
 - viii) Market Rate shall be the rate as decided by the Engineer-in-Charge on the basis of the cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Schedule 'F' to cover, all overheads and profits.

- ix) Schedule(s) referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard Schedule of Rates of the government mentioned in Schedule 'F' hereunder, with the amendments thereto issued upto the date of receipt of the tender.
- x) Department means All India Institute of Medical Sciences, New Delhi or authorized by AIIMS to work on their behalf.
- xi) District Specifications means the specifications followed by the State Government in the area where the work is to be executed.
- xii) Tendered value means the value of the entire work as stipulated in the letter of award.

Scope and Performance

- 3. Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.
- 4. Headings and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.
- 5. The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications, Schedule of Rates and such other printed and published documents, together with drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract.

Works to be carried out

- 6. The work to be carried out under the Contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The descriptions given in the Schedule of Quantities (Schedule-A) shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles.

Sufficiency of Tender

- 7. The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.

Discrepancies and Adjustment of Errors

8. The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions.
 - 8.1 In the case of discrepancy between the schedule of Quantities, the Specifications and/or the Drawings, the following order of preference shall be observed:
 - i) Description of items given in Schedule of Quantities.
 - ii) Technical Specification and Special Conditions if any.
 - iii) Drawings.
 - iv) C.P.W.D. Specifications.
 - v) Indian Standard Specifications of B.I.S.
 - vi) Decision of Engineer-in-Charge.
 - 8.2 If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.
 - 8.3 Any error in description, quantity or rate in Schedule of Quantities or any omission there from shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract.
9. The successful tenderer/contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of:-
 - i) The notice inviting tender, all the documents including drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
 - ii) Standard C.P.W.D. Form as mentioned in Schedule 'F' consisting of:
 - (a) Various standard clauses with corrections up to the date stipulated in Schedule 'F' along with annexures thereto.
 - (b) C.P.W.D. Safety Code.
 - (c) Model Rules for the protection of health, sanitary arrangements for workers employed by CPWD or its contractors.
 - (d) CPWD Contractor's Labour Regulations.
 - (e) List of Acts and omissions for which fines can be imposed.
 - (f) MoU with associate agency in case of consortium
 - iii) No payment for the work done will be made unless contract is signed by the contractor

Form of Performance Security (Guarantee) Bank Guarantee Bond

1. In consideration of the All India Institute of Medical Sciences, New Delhi (hereinafter called "AIIMS, NEW DELHI") having offered to accept the terms and conditions of the proposed agreement between ----- and ----- (hereinafter called "the said Contractor(s)") for the work ----- (hereinafter called "the said agreement") having agreed to production of a irrevocable Bank Guarantee for Rs.----- (Rupees ----- only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and condition in the said agreement.

We, ----- (hereinafter referred as "the Bank") hereby undertake to
(indicate the name of the Bank)
pay to the AIIMS, New Delhi an amount not exceeding Rs.----- (Rupees -----
---- only) on demand by the AIIMS, New Delhi.

2. We, ----- do hereby undertake to pay the amounts due and
(indicate the name of the Bank)
payable under this guarantee without any demure, merely on a demand from the AIIMS, New Delhi stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.----- (Rupees ----- only).

3. We, the said bank further undertake to pay the AIIMS, New Delhi any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor(s) shall have no claim against us for making such payment.

4. We, ----- further agree that the guarantee herein contained shall
(indicate the name of the Bank)
remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the AIIMS, New Delhi under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-Charge on behalf of the AIIMS, New Delhi certified that the terms and conditions of the said agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.

5. We, ----- further agree with the AIIMS, New Delhi that the AIIMS, New Delhi
(indicate the name of the Bank)
shall have the fullest liberty without our consent and without affecting in any manner our obligation hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the AIIMS, New Delhi against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act of omission on the part of the AIIMS, New Delhi or any indulgence by the AIIMS, New Delhi to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).
7. We, ----- lastly undertake not to revoke this guarantee except
(indicate the name of the Bank)
with the previous consent of the AIIMS, New Delhi in writing.
8. This guarantee shall be valid upto ----- unless extended on demand by the AIIMS, New Delhi. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs.----- (Rupees ----- only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

Dated the ----- day of ----- for ----- (indicate the name of the Bank)

Signature & Seal of Bank

FORM OF EARNEST MONEY (BANK GUARANTEE)

WHEREAS, contractor (Name of contractor) hereinafter called “the contractor”) has submitted his tender dated.....(date) for the construction of (name of work) (hereinafter called “ the Tender”)

KNOW ALL PEOPLE by these presents that we (name of bank) having our registered office at (hereinafter called “the Bank”) are bound unto (Name and division of Executive Engineer) (hereinafter called “the Engineer-in-Charge”) in the sum of Rs..... (Rs. In words.....) for which payment well and truly to be made to the said Engineer-in-Charge the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this..... day of20...

THE CONDITIONS of this obligation are:

- (1) If after tender opening the Contractor withdraws his tender during the period of validity of tender (including extended validity of tender) specified in the Form of tender;
- (2) If the contractor having been notified of the acceptance of his tender by the Engineer-in-Charge:
 - a) fails or refuses to execute the Form of agreement in accordance with the instructions to contractor, if required; OR
 - b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and instructions to contractor, OR
 - c) fails or refuses to start the work, in accordance with the provisions of the contract and instructions to contractor, OR
 - d) fails or refuses to submit fresh Bank Guarantee of an equal amount of this Bank Guarantee, against Security Deposit after award of contract.

We undertake to pay to the Engineer-in-Charge up to the above amount upon receipt of his first written demand, without the Engineer-in-Charge having to substantiate his demand, provided that in his demand the Engineer-in-Charge will note that the amount claimed by him is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

The Guarantee will remain in force up to and including the date*..... after the deadline for submission of tender as such deadline is stated in the instructions to contractor or as it may be extended by the Engineer-in-Charge, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE.....

SIGNATURE OF THE

SEAL

BANK

WITNESS.....

(SIGNATURE, NAME AND ADDRESS

* Date to be worked out on the basis of validity period of 6 months from last date of receipt of tender.

PROFORMA OF SCHEDULES

(Operative Schedules to be supplied separately to each intending tenderer)

SCHEDULE 'A'

Schedule of quantities - Page _____

SCHEDULE 'B'

Schedule of materials to be issued to the contractor. NIL

SCHEDULE 'C'

Tools and plants to be hired to the contractor : NIL

SCHEDULE 'D'

Extra schedule for specific requirements/ document for the work, if any. - NIL

SCHEDULE 'E'

Reference to General Conditions of contract.

Name of Work: Renovation and modernization of Lecture Theaters at AIIMS, New Delhi

Sub Head: Audio-visual systems, Video-conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, False ceiling, Wall Paneling, Furnishing and Other Civil Work.

Estimated cost of work : **Rs.4,70,17,677/-**

- i) Earnest money : **Rs.9,40,354/- (to be returned after submission of PG)**
- ii) Performance Guarantee : **5% of tendered value**
- iii) Security Deposit : **2.5% of tendered value**

SCHEDULE 'F'

General Rules & Directions:

Officer Inviting Tender : Executive Engineer (E)-I, AIIMS

Definitions:

- 2(v) Engineer-in-Charge Executive Engineer (E)-I, AIIMS
- 2(viii) Accepting Authority Superintending Engineer, AIIMS
- 2(x) Percentage on cost of materials and labour to cover all overheads and profits 15%
- 2(xi) Standard Schedule of Rates DSR 2016 with upto date correction slip
- 2(xii) Department AIIMS, New Delhi
- 9(ii) Contract Form CPWD Form 8 as modified up to date of Date of receipt of tender

Clause 1

- i) Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance, in days **15 days**
- ii) Maximum allowable extension with late fee @0.1% per day of Performance Guarantee amount beyond the period in (i) above **5 days**

Clause 2

Authority for levy compensation Under clause 2.

**Superintending Engineer
, AIIMS, New Delhi**

Clause 2A

Whether Clause 2A shall be applicable **No**

Clause 5

Number of days from the date of issue of letter of acceptance for reckoning date of start **20 days**

Table of Milestones			
S.No.	Description of Milestone (physical)	Time Allowed in days from date of start	Amount to be with held in case of non achievement of milestone
1	Dismantling of existing doors, windows, false ceiling, furniture, air-conditioning duct, fans & fixtures and completion of structural work of flooring, steps, fixing of a.c duct above false ceiling, conduit fixing, fixing of door frames, window frames, DBs, cable trays, raceways, false ceiling frame, fixing of boxes for switch boards, power plugs, light plugs.	1.5 months	1.00% of tendered amount.
2	Delivery of audio, video equipments, electrical fittings & fixtures, table, chairs, diffusers as per sub head I, II, III, IV and completion of frame work for wall paneling	2.5 months	1.00% of tendered amount.
3	Complete installation of Audio, video equipment, general lighting, air-conditioning diffusers, tables, chairs, acoustic & furnishing works as per subhead I, II, III & IV	3.5 months	1.00% of tendered amount.
4	All work complete including clearing site, testing commissioning and handing over	4 months	1.00% of tendered amount.

Time allowed for execution of work. **4 months.**

Authority to give fair and reasonable extension of time for completion of work/ Rescheduling of milestones

**Superintending Engineer,
AIIMS, New Delhi.**

Clause 6 or 6 A
Clause Applicable

6A

Clause 7
Gross work to be done together with net payment/
Adjustment of advances for material collected, if any
Since the last such payment for being eligible to
Interim payment

Rs. 50 lakh

Clause 10 A
List of testing equipment to be provided at site

Testing machine for Noise level, Echo level, Lux level Meter, Earth tester, Megger, 5m & 30m measuring tape, Vernier Calliper, Screw Gauge, Weighing Scale etc.

Clause 10 B(ii)
Whether clause 10B(ii) is applicable

No

Clause 10 C
Component of labour expressed as percent of value of work

Not Applicable

Clause 10 CA

Not Applicable

Clause 10 CC
Clause 10CC to be applicable in contracts with Stipulated period of completion exceeding the Period shown in next column

Not Applicable

Schedule of component of other materials, labour, POL etc for price escalation

Component of Civil (except for materials covered under clause 10CA) / Electrical construction materials expressed as percent of total value of work

___NA_____

Component of labour expressed as percent of total value of work

___NA_____

Component of POL expressed as percent Of total value of work

___NA_____

Clause 11
Specifications to be followed for execution of work

CPWD specification 2009, Vol 1 & Vol 2 with upto date correction slips upto date of receipt of tender, General Specifications for Electrical Work (Part I – Internal - 2013& Part II – External - 1994), HVAC work Vol.-2007Particular Specifications appended with the tender and Manufacturer's Specifications wherever not defined

Clause 12

12.2 & 12.3 Deviation limit beyond which clauses 12.2 & 12.3 shall be applicable. 30%

12.5 Deviation limit beyond which clauses 12.2 & 12.3 shall apply for foundation work 100%

Clause 16

Competent Authority for deciding reduced rates

**Superintending Engineer
, AIIMS, New Delhi**

Clause 18

List of mandatory machinery tools & plants To be deployed by the contractor at site

As required for completion of work within stipulated time period

Clause 36(i)

Requirement of Technical representative(s) and recovery rate

S.no.	Requirement	Nos.	Qualification	Rate of Recovery
1	Principal Technical representative	1	Graduate in Electrical / Electronics / Mechanical Engg. with 5 years experience in relevant field	Rs35,000/- per month
2	Technical Representative	1	Graduate in Civil Engg. or Diploma in Civil Engg. with 5 years experience	Rs 35,000/- per month

Clause 42

(i) (a) Schedule/statement for determining theoretical quantity of cement & bitumen of the basis of Delhi Schedule of Rates 2016 printed by C.P.W.D

(ii) Variations permissible on theoretical quantities.

(a) Cement

For works with estimated cost put to tender not more than Rs. 5 Lakhs. 3% plus/minus

For works with estimated cost put to tender not more than Rs. 5 Lakhs. 2% plus/minus

(b) Bitumen All works 2.5% plus only & nil on minus side.

(c) Steel Reinforcement and structural steel sections for each diameter, section and category 2 plus/minus

(d) All other materials Nil

. RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

S.No.	Description of Item	Rates in figures and words at which recovery shall be made from the Contractor	
		Excess beyond permissible variation	Less use beyond the permissible variation
Not Applicable			

Special Conditions

Special Conditions

- 1.0 “CPWD Specifications” wherever appearing in this document would mean Latest edition of CPWD specifications with correction slips issued upto the last date of receipt of tender.
- 2.0 GCC 2014 referred in this document is Govt of India Publication and is available in the market.
- a) In CPWD Form 8, General Rules and Directions and Conditions of Contract forming part of ‘GCC 2014’ shall be superseded by this document.
 - b) Wherever “President of India” is appearing in the GCC 2014 same shall be read as Director, AIIMS.
 - c) Wherever Superintending Engineer or Chief Engineer is appearing in GCC 2014, it may be read as Superintending Engineer/Administrative Head AIIMS, New Delhi.
 - d) Wherever CPWD or PWD is appearing in GCC 2014, it may be read as AIIMS.
- 3.0 No foreign exchange shall be made available by the department for the purpose of procurement of equipment, plants, machinery, materials of any kind or any other items required to be carried out in execution of work.
- 4.0 The contractor or his authorized representative should always be available at the site of work to take instructions from Engineer in charge, and ensure proper execution of work.
- 5.0 No work shall commence in the absence of contractor’s engineers and they shall certify in writing about the correctness of layout alignment and shall ensure stability of all structural work such as partition panel and other related items.
- 6.0 All work and materials brought and left upon the ground by the contractor or by his orders for the purpose of forming part of the works, are to be considered to be the property of the AIIMS and the same are not to be removed or taken away by the contractor or any other person without consent in writing of the Engineer-in-charge but the AIIMS is not to be in any way responsible for any loss or damage which may happen to or in respect of any such work or materials either by the same being lost or damaged by weather or otherwise.
- 7.0 The contractor shall execute the different items simultaneously, as far as possible, so that minimum breakage and repairs are involved.
- 8.0 The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants of adjacent properties and to the public in general and to prevent any damage to such properties and any pollution of environment and waterways. He shall make good at his own cost and to the satisfaction of the Engineer-in-Charge, any damage to public or private property whatsoever caused by the execution of the work or by traffic brought thereon by the contractor. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants/users of adjoining buildings.
- 9.0 All associated activities required for obtaining necessary clearances, permissions, approvals, all licenses etc. as required from all concerned authorities in respect of installation and commissioning shall be the responsibility of the contractor, the cost for which shall be deemed to be included in the rates for various items of work of Schedule of Quantities. However,

actual statutory fee paid to the concerned authorities for obtaining approvals if any, shall be reimbursed by the University on production of proof of payment made by the Contractor.

- 10.0 The contractor shall be responsible for watch and ward of all the works, equipment and various materials till complete handing over of works.
- 11.0 Wherever any reference to any Indian Standards Specification occurs in the documents relating to this contract the same shall be inclusive of all amendments issued their to or revisions there of if any, upto the date of receipt of tenders.
- 12.0 The site of work may be at one or more places within the campus and at any floor upto 9th floor for which nothing extra shall be paid.
- 13.0 LabourCess @ 1% of gross value of work done shall be deducted from the payment as per Delhi Building & other Construction Workers Welfare Cess Act 1996 besides other statutory deduction like income tax, VAT etc.
- 14.0 For any specialized item required to be done by specialized agency, prior approval of engineer-in-charge shall be obtained.

15.0 RATES

- I. 15.1 Unless otherwise provided in the schedule of quantities the rates tendered by the contractor shall be all-inclusive and shall apply to all heights, levels, depths, leads, lifts including shafts, machine room & stair cases. The rates for all items of work, unless clearly specified otherwise, shall include the cost of all labour, materials, and other inputs involved in the execution of the items. Reimbursement of service tax contribution shall be made by the department on presentation of documentary proof of service tax deposit.
- 15.2 The rates quoted by the tenderer shall be firm and inclusive of all taxes, duties, octroi, excise / custom duty, local taxes etc., levies, packing, forwarding, insurance, freight upto delivery, installation, testing, commissioning, temporary storage, risks, over head charges general liabilities/ obligations etc. complete as required for the item in schedule. The escalation in the rates shall not be permitted for any reason.
- 15.3 Rates quoted shall be inclusive of warranty / guarantee during defect liability period as per clause 11.0 of Additional Conditions for which nothing extra shall be paid.
- 15.4 The rates quoted by the contractor shall be all inclusive keeping in mind the specifications, special conditions, additional conditions, makes / models, particular specifications and nothing extra shall be payable whatsoever, unless otherwise specified.
- 17.0 If the work is carried out in more than one shifts or during night to meet the time period of completion, nothing extra shall be paid on this account.
- 18.0 Contractor shall have to make own arrangement for water & electricity, otherwise 1% of gross amount shall be deducted on account of water charges from the dues of the contractor. Electricity shall be provided for bonafied use at work through Energy Meter at the rate as applicable in NDMC/BSES for temporary commercial connection and same shall be deducted

from the contractor's bill. The electrical accessories like Energy Meter Board with MCB/MCCB, connecting cable/wires etc. shall be provided by the contractor and nothing extra shall be paid on this account.

- 19.0 The contractor shall follow the instruction and restrictions imposed by the Administration / Police authorities on the working and movement of labour / material / vehicles etc and nothing extra shall be paid on this account.
- 20.0 All materials shall be supplied and used in items of works by the contractor should be of standard and approved quality. They should be got approved from the Engineer- in- charge or his authorized representative before installation otherwise no payment will be made for an unapproved or rejected material used on the works and the same shall be removed at his cost from site of work.
- 21.0 The contractor shall have to prove bonafides of the make of materials by producing necessary documentary evidence. They are advised to obtain prior approval of Engineer-in-charge for proposed make of materials, before bringing material to site work.
- 22.0 Other agencies doing works related with this project will also simultaneously execute the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such necessary holes, openings etc. for laying burying in the work pipes, cables, conduits, clamps, boxes and hooks for fan claims etc. as may be required for other agencies conduits for electrical wings/cables will be laid in a way that they leave enough space for concreting and do not adversely effect the structural members. Nothing extra over the agreement rates shall be paid for the same.
- 23.0 All the debris of the works should be removed and the site should be cleared by the contractor immediately. Similarly any rejected material should be immediately cleared off from the site by the contractor. No dumping of malba shall be allowed in the premises and all the malba shall be removed simultaneously by the contractor. Nothing shall be paid on this account.

24.0 Special conditions for cement

- 24.1 The contractor shall procure 43 grade (conforming to IS 8112) ordinary Portland cement, as required in the work, from reputed manufacturers of cement having a production capacity not less than one million tones or more per annum, such as ACC, UltraTech Shri Cement, Birla Jute & Cement Corporation of India etc., as approved by the Ministry of Industry, Government of India, and holding license to use ISI certification mark for their product. The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement manufacturer(s) which the tenderer proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufacturers, given by the tenderer, fully or partially. The supply of cement shall be taken in 50 kg. bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-charge and got tested in accordance with provisions of relevant BIS codes. In case the test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes, the same shall stand rejected, and it shall be

removed from the site by the contractor at his own cost within a week's time of written order from the Engineer- in-charge to do so.

24.2 Cement for this bonafied work is to be arranged and used by the contractor himself and nothing extra will be paid on this account.

24.3 Rate of items of work involving cement includes curing as per CPWD specifications and nothing extra shall be paid on this account.

25.0 Testing of Material / Workmanship

25.1 The extent, quality control and quality of workmanship is specified in specifications/IS codes/International Codes and best trade practices.

25.2 All tests required for all materials as desired by the Engineer-in-charge shall be at the Contractor's cost.

25.3 The contractor shall produce all the materials in advance so that there is sufficient time for testing and approving of the material and clearance of the before use in work.

25.4 Testing charges if any shall be borne by the contractor.

25.5 Certified copies of all manufacturer test certificates, type test certificates of the items, equipments shall be furnished to the inspecting officer at the time of supply of material before

26.0 Damage in Transit

As far as possible, all items shall be fully formed and fitted at the workshop and brought to the site in that condition and not in knock down state. Care shall be taken in packing so that it is not subjected to unusual stresses and impact while in transit so that it is received at the site in its original manufacture.

27.0 Finish to Match

All items must be compatible in design and finish to one another unless otherwise specifically required.

28.0 Protection of Items

All furniture and furnishing shall be adequately protected from damage and soiling and shall be handed over in its original state of finish and in spick –and-span condition without any defects. All surfaces shall be fully polished and all spots, scratches shall be removed before handing over.

29.0 Hardware / Fittings / Fixtures / Finishing

- 29.1 All finishing, hardware shall be well made, reasonably smooth and free from sharp edges and corners, flaws and other defects and shall be as per relevant Indian Standard Code.
- 29.2 All hardware shall be of approved make and shall be specifically got approved by the Engineer-in-Charge before procuring. No fittings and fixtures shall be fixed before all major work is over. While fixing correct handling of fixtures shall be ensured.
- 29.3 All finish hardware shall be fixed by skilled carpenters experienced in this work. Work shall be done as per manufacturer's printed instructions and to the satisfaction of the Engineer-in-Charge.
- 29.4 All items fixed to respective locations shall be adequately protected from damage and splashes of mortars and paints by covering suitably with Jute clothes / Black PVC sheet till handing over of the work to the Engineer/ Owner to his satisfaction. The finished items shall be absolutely clean without any foreign materials and fully showing the original finish in its best condition.
- 30.0 The contractor shall not claim anything extra if the quantities taken in the schedule are reduced during the actual execution. Nothing extra shall be paid on this account.
- 31.0 The contractor shall construct suitable godowns at the site of work for storing the materials safe against damage due to sun, rain, dampness, fire, theft etc. He shall also employ necessary watch & ward establishment for the purpose and no extra claim whatsoever shall be entertained on this account.
- 32.0 The contractor shall be responsible for the protection of all fittings, fixtures, equipments etc against pilferage and breakage during the execution & installation and thereafter until the work is handed over.

LIST OF APPROVED MATERIALS

1. The Contractor shall obtain prior approval from the Engineer-in-charge before placing order for any specific material or engaging any of the specialized agencies.
2. Wherever applicable, the Engineer-in-charge may approve any material equivalent to that specified in the tender subject to proof being offered by the Contractor for equivalence to his satisfaction.

In case on non availability of the brand specified in the contract, the Contractor shall submit the documentary evidence of non availability of approved brand and suggest the alternate brand of equivalent quality for the approval of the competent authority. It will be at the discretion of the Engineer-in-Charge to approve or reject the brand suggested by the contractor and approve the name of any other equivalent brand.

3. Unless otherwise specified, the brand/make of the material as specified in the item nomenclature, in the particular specifications and in the list of approved materials attached in the tender, shall be used in the work.

S.no.	Material	Brand / Make
Civil Items		
1.	Cement	Ultratech, ACC, JK, Birla, Shree Cement.
2.	White Cement	JK, Birla
3.	Water Proofing Compound (Liquid)	Pidiproof Ltd., Cico, Impermo
4.	Melamine Polish	Melamine of Asian Paint, Wudfin of pidilite Industries, Timbertone of ICI Dulux
5.	Synthetic Enamel Paints	ICI (Dulux),Asian (Apolite),Berger (Luxol)
6.	Primer	Asian, ICI, Berger
7.	Oil Bound Distemper	Asian(Tractor), ICI (Maxilite),Berger(Bison)
8.	Plastic /Acrylic Emulsion Paint	Asian (Royale), ICI (Velvet), Berger (Luxol Silk)
9.	Premium Acrylic Smooth exterior paint	Out stretch of NITCO, Apex Ultima of Asian, Weather shield max of ICI
10.	Wall putty	Birla, JK, Sakarni
11.	Fire Coating paint	Phoenix, Asian.
12.	Vinyl Flooring	Endura Responsive
13.	Veneer	Bhutan tuff/ Garnet
14.	Wooden Flooring	Vista
15.	Flush Doors	Kutty flush door, Anchor, Kitlam, Jwala.
16.	Ply Wood	Kitply, Green ply, Century, Doro
17.	Pre-laminated Particle Board	Novapan, Eco Board, Kitlam
18.	Laminate	Marino, Greenlam, Century
19.	Stainless Steel Screws	Kundan, Arrow
20.	Aluminium Extrusions/ Sections	Hindalco, Indalco, Jindal
21.	Hydraulic Floor spring	Hardwyn, Godrej, Kelwin, Doorking, Everite.
22.	Hydraulic Door Closer	Hardwyn, Godrej, Doorking, Everite.
23.	Acoustic/Fire check doors and accessories	Godrej, Sukri, Adhunik, Navair, Pacific.
24.	Acoustic/Fire Check door fittings	D-line, Ingersoll

25.	S.S. ballbearing hinges	Hettich, D-line.
26.	Stainless steel Frictional Hinges	Earl Behari,
27.	Stainless steel- Tower bolt, Sliding door bolt, Floor door stopper	Door set,Hardwyn
28.	Mortice latch & lock	Godrej, DormaTrimax
29.	Masking taps	Suncontrol, wonder plymer
30.	EPDM Gasket	Roop/ Anand.
31.	Structural steel section	TATA, SAIL, RINL
32.	Tubular Steel work (M. S. Pipes)	TATA, Jindal (Hisar), GSF.
33.	Steel	SAIL, TISCO, RINL
34.	Float Glass/ Mirror	Modi Float, Saint Gobain, Asahi
35.	Toughened Glass	SantGobain, Emirates, Asahi, Viracon.
36.	Annealed Float Glass	Saint Gobain, Modi Guard, Hindustan Pilkington
37.	Mineral Fibre false ceiling tiles	Armstrong, Nittibbo
38.	Galvanized/Stainless Steel Anchor Fasteners	Hilti, Fischer
39.	Structural Silicon Sealant	Dow Corning, Wacker, GE, Du-pont
40.	Gypsum fire resistant boards/tiles, Fully perforated gypsum plaster board/ tiles	India Gypsum
41.	Wooden suspended ceiling system	Armstrong. Nittibbo
42.	Resin bonded fibre glass wool	Llyods, UP Twiga
43.	Fire retardant fabric	RWSM, Trimax
Audio- Visual System/ Electrical & Airconductioning		
44.	LCD Projector	BarcoLTWU-61B/ Sony VPL-CH 375/ NEC PA521U
45.	Ceiling mount kit for fixing LCD Projector	Grandview GPCN-D4560 or equivalent model in Da-lite/Draper
46.	Motorized Projection Screen	Grandview Cyber CB-M150/ Da-Lite Cosmopolitan/DraperTarga
47.	Interactive Screen	Wacom DTK-2241/Smart Podium 500 series/ AHA (AHALTM-222W)
48.	Full HD Video Conferencing System with PTZ Camera & Codec	Avaya XT7100/ Sony PCS-XG-100/ Cisco Sx80
49.	PTZ Camera	VaddioRoboshot 30/Sony SRG-300H/Avaya
50.	4 Port dual view HDMI Switch	Aten VS482 / Kramer VS44
51.	Wireless Networking Router	Netgear/D-link/Cisco
52.	55 inches (Diagonal) Full HD Professional Monitor	Samsung DB55E or equivalent model in NEC/Sony
53.	Document Camera	Smart SDC-450 /Avermedia VISIF50HD/Lumens DC192
54.	Digital Smart Podium	Make of Interactive Monitor : Wacom DTK- 2241/Smart Podium 500 series/ AHA (AHALTM-222W), Make of i5 CPU: HP/Dell, Make of Gooseneck Microphone : AKG CGN

		99 CL or equivalent model in Beyerdynamic / Sennheiser (Wooden Podium shall be customized)
55.	32 inches (Diagonal) Full HD Professional Monitor	Samsung or equivalent model in Sony/ NEC
56.	65 inches (Diagonal) Full HD Professional Monitor	Samsung DM65E or equivalent model in NEC/Sony
57.	Glass Board	Comtech/Multitech
58.	Fully Digital Conferencing System Delegate Unit	Sennheiser ADN series/Bosch CCS1000 series/Telvic D-Cerno Series
59.	Fully Digital Conferencing System Chairman Unit	Sennheiser ADN series/Bosch CCS1000 series/Telvic D-Cerno Series
60.	Central Unit for Digital Audio Conferencing System with recording.	Sennheiser ADN series/Bosch CCS1000 series/Telvic D-Cerno Series
61.	Wireless Handheld Microphone System	AKG perception vocal or equivalent model in Beyerdynamic / Sennheiser
62.	Wireless Lapel Microphone System	AKG perception presenter or equivalent model in Beyerdynamic / Sennheiser
63.	Digital Signal Processor	Clearone converge pro/ Polycomsoundstructure/ BSS BLU-101
64.	FOH wall mount Speaker	L Acoustics X8/ Renkus Heinz TRX 62H/ Bose Panaray 402 series
65.	Wall Bracket for wall mount speaker	L Acoustic / Renkus Heinz/Bose
66.	Dual Channel Amplifier	Lab Gruppen Lucia 240/2M/ Yamaha MA2120/ Bose IZA-2120
67.	Equipment Rack	Digital/President/Valrac
68.	Central Control System for A.V. equipments	Crestron AV2/AMX NX2200
69.	7.9 inches (Diagonal) Touch Pad	Apple iPad Mini or equivalent model in Samsung / HP
70.	Speaker Cable	Kramer / Belden / Extron /Falcon/Klotz
71.	Audio/Control Cable	Kramer/Belden/Extron / Falcon/Klotz
72.	CAT 6 LAN cable	Kramer/Belden/Extron/ D-link / Digilink/Klotz
73.	HDMI Cable	Kramer / Belden / Extron /Falcon/Aten/Klotz
74.	POP UP Box	Legrand/Kramer/Crestron
75.	Optical Fiber Cable (OFC)	Molex/Systimax/Panduit
76.	<i>12 Port LIU fully loaded Patch Panel</i>	<i>Molex/Systimax/Panduit</i>
77.	6 Port LIU fully loaded Patch Panel	Molex/Systimax/Panduit
78.	Audio -Video Connectors	Kramer/Extron/Nutrick
79.	SC-LC Fiber Patch Cord	Molex / Systimax / Panduit
80.	CAT 6 UTP Cable Box	Molex / Systimax / Panduit
81.	Catalyst 2960 – X GigE, 4 x 1 G SFP, LAN base 24 Port Switch	CISCO WS-C2960X-24TS(2SFP) or equivalent model in HP/Brocade
82.	28 Port 10/100/1000 Gigabit Managed Switch with 2 SFP Combo slots	CISCO SG-300-24(2SFP) or equivalent model in HP/ Brocade

83.	1000BASE-LX/LH SFP transceiver module	CISCO GLC-LH-SMD or equivalent model in HP/ Brocade
84.	Multi Point Conferencing Bridge	Avaya (Scopia Elite 6105) /Polycom (Real Presence Collaboration Server 1800) / Cisco (Media 320)
85.	Video recording & streaming recording License Unit	Avaya/Polycom / Cisco
86.	Server for hosting MCU gate keeper & streaming application	DELL or equivalent model in HP/ Uniper
Electrical & Air-conditioning Work		
87.	Copper wire FRLS/ Al. armoured cable	Havells, Skytone, Polycab, Ecko, Finolex
88.	Telephone Cable/RG-6 TV cable	Delton/Skyton/Havells/Finolex
89.	Steel conduit	BEC/Steel Kraft/NIC/AKG
90.	PVC Conduit	BEC/AKG/Kalinga
91.	Modular Switches/Sockets/Tel. sockets/RJ-45 socket / Fan Regulator	Legrand(mylinc)/ Crabtree (Athena) or equivalent model in Hagger/MK
92.	Mini MCB	Crabtree/Hagger/Legrand/MK
93.	MCB/ MCB DB/Industrial socket	Legrand /L&T (Hagger)/ GE/ ABB/Schneider
94.	MCCB	Legrand /L&T (Hagger)/ GE/ ABB/Schneider/Havells
95.	PVC Dado Trunking& Accessories	Crabtree/Hagger/Legrand/MK
96.	G.I. Pipe	Jindal (Hissar)/ Tata
97.	Ceiling Fans	Havells (ES-50) /Crompton Greaves (Asset 50 or Entrust50)/Usha (ENERGIA)/Alstom-(ISI)/Orient-G
98.	Wall mounted fan	Havells (Swing)/Crompton Greaves (High flo) or equivalent model in Bajaj/Orient
99.	650 W Rotary Dimmer	Legrand (Myrius) or equivalent model in Crabtree/Hagger/MK
100.	Down Lighters	GE(Model No. GECFLC2x18DN R(H)HF) or equivalent in Philips/Wipro
101.	1 X 18/20 W to 24 W LED fitting with LEDs, 4 feet long .	Havells Cat. No.LHFYBWP1TB1W020 , Philips TMC 501P1xT-LED , Wipro WCO12-122108 /ITELEC CIGAR ILT5 24 WH or equivalent model of GE
102.	34 watts to 38 watts LED fitting of size 2feet x 2 feet (Approx.) with LEDs.	Havells Cat. No. LHEWDRP7PL1W034, Philips RC380BLED30-6500PSEODWH, Wipro CRCO10R038HP57/ ITELEC ITCPL36SQWH or equivalent model of GE
103.	39 watts to 42 watts LED fitting of size 2feet x 2 feet (Approx.) with LEDs.	ITELEC ITCPL42 SQWH or equivalent model in Philips/Crompton/Wipro/Havells
104.	39 watts to 42 watts LED fitting of size 2feet x 2 feet (Approx.) with LEDs with analog dimmable driver	ITELEC ITCPL42 SQWH -ANLG-DM/Philips DN393-LED12S-6500-PRS or equivalent model in Crompton/Wipro/Havells

105.	15 watts LED down lighter with analog dimmable driver	ITELEC ITCPL42 SQWH -ANLG-DM/Philips DN393-LED12S-6500-PRS or equivalent model in Crompton/Wipro/Havells
106.	63 Amps. SPN Change Over Switch	Havells/ABB/Legrand
107.	G.I. metal sheet	SAIL/TATA/Jindal
108.	Grill/Diffuser/VCD	System Air/Caryaire
109.	Glass wool insulation	UP Twiga/Kimco/LLOYed
110.	Closed cell polyethylene	Trocellene/Supreme

Executive Engineer (E)-I
ESD, AIIMS

Additional Conditions

1.0 GENERAL

The work shall be executed as per CPWD specifications 2009 VOL- I & II for civil works , General Specifications for Electrical works: Part I – Internal – 2013, Part II – External – 1994 and CPWD specifications for HVAC work Vol.-2007 with correction slips upto date of receipt of tender wherever applicable, as per relevant IS and as per directions of Engineer-in-charge. The technical specifications are to be read in conjunction with above and in case of variations technical specifications of tender document shall apply. Nothing extra shall be paid on account of additional features in the technical specifications as the same are to be read along with schedule of Quantities for the work.

2.0 Scope of work

2.1 Interior & Civil work, Audio-Visual System comprising audio- video conferencing, streaming & networking and Electrical work in 5 Nos Lecture Theaters at PC & Teaching Block and Convergence Block. 3 Nos Lecture Theaters are at PC & Teaching Block in which existing worn out air-conditioning duct is to be replaced with new one and 2 Nos Lecture Theaters are at Convergence Block. In audio system, required capacity of amplifiers, FOH speakers, Digital Signal processors, Digital Audio Conferencing System with Chairman Unit & Delegate Units, Central Conferencing Unit and Microphones etc. are to be provided. In Video System, LCD Projectors, MotorisedScreens, Interactive Screens, Digital Smart Interactive Podium, Document Camera, Video Conferencing & Streaming with Full HD Conferencing Systems, PTZ Camera, Codec, Server, wi fi system with routers, Display monitors, Multi Conferencing Unit, Touch Panels for integration of AV System and A.V. Conferencing recorders etc. are to be provided. 12 Nos. OTs, Auditorium, Conference Room and 5 Nos LTs are to be interconnected by laying CAT 6 and Optical Fiber Cables. Comprehensive maintenance of audio,video,conferencing, streaming and networking equipments for a period of 3 years after completion of defect liability period period of 24 months and operation of all AV equipments for 5 years after completion of work is in the scope of work. In addition to above, there shall be complete provision of General Lighting and dimmable lighting in all the Lecture Theaters. Renovation work includes wall paneling, false ceiling, acoustic vinyl flooring, tables & chairs and some other allied works. The scope is given here merely as a rough guide.

2.2 In addition to supply, installation, testing and commissioning, as per schedule of work, the following works shall be deemed to be included within the scope of work to be executed by the contractor. Nothing extra will be paid.

- i) All minor building works for the installation such as cutting, making good the damages or any other damages during execution of work.
- ii) Tools and plants required for handling and installation of equipments.
- iii) Protection required for the equipments from shock pressure, rain, dust storm during transportation and storage of equipment as required.
- iv) Necessary equipments for the commissioning & site testing etc.
- v) The equipments must be insured during transit from manufacturer's place of works till installation and handing over to the department.
- vi) Safe custody of material and installation till they are taken over by the department.

- 2.3 The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning as may be required by the department.
- 2.4 Guarantee / Warranty & defect liability including routine & preventive for defect liability period as defined in clause 11.0 below.
- 2.5 The work is a turn-key project. Any item required for completion of the work but left out inadvertently shall be executed with in the quoted rates.
- 2.6 The contractor shall co-ordinate with all other agencies involved in the work so that the work is not hampered due to delay in his work. Electrical conduits, raceways, cable trays, framing etc i.e. works which directly affect the progress of other agencies should be given priority.
- 2.7 Training of AIIMS personnel for operation of audio, video, special lighting, including programming, process integration.

3.0 Drawings:

- 3.1 The successful tenderer shall submit the following drawings within 10 days of acceptance of tender for approval of the Engineer-in-Charge before commencement of installation work.
 - (a) Audio, Video, Equipment placement drawing.
 - (b) Audio & Video cabling layout drawing.
 - (c) Drawings related to general lighting, dimmable lighting.
 - (d) Ceiling lights layout drawing.
 - (e) Chair & Table layout drawing
 - (f) Wall paneling drawing including acoustic paneling design
 - (g) Audio flow chart complete with EASE files & set up of speakers location in Lecture Theaters.
 - (h) Any other drawing necessary for the work and as directed by Engineer – in – charge
- 3.2 Work shall be executed as per drawings duly approved by the Engineer-in-charge.
- 3.3 Any technical clarifications required regarding the drawings/specifications during the progress of work shall be obtained from the 'Engineer-in-charge'.
- 3.4 The work in the contract shall be in accordance with the drawings and no deviations shall be permitted without the written approval of the Engineer-in-charge, if so required.
- 3.5 All manufacturing and fabrication work in connection with item to be undertaken by the contractor after the approval by the Engineer-in-charge. The contractor may suggest any changes in the design which are necessary to make this equipment conform to the provisions and intend of the contract and such changes will again be subject to the prior approval by the Engineer-in-charge shall never relieve the Contractor of any of his contractual responsibilities and liabilities under the contract.

- 3.6 Two sets of drawings as approved by Engineer-in-Charge shall be kept at site of work out of which one set shall be preserved and shall at all reasonable time be available for inspection and use by Engineer-in-Charge and representative of engineer-in-charge.

4.0 Program for Execution

- 4.1 The contractor shall submit a detailed programme in the form of CPM/PERT/BAR chart to the Engineer-in-charge within 7 days of award of work and shall be got approved from him. The programme chart should include the following:-
- a) Network CPM/PERT/BAR diagram prepared as per existing practice.
 - b) Programme for procurement and delivery of materials by the contractors.
 - c) Programme of mobilization of machinery/equipments/manpower and their deployments.
- 4.2 The programme chart may be updated on weekly basis submitted to Engineer-in-charge if so desired.
- 4.3 The approval by the Engineer-in-charge of such programme or the furnishing of such particulars shall not relieve the contractor of any of his duties or responsibility under the contract. This is without prejudice to the right of the Engineer-in-charge to take action against contractor as per terms and conditions of the agreement.
- 4.4 Existing services encountered in the course of the execution of work shall be protected / maintained against damage by the contractor. Any damage to the existing service shall be made good by the contractor at his own cost.

5.0 Data Manual and Drawings to be furnished by the tenderers

- 5.1 The successful tenderer should furnish well in advance two copies of detailed instructions and manuals of manufacturers for all items of equipments regarding installation, adjustments operation and maintenance i/c preventive maintenance and trouble shooting.

6.0 Inspection of material

AIIMS reserve the right to inspect the material at manufacturer's Works within India before delivery at site. The firm shall intimate the date of inspection of material well in advance to the Engineer-in-Charge. The cost of traveling, boarding & lodging of Inspecting Officers shall be borne by the AIIMS whereas it shall be the responsibility of the firm to make arrangement of inspection of material with all tools/plants & instruments as per Indian & International Standards at manufacturer's Works. If the material fails during the inspection or inspection could not be done due to improper arrangement at manufacturer's Lab, the firm will bear all the expenses of next visit including traveling, boarding & lodging arrangements of Inspecting Officers and nothing extra shall be paid on this account.

7.0 System Testing:

- 7.1 Soon after the work is completed, the contractor shall inform in writing to the Engineer-in-charge for getting the complete system i/c all equipments and controls thoroughly inspected and tested for satisfactory performance.

7.2 Any defects noticed during these tests shall be speedily rectified by the contractor within a time as specified by the Engineer-in-charge, failing which the same shall be got done at the risk and cost of the contractor.

8.0 Running in Period

8.1 After the installation work has been completed by the contractor, he will conduct tests and make adjustments as may be necessary to satisfy himself that the equipment complete with display is capable of continuous running. There after he will offer to the department a running-in period of 10 days daily for a period of 8 hours. The equipment will be operated and a log of all parameters will be maintained during this period. The contractor will be free to carry out necessary adjustments. Record of design parameters will be made during this period to check the same are as per NIT requirements. If no break down or abnormal / unsatisfactory operation of any equipment occurs during this period, then the equipments will be made available for beneficial use. After all the equipments have operated without any major break down and have maintained all the design parameters as per NIT requirements for the above specified running in period, it shall be taken over by the department subject to guarantee clause mentioned below. This date of taking over of equipment after trouble free operation during the running in period shall be the date of acceptance. This running in period will be over and above the time period of 4 months defined for execution of work. Power supply during the running in period shall be provided by department free of cost.

9.0 Guarantee / Warranty / Defect liability period

9.1 All the equipments shall be guaranteed for defect liability period as stated below against unsatisfactory performance and / or break down due to defective design, errors in programming, workmanship of material etc. The defect liability period for various items shall be as under:

S.No.	Description of work	Defect Liability Period
1	All other Civil & Elect./Mech. works including false ceiling, flooring, wall paneling, general lighting, finishing, chair table etc.	12 months from date of completion or handing over whichever is later
2	All audio, video, conferencing, streaming and networking equipments including cabling and allied works.	24 months from date of completion or handing over whichever is later

9.2 The equipments or components, or any part thereof, so found defective during this guarantee period (defect liability period) shall be forthwith repaired or replaced free of cost, to the satisfaction of the Engineer-in-charge. The contractor shall be fully responsible for rectifying the defect, which may happen during the use up to defect liability period as stated in 9.1 above. The decision of Engineer-in-Charge in this regard shall be final & binding. In case the contractor fails to carry out the said repairs, rectifications, replacement within the specified time, the department shall get the repairs / rectifications / replacement as considered necessary at the cost of the contractor by recovering the cost from the security deposit. In case additional expenditure is incurred by the department on this account, the same shall be borne by the contractor. Any damage done to the surrounding or other work defect rectification shall be made good by the contractor at his own cost. Nothing shall be paid on this account.

9.3 Sufficient trained and experienced personnel shall be made available to meet any exigency of work during the guarantee period of one year from the handing over of the installation.

9.4 The maintenance, routine as well as preventive, for defect liability period as stated above in clause 11.1 as per manufacturer's recommendations / standard practice shall be carried out by the contractor and the record of the same shall have to be maintained. Nothing extra shall be paid on this account.

10.0 Final Documentation:

10.1 Upon commissioning and final handover of the installation, contractor shall submit within a week to the Engineer-In-Charge, three (3) portfolios of the following duly indexed and bound together in hard cover ring binder along with one soft copy of completion drawings in 'dwg' format.

- i) Completion drawings.
- ii) Comprehensive operation and maintenance manual
- iii) Equipment warranties from manufacturers.
- iv) Commissioning and testing reports

10.2 At the finalization of the work and before issue of final certificate of completion by the Engineer-in-charge, the contractor shall furnish a written guarantee indemnifying the department against defective materials and workmanship for the Defects liability period. The contractor shall hold himself fully responsible for reinstallation or replace free of cost to the department.

- i) Any defective material or equipment supplied by the contractor
- ii) Any material or equipment supplied to the department which is proved to be damaged or destroyed as a result of defective workmanship by the contractor.

10.3 In case, the contractor fails to submit the completion plan, he shall be liable to pay a sum equivalent to 2.5% of the value of the work subject to ceiling of Rs.15000/-

11.0 Comprehensive Maintenance

11.1 After successful installation, testing, commissioning and running in period, agency shall immediately handover the entire installation along with documents to department.

11.2 After completion of defect liability period as stated above in clause 9.0, the agency shall carry out comprehensive maintenance of all **audio, video, conferencing, streaming and networking equipments** including cabling etc as per sub head II of schedule of quantity for a period three years as per manufacturer's recommendations.

11.3 The equipments or components, or any part thereof, so found defective during this maintenance period shall be forthwith repaired or replaced with genuine spare of OEM free of cost, to the satisfaction of the Engineer-in-charge. The contractor shall be fully responsible for rectifying the defect, which may happen during the use in maintenance period as stated in 11.2 above. The decision of Engineer-in-Charge in this regard shall be final & binding.

11.4 Sufficient trained and experienced personnel shall be made available to meet any exigency of work.

- 11.5 During this period of comprehensive maintenance, the service / repair calls are to be attended within four hours from the time of calls. The defective card / item / equipment shall be repaired /replaced the same day.
- 11.6 In case of major defects requiring the defective card / equipment to be taken to service centre, it should be attended and returned within 2 weeks from the time of call. A substitute will be provided by the firm for the smooth operation of the system within 24 hours. To & fro transportation of the equipment will be the responsibility of the firm.
- 11.7 Delays in attending the calls or carrying out repairs or inability to provide the substitute will attract penalties @ Rs. 2000/- per day (beyond 24 hours) and further Rs. 4000/- per day beyond 72 hours till the date of actual repairs / commissioning of the system.
- 11.8 If the firm fails to repair / rectify or replace the defective equipment / item within specified time frame the department will be free to get the same repaired / replaced from the market at the risk & cost of the firm and in addition to penalties as described above. Any damage done to the surrounding or other work defect rectification shall be made good by the contractor at his own cost. Nothing shall be paid on this account.
- 11.9 A log book of defects rectified during the maintenance period shall be maintained by the agency and shall be available at site of work for inspection by the engineer-in-charge or his representative.
- 11.10 Payment for maintenance shall be made on quarterly basis.

12.0 Operation of Audio, Video, Conferencing, Streaming & Networking Equipments

- 12.1 The contractor shall engage well experienced operator having min. 3 years experience for operation of AV Equipments.
- 12.2 The contractor should maintain logbook for AV equipments and these should be available at site as and when required by the Officer-in-Charge.
- 12.3 The Contractor shall pay wages not less than fair wages fixed by the Government from time to time for the worker to be engaged.
- 12.4 It is the responsibility of the contractor to make alternative arrangement, in case, any staff proceeds on leave/for reliever duty, on failure, the recovery shall be made on this account
- 12.5 The department reserves the right to terminate the contract in full or part there of or can shift any worker at any other site, as required, without assigning any reason
- 12.6 The contractor shall replace the staff, in the event of misconduct by him.
- 12.7 The contractor shall maintain "attendance register" in support of the attendance of staff and the same shall be got periodically checked from concerned JE (E). On termination of the contract this shall be the property of department.
- 12.8 The contractor shall furnish Name & Contact Number of the person, who should be contacted during emergency. The contractor should have telephone facility round the clock for immediate contact.

12.9 The operator shall wear proper summer uniform in summer & winter uniform in winter complete in all respect with embroidered badges stitched on uniform, name plate in black letter etc. no extra payment shall be paid by the department on this account. If Operator found in incomplete uniform he will be marked absent and recovery from the contractor shall be made @ Rs. 1000/- per absent.

12.11 The contractor shall submit probable list of staff/workers to the officer in charge along with following details.

- a) Passport Size Photograph of each worker
- b) Name & Address of staff
- c) Copy of ITI Certificate in Electronics or instrumentation with min. 3 year experience of operation of AV equipments.
- d) ESIC & EPF number

12.12 Staff deployment and recovery in case of absentee

II. Staff shall be deployed in different shift as per the requirement and the direction of the Engineer-in-Charge.

In case of any absentee of the staff from the duty, the recovery shall be made on the following rates.

- i) Operator of 8 hours duty @ Rs.1000/- per day for Ist year, @ Rs. 1100/- for 2nd year, Rs. 1200/- for 3rd year, @ Rs. 1300/- for 4th year and Rs. @ 1400/- for 5th year.

III. The Service tax has to be followed by the contractor and the reimbursement of service tax contribution shall be made by the department on presentation of documentary proof of service tax deposit.

12.13 Rates for the Operation & Comprehensive Maintenance of the installation (**audio, video, conferencing, streaming and networking equipments** including cabling etc as per sub head II of schedule of quantity) shall be quoted by agency in the subhead IV of Schedule of quantity. Tender shall be evaluated including the amount quoted in the subhead IV.

EXECUTIVE ENGINEER (E)-I

Conditions Regarding payments/ESI/EPF to workers:

- 1.It is responsibility of the contractor that no frill account is to be opened in respect of each worker.
- 2.The wages to the works shall be made not less than minimum wages. The payment shall be made through cheque in the presence of authorized representative of department, and in case of ECS, the contractor shall submit the documentary proof of transfer of payment to worker's account every month.
- 3.A certificate in prescribed format as below, is to be duly verified every month both by the contractor & the Assistant Engineer for disbursement of minimum wages,. In the absence of this certificate, no payment shall be released.
- 4.The contractor shall deduct worker's subscription towards provident fund and ESIC, as per rules, he shall deposit the same along with his contribution in to the respective accounts of the workers and submit the details to this office for verification.
- 5.The contractor shall be responsible for payment of wages to each worker employed by his as contract labour and such wages shall be paid before 7th of each month.
- 6.The service provider / Contractors has to submit adequate documentary proof of depositing of ESI,EPF contribution in concerned authorities, failing which payment on this account shall not be made.
- 7.The firm has to submit an affidavit on non-judicial stamp paper of Rs. 10/- that they have deposited the ESI/EPF contribution (18.36% or as applicable) of actual numbers of personal mentioned in the bill.
8. The quoted rates should be inclusive of ESI & EPF and nothing extra shall be paid to the contractor on account of ESI & EPF contribution of workers deposited by the fiem.

PERFORMA OF CERTIFICAT

I/We _____ & _____ certify that the payment of monthly wages and other statutory benefits including EPF,ESI etc. for the months of _____year_____ has been disbursed correctly to the contract lab our/worker as per minimum wages act and relevant statutory provisions and the monthly wage slips to the lab ours/workers have been issued to then.

AIIMS Representative

Authorized representative of service provider/contractor

Signature_____

Signature_____

Name_____

Name_____

Designation_____

Designation_____

Section_____

Designation_____

Executive Engineer (Elect) - I

13.0 Training

The contractor shall provide necessary training to owner’s personnel at site for trouble free operation of audio, video, conferencing, streaming and networking equipments including programming, process integration etc. Nothing extra shall be paid on this account.

19.00 Security deposit shall be released as under:

After successful completion of 12 months of defect liability period	40% of the security deposit.
After successful completion of 24 months of defect liability period	60% of the security deposit.

15.0 Supplementary Agreement for Operation & Comprehensive Maintenance of AV Equipments

15.1 A separate supplementary agreement for sub head IV operation & comprehensive maintenance of AV equipments shall be formed after completion of main work (Sub head I, II, III), for which the necessary performance guarantee @ 5% of quoted amount of Sub head-IV shall be deposited by the firm separately. Performance Guarantee deposited for whole work shall be released after completion of main work (Sub head I, II, III).

Executive Engineer (E) -I

Particular Specifications

Sub head II:- Technical Specification for Audio-Visual System, Video Conferencing, Streaming & Networking

Item No.	Items	Required Specifications
A	Video Conferencing & Presentation System	
2.1	LCD PROJECTOR	
	Type	LCD X 3
	Display resolution	1900 X1200 (WUXGA)
	Aspect Ratio	16:10 Native, 4:3,16:9 Compatible
	Light output	5000 Lumens
	Screen Size	40" - 300"
	Throw Ratio	1.5 to 2.2
	Optical system	
	Zoom	Motorized/Manual
	Focus	Motorized/Manual
	Lens Shift	Motorized/Manual
	Keystone correction	Horizontal: ±20 degrees • Vertical: ±12 degrees
	Support Optional wireless dongle	Yes
	Geometric Correction	Yes
	Lamp Mode High/Low	2500/3000H
	Contrast Ratio	2500:1
	Inputs	HDMI , Sub 15pin, Compostive Video, S-Video, USB(Optional), HDbaseT/Additional Transmitter and Reciever (In case additional transmitter/Reciever is exercised,cost of these will be inclusive in this item only; Approved makes for Additional Transmitter and reciever: Extron/Crestron/AMX/Kramer)
	Acoustic noise	35dB/29dB in Standard/Eco Mode with ± 10% tolerance
	Operating Environment :	0°C to 40°C / 32°F to 104°F
	Operating humidity	20% to 80%
2.2	Ceiling Mount Kit	
	Length	As per site requirement

2.3	Projection Screen	
	Screen Control:	Built in low voltage interface or external LV interface for screen control
	Size	Diagnolly : 150" or higher
	Surface	Seamless Surfaces
		Standard white powder-coated finish
	Format	HDTV (16:9/16:10)
	Fabric	Matt finish
	Manual / Motorized	Motorised
	Motor Power requirement	220V - 240V
2.4	Interactive Screen	
	Display	LCD/TFT Display
	Screen diagonal	21.5 inches or better
	Active area	18.7 inches x 10.5 inches
	Aspect ratio	16:9
	Resolution	1920 x 1080 pixels
	Viewing angle (H/V)	80° / 80° or Better
	Brightness	210 cd/m2
	Contrast ratio	900:1 (typ)
	Stand inclination	15° - 72°
	Integrated USB interfaces	1 or better
	Supported operating systems	Windows® 8 / 7 / Vista® / Vista x64 / Mac OS® X 10.6.8 or later
	Video connection	HDMI/DVI/VGA
2.5	Full HD Video Conferencing System	
	The End Point shall be a point to standalone Full HD VC system upgradable to Full HD multiparty (1+8) video conferencing with full high definition camera and codec for simple installation compatible with a TV / Plasma suitable for specified bandwidth of IP network (H.323) and also ISDN (H.320) if ordered.	
	Video Codec resolution:	4:3 CIF (352 x 288), 4CIF (704 x 576) 16:9 wCIF/w288p (512 x 288), w432p (768 x 432), w4CIF (1024 x 576), 720p (1280 x 720), 1080i@60fps (1920 x 1080), 1080p@60fps (1920 x 1080)
	System shall be upgradable	6 & 9 sites Full HD multiparty conference on continuous presence by using add-on software without any additional

		hardware In addition, system upgradable to 16 sites Full HD multiparty conference in VA mode by using two VC systems with add-on MCUsoftwares in cascade.
	Shall include Full HD camera	1/2.8-type Exmor CMOS imager sensor, 10x optical Zoom, 71degree horizontal viewing angle, +/- 100 degrees PAN range, + -25degrees Tilt range .The camera shall be supplied with cord and connectors.
	Camera Other feature:	Auto Gain Control, Auto White Balance, Backlight Compensation Desktop/Ceiling Mountable, VISCA output to the second camera
	The system shall deliver	Full HD video, HD voice & HD content for an overall HD experience
	Support	IP up to 12 Mbps or better
	System shall have	H.263, H.263+, H.263++, H.264 & MPEG-4 video coding support.
	System shall have upto	AAC, G.728, G.722 & G.711 audio coding support and suitable for stereo audio or better.
	System must support	H.239 for sharing PC images up to 1080p resolution is supported.
		It shall be possible to see both the near, far & presentation site on one screen thus making most efficient use of a single display area
		Shall have Live video resolution 352 x 288 to 1920x1080.
		System must be equipped with 2 omni directional High definition microphones and expandable to connect total 06 microphone from same VC OEM
		Network: 2x10BASE-T/ 100BASE-TX/ 1000BASE-T Ethernet connection.
		System must have AES encryption.
		Video codec shall support 16:9 format for supporting LCD/Plasma display and PAL video standard
		Operating Conditions: 230 + or - 10% volts, 50 Hz
		Shall come with easy to use RF/IR Hand held remote control with operating distance of at least 10 mtr.
		System should have dual network ports which support two different network connections without switching network cables & conference between two networks can be possible.
		System should have inbuilt USB port for HD recording – video/presentation data and audio for later review
		System should have inbuilt USB port for Annotation
		VC OEM Should have their own service center in all major cities in India for better service support
		Firmware/version upgrade is free for entire product life time
	Input/Output Ports	Video Input Ports: 1X HD Camera,1 x HDMI and 1 x DVI-I
		Video output ports: 2 x HDMI
		Audio Input Ports: External analog microphone input Mini-

		jack (Plug in power) , HDMI (video, audio) x 1, Audio Input (MIC/AUX) x 1 (Phono jack, stereo)
		Audio Output Ports: HDMI (video, audio) x 1, Line Output (Phono jack, stereo) x 1,
		2 LAN Port
	To be supplied complete with	Full HD Codec
		Full High Definition Camera
	Optional Accessories	Two Omni Directional Microphone with stereo type connectivity
		RF Remote Control.
	Optional Accessories	Data sharing software
		HDMI Cable
		All other cables necessary for above features
2.6	Full HD PTZ Camera	
	Image Sensor	1/2.8 Exmor CMOS
	Effective Pixels	Approx. 2 Megapixels
	Signal System	1080/59.94p, 50p, 29.97p, 25p 1080/59.94i, 50i 720/59.94p, 50p, 29.97p, 25p
	Minimum Illumination (50IRE)	1.4 lx (50 IRE, F1.6, 30 fps)
	S/N Ratio	50 dB
	Gain	Auto/Manual (0 to +43 db)
	Shutter Speed	1/1 to 1/10000 sec (50 Hz system)
	Exposure Control	Auto, Manual, Priority, AE (shutter, iris), Exposure Compensation, Blight
	White Balance	Auto, Indoor, Outdoor, One-push auto, ATW, Manual
	Optical Zoom	30x
	Digital Zoom	Optional
	Focusing System	Auto, One-push AF, Manual, Infinity
	Horizontal Viewing Angle	65 degrees (wide)
	Focal Length	f=4.3 mm (wide) to 129 mm (tele)
	Minimum Object Distance	10 mm (wide end) / 1200 mm (tele end)
	Pan/Tilt Angle	Pan: ±170° Tilt: ±90°
	Pan/Tilt Speed (Max.)	Pan: 100°/sec Tilt: 90°/sec
	Preset Position	Min 16
	Wide-D	Yes
	HD Video Output	HDMI
	Camera Control Interface	RS-232 and RS-422
	Power Requirements	DC 12 V (DC 10.8 ~ 13.2 V)

	Power Consumption	14 W
	Operating Temperature	0°C to 40°C (32°F to 104°F)
	Storage Temperature	-20°C to +60°C (-4°F to +140°F)
2.7	4 Port HDMI Switch	
	HDMI In	4
	HDMI Out	2
	Coaxial Audio	1 X RCA
	Stereo Audio	2 X RCA
	Control Port	RS232
	IR extension port	1 X 3.5mm phono jack
	Supported Resolution	Up to WUXGA
	HDCP	Compatible
2.8	Wireless networking router	
	Features	Concurrent dual-band wireless for combined connection speeds of up to 750 Mbps
		Four 10/100 Fast Ethernet LAN ports
		deliver blazing fast wireless connectivity
	Security	Wi-Fi Protected Setup (WPS)
		WPA/WPA2 encryption to secure your wireless traffic
	Ease of Use	Web browser-based setup and configuration
		One page setup wizard to guide you through the configuration process
	Antenna	Three external antennas
	Operating Frequency	2.4 GHz band: 2400 - 2483.5 MHz 5 GHz band: 5150 - 5725 MHz
2.9	Full HD Professional Monitor	
	Screen Size	55"
	Resolution	Full HD
	Brightness	350 nits
	Contrast Ratio	5000:1
	Viewing Angle	178° / 178°
	Input	Analog D-SUB, DVI-D (HDMI Common), HDMI1, HDMI2 (thru DVI-D Input, Adapter Not Included), Component/Composite, Stereo Mini Jack, USB 2.0 x 1
	External Control	RS232C (In/Out) thru Stereo Jack, RJ45
	Power Consumption (Typical/Max)	60W / 176W
	Operating Temperature	0°C - 40°C
	Response Time	8ms
2.10	Document Camera	
	Resolution	5 MP
	Frame rate	Max. 30 fps

	Brightness control	Automatic
	Zoom	8 × optical, 10 × digital
	Lighting	Built-in LED
	Lens	manual and automatic focus
	Output	VGA, DVI
	Input	1 x VGA, 1 X USB
	SD memory card slot	Yes
	Internal memory	Up to 200 images
	Audio In	1 X 3.5mm jack
	Audio Out	1 X 3.5mm jack
2.11	Digital Smart Podium	
	Type / Mounting :	Free Standing Type
	Construction :	The Lectern shall be wheel mounted capable of moving in all directions with a facility of lock them while the Electronic Lectern is in use. Designed to work in specified environmental conditions
		Sliding Tray for keyboard & Mouse
		shelf for Input devices/ Visual Presenter/ Books/ Documents
	Interactive Screen	
	Display	IPS TFT Display
	Screen diagonal	21.5 inches or better
	Active area	18.7 inches x 10.5 inches
	Aspect ratio	16:9
	Resolution	1920 x 1080 pixels
	Viewing angle (H/V)	80° / 80° or Better
	Brightness	210 cd/m2
	Contrast ratio	900:1 (typ)
	Stand inclination	15° - 72°
	Integrated USB interfaces	1
	Supported operating systems	Windows® 8 / 7 / Vista® / Vista x64 / Mac OS® X 10.6.8 or later
	Video connection	HDMI/DVI/VGA
	i 5 CPU	
	Configuration:	i 5 CPU with 1 TB HDD,4GB RAM, Win 8/10 or better
	Gooseneck Microphone	
	Audio Frequency bandwidth	70 Hz to 18000 Hz
	Signal to noise	73db-A
	Bass Cut Filter	250 Hz
	Electrical impedance	600 ohms
	Polar Pattern	Cardioid

	Powering Interface	Voltage 9 V to 52 V
	Current	3 mA
	Audio Output	
	Type	Balance XLR
	Gender	Male
	Contacts	3-pin
		Prior Approval before fabrication & supply is required from Engineer-in-Charge.
	2.12 Full HD Professional Monitor	
	Screen Size	32-inch or better, 16:9
	Resolution	Full HD
	Brightness	350Nits
	Contrast Ratio	5000:1
	Viewing Angle	178° / 178°
	Input	Analog D-SUB, DVI-D(HDMI Common), HDMI1 Component(CVBS Common), Stereo mini Jack, USB 2.0 x 1
	External Control	RS232C(in/out) thru stereo jack, RJ45
	Power Consumption (Typical/Max)	30W / 77W
	Operating Temperature	0°C~ 40°C
	Response Time	8ms
	2.13 Full HD Professional Monitor	
	Screen Size	65"
	Resolution	Full HD
	Brightness	450 nits
	Contrast Ratio	4000:1
	Viewing Angle	178° / 178°
	Input	Analog D-SUB, DVI-D (HDMI Common), DisplayPort 1.2, HDMI1, HDMI2 (thru DVI-D Input, Adapter Not Included), Component (CVBS Common) Stereo Mini Jack, USB 2.0 x 1
	External Control	RS232C (In/Out) thru Stereo Jack, RJ45
	Power Consumption (Typical/Max)	110W / 264W
	Operating Temperature	0°C - 40°C
	Response Time	6.5ms
	2.14 Wall mounted glass board	
	Type	White opaque glass
	Size	As per site requirement
	Writing Surface	ghost/ stain proof smooth
	Features	frameless design hangs vertically or horizontally
		conceals hanging hardware for a sleek

		compatible for use with any dry erase marker
		inclusive of standard accessories
B	Audio System	
2.15	Fully Digital Conference System Delegate Unit	
	Type	Gooseneck Microphone
	Gooseneck length	40cm or better
	Connection :	Cat 5/6 cable
	Audio quality	16 bit
	Frequency:	25 Hz-15,000 Hz or better
	Loudspeaker	In-built
	Other Features:	Digital signal processing
		Shielded microphone, immune to mobile phone interference
		Headphone output
		Microphone On/Off button
		fail-safe redundancy feature
		Microphone LED ring
		Bi-color bar indicator
2.16	Fully Digital Conference System Chairman Unit	
	Type	Gooseneck Microphone
	Gooseneck length	40cm or better
	Connection :	Cat 5/6 cable
	Audio quality	16 bit
	Frequency:	25 Hz-15,000 Hz or better
	Loudspeaker	In-built
	Other Features:	Digital signal processing
		Shielded microphone, immune to mobile phone interference
		Headphone output
		Microphone On/Off button
		Priority button
		Next-in-line button
		daisy-chain cabling
		fail-safe redundancy feature
		Microphone LED ring
		Bi-color bar indicator
2.17	Central Unit for Digital Audio Conference System with recording	
	Controls and Features	Touch/rotary button technology

		Should be able to support at least 40 conference units.
		Low noise/silent operation
		Digital signal processing
		Default digital acoustic feedback reduction
		Should be able to record the conference on a USB/ SD card memory device.
		Fail-safe redundancy technology
		Master/slave function to expand the system
		On/Off button
		Voice activation function
	Connectivity	Balanced XLR input
		2 USB connections
		2/4 Bus connections
	Optional connection	1 Unbalanced RCA input
		2 Unbalanced RCA outputs
		LAN connection
2.18	UHF Wireless Handheld Microphone System	
	Transmitter	
	Type:	Capsule (dynamic)
	Carrier frequency range	500 - 865 MHz
	Modulation	FM
	Audio bandwidth	70 - 20,000 Hz
	T.H.D. at 1 kHz	typ. 0.8%
	Signal/noise ratio	typ. 105 dB(A)
	Power requirement	Min. 1x 1.5 V AA size battery
	Battery life	10 hours
	Receiver	
	Carrier frequency range	500 - 865 MHz
	Modulation	FM
	Audio bandwidth	40 - 20,000 Hz
	T.H.D. at 1 kHz	typ. 0.8%
	Signal/noise ratio	typ. 105 dB(A)
	Audio outputs	Balanced XLR and unbalanced 1/4" (6.3 mm) jack: adjustable from mic to line level. Output level at rated deviation: 500 mV rms
2.19	UHF Wireless Lapel Microphone System	
	Transmitter	
	Carrier frequency range	500 - 865 MHz
	Modulation	FM
	Audio bandwidth	40 - 20,000 Hz

	T.H.D. at 1 kHz	typ. 0.8%
	Signal/noise ratio	typ. 105 dB(A)
	Power requirement	Min. 1x 1.5 V AA size battery
	Battery life	10 hours
	Receiver	
	Carrier frequency range	500 - 865 MHz
	Modulation	FM
	Audio bandwidth	40 - 20,000 Hz
	T.H.D. at 1 kHz	typ. 0.8%
	Signal/noise ratio	typ. 105 dB(A)
	Audio outputs	Balanced XLR and unbalanced 1/4" (6.3 mm) jack: adjustable from mic to line level. Output level at rated deviation: 500 mV rms
2.20	Digital Signal Processor	
	Chassis	19" (single rack space)
	Inputs	AEC processing for up to 12
	Input Impedance:	3.0k Ω -8k Ω
	Input Noise (E.I.N.)	< -125dBu
	Analog Outputs	8
	Frequency Response:	20Hz to 20kHz
	Dynamic Range:	> 108dB
	Max Inputs/Outputs	Fixed
	Crosstalk	<-75dB
	Phantom Power:	48V nominal, selectable per input
	System configuration and control	Ethernet port(RJ-45)
	Front Panel Indication	LCD/LED indicators
	Logic Processing	Yes
	RS-232	Yes
	GPIO	Yes
	Signal Processing (MHz)	400
	Bi-Directional Locate Functionality	Yes
	GPIO Integration	12 Control Inputs and 6 Logic Outputs
2.21	FOH speaker	
	Nominal Coverage Pattern	100° H x 50° V or better
	Frequency Range	100 Hz - 15 kHz or better
	Maximum SPL	112 dB or better
	SENSITIVITY	90 dB (1W/1m)
	Nominal Impedance	8 ohms
	Connectors	4-pin NeutrikSpeakOn
	Power Handling	100W/400W or better

	Continuous/Peak	
	Enclosure	Hardwood/ABS/HDPE
	PROTECTIVE GRILLE	Perforated steel
2.22	Wall Bracket for FOH	
		As per site requirement
2.23	Dual Channel Amplifier	
	Amplifier Power	2 x 120 W (Class-D amplifier)
	Frequency Response	20 Hz - 20 kHz
	THD+N	≤ 0.5 % (at rated power)
	Dynamic Range	88 dB
	Line Inputs	2 unbalanced/2 balanced
	Auxiliary Input	1 unbalanced line
	Page Input	1 balanced mic/line
	Amplifier Outputs	touch-proof Euroblock
	Auxiliary Output	Stereo RCA
	Audio Latency	9ms - 11 ms
2.24	Equipment Rack	
	Size	17U
	Basic Structure	Four Pillars of CRCA Steel Folded
	Top & Bottom Cover	CRCA Steel Sheet
	Doors Front & Rear	Hex Perforated/Glass
	Standard Finish	Powder coated
	Load Bearing Capacity	200-300Kgs on Caster wheel
2.25	Central Control System	
	Hardware / Software	Support for 24/7/365 days Operation
	DDRAM	512 MB or better
	Flash Memory	6 GB or better
	Features	Supports external USB (SSD)/ SD and SDHC cards
		Front panel USB computer console port
		iPhone®/iPad®/ Android™ control app support
		Supports IPv6 protocol
		Supports security using 802.1X
	Control Ports	4 I/O Ports
		4 RS-232 Ports
		4 IR Ports
		4 Relay Ports
	ICSLan Connection	(1) RJ-45, 10/100 Port RJ-45 connector. Auto MDI/MDI-X enabled. Supports IPv4 and IPv6 networks. Supports HTTP, HTTPS, Telnet, FTP
	ETHERNET port	(1) RJ-45, 10/100 Port RJ-45 connector. Auto MDI/MDI-X enabled. Supports IPv4 and IPv6 networks. Supports HTTP, HTTPS, Telnet, FTP

	Processor	1600 MIPS
	Configuration Dip Switch	4-position
	ACTIVE POWER REQUIREMENTS	12 VDC
	Active Power Consumption	4.2 W
	Temperature (Operating)	41° to 113° F (5° to 45° C)
	Humidity (Operating)	10% to 85% RH
	Certifications	FCC CFR Title 47 Part 15 CE EN 55022 CE EN 55024 CE EN 60950-1 IEC 60950-1 UL 60950-1 C-Tick CISPR 22 IC CISPR 22 VCCI CISPR 22 RoHS / WEEE Compliant
2.26	Touch Pad for Control Systems	
	Display size	7.9 inches (diagonal) or better LED-backlit Multi-Touch display
	Resolution	2048x1536
	Processor	64-bit architecture M8 motion
	Wi-Fi models	Wi-Fi (802.11a/b/g/n/ac); dual band (2.4GHz and 5GHz);
2.27	Speaker Cable	
	Features:	Two 14 AWG conductors Must feature color-coded pair Cable should feature smooth and flexible jacket with sequential numbering Length : As per Actual Requirement of site
2.28	Audio/control Cable	
	Features:	2 X 26 AWG center conductor and dual shield design consisting of copper spiral and Mylar/foil. Rugged and flexible with low attenuation.
2.29	UTP 4 pair LAN cable	
	Features:	4 Pairs Unshielded Twisted Pair
	Conductor Metal	Solid Bare Copper
	Conductor Diameter	0.560mm Nominal, 23 AWG
	Jacket Material	PVC
	Cable Diameter	6mm Nominal
2.30	HDMI cable cord	
	Length	1.8 metres
	TYPE	High Speed HDMI cables

	CONDUCTOR AWG	28 AWG (7/0.127)
	SHIELD	Dual shield against EMI/RFI interference
2.31	HDMI cable cord	
	Length	15mtrs
	TYPE	High Speed HDMI cables
	CONDUCTOR AWG	28 AWG (7/0.127)
	SHIELD	Dual shield against EMI/RFI interference
2.32	HDMI cable cord	
	Length	10mtrs
	TYPE	High Speed HDMI cables
	CONDUCTOR AWG	28 AWG (7/0.127)
	SHIELD	Dual shield against EMI/RFI interference
2.33	POP UP Boxes	
		Min. 1 HDMI, 1 VGA and 1 Stereo input; LAN Port and Power plug point.
C	Streaming & Networking System	
2.34	Optical Fiber Cable	
	Cable Type	Optical Fiber Cable
	Construction Type	Armored
	Subunit Type	Gel-filled
	Fiber Type Solution	zero water peak singlemode fiber (G.652.D, G.657.A1)
	Total Fibre Core	6
	Mode	Single Mode
	Jacket Resistance	UV stabilized
	Minimum Bend Radius, loaded	Min 5.5 Inches
	Minimum Bend Radius, unloaded	Min 3.8 Inches
	Flame Test Listing	NEC OFNR (ETL) and c(ETL)
	Cable Qualification Standards	ANSI/ICEA S-104-696, EN 187105 ,Telcordia GR-409
	Compliance	RoHS 2011/65/EU
	ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system only
2.40	Equipment Rack	
	Size	9U
	Basic Structure	Four Pillars of CRCA Steel Folded
	Top & Bottom Cover	CRCA Steel Sheet
	Doors Front & Rear	Hex Perforated/Glass
	Standard Finish	Powder coated
2.41	Equipment Rack	
	Size	24U

	Basic Structure	Four Pillars of CRCA Steel Folded
	Top & Bottom Cover	CRCA Steel Sheet
	Doors Front & Rear	Hex Perforated/Glass
	Standard Finish	Powder coated
2.42	LAN Base Layer 2, 24 Port Switch	
	10/100/1000 Ethernet Ports	24
	Uplink Interfaces	4 SPF
	IOS Software Image	LAN Base
	High-Performance Routing	IP unicast routing protocols (Static, Routing Information Protocol Version 1 [RIPv1], RIPv2, RIPv6, and EIGRP-Stub Advanced IP unicast routing protocols (OSPF for Routed Access) EIGRPv3-Stub and PIMv6-Stub are supported as a part of the IPv6 routing suite. Equal-cost routing Policy-based routing (PBR) Hot Standby Routing Protocol (HSRP) and Virtual Router Redundancy Protocol (VRRP) Protocol Independent Multicast (PIM)
	Redundancy and Resiliency	Cross-stack EtherChannel, IEEE 802.1s/w Rapid Spanning Tree Protocol (RSTP) and Multiple Spanning Tree Protocol (MSTP), Per-VLAN Rapid Spanning Tree (PVRST+), Switch-port auto-recovery
	Enhanced Quality of Service	eight egress queues per port, Shaped Round Robin (SRR) scheduling and Weighted Tail Drop (WTD) congestion avoidance, Flow-based rate limiting and up to 256 aggregate or individual policers per port, 802.1p class of service (CoS) and Differentiated Services Code Point (DSCP) classification, Cross-stack QoS,
	Flash memory	128 MB for LAN Base & IP Lite SKUs, 64 MB for LAN Lite SKUs
	DRAM	512 MB for LAN Base and 256 MB for LAN Lite
	CPU	APM86392 600MHz dual core
	Console Ports	USB (Type-B), Ethernet (RJ-45)
	Storage Interface	USB (Type-A) for external flash storage
	Network Management Interface	10/100 Mbps Ethernet (RJ-45)
	Forwarding bandwidth	108 Gbps
	Switching bandwidth*	216 Gbps
	Maximum active VLANs	1023
	VLAN IDs available	4096
	Maximum transmission unit (MTU)-L3 packet	9198 bytes
	Jumbo frame - Ethernet frame	9216 bytes
	Ethernet Interfaces	10BASE-T ports: RJ-45 connectors, 2-pair Category 3, 4, or 5 unshielded twisted-pair (UTP) cabling ,100BASE-TX ports: RJ-45 connectors, 2-pair Category 5 UTP cabling ,1000BASE-T ports: RJ-45 connectors, 4-pair Category 5 UTP cabling ,1000BASE-T SFP-based ports: RJ-45 connectors, 4-pair Category 5 UTP cabling
	Indicator LED's	Per-port status: Link integrity, disabled, activity, speed, and full duplex, System status: System, RPS, Stack link status, link duplex, PoE, and link speed
	Safety	UL 60950-1 Second Edition, CAN/CSA-C22.2 No. 60950-1 Second Edition, EN 60950-1 Second Edition, AS/NZS 60950-1

	EMC - Emissions	47CFR Part 15 (CFR 47) Class A,AS/NZS CISPR22 Class A, CISPR22 Class A,EN55022 Class A, ICES003 Class A, VCCI Class A,EN61000-3-2,EN61000-3-3, KN22 Class A, CNS13438 Class A
	EMC - Immunity	EN55024, CISPR24, EN300386, KN24
	Environmental	Reduction of Hazardous Substances (RoHS) including Directive 2011/65/EU
2.43	10/100/1000 Gigabit Managed Switch	
	Spanning Tree Protocol (STP)	Standard 802.1d Spanning Tree support Fast convergence using 802.1w (Rapid Spanning Tree [RSTP]), enabled by default 8 instances are supported Multiple Spanning Tree instances using 802.1s (MSTP)
	Port grouping	Support for IEEE 802.3ad Link Aggregation Control Protocol (LACP), Up to 8 groups ,Up to 8 ports per group with 16 candidate ports for each (dynamic) 802.3ad link aggregation
	VLAN	Support for up to 4096 VLANs simultaneously Port-based and 802.1Q tag-based VLANs MAC-based VLAN Management VLAN Private VLAN Edge (PVE), also known as protected ports, with multiple uplinks Guest VLAN Unauthenticated VLAN Dynamic VLAN assignment via Radius server along with 802.1x client authentication CPE VLAN
	Voice Lan	Voice traffic is automatically assigned to a voice-specific VLAN and treated with appropriate levels of QoS. Auto voice capabilities deliver network-wide zero touch deployment of voice endpoints and call control devices.
	Mulricast TV VLAN	Multicast TV VLAN allows the single multicast VLAN to be shared in the network while subscribers remain in separate VLANs (Also known as MVR)
	Unidirectional Link Detection (UDLD)	UDLD monitors physical connection to detect unidirectional links caused by incorrect wiring or cable/port faults to prevent forwarding loops and blackholing of traffic in switched networks
	Dynamic Host Configuration Protocol (DHCP) Relay at Layer 2	Relay of DHCP traffic to DHCP server in different VLAN. Works with DHCP
	Jumbo Frames	Up to 9K (9216) bytes
	IPv4 routing	Wirespeed routing of IPv4 packets Up to 512 static routes and up to 128 IP interfaces
	Secure Sockets Layer (SSL)	SSL support: Encrypts all HTTPS traffic, allowing highly secure access to the browser-based management GUI in the switch
	IEEE 802.1X (Authenticator role)	802.1X: RADIUS authentication and accounting, MD5 hash; guest VLAN; unauthenticated VLAN, single/multiple host mode and single/multiple sessions Supports time-based 802.1X Dynamic VLAN assignment
	Web Based Authentication	Should provides network admission control through web browser to any host devices and operating systems.
	IP Source Guard (IPSG)	If enabled at a port, the switch filters out IP packets received from the port if the source IP addresses of the

		packets have not been statically configured or dynamically learned from DHCP snooping. This prevents IP Address Spoofing.
	Layer 2 isolation Private VLAN	Edge (PVE) with community VLAN PVE (also known as protected ports) provides Layer 2 isolation between devices in the same VLAN, supports multiple uplinks.
	Port security	Should lock Source MAC addresses to ports, and limits the number of learned MAC addresses.
	IPv6 applications	Web/SSL, Telnet server/SSH, ping, traceroute, Simple Network Time Protocol (SNTP), Trivial File Transfer Protocol (TFTP), SNMP, RADIUS, syslog, DNS client, Telnet Client, DHCP Client, DHCP Autoconfig, IPv6 DHCP Relay, TACACS
	Web user interface	Built-in switch configuration utility for easy browser-based device configuration (HTTP/HTTPS). Supports configuration, system dashboard, system maintenance, and monitoring.
	Remote Monitoring (RMON)	Embedded RMON software agent supports 4 RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis
	Firmware upgrade	Web browser upgrade (HTTP/HTTPS) and TFTP and upgrade over SCP running over SSH ,Upgrade can be initiated through console port as well , Dual images for resilient firmware upgrades
	EEE Compliant (802.3az)	Supports 802.3az on all copper ports
	Certification	UL (UL 60950), CSA (CSA 22.2), CE mark, FCC Part 15 (CFR 47) Class A
2.44	1000BASE-LX/LH SFP transceiver module	
	Cabling &Conectors	Dual LC/PC connector (1000BASE-SX, 1000BASE-LX/LH, 1000BASE-EX and 1000BASE-ZX), Single LC/PC connector (1000BASE-BX-D and 1000BASE-BX-U),RJ-45 connector (1000BASE-T)
	Modal Bandwidth (MHz* Km)	500
	Transmit Power Range (dBm)	-3 to -9.5
	Receive Power Range (dBm)	-3 to -20
	Maximum Channel insertion loss in dB (by fiber type	2.4 (any MMF), 6 (G.652 SMF)
	Transmit and Receive Wavelength Range (nm)	1270 to 1355
2.46	Multi Point Conferencing Bridge	
	Features	The MCU should be hardware based and should support H.323, SIP, and H.264 SVC and H.264 Hprofile
		All components of the MCU solution – MCU module , Gatekeeper, Scheduling, Network Management and point to point desktop client software mobile clients , and end point should be from the same OEM
		The MCU must support H.235 standard AES encryption

		without impacting HD port capacity.
		The MCU should support personal video layout per participants
		The MCU should support HD CP at 1080p30 p receive and transmit
		The MCU must support H.239 standard for sending/receiving multiple streams of video and presentation content. The H.239 support should not cost additional conference ports
		The MCU should support multiple HD Conferences.
		The MCU should be able to handle packet losses upto 5% using appropriate packet loss algorithm for desktop clients. The same need to be demonstrated in a real time scenario.
	MCU Capacity :	The MCU must support 5HD (1080p p30 FPS) participants conference call in a single or multiple conferences from day one. The same MCU should also support 20 ports 480p30 dynamically
	MCU Management	The MCU should have IP based and Gatekeeper, Scheduler and Network management systems.
		The MCU should support Telnet for accessing remotely for carrying diagnostics from a remote PC in the network for diagnostics
		The MCU should have the option of welcome screen when the conference is initiated
	Audio Support:	G.711, G.722, G.722.1, G.729, MPEG4 -AAC-LC , G.722.1 Annex C equivalent or higher
	Video Encoding , Resolution and Presentation Support:	Video algorithms H.263, H.263+, and H.264, H.264 High Profile and H.264 SVC
		Video resolutions - CIF, 4CIF, SIF, 4SIF, 480p 30 720p 30 and 1080p30
		Support HD @ 1080p30 , 72030 FPS , and 480p 30
		Presentation video resolution – Presentation video resolution – WUXGA SXGA VGA, SVGA, XGA, HDMI or higher
		H.239 and Duo Video for presentation sharing
	Network and security	H.235 AES encryption for secure conferencing
		PIN protected conferences
		HTTPS for secure communications
	MCU Chair Control	The MCU must support Far End Camera Control, in voice activated and continuous presence modes, using H.281 Far End Camera Control
	Data Support	The MCU must support H.239 and Duo-Video standards for sending/receiving multiple streams of video and presentation content without losing MCU port capacity
	MCU Video CP Layout	The MCU must support video processing capabilities that allow each site to see other sites simultaneously with 16 or more continuous presence participants on a single screen
	MCU indicating functions	The MCU will be able to indicate:- <ul style="list-style-type: none"> • A participant joins/leaves the conference; • Encrypted conference; audio participants
2.47	Video recording & streaming	

	Recording License Unit	
2.48	Server for hosting MCU gate keeper & streaming	
	Features	Gatekeeper Capacity a. No of Registrations: 50 registrations and 20 concurrent calls
		The MCU must support scaling to larger installations through Gatekeeper load balancing and call routing rules
		The comprehensive solution shall include a software based H.323 Gatekeeper function.
		The Gatekeeper must support advanced bandwidth management for calls between Gatekeeper sub-zones and remote zones to ensure proper call access control to the TCP/IP network for H.323 calls.
		The Gatekeeper must support maximum bandwidth control per endpoint or per groups of endpoints.
		The Gatekeeper must support call Fallback policies per dialed number
		The Gatekeeper must support Least Cost Routing.
		The Gatekeeper must support Line hunting for Gateway calls,
		The Gatekeeper must support H.450 Call Forward and Transfer Supplementary Services.
		The Gatekeeper must support call forwarding options including: unconditional forwarding, forward - busy and forward - no answer, and forward when not registered.
		The Gatekeeper must support real time monitoring
		The Gatekeeper must support advanced call fallback to ensure call completion rates.
		The Gatekeeper must support H.341 for third-party customization.
		The Scheduler should support Microsoft scheduling with email notifications to individual participants.
		A Web based central management interface developed by the MCU manufacturer should be provided in order to control all system resources, reserve conferences, and provide ongoing conference, point to point call, and network and fault management functions
		The Scheduling software should able to send e-mail notification to all participants using Microsoft outlook and/or Lotus notes plug in
		The conference scheduling application must support SIP, H.323 and desktop users
		The conference scheduling application must support intelligent and optimized real time resource allocation algorithm for MCU ports and dynamically reuse the allocated ports according to the actual terminal capabilities.
		The conference scheduling application must support Lecture style conferences where the lecturer sees students in a continuous presence layout, and the students all see the lecturer in a single screen layout.

		The conferencing application should provide a reporting and statistics support which will enable the system admin generate the following graphical charts / reports:
		a. No of Multipoint calls records for the entire deployment
		b. No of Point to Point calls records for the entire deployment Calls Records per Terminal
		c. No of gateway calls for the deployment
		d. No of Desktop calls
		e. Multipoint calls records per specific Virtual Room.
		The conference scheduling application and network management application should have the option to support redundant deployment for high availability
		The conference scheduling application must support management, load balancing and resource reservation of multiple distributed MCUs, Gateways and Gatekeepers.
		The conference scheduling application must support Dial-in or MCU auto-Invite (Dial-out) to terminals.
		The network management application must support multiple network views and configurable presentation of the network topology in a Network Tree view, flat table view and customizable views.
		Both the Gatekeeper and the Scheduling and Network Management software should be installed in server / on an appliance

**Schedule of Quantities
For
Technical Bid (PART-I)
Note: Rates not be quoted in Part-I**

Name of Work: Renovation and modernization of Lecture Theaters at AIIMS, New Delhi

Sub Head: Audio-visual systems, Video-conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, False ceiling, Wall Paneling, Furnishing and Other Civil Work.

Item No.	Description	Qty.	Unit	Unit Price (Rs.)	Total Amount (Rs.)
1	Sub Head I :- INTERIOR CIVIL WORK				
1.1	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor seven level, excluding the cost of centring, shuttering and finishing :				
	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	12	Cum.	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-I)	
1.2	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor seven level in all shapes and sizes in :				
	Cement mortar 1:4 (1 cement : 4 coarse sand)	3	Cum.		
1.3	15 mm cement plaster on the rough side of single or half brick wall of mix up to floor seven level:				
	1:4 (1 cement: 4 fine sand)	100	Sqm.		
1.4	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead up to floor seven level.	100	Sqm.		
1.5	Providing & Fixing raised floor using 50x50x4.5mm thick MS pipe frame 600x600mm c/c both ways and upto 150mm frame high welded & finished with primer buffed at all joints & finally finished with 22mm thick HDF board using staggered jointing with GN 55 self taping screws finally finished with 12 mm thick HDF laminate flooring AC5 of Vista make.	50	Sqm.		

1.6	<p>Providing and fixing of 6 mm thick High Pressure Laminate Sheet (IS:1285-3429) Sycamore/ Vengeel or as approved of Merino laminate pasted with glue on 12mm BWP ply of approved brand and manufacturer fixed over a framework of 48mm GI stud 0.55mm thick fixed at 600(V) X 1200 (H)mm (or wherever required as per design drawing) centre to centre jointed with each other with GI cleats & drive all screws. Further placing the GI studs at floor level in 50mm GI floor channel of 0.55mm thickness. The frame work to be filled with 50 mm thick thermal bonded polyester non-woven wadding Micron fibre to be 1000gm / sqm. The framework to be supported on the wall at the interval of 1200mm centre to centre with providing and fixing 35x35x3mm MS angle cleats fixing with fasteners of required length (MS bright finished anchor fasteners of size 65m x 10mm dia). The priming coat on MS angle cleat of red oxide primer. The rates including for all geometry of walls, opening etc. and for complete item including all the required approved material, labour and fixing. Melamine polish on the slats to be inclusive.</p>	330	Sqm.		
1.7	<p>Providing and fixing of 4mm thick Natural Veneer sheet of Bhutan tuff/ Garnet make firmly pasted with glue on 12 mm ply of approved brand and manufacturer fixed over a framework of 48mm GI stud 0.55mm thick fixed at 600(V) X 1200 (H)mm (or wherever required as per design drawing) centre to centre jointed with each other with GI cleats & drive all screws. Further placing the GI studs at floor level in 50mm GI floor channel of 0.55mm thickness. The frame work to be filled with 50mm thick thermal bonded polyester non-woven wadding Micron fibre to be 1000gm / sqm. The micron fibre to be held in position with chicken mesh of 18mm 24SWG. The framework to be supported on the wall at the interval of 1200mm centre to centre with providing and fixing 35x35x3mm MS angle cleats fixing with fasteners of required length (MS bright finished anchor fasteners of size 65m x 10mm dia). The priming coat on MS angle cleat of red oxide primer. The rates including for all geometry of walls, opening etc. and for complete item including all the required approved material, labour and fixing.</p>	180	Sqm.	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-I)	
1.8	<p>P/F MINERAL FIBRE CEILING Fine Fissured Silhouette Micro look suspended ceiling system with prime fine fissured Microlook edge tile. The tiles should have NRC 55 white colour, fire performance class 0 / class 1 (BS 476 classification) in module size 600 mm x600mmx 15 mm laid on the main runner 1200 & 600 mm cross tees. compromise main runners spaced at 1200 mm centres securely fixed to the structural socket by approved hangers by approved hangers at 1200 mm maximum centres. The last hangers at the end of each main runner should not be greater than 450</p>				

	mm from the adjacent wall. Flush fitting 1200 mm long cross tees to be inter locked between main runners at 600 mm centres to form 1200 x 600 mm modules. Cut cross tees longer than 600 mm require supported independently. 600 mm x 600 mm modules to be formed by fitting 600 mm long flush fitting cross tees centrally between the 1200 mm cross tees. Perimeter trim to be wall angle or channel secured to walls at 450 mm maximum centre to centre. The mineral fibre tile and grid system of Armstrong/ Nitobbo make..	520	Sqm.		
1.9	Providing & Fixing of Wooden Suspended Ceiling System with 24 MM GRID. The tiles should have Thermal Conductivity k=0.12 Wo/m K, Fire Performance UK Class 1 (BS 476) in module size of 600 x 600 x 12 mm with Laminate / Veneer layer on the face of the tile with perforation options like R3 / R3B / R6 / R8B / O6 / O11 / O12 /SQ50..The grid should be of 24mm wide T - section flanges colour white having rotary stitching on T sections i.e. the Main Runner with a web height of 38mm for the main runner. The T Sections have a Galvanizing of 90 grams complete as per drawings, specification and direction of the Engineer in Charge . Grid & tile shall be of Armstrong/Nitobbo make.	50	Sqm.	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-D)	
1.10	P/F Fire retardant fabric over a framework of 48mm GI stud 0.55mm thick fixed at 600(V)x1200(H) (or wherever required as per design drawing) mm centre jointed with each other with GI cleats & drive all screws. Further placing the GI studs at floor level in 50mm GI floor channel of 0.55mm thickness. The frame work to be filled with 50mm thick thermal bonded UP TwigaFiber Glass Wool 32Kg cqm. The micron fiber to be held in position with chicken mesh of 18mm 24SWG. The framework to be supported on the wall at the interval of 1800mm centre to centre with providing & fixing of 35x35x3mm MS angle cleats fixing with fasteners of required length (MS bright finished anchor fasteners of size 65m mx10mm dia) including priming coat of red oxide primer on MS angle . The fabric to be held in position with UPVC grippers fixed over a 75 mm wide 12 mm thick commercial ply strips @ 1200 mm centre to centre vertically fixed to GI framework . The rate includes for all Geometry of wall, openings etc. and for complete item including all the , labour and fixing as per drawings . Fabric of RWSM/Trimax make	130	Sqm.		
1.11	Providing & fixing in position "Gypsum" FIRE LINE board false ceiling suspended on GI frame work in design as shown in the drawing. The GI frame work consists of Ceiling section of 0.5mm thickness having curled edge of 51.5 mm and two flanges of 26 mm each with lips of 10.5 mm fixed to intermediate channel with the help of connecting clips and in a direction perpendicular to the intermediate channel with the help of connecting slips & in a direction perpendicular to intermediate channel @ 450 mm and 12.5 mm thick tapered edge				

	gypsum plaster board (confirming to IS 095 1982 Gypsum board) screw finally the tapered and square edges of the boards are to be jointed and finished with requisite filler, paper tape, finisher and primer suitable for Gypsum plaster boards to give a smooth and even finish (as per recommendation of India Gypsum Ltd) Rate to include making necessary cut outs openings for light fittings, A.C. diffusers etc. with necessary wooden frame all around the opening. The cut outs to have perimeter channel including all the , labour and fixing as per drawings.	150	Sqm.		
1.12	Providing & Fixing 50 mm thick expanded polystyrene insulation (24 kg/cum) high density fixed with 20G chicken mesh & G.I nut & washer .with all hanging & Fixing arrangements as desired by the Engg in Charge.	120	Sqm.		
1.13	Providing and fixing Lecture theatre table and seat as per drawing as approved by the Engineer-in-Charge. Legs are made up of 70 X 30mm 16-gauge powder coated oval CRCA pipe and anchored to floor with high quality fasteners and concealed floor grouting. Top ends of the legs are covered with PVC caps. Bottom bar pipe(cross section) are made up of 80 X 40mm 16-gauge powder coated rectangular pipe.Back to have16-gauge perforated powder coated CRCA sheet with 3mm perforated holes with book rack in epoxy powder coated steel. Fixed with tip off seat covered with ABS sheet. Seat to have leatherite/Fabric cushion.seat & Back also to to padded with 50mm thick ABS foam with fabric cover & all wood work to be laminated with High pressure Laminate sheets of 2.2mm thick – Laminated. Seats & back to have 25 mm thick MDF board. All metal parts are powder coated with epoxy powder after seven tank hot phosphating treatment. Fitted with quality fasteners. The quality, material and finish of table and seat should be comparable to seat & bench of HNI BP Ergo			RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-I)	
A	First row 5 seater or as required	75	Each Seat		
B	Last row 5 seater or as required	75	Each Seat		
C	Regular 5 seater or as required	525	Each Seat		
1.14	Providing & fixing 2.0 mm thick acoustic vinyl flooring of 2200 gram per sqm with required underlay Response Endura with required 554 Adhesive at site as per approved shade & design.	560	Sqm.		
1.15	Providing & fixing 1st class seasoned wood in frames of doors, windows, partitions & other frames (well seasoned) & fixed in position including hold fast, metallic fasteners including applying a coat of bitumen paint of termite paint on concealed surface with melamine polish complete as directed				
	Frame in Golden maple wood	1	Cum.		
1.16	Providing and fixing laminated flush doors with both side laminate, maple wood beading all around complete with stainless steel buff finish heavy duty				

	hinges etc., as per design and detailed drawings. Flush door 35mm thick with 1.5mm thick lamination on both sides complete as required.	30	Sqm.		
1.17	Providing and fitting the following Hardware for doors i/c necessary screws etc.				
a.	Panic bar in fire door of BRATON make.	5	Each	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-I)	
b.	Handles of Dorset in buffed steel finish for flush doors 600mm (set)	10	Each		
c.	Door closer sleek of concealed type Everite or equivalent, in buffed steel finish.	10	Each		
d.	DormaTrimix Cross linked High bolts locks, in buff steel finish	10	Each		
1.18	Painting the walls including surface preparation, primer, putty with 3 coats of best quality Acrylic emulsion paint complete in desired shades and colours.(Royal touch) of Asian Paints or equivalent.	200	Sqm.		
1.19	Providing and applying of Acrylic emulsion paint complete in desired shades and colours.(Royal touch) of Asian Paint or equivalent.	100	Sqm.		
1.20	Providing and applying 6-8mm thick plaster of paris (super fine quality) punning on walls, columns etc.. including scraping & hacking the existing finished surfaces and applying plaster of paris on wall, making in proper line and levels for smooth finish etc.	100	Sqm.		
1.21	Providing and applying of 5 coats of sealer on base polish after filling the putty & preparing the base finally finished with melamine polish with spray machine	180	Sqm.		
1.22	Providing & fixing in position Anchor nut bolt of HILTI - make including drilling in RCC coloumn and stifner plate				
A	25 mm dia x 150 mm long	500	Each		
B	Chemical for grouting of nut bolt	500	Each		
1.23	Providing and fixing 100 mm high laminated skirting made with 12 mm thick commercial plywood and 1.5 mm thick laminate of approved shade with 3 mm thick golden maple wood beading on top finished with melamine polish or decco paint of approved shade as directed by the Engineer-in-Charge.	20	Metre		
CREDIT ITEM					
1.24	Dismantling and taking away existing old and damaged civil items like wooden Desk, benches, doors, windows, door frames, false ceiling with frames, wooden frames, iron frames, chairs, installed in the said LTs as credit items on buy back basis including cleaning the Lecture Theatres after dismantling complete as required as per direction of Engineer-in-Charge.	1	Job		
	Sub Total – Sub Head I			Rs.	

2	Sub Head II :- AUDIO-VIDEO SYSTEM				
	(A) Video Conferencing & Presentation System				
2.1	Supply, installation, testing and commissioning of Full-HD LCD Projector Display System on existing Projector Mounting Kit with size of effective display area 0.64" (16.3 mm) x 3, Aspect ratio: 16:10, Number of pixels 69,12,000 (1900 x 1200 x 3) pixels, Projection lens, Focus Manual, Zoom - Manual, Zoom - Ratio Approx. 1.45 x Throw Ratio 1.5:1 to 2.2:1, Lens shift - Manual, Light source - ultra high pressure mercury lamp, Wattage 280 W max., Screen size 40" to 300" (1.02 m to 7.62 m) (measured diagonally), Light output/ colour light output : High 5000 lm, Standard 3600 lm, low 3100 lm, Contrast ratio (full white / full black) 2500:1, Speaker 12 W x 1, Maximum display resolution: WUXGA 1920 x 1200 dots, Video signal input 480/60i,576/50i,480/60p,576/50p,720/60p,1080/60i, colour system NTSC3, PAL, SECAM, NTSC4.43, PAL-M, PAL-N i/c audio, video HDMI jacks,HD-BaseT HDCP support, S-video input connector, RGB/YpPr input connector complete as required.	5	Each	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-I)	
2.2	Supply, installation, testing and commissioning of Ceiling mount Kit for fixing of LCD Projector complete as required as per direction of Engineer-in-Charge.	5	Each		
2.3	Supply, installation, testing and commissioning of remote controlled Motorised Projection Screen 78"x139" (159" Diagonal), HDTV format, Matt white fabric complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each		
2.4	Supply, installation, testing and commissioning of 21.5 inches (diagonal) or better Interactive Screen for Professor suitable to fix on any desk or work space complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each		
2.5	Supply, installation, testing and commissioning of Full HD Video Conferencing System with PTZ Camera and Codec complete as per specifications attached and direction of Engineer-in-Charge as required.	7	Each		
2.6	Supply, installation, testing and commissioning of Full Hd,30x Optical Zoom & HDMI out PTZ Camera complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each		
2.7	Supply, installation, testing and commissioning of 4 Port Dual View HDMI Switch complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each		
2.8	Supply, installation, testing and commissioning of Wireless networking router complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each		

2.9	Supply, installation, testing and commissioning of 55 inches Full HD Professional Monitor with HDMI/VGA/DVI ports complete as per specifications attached and direction of Engineer-in-Charge as required .	5	Each		
2.10	Supply, installation, testing and commissioning of Document Camera with built in illumination lamp, lens with manual and automatic focus, resolution 5 MP, automatic and manual brightness control, Max. shooting area 40 cm x 30 cm, VGA input, VGA output,3.5mm jack audio in & audio out, complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-I)	
2.11	Supply, installation, testing and commissioning of Digital Smart Podium made of high quality wood with 21.5" (diagonal) or better Interactive Monitor for writing, erasing, annotation, cut & paste of annotated images, facility for making e-book,multi colour page insert, insertion of video, MS office file and Lecture Recording software, i5 CPU, reading light & clock, gooseneck microphone, AIIMS monogram on front complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each		
2.12	Supply, installation, testing and commissioning of 32 inches Full HD Professional Monitor with HDMI/VGA/DVI connectors complete as per specifications attached and direction of Engineer-in-Charge as required.	2	Each		
2.13	Supply, installation, testing and commissioning of 65 inches Full HD Professional Monitor with HDMI/VGA/DVI connectors complete as per specifications attached and direction of Engineer-in-Charge as required	1	Each		
2.14	Providing and fixing of of Wall mounted glass board: Segment size 4'x6' 6mm or more thick chemically frosted glass with suitable background (deep green or off-white etc.) colour as per requirement. Competed with 3" x 1.5" frame and appropriate dust catcher. Including complete polishing, fixing and fitting. Note : 2 or 3 such segments would be usually placed by side to have a bigger single board.	5	Each		
	Sub Total – Sub Head II (A)			Rs.	
(B) Audio System					
2.15	Supply, installation, testing and commissioning of Fully Digital Conference System Delegate Unit combine with sleek design with digital signal processing and plug- and – play functionality, 50 cm length goose neck microphone, ON/OFF button complete as per specifications attached and direction of Engineer-in-Charge as required.	216	Each		

2.16	Supply, installation, testing and commissioning of Fully Digital Conference System Chairman Unit combine with sleek design with digital signal processing and plug- and – play functionality, 50 cm length goose neck microphone, ON/OFF button, next in line button, priority button complete as per specifications attached and direction of Engineer-in-Charge as required.	3	Each	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-I)	
2.17	Supply, installation, testing and commissioning of Central Unit for Digital Audio Conference System with recording, touch sensor button technology, ON/OFF button, digital signal processing, master / slave function to expand the system, complete as per specifications attached and direction of Engineer-in-Charge as required.	3	Each		
2.18	Supply, installation, testing and commissioning of UHF Wireless Handheld Microphone System, Receiver: Frequency range 500 - 865 MHz, Switching bandwidth 20 MHz, SN ratio >100 dB, T.H.D. < 0.8% at 1 kHz, Transmitter: Transducer type: Dynamic, Polar pattern: Supercardioid etc. complete as per direction of Engineer-in-Charge	5	Each		
2.19	Supply, installation, testing and commissioning. of UHF Wireless Lapel Microphone System, Receiver: Frequency range 500 - 865 MHz, Switching bandwidth 20 MHz, SN ratio >100 dB, T.H.D. < 0.8% at 1 kHz, Modulation FM, Frequency response 40 Hz - 20,000 Hz etc. complete as per direction of Engineer-in-Charge.	5	Each		
2.20	Supply, installation, testing and commissioning. of Digital Signal Processor, 12 balanced line inputs(AEC) on plug-in barrier strips, 8 balanced outputs on plug-in barrier strips, Ethernet port for software configuration / control, serial port for third-party RS-232 remote control etc. complete with installation as per the site requirement.	5	Each		
2.21	Supply, installation, testing and commissioning. of Front of House wall mount Speaker, Full range Driver Array, 4 x 4.5" full range drivers installation / transportable loudspeaker etc. complete with installation as per site requirement.	10	Each		
2.22	Supply and installation of Wall Bracket for installation of wall mount speaker complete as required.	10	Each		
2.23	Supply, installation, testing and commissioning. of Dual Channel Amplifier with 2 x 120 watts Class D Amplifier, 55Hz-20KHz, 88 Db or better, complete with installation as per the site requirement.	5	Each		
2.24	Supply, installation, testing and commissioning. of 17U Equipment Rack complete with power strip, cooling fan, back and front door (lockable) alongwith equipment rack tray & wheels etc. complete with installation as per site requirement.	5	Each		
2.25	Supply, installation, testing and commissioning of Central Control System for audio-visual equipments complete as required as per direction of Engineer-in-Charge	5	Each		

2.26	Supply, installation, testing and commissioning of 7.9 inches (diagonal) or better Touch Pad for Control Systems complete with Software, interconnect cables and installation as per the site requirement	5	Each	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-I)		
2.27	Supply, laying, testing and commissioning of of Speaker Cable, 14 AWG stranded (19x27) ETP high-conductivity copper conductors, PVC insulation, parallel: (1) tinned, (1) bare etc. complete as required.	150	Metre			
2.28	Supply, laying, testing and commissioning of of audio/control Cable , 2 coax (26AWG) cable with drain wire, Each coax has a 26 gauge centre conductor and dual shield design consisting of copper spiral and Mylar/foil. Rugged and flexible with low attenuation etc. complete with installation as per the site requirement.	500	Metre			
2.29	Supplying and drawing of UTP 4 pair CAT 6 LAN cable in the exiting surface/ recessed steel/ PVC conduit as required	2040	Metre			
2.30	Supply, laying, testing and commissioning of 1.8mtr. HDMI cable cord with connectors complete as required.	30	Each			
2.31	Supply, laying, testing and commissioning of 15 mtr. HDMI cable cord with connectors complete as required	10	Each			
2.32	Supply, laying, testing and commissioning of 10 mtr. HDMI cable cord with connectors complete as required.	10	Each			
2.33	Supply, laying, testing and commissioning of POP UP Boxes with min. 1 HDMI, 1 VGA and 1 Stereo input; LAN Port and power plug point with standard accessories complete as required.	5	Each			
Sub Total – Sub Head II (B)					Rs.	
(C) Streaming & Networking System						
2.34	Supply and drawing/laying of 6 Core, single mode Optical Fiber Cable in the existing PVC conduit/surface including testing, commissioning complete as required	1850	Metre			
2.35	Supply, installation, testing and commissioning of 12 port LIU(Light Interface Unit) fully loaded Patch Panel complete as required.	6	Each			
2.36	Supply, installation, testing and commissioning of 6 Port LIU(Light Interface Unit) fully loaded Patch Panel complete as required.	8	Each			
2.37	Supply, installation, testing and commissioning of Pigtailed complete as required.	126	Each			
2.38	Supply, installation, testing and commissioning of 1.8mtr. SC-LC Fiber Patch Cords complete as required.	18	Each			
2.39	Supply, installation, testing and commissioning of CAT 6 UTP cable box with I / O ports complete as required.	5	Each			
2.40	Supply, installation, testing and commissioning. of 9U Equipment Rack complete with power strip, cooling fan, back and front door (lockable)	9	Each			

	alongwith equipment rack tray & wheels etc. complete with installation as per site requirement.				
2.41	Supply, installation, testing and commissioning. of 24U Equipment Rack complete with power strip, cooling fan, back and front door (lockable) alongwith equipment rack tray & wheels etc. complete with installation as per site requirement.	1	Each		
2.42	Supply, installation, testing and commissioning of Catalyst 2960-X 24 GigE, 4 x 1G SFP, LAN Base 24 port Switch complete as per specifications attached as required.	2	Each	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-I)	
2.43	Supply, installation, testing and commissioning of 28 Port 10/100/1000 Gigabit Managed Switch with 2 SFP Combo slots complete as per specifications attached as required.	9	Each		
2.44	Supply, installation, testing and commissioning of 1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM complete as per specifications attached as required.	16	Each		
2.45	Supply and making joint in Optical Fiber Cable with suitable connector and Fiber Splicing tool complete as required.	126	Each		
2.46	Supply, installation, testing and commissioning of Multi Point Conferencing Bridge for High Definition- 5 port HD (1080p30fps) Continuous Ports, 20 ports 480p30, support multiple HD Conferences complete as per specifications attached as required.	1	Each		
2.47	Supply, installation, testing and commissioning of Video recording & streaming recording License Unit complete as required.	1	Each		
2.48	Supply, installation, testing and commissioning of Server for hosting MCU gate keeper & streaming application complete as per specifications attached as required	1	Each		
2.49	Supply and fixing of miscellaneous cable patch cords, connectors required for commissioning of Audio, Video, Networking & streaming equipments complete as required.	1	Job		
	Sub Total – Sub Head II (C)			Rs.	
3	Sub Head III :- Electrical & Air-conditioning Work				
	(A) Electrical Work				
3.1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required. Group C	267	Point		
3.2	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	1100	Metre		

3.3	Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 2 Nos 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	550	Metre		
3.4	Supplying and drawing following sizes of FR/FRLS PVC insulated copper conductor, single core cable in the existing surface / recessed steel / PVC conduit as required.				
	a) 3 x 1.5 sq. mm (FRLS)	180	Metre	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-D)	
	b) 6 x 1.5 sq. mm (FRLS)	50	Metre		
	c) 3 x 16 sq. mm (FR)	50	Metre		
3.5	Supplying and drawing following pair 0.5 sq mm FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required. a) 4 Pair	180	Metre		
3.6	Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.				
	a) 20 mm	180	Metre		
	b) 25 mm	50	Metre		
	c) 32mm	50	Metre		
3.7	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				
	a) 25 mm	4070	Metre		
	b) 32 mm	100	Metre		
3.8	Supplying and fixing following size/ modules, GI/PVC box alongwith modular base & cover plate for modular switches in recess etc as required.				
	a) 1 or 2 Module	13	Each		
	b) 3 Module	537	Each		
	c) 6 Module	36	Each		
	d) 12 Module	10	Each		
3.9	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				
	a) 5/6 Amps. Switch	580	Each		
	b) 15/16 Amps. Switch	64	Each		
	c) 3 pin 5/6 Amps. Socket outlet	580	Each		
	d) 6 pin 15/16 Amps. Socket outlet	64	Each		
	e) Telephone socket outlet	5	Each		

3.10	Supplying and fixing stepped type electronic fan regulator (2 module type) on the existing modular plate switch box including connections but excluding modular plate etc. as required.	43	Each	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-I)	
3.11	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator) a) 16 way, Double door	11	Each		
3.12	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
	a) Single pole	154	Each		
	b) Double Pole	3	Each		
3.13	Laying of one number PVC insulated and PVC sheathed/XLPE power cable of 1.1 KV grade of following size in the existing masonry duct as required.				
	a)Up to 35 mm ²	80	Metre		
3.14	Laying and fixing of one number PVC insulated and PVC sheathed/XLPE power cable of 1.1 KV grade of following size of wall surface as required.				
	a) upto 35 sqmm (clarified with 1 mm thick saddle.)	630	Metre		
3.15	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing along with existing surface/recessed conduit/ sub main wiring /cable, as required.	610	Metre		
3.16	Supplying and making indoor end termination with Brass compression gland and Aluminium lugs for following size of PVC insulated and PVC sheathed/ XLPE aluminium conductor cable of 1.1 KV grade as required.				
\	a) 2 x 25 sqmm (32 mm)	32	Each		
	b) 3 X 16 sq. mm (25 mm)(with copper thimble)	10	Each		
3.17	Supplying and installing following size of perforated pre painted M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.				
	a) 100 mm width x 50 mm depth x 1.6 mm thickness	50	Metre		
	b) 50 mm width x 50 mm depth x 1.6 mm thickness	50	Metre		
3.18	Earthing with copper Earth plate 600 mm x 600 mm x 3 mm thick including accessories and providing masonry enclosure with cover plate, having locking arrangement and watering pipe of 2.7 mtr long etc, with charcoal/Coke and salt, as required.	4	Set		
3.19	Providing and fixing 25 mm x 5 mm copper strip in 40 mm dia G.I.pipe from earth electrode including	40	Metre		

	connections with brass nut, bolt, spring washer excavation and refilling etc, as required.				
3.20	Providing and fixing 25 mm x 5 mm copper Strip on surface or in recess for connection etc, as required.	200	Metre		
3.21	Supplying and fixing following items on the existing modular plate & switch box including connections but excluding modular plate etc. as required				
	a) 25 Amps. Socket Outlet	5	Each	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-D)	
	b) 25 Amps., SP,mini MCB 'C' series	5	Each		
	c) 25 Amps, 3 pin plug top with indicator	5	Each		
	d) 2 module, Category 6 RJ 45 socket outlet for internet point .	30	Each		
3.22	Supplying & Fixing of commercial Dado Trunking of over all dimensions 100 mm x 50 mm (nominal size) on the surface of wall complete with coupler and joint cover etc. as required.	175	Metre		
3.23	S/F the following accessories for commercial Dado Trunking as required a) End Cap moulded NEP 1050	270	Each		
3.24	Supplying and Installation of following sweep, 230 volt AC, 50 HZ ceiling fan complete with all accessories like blades, down rods, canopies, shackle etc, as required and as per direction of Engineer-in-charge. a) 1200 mm sweep size with 5 star rating	43	Each		
3.25	Supply and fixing wall mounted fan 400mm sweep, complete with blades, wire mesh guard, oscillating type complete as required.	20	Each		
3.26	Supplying and fixing 650 W (3 module type) rotary dimmer on the existing modular plate switch box including connections but excluding modular plate etc. as required	5	Each		
3.27	Supplying and fixing of 1 X 20 watt to 24 watt LED type surface mounting 4 feet long batten fitting, CRCA body, duly painted, prewired, holders, LED tube light with integrated aluminium heat sink, lumen output 1800 or above, polycarbonated diffuser to provide glare free uniform light, cool day white light (5700 K to 6500K) and built in electronic driver complete including making connection, testing, commissioning etc. as required. as required.	5	Each		
3.28	Supply and fixing of 34 watts to 38 Watts LED fitting of size 2' X 2', recessed mounting type with electronic driver and high brightness LEDs, prewired , full window glare free polycarbonated diffuser, lumen output 2900 or above, cool day white light (5700 K to 6500 K) etc. complete , suitable for operation on 220 V A.C. supply i/c rawl plugs, metallic chain to hold the fitting testing and commissioning complete as required.	25	Each		
3.29	Supply and fixing of 39 Watts to 42 Watts LED fitting of size 2' X 2', recessed mounting type with electronic driver and high brightness LEDs, prewired , full window glare free polycarbonated diffuser, lumen output 3700 or above, cool day white light (5700 K to 6500 K) etc. complete ,	72	Each		

	suitable for operation on 220 V A.C. supply i/c rawl plugs, metallic chain to hold the fitting testing and commissioning complete as required.					
3.30	Supply and fixing of 39 Watts to 42 Watts LED fitting of size 2' X 2', recessed mounting type with Analog Dimmable Electronic Driver and high brightness LEDs, prewired, full window glare free polycarbonated diffuser, lumen output 3700 or above, cool day white light (5700 K to 6500 K) etc. complete, suitable for operation on 220 V A.C. supply including rawl plugs, metallic chain to hold the fitting testing and commissioning complete as required.	18	Each			
3.31	Supply and fixing of 15 watt, 220V AC recess mounting type LED downlighter comprising of pressure die cast aluminium housing, glare free diffuser complete with all accessories like Analog Dimmable Electronic Driver, internal wiring including fixing, connection and testing etc. as required.	84	Each	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-I)		
3.32	Supply and fixing M.S. fan hook in the ceiling suitable for ceiling fan including cutting the ceiling and making good the damages complete etc as reqd.	49	Each			
3.33	Supply of heavy duty 1100 V Grade, X LPE insulated, PVC sheathed armoured cable with aluminium/copper conductor for the following sizes with ISI mark confirming to relevant IS code amended up to date as required					
	a) 2 x 25 sqmm Aluminium conductor	610	Metre			
	b) 3 X 16 sqmm copper conductor	100	Metre			
3.34	Supply and fixing of 25 mm dia. G.I. flexible conduit complete as required as per direction of Engineer-in-Charge.	50	Metre			
3.35	Supplying and fixing 63 amps rating, double pole, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.	8	Each			
3.36	Supply and fixing of 63/ 100 amps, 10 KA, 220 Volts, single pole, MCCB in powder coated MS enclosure of size not less than 400mm x 200mm x 100 mm with 2 nos 100 amps aluminium bus bars(20mm x 5 mm) of suitable length including fixing in recess and making good the damages, testing, commissioning complete as required.	10	Each			
3.37	Supply and fixing of 63 amps, single pole and neutral(SPN), automatic change over switch in powder coated MS enclosure of size not less than 400mm x 200mm x 100 mm including fixing in recess and making good the damages, testing and commissioning complete as required.	5	Each			
CREDIT ITEM						
3.38	Dismantling and taking away the following old & worn out electrical item as credit items on buy back basis complete as required as per direction of Engineer-in-Charge.					
	a) 1200 mm sweep ceiling fan	30	Each			
	b) 2 x 36 watts 4 feet long mirror optics fittings	54	Each			

	c) 2 x 36 W CFL mirror optics fittings	24	Each			
	d) 5 Amps Switches	120	Each			
	e) 5 Amps sockets	10	Each			
	f) 15 Amps Switches	15	Each			
	g) SPN DBs	6	Each			
	h) Assorted sizes MS boxes	10	Kg			
	i) Assorted sizes PVC insulated copper wires	25	Kg			
	Sub Total - Sub Head III (A)				Rs.	
Sub Head III (B) Air-Conditioning Work						
3.39	Design, Supply, fabrication, installation and testing of G.I. sheet metal ducts in accordance with the approved shop floor drawing and specifications.					
	a) 0.63 mm (24 gauge)	465	Sqm.			
	b) 0.8 mm (22 gauge)	98	Sqm.			
3.40	Supply, installation and testing of multi blade box type Galvanized Sheet Steel construction damper for ducts to be provided with suitable links and quadrants for control of volume of air.	2	Sqm.	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-I)		
3.41	Supply, installation, testing and balancing of Extruded aluminium construction, powder coated square/round shape ceiling diffusers with removable core with volume control damper of approved shade and make.	15	Sqm.			
3.42	Supply, installation, testing and balancing of Extruded aluminium construction, powder coated square/round shape ceiling diffusers with removable core without volume control damper of approved shade and make.	2	Sqm.			
3.43	Supply, installation, testing and commissioning of extruded aluminium powder coated supply / return air grills of approved shade and make.	6	Sqm.			
3.44	Supply, installation, testing and commissioning of Extruded aluminium construction, double louvered, powder coated supply air grills with volume control damper of approved shade and make.	12	Sqm.			
3.45	Supply, installation, testing and commissioning of extruded aluminium construction, double louvered grills, powder coated without volume control damper for return / exhaust air.	2	Sqm.			
3.46	Providing and fixing insulation with 9 mm thick closed cell polyethylene insulation complete as required as per direction of Engineer-in-Charge.	480	Sqm.			
3.47	Providing and fixing duct acoustic lining with 25 mm thick, 32 kg/cum density fibreglass duly covered with RP tissue paper & 26 Ga. Aluminium perforated sheet.	40	Sqm.			
CREDIT ITEM						
3.48	Dismantling and taking away the old and worn out air distribution items like GI ducting, insulation (approx. 300 Sqm), Grilles/diffuser/dampers (4 sqm) as credit item on buy back basis of said LTs complete as required as per direction of Engineer-in-Charge	01	Lot			
	Sub Total - Sub Head III (B)				Rs.	

4 Sub Head IV: Operation & Comprehensive Maintenance of A.V. equipments					
4.1	Comprehensive annual maintenance after completion of defect liability period (24 months) of audio, video, conferencing, streaming and Networking equipments including repair, defect rectification, replacement all complete as per directions of engineer in charge.				
	a) Ist Year	12	Month	RATES NOT TO BE QUOTED IN TECHNICAL BID (PART-I)	
	b) 2nd Year	12	Month		
	c) 3 rd Year	12	Month		
4.2	Operation of audio, video, conferencing, streaming and Networking equipments installed at Lecture Theaters, Main Control Room and OTs at AIIMS by providing well trained operator having minimum 3 years experience in the field of operation of Audio,Video conferencing and streaming equipments, managing big conferences, editing, mixing, recording complete as required as per direction of Engineer-in-Charge for the following period. (One job= 8 hrs duty per operator)				
	a) Ist Year	730	Job		
	b) 2nd Year	730	Job		
	c) 3 rd Year	730	Job		
	d) 4th Year	730	Job		
	e) 5th year	730	Job		
	Sub Total – Sub head IV				
	ABSTRACT OF COST			AMOUNT	
	Sub head I	:			
	Sub head II (A)	:			
	Sub head II (B)	:			
	Sub head II (C)	:			
	Sub head III(A)	:			
	Sub Head III(B)	:			
	Sub head IV	:			
	Grand Total	:			

Executive Engineer (E) - I
ESD, AIIMS

**Schedule of Quantities
For
Price Bid (PART-II)
Note: Rates are be quoted in Part-II**

Name of Work: Renovation and modernization of Lecture Theaters at AIIMS, New Delhi

Sub Head: Audio-visual systems, Video-conferencing & Streaming, Networking, General Lighting, Air-conditioning duct, False ceiling, Wall Paneling, Furnishing and Other Civil Work.

Item No.	Description	Qty.	Unit	Unit Price (Rs.)	Total Amount (Rs.)
1	Sub Head I :- INTERIOR CIVIL WORK				
1.1	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor etc., up to floor seven level, excluding the cost of centring, shuttering and finishing :				
	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	12	Cum.		
1.2	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor seven level in all shapes and sizes in :				
	Cement mortar 1:4 (1 cement : 4 coarse sand)	3	Cum.		
1.3	15 mm cement plaster on the rough side of single or half brick wall of mix up to floor seven level:				
	1:4 (1 cement: 4 fine sand)	100	Sqm.		
1.4	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead up to floor seven level.	100	Sqm.		
1.5	Providing & Fixing raised floor using 50x50x4.5mm thick MS pipe frame 600x600mm c/c both ways and upto 150mm frame high welded & finished with primer buffed at all joints & finally finished with 22mm thick HDF board using staggered jointing with GN 55 self taping screws finally finished with 12 mm thick HDF laminate flooring AC5 of Vista make.	50	Sqm.		

1.6	<p>Providing and fixing of 6 mm thick High Pressure Laminate Sheet (IS:1285-3429) Sycamore/ Vengeel or as approved of Merino laminate pasted with glue on 12mm BWP ply of approved brand and manufacturer fixed over a framework of 48mm GI stud 0.55mm thick fixed at 600(V) X 1200 (H)mm (or wherever required as per design drawing) centre to centre jointed with each other with GI cleats & drive all screws. Further placing the GI studs at floor level in 50mm GI floor channel of 0.55mm thickness. The frame work to be filled with 50 mm thick thermal bonded polyester non-woven wadding Micron fibre to be 1000gm / sqm. The framework to be supported on the wall at the interval of 1200mm centre to centre with providing and fixing 35x35x3mm MS angle cleats fixing with fasteners of required length (MS bright finished anchor fasteners of size 65m x 10mm dia). The priming coat on MS angle cleat of red oxide primer. The rates including for all geometry of walls, opening etc. and for complete item including all the required approved material, labour and fixing. Melamine polish on the slats to be inclusive.</p>	330	Sqm.		
1.7	<p>Providing and fixing of 4mm thick Natural Veneer sheet of Bhutan tuff/ Garnet make firmly pasted with glue on 12 mm ply of approved brand and manufacturer fixed over a framework of 48mm GI stud 0.55mm thick fixed at 600(V) X 1200 (H)mm (or wherever required as per design drawing) centre to centre jointed with each other with GI cleats & drive all screws. Further placing the GI studs at floor level in 50mm GI floor channel of 0.55mm thickness. The frame work to be filled with 50mm thick thermal bonded polyester non-woven wadding Micron fibre to be 1000gm / sqm. The micron fibre to be held in position with chicken mesh of 18mm 24SWG. The framework to be supported on the wall at the interval of 1200mm centre to centre with providing and fixing 35x35x3mm MS angle cleats fixing with fasteners of required length (MS bright finished anchor fasteners of size 65m x 10mm dia). The priming coat on MS angle cleat of red oxide primer. The rates including for all geometry of walls, opening etc. and for complete item including all the required approved material, labour and fixing.</p>	180	Sqm.		
1.8	<p>P/F MINERAL FIBRE CEILING Fine Fissured Silhouette Micro look suspended ceiling system with prime fine fissured Microlook edge tile. The tiles should have NRC 55 white colour, fire performance class 0 / class 1 (BS 476 classification) in module size 600 mm x600mmx 15 mm laid on the main runner 1200 & 600 mm cross tees. compromise main runners spaced at 1200 mm centres securely fixed to the structural socket by approved hangers by approved hangers at 1200 mm maximum centres. The last hangers at the end of each main runner should not be greater than 450</p>				

	mm from the adjacent wall. Flush fitting 1200 mm long cross tees to be inter locked between main runners at 600 mm centres to form 1200 x 600 mm modules. Cut cross tees longer than 600 mm require supported independently. 600 mm x 600 mm modules to be formed by fitting 600 mm long flush fitting cross tees centrally between the 1200 mm cross tees. Perimeter trim to be wall angle or channel secured to walls at 450 mm maximum centre to centre. The mineral fibre tile and grid system of Armstrong/ Nitobbo make..	520	Sqm.		
1.9	Providing & Fixing of Wooden Suspended Ceiling System with 24 MM GRID. The tiles should have Thermal Conductivity k=0.12 Wo/m K, Fire Performance UK Class 1 (BS 476) in module size of 600 x 600 x 12 mm with Laminate / Veneer layer on the face of the tile with perforation options like R3 / R3B / R6 / R8B / O6 / O11 / O12 /SQ50..The grid should be of 24mm wide T - section flanges colour white having rotary stitching on T sections i.e. the Main Runner with a web height of 38mm for the main runner. The T Sections have a Galvanizing of 90 grams complete as per drawings, specification and direction of the Engineer in Charge . Grid & tile shall be of Armstrong/Nitobbo make.	50	Sqm.		
1.10	P/F Fire retardant fabric over a framework of 48mm GI stud 0.55mm thick fixed at 600(V)x1200(H) (or wherever required as per design drawing) mm centre jointed with each other with GI cleats & drive all screws. Further placing the GI studs at floor level in 50mm GI floor channel of 0.55mm thickness. The frame work to be filled with 50mm thick thermal bonded UP TwigaFiber Glass Wool 32Kg cqm. The micron fiber to be held in position with chicken mesh of 18mm 24SWG. The framework to be supported on the wall at the interval of 1800mm centre to centre with providing & fixing of 35x35x3mm MS angle cleats fixing with fasteners of required length (MS bright finished anchor fasteners of size 65m mx10mm dia) including priming coat of red oxide primer on MS angle . The fabric to be held in position with UPVC grippers fixed over a 75 mm wide 12 mm thick commercial ply strips @ 1200 mm centre to centre vertically fixed to GI framework . The rate includes for all Geometry of wall, openings etc. and for complete item including all the , labour and fixing as per drawings . Fabric of RWSM/Trimax make	130	Sqm.		
1.11	Providing & fixing in position "Gypsum" FIRE LINE board false ceiling suspended on GI frame work in design as shown in the drawing. The GI frame work consists of Ceiling section of 0.5mm thickness having curled edge of 51.5 mm and two flanges of 26 mm each with lips of 10.5 mm fixed to intermediate channel with the help of connecting clips and in a direction perpendicular to the intermediate channel with the help of connecting slips & in a direction perpendicular to intermediate channel @ 450 mm and 12.5 mm thick tapered edge				

	gypsum plaster board (confirming to IS 095 1982 Gypsum board) screw finally the tapered and square edges of the boards are to be jointed and finished with requisite filler, paper tape, finisher and primer suitable for Gypsum plaster boards to give a smooth and even finish (as per recommendation of India Gypsum Ltd) Rate to include making necessary cut outs openings for light fittings, A.C. diffusers etc. with necessary wooden frame all around the opening. The cut outs to have perimeter channel including all the , labour and fixing as per drawings.	150	Sqm.		
1.12	Providing & Fixing 50 mm thick expanded polystyrene insulation (24 kg/cum) high density fixed with 20G chicken mesh & G.I nut & washer .with all hanging & Fixing arrangements as desired by the Engg in Charge.	120	Sqm.		
1.13	Providing and fixing Lecture theatre table and seat as per drawing as approved by the Engineer-in-Charge. Legs are made up of 70 X 30mm 16-gauge powder coated oval CRCA pipe and anchored to floor with high quality fasteners and concealed floor grouting. Top ends of the legs are covered with PVC caps. Bottom bar pipe(cross section) are made up of 80 X 40mm 16-gauge powder coated rectangular pipe.Back to have16-gauge perforated powder coated CRCA sheet with 3mm perforated holes with book rack in epoxy powder coated steel. Fixed with tip off seat covered with ABS sheet. Seat to have leatherite/Fabric cushion.seat & Back also to be padded with 50mm thick ABS foam with fabric cover & all wood work to be laminated with High pressure Laminate sheets of 2.2mm thick – Laminated.Seats & back to have 25 mm thick MDF board. All metal parts are powder coated with epoxy powder after seven tank hot phosphating treatment. Fitted with quality fasteners. The quality, material and finish of table and seat should be comparable to seat & bench of HNI BP Ergo				
A	First row 5 seater or as required	75	Each Seat		
B	Last row 5 seater or as required	75	Each Seat		
C	Regular 5 seater or as required	525	Each Seat		
1.14	Providing & fixing 2.0 mm thick acoustic vinyl flooring of 2200 gram per sqm with required underlay Response Endura with required 554 Adhesive at site as per approved shade & design.	560	Sqm.		
1.15	Providing & fixing 1st class seasoned wood in frames of doors, windows, partitions & other frames (well seasoned) & fixed in position including hold fast, metallic fasteners including applying a coat of bitumen paint of termite paint on concealed surface with melamine polish complete as directed				
	Frame in Golden maple wood	1	Cum.		
1.16	Providing and fixing laminated flush doors with both side laminate, maple wood beading all around complete with stainless steel buff finish heavy duty				

	hinges etc., as per design and detailed drawings. Flush door 35mm thick with 1.5mm thick lamination on both sides complete as required.	30	Sqm.		
1.17	Providing and fitting the following Hardware for doors i/c necessary screws etc.				
a.	Panic bar in fire door of BRATON make.	5	Nos.		
b.	Handles of Dorset in buffed steel finish for flush doors 600mm (set)	10	Each		
c.	Door closer sleek of concealed type Everite or equivalent, in buffed steel finish.	10	Each		
d.	DormaTrimix Cross linked High bolts locks, in buff steel finish	10	Each		
1.18	Painting the walls including surface preparation, primer, putty with 3 coats of best quality Acrylic emulsion paint complete in desired shades and colours.(Royal touch) of Asian Paints or equivalent.	200	Sqm.		
1.19	Providing and applying of Acrylic emulsion paint complete in desired shades and colours.(Royal touch) of Asian Paint or equivalent.	100	Sqm.		
1.20	Providing and applying 6-8mm thick plaster of paris (super fine quality) punning on walls, columns etc.. including scraping & hacking the existing finished surfaces and applying plaster of paris on wall, making in proper line and levels for smooth finish etc.	100	Sqm.		
1.21	Providing and applying of 5 coats of sealer on base polish after filling the putty & preparing the base finally finished with melamine polish with spray machine	180	Sqm.		
1.22	Providing & fixing in position Anchor nut bolt of HILTI - make including drilling in RCC coloumn and stifner plate				
A	25 mm dia x 150 mm long	500	Each		
B	Chemical for grouting of nut bolt	500	Each		
1.23	Providing and fixing 100 mm high laminated skirting made with 12 mm thick commercial plywood and 1.5 mm thick laminate of approved shade with 3 mm thick golden maple wood beading on top finished with melamine polish or decco paint of approved shade as directed by the Engineer-in-Charge.	20	Metre		
CREDIT ITEM					
1.24	Dismantling and taking away existing old and damaged civil items like wooden Desk, benches, doors, windows, door frames, false ceiling with frames, wooden frames, iron frames, chairs, installed in the said LTs as credit items on buy back basis including cleaning the Lecture Theatres after dismantling complete as required as per direction of Engineer-in-Charge.	1	Job		
	Sub Total – Sub Head I			Rs.	

2	Sub Head II :- AUDIO-VIDEO SYSTEM				
	(A) Video Conferencing & Presentation System				
2.1	Supply, installation, testing and commissioning of Full-HD LCD Projector Display System on existing Projector Mounting Kit with size of effective display area 0.64" (16.3 mm) x 3, Aspect ratio: 16:10, Number of pixels 69,12,000 (1900 x 1200 x 3) pixels, Projection lens, Focus Manual, Zoom - Manual, Zoom - Ratio Approx. 1.45 x Throw Ratio 1.5:1 to 2.2:1, Lens shift - Manual, Light source - ultra high pressure mercury lamp, Wattage 280 W max., Screen size 40" to 300" (1.02 m to 7.62 m) (measured diagonally), Light output/ colour light output : High 5000 lm, Standard 3600 lm, low 3100 lm, Contrast ratio (full white / full black) 2500:1, Speaker 12 W x 1, Maximum display resolution: WUXGA 1920 x 1200 dots, Video signal input 480/60i,576/50i,480/60p,576/50p,720/60p,1080/60i, colour system NTSC3, PAL, SECAM, NTSC4.43, PAL-M, PAL-N i/c audio, video HDMI jacks,HD-BaseT HDCP support, S-video input connector, RGB/YpPr input connector complete as required.	5	Each		
2.2	Supply, installation, testing and commissioning of Ceiling mount Kit for fixing of LCD Projector complete as required as per direction of Engineer-in-Charge.	5	Each		
2.3	Supply, installation, testing and commissioning of remote controlled Motorised Projection Screen 78"x139" (159" Diagonal), HDTV format, Matt white fabric complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each		
2.4	Supply, installation, testing and commissioning of 21.5 inches (diagonal) or better Interactive Screen for Professor suitable to fix on any desk or work space complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each		
2.5	Supply, installation, testing and commissioning of Full HD Video Conferencing System with PTZ Camera and Codec complete as per specifications attached and direction of Engineer-in-Charge as required.	7	Each		
2.6	Supply, installation, testing and commissioning of Full Hd,30x Optical Zoom & HDMI out PTZ Camera complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each		
2.7	Supply, installation, testing and commissioning of 4 Port Dual View HDMI Switch complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each		
2.8	Supply, installation, testing and commissioning of Wireless networking router complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each		

2.9	Supply, installation, testing and commissioning of 55 inches Full HD Professional Monitor with HDMI/VGA/DVI ports complete as per specifications attached and direction of Engineer-in-Charge as required .	5	Each		
2.10	Supply, installation, testing and commissioning of Document Camera with built in illumination lamp, lens with manual and automatic focus, resolution 5 MP, automatic and manual brightness control, Max. shooting area 40 cm x 30 cm, VGA input, VGA output,3.5mm jack audio in & audio out, complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each		
2.11	Supply, installation, testing and commissioning of Digital Smart Podium made of high quality wood with 21.5" (diagonal) or better Interactive Monitor for writing, erasing, annotation, cut & paste of annotated images, facility for making e-book,multi colour page insert, insertion of video, MS office file and Lecture Recording software, i5 CPU, reading light & clock, gooseneck microphone, AIIMS monogram on front complete as per specifications attached and direction of Engineer-in-Charge as required.	5	Each		
2.12	Supply, installation, testing and commissioning of 32 inches Full HD Professional Monitor with HDMI/VGA/DVI connectors complete as per specifications attached and direction of Engineer-in-Charge as required.	2	Each		
2.13	Supply, installation, testing and commissioning of 65 inches Full HD Professional Monitor with HDMI/VGA/DVI connectors complete as per specifications attached and direction of Engineer-in-Charge as required	1	Each		
2.14	Providing and fixing of of Wall mounted glass board: Segment size 4'x6' 6mm or more thick chemically frosted glass with suitable background (deep green or off-white etc.) colour as per requirement. Competed with 3" x 1.5" frame and appropriate dust catcher. Including complete polishing, fixing and fitting. Note : 2 or 3 such segments would be usually placed by side to have a bigger single board.	5	Each		
	Sub Total – Sub Head II (A)			Rs.	
(B) Audio System					
2.15	Supply, installation, testing and commissioning of Fully Digital Conference System Delegate Unit combine with sleek design with digital signal processing and plug- and – play functionality, 50 cm length goose neck microphone, ON/OFF button complete as per specifications attached and direction of Engineer-in-Charge as required.	216	Each		

2.16	Supply, installation, testing and commissioning of Fully Digital Conference System Chairman Unit combine with sleek design with digital signal processing and plug- and – play functionality, 50 cm length goose neck microphone, ON/OFF button, next in line button, priority button complete as per specifications attached and direction of Engineer-in-Charge as required.	3	Each		
2.17	Supply, installation, testing and commissioning of Central Unit for Digital Audio Conference System with recording, touch sensor button technology, ON/OFF button, digital signal processing, master / slave function to expand the system, complete as per specifications attached and direction of Engineer-in-Charge as required.	3	Each		
2.18	Supply, installation, testing and commissioning of UHF Wireless Handheld Microphone System, Receiver: Frequency range 500 - 865 MHz, Switching bandwidth 20 MHz, SN ratio >100 dB, T.H.D. < 0.8% at 1 kHz, Transmitter: Transducer type: Dynamic, Polar pattern: Supercardioid etc. complete as per direction of Engineer-in-Charge	5	Each		
2.19	Supply, installation, testing and commissioning. of UHF Wireless Lapel Microphone System, Receiver: Frequency range 500 - 865 MHz, Switching bandwidth 20 MHz, SN ratio >100 dB, T.H.D. < 0.8% at 1 kHz, Modulation FM, Frequency response 40 Hz - 20,000 Hz etc. complete as per direction of Engineer-in-Charge.	5	Each		
2.20	Supply, installation, testing and commissioning. of Digital Signal Processor, 12 balanced line inputs(AEC) on plug-in barrier strips, 8 balanced outputs on plug-in barrier strips, Ethernet port for software configuration / control, serial port for third-party RS-232 remote control etc. complete with installation as per the site requirement.	5	Each		
2.21	Supply, installation, testing and commissioning. of Front of House wall mount Speaker, Full range Driver Array, 4 x 4.5" full range drivers installation / transportable loudspeaker etc. complete with installation as per site requirement.	10	Each		
2.22	Supply and installation of Wall Bracket for installation of wall mount speaker complete as required.	10	Each		
2.23	Supply, installation, testing and commissioning. of Dual Channel Amplifier with 2 x 120 watts Class D Amplifier, 55Hz-20KHz, 88 Db or better, complete with installation as per the site requirement.	5	Each		
2.24	Supply, installation, testing and commissioning. of 17U Equipment Rack complete with power strip, cooling fan, back and front door (lockable) alongwith equipment rack tray & wheels etc. complete with installation as per site requirement.	5	Each		
2.25	Supply, installation, testing and commissioning of Central Control System for audio-visual equipments complete as required as per direction of Engineer-in-Charge	5	Each		

2.26	Supply, installation, testing and commissioning of 7.9 inches (diagonal) or better Touch Pad for Control Systems complete with Software, interconnect cables and installation as per the site requirement	5	Each		
2.27	Supply, laying, testing and commissioning of of Speaker Cable, 14 AWG stranded (19x27) ETP high-conductivity copper conductors, PVC insulation, parallel: (1) tinned, (1) bare etc. complete as required.	150	Metre		
2.28	Supply, laying, testing and commissioning of of audio/control Cable , 2 coax (26AWG) cable with drain wire, Each coax has a 26 gauge centre conductor and dual shield design consisting of copper spiral and Mylar/foil. Rugged and flexible with low attenuation etc. complete with installation as per the site requirement.	500	Metre		
2.29	Supplying and drawing of UTP 4 pair CAT 6 LAN cable in the exiting surface/ recessed steel/ PVC conduit as required	2040	Metre		
2.30	Supply, laying, testing and commissioning of 1.8mtr. HDMI cable cord with connectors complete as required.	30	Each		
2.31	Supply, laying, testing and commissioning of 15 mtr. HDMI cable cord with connectors complete as required	10	Each		
2.32	Supply, laying, testing and commissioning of 10 mtr. HDMI cable cord with connectors complete as required.	10	Each		
2.33	Supply, laying, testing and commissioning of POP UP Boxes with min. 1 HDMI, 1 VGA and 1 Stereo input; LAN Port and power plug point with standard accessories complete as required.	5	Each		
Sub Total – Sub Head II (B)				Rs.	
(C) Streaming & Networking System					
2.34	Supply and drawing/laying of 6 Core, single mode Optical Fiber Cable in the existing PVC conduit/surface including testing, commissioning complete as required	1850	Metre		
2.35	Supply, installation, testing and commissioning of 12 port LIU(Light Interface Unit) fully loaded Patch Panel complete as required.	6	Each		
2.36	Supply, installation, testing and commissioning of 6 Port LIU(Light Interface Unit) fully loaded Patch Panel complete as required.	8	Each		
2.37	Supply, installation, testing and commissioning of Pigtaills complete as required.	126	Each		
2.38	Supply, installation, testing and commissioning of 1.8mtr. SC-LC Fiber Patch Cords complete as required.	18	Each		
2.39	Supply, installation, testing and commissioning of CAT 6 UTP cable box with I / O ports complete as required.	5	Each		
2.40	Supply, installation, testing and commissioning. of 9U Equipment Rack complete with power strip, cooling fan, back and front door (lockable)	9	Each		

	alongwith equipment rack tray & wheels etc. complete with installation as per site requirement.				
2.41	Supply, installation, testing and commissioning. of 24U Equipment Rack complete with power strip, cooling fan, back and front door (lockable) alongwith equipment rack tray & wheels etc. complete with installation as per site requirement.	1	Each		
2.42	Supply, installation, testing and commissioning of Catalyst 2960-X 24 GigE, 4 x 1G SFP, LAN Base 24 port Switch complete as per specifications attached as required.	2	Each		
2.43	Supply, installation, testing and commissioning of 28 Port 10/100/1000 Gigabit Managed Switch with 2 SFP Combo slots complete as per specifications attached as required.	9	Each		
2.44	Supply, installation, testing and commissioning of 1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM complete as per specifications attached as required.	16	Each		
2.45	Supply and making joint in Optical Fiber Cable with suitable connector and Fiber Splicing tool complete as required.	126	Each		
2.46	Supply, installation, testing and commissioning of Multi Point Conferencing Bridge for High Definition- 5 port HD (1080p30fps) Continuous Ports, 20 ports 480p30, support multiple HD Conferences complete as per specifications attached as required.	1	Each		
2.47	Supply, installation, testing and commissioning of Video recording & streaming recording License Unit complete as required.	1	Each		
2.48	Supply, installation, testing and commissioning of Server for hosting MCU gate keeper & streaming application complete as per specifications attached as required	1	Each		
2.49	Supply and fixing of miscellaneous cable patch cords, connectors required for commissioning of Audio, Video, Networking & streaming equipments complete as required.	1	Job		
	Sub Total – Sub Head II (C)			Rs.	
3	Sub Head III :- Electrical & Air-conditioning Work				
	(A) Electrical Work				
3.1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required. Group C	267	Point		
3.2	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	1100	Metre		

3.3	Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 2 Nos 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	550	Metre		
3.4	Supplying and drawing following sizes of FR/FRLS PVC insulated copper conductor, single core cable in the existing surface / recessed steel / PVC conduit as required.				
	a) 3 x 1.5 sq. mm (FRLS)	180	Metre		
	b) 6 x 1.5 sq. mm (FRLS)	50	Metre		
	c) 3 x 16 sq. mm (FR)	50	Metre		
3.5	Supplying and drawing following pair 0.5 sq mm FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required. b) 4 Pair	180	Metre		
3.6	Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.				
	d) 20 mm	180	Metre		
	e) 25 mm	50	Metre		
	f) 32mm	50	Metre		
3.7	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				
	c) 25 mm	4070	Metre		
	d) 32 mm	100	Metre		
3.8	Supplying and fixing following size/ modules, GI/PVC box alongwith modular base & cover plate for modular switches in recess etc as required.				
	a) 1 or 2 Module	13	Each		
	b) 3 Module	537	Each		
	c) 6 Module	36	Each		
	d) 12 Module	10	Each		
3.9	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				
	a) 5/6 Amps. Switch	580	Each		
	b) 15/16 Amps. Switch	64	Each		
	c) 3 pin 5/6 Amps. Socket outlet	580	Each		
	d) 6 pin 15/16 Amps. Socket outlet	64	Each		
	e) Telephone socket outlet	5	Each		

3.10	Supplying and fixing stepped type electronic fan regulator (2 module type) on the existing modular plate switch box including connections but excluding modular plate etc. as required.	43	Each		
3.11	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator) a) 16 way, Double door	11	Each		
3.12	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
	a) Single pole	154	Each		
	b) Double Pole	3	Each		
3.13	Laying of one number PVC insulated and PVC sheathed/XLPE power cable of 1.1 KV grade of following size in the existing masonry duct as required.				
	a)Up to 35 mm ²	80	Metre		
3.14	Laying and fixing of one number PVC insulated and PVC sheathed/XLPE power cable of 1.1 KV grade of following size of wall surface as required.				
	a) upto 35 sqmm (clarified with 1 mm thick saddle.)	630	Metre		
3.15	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing along with existing surface/recessed conduit/ sub main wiring /cable, as required.	610	Metre		
3.16	Supplying and making indoor end termination with Brass compression gland and Aluminium lugs for following size of PVC insulated and PVC sheathed/ XLPE aluminium conductor cable of 1.1 KV grade as required.				
\	a) 2 x 25 sqmm (32 mm)	32	Each		
	b) 3 X 16 sq. mm (25 mm)(with copper thimble)	10	Each		
3.17	Supplying and installing following size of perforated pre painted M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.				
	a) 100 mm width x 50 mm depth x 1.6 mm thickness	50	Metre		
	b) 50 mm width x 50 mm depth x 1.6 mm thickness	50	Metre		
3.18	Earthing with copper Earth plate 600 mm x 600 mm x 3 mm thick including accessories and providing masonry enclosure with cover plate, having locking arrangement and watering pipe of 2.7 mtr long etc, with charcoal/Coke and salt, as required.	4	Set		
3.19	Providing and fixing 25 mm x 5 mm copper strip in 40 mm dia G.I.pipe from earth electrode including	40	Metre		

	connections with brass nut, bolt, spring washer excavation and refilling etc, as required.				
3.20	Providing and fixing 25 mm x 5 mm copper Strip on surface or in recess for connection etc, as required.	200	Metre		
3.21	Supplying and fixing following items on the existing modular plate & switch box including connections but excluding modular plate etc. as required				
	a) 25 Amps. Socket Outlet	5	Each		
	b) 25 Amps., SP,mini MCB 'C' series	5	Each		
	c) 25 Amps, 3 pin plug top with indicator	5	Each		
	d) 2 module, Category 6 RJ 45 socket outlet for internet point .	30	Each		
3.22	Supplying & Fixing of commercial Dado Trunking of over all dimensions 100 mm x 50 mm (nominal size) on the surface of wall complete with coupler and joint cover etc. as required.	175	Metre		
3.23	S/F the following accessories for commercial Dado Trunking as required c) End Cap moulded NEP 1050	270	Each		
3.24	Supplying and Installation of following sweep, 230 volt AC, 50 HZ ceiling fan complete with all accessories like blades, down rods, canopies, shackle etc, as required and as per direction of Engineer-in-charge. a) 1200 mm sweep size with 5 star rating	43	Each		
3.25	Supply and fixing wall mounted fan 400mm sweep, complete with blades, wire mesh guard, oscillating type complete as required.	20	Each		
3.26	Supplying and fixing 650 W (3 module type) rotary dimmer on the existing modular plate switch box including connections but excluding modular plate etc. as required	5	Each		
3.27	Supplying and fixing of 1 X 20 watt to 24 watt LED type surface mounting 4 feet long batten fitting, CRCA body, duly painted, prewired, holders, LED tube light with integrated aluminium heat sink, lumen output 1800 or above, polycarbonated diffuser to provide glare free uniform light, cool day white light (5700 K to 6500K) and built in electronic driver complete including making connection, testing, commissioning etc. as required. as required.	5	Each		
3.28	Supply and fixing of 34 watts to 38 Watts LED fitting of size 2' X 2', recessed mounting type with electronic driver and high brightness LEDs, prewired , full window glare free polycarbonated diffuser, lumen output 2900 or above, cool day white light (5700 K to 6500 K) etc. complete , suitable for operation on 220 V A.C. supply i/c rawl plugs, metallic chain to hold the fitting testing and commissioning complete as required.	25	Each		
3.29	Supply and fixing of 39 Watts to 42 Watts LED fitting of size 2' X 2', recessed mounting type with electronic driver and high brightness LEDs, prewired , full window glare free polycarbonated diffuser, lumen output 3700 or above, cool day white light (5700 K to 6500 K) etc. complete ,	72	Each		

	suitable for operation on 220 V A.C. supply i/c rawl plugs, metallic chain to hold the fitting testing and commissioning complete as required.				
3.30	Supply and fixing of 39 Watts to 42 Watts LED fitting of size 2' X 2', recessed mounting type with Analog Dimmable Electronic Driver and high brightness LEDs, prewired , full window glare free polycarbonated diffuser, lumen output 3700 or above, cool day white light (5700 K to 6500 K) etc. complete , suitable for operation on 220 V A.C. supply includingrawl plugs, metallic chain to hold the fitting testing and commissioning complete as required.	18	Each		
3.31	Supply and fixing of 15 watt, 220V AC recess mounting type LED downlighter comprising of pressure die cast aluminium housing, glare free diffusercomplete with all accessories like Analog Dimmable Electronic Driver, internal wiring including fixing, connection and testing etc. as required.	84	Each		
3.32	Supply and fixing M.S. fan hook in the ceiling suitable for ceiling fan including cutting the ceiling and making good the damages complete etc as reqd.	49	Each		
3.33	Supply of heavy duty 1100 V Grade, X LPE insulated, PVC sheathed armoured cable with aluminium/copper conductor for the following sizes with ISI mark confirming to relevant IS code amended up to date as required				
	a) 2 x 25 sqmm Aluminium conductor	610	Metre		
	b)3 X 16 sqmm copper conductor	100	Metre		
3.34	Supply and fixing of 25 mm dia. G.I. flexible conduit complete as required as per direction of Engineer-in-Charge.	50	Metre		
3.35	Supplying and fixing 63 amps rating, double pole, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.	8	Each		
3.36	Supply and fixing of 63/ 100 amps, 10 KA, 220 Volts, single pole, MCCB in powder coated MS enclosure of size not less than 400mm x 200mm x 100 mm with 2 nos 100 amps aluminium bus bars(20mm x 5 mm) of suitable length including fixing in recess and making good the damages, testing, commissioning complete as required.	10	Each		
3.37	Supply and fixing of 63 amps, single pole and neutral(SPN), automatic change over switch in powder coated MS enclosure of size not less than 400mm x 200mm x 100 mm including fixing in recess and making good the damages, testing and commissioning complete as required.	5	Each		
CREDIT ITEM					
3.38	Dismantling and taking away the following old & worn out electrical item as credit items on buy back basis complete as required as per direction of Engineer-in-Charge.				
	a) 1200 mm sweep ceiling fan	30	Each		
	b) 2 x 36 watts 4 feet long mirror optics fittings	54	Each		

	c) 2 x 36 W CFL mirror optics fittings	24	Each		
	d) 5 Amps Switches	120	Each		
	e) 5 Amps sockets	10	Each		
	f) 15 Amps Switches	15	Each		
	g) SPN DBs	6	Each		
	h) Assorted sizes MS boxes	10	Kg		
	i) Assorted sizes PVC insulated copper wires	25	Kg		
	Sub Total - Sub Head III (A)				Rs.
Sub Head III (B) Air-Conditioning Work					
3.39	Design, Supply, fabrication, installation and testing of G.I. sheet metal ducts in accordance with the approved shop floor drawing and specifications.				
	a) 0.63 mm (24 gauge)	465	Sqm.		
	d) 0.8 mm (22 gauge)	98	Sqm.		
3.40	Supply, installation and testing of multi blade box type Galvanized Sheet Steel construction damper for ducts to be provided with suitable links and quadrants for control of volume of air.	2	Sqm.		
3.41	Supply, installation, testing and balancing of Extruded aluminium construction, powder coated square/round shape ceiling diffusers with removable core with volume control damper of approved shade and make.	15	Sqm.		
3.42	Supply, installation, testing and balancing of Extruded aluminium construction, powder coated square/round shape ceiling diffusers with removable core without volume control damper of approved shade and make.	2	Sqm.		
3.43	Supply, installation, testing and commissioning of extruded aluminium powder coated supply / return air grills of approved shade and make.	6	Sqm.		
3.44	Supply, installation, testing and commissioning of Extruded aluminium construction, double louvered, powder coated supply air grills with volume control damper of approved shade and make.	12	Sqm.		
3.45	Supply, installation, testing and commissioning of extruded aluminium construction, double louvered grills, powder coated without volume control damper for return / exhaust air.	2	Sqm.		
3.46	Providing and fixing insulation with 9 mm thick closed cell polyethylene insulation complete as required as per direction of Engineer-in-Charge.	480	Sqm.		
3.47	Providing and fixing duct acoustic lining with 25 mm thick, 32 kg/cum density fibreglass duly covered with RP tissue paper & 26 Ga. Aluminium perforated sheet.	40	Sqm.		
CREDIT ITEM					
3.48	Dismantling and taking away the old and worn out air distribution items like GI ducting, insulation (approx. 300 Sqm), Grilles/diffuser/dampers (4 sqm) as credit item on buy back basis of said LTs complete as required as per direction of Engineer-in-Charge	01	Lot		

	Sub Total - Sub Head III (B)			Rs.	
4	Sub Head IV: Operation & Comprehensive Maintenance of A.V. equipments				
4.1	Comprehensive annual maintenance after completion of defect liability period (24 months) of audio, video, conferencing, streaming and Networking equipments including repair, defect rectification, replacement all complete as per specifications & conditions attached and directions of engineer in charge.				
	a) Ist Year	12	Month		
	b) 2nd Year	12	Month		
	c) 3 rd Year	12	Month		
4.2	Operation of audio, video, conferencing, streaming and Networking equipments installed at Lecture Theaters, Main Control Room and OTs at AIIMS by providing well trained operator having minimum 3 years experience in the field of operation of Audio,Video conferencing and streaming equipments, managing big conferences, editing, mixing, recording complete as required as per conditions attached and direction of Engineer-in-Charge for the following period. (One job= 8 hrs duty per operator)				
	a) Ist Year	730	Job		
	b) 2nd Year	730	Job		
	c) 3 rd Year	730	Job		
	d) 4th Year	730	Job		
	e) 5th year	730	Job		
	Sub Total – Sub head IV				
	ABSTRACT OF COST			AMOUNT	
	Sub head I	:			
	Sub head II (A)	:			
	Sub head II (B)	:			
	Sub head II (C)	:			
	Sub head III(A)	:			
	Sub Head III(B)	:			
	Sub head IV	:			
	Grand Total	:			

Executive Engineer (E) - I
ESD, AIIMS