

CSIR-Central Road Research Institute

CSIR-CENTRAL ROAD RESEARCH INSTITUTE

Delhi-Mathura Road, New Delhi-110025



Tender Document e-Tendering System



**NAME OF WORK : Renovation of Council Hall at CSIR-CRRI, Mathura Road,
New Delhi-110025.**

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सीएसआईआर - केंद्रीय सड़क अनुसंधान संस्थान
दिल्ली मथुरा रोड, नई दिल्ली-110025
ई-टेंडर आमंत्रित नोटिस/ NoticeInviting-Tender

NIT No :

Tender ID :

सीएसआईआर सीआरआई केंद्रीय सड़क अनुसंधान संस्थान में Two bid system में CPPपोर्टल के माध्यम से निम्नलिखित कार्य के लिए निविदाएं आमंत्रित करता है।

- 1) कार्य का नाम : **Renovation of Council Hall at CSIR-CRRI, Mathura Road, New Delhi-110025.**
- 2) अनुमानित लागत : रुपये 1,79,64,720.00
- 3) निविदा मूल्य : रुपये 1,000.00
- 4) धरोहर राशि : रुपये 3,60,000.00
- 5) कार्य की अवधि : 250 Days
- 6) निविदा भरने की प्रारंभिक तिथि एवं समय 15 /07/2026 at 5:00 PM.
- 7) निविदा भरने की अंतिम तिथि एवं समय 30 /07/2026 at 5:00 PM.

नोट:

- I. निविदा दस्तावेज और अन्य विवरण वेबसाइट <https://etenders.gov.in> से देखें व डाउनलोड किए जा सकते हैं।
- II. उपरोक्त कार्य की निविदा के समक्ष यदि कोई Corrigendum/ Addition/ Clarification है तो इस अधिसूचना को (<https://crridom.gov.in/tenders>) पर अपलोड किया जाएगा।

CSIR-CRRI invites online item rate tenders through CPP portal in two bid system for following work:-

- 1) **Name of the Work: Renovation of Council Hall at CSIR-CRRI, Mathura Road, New Delhi-110025.**
- 2) **Estimated Cost:** Rs. 1,79,64,720.00
- 3) **Tender Cost :** Rs. 1000.00 (Rs. One thousand only)
- 4) **Earnest Money:** Rs. 3,60,000.00
- 5) **Period of Completion of Work :** 250 Days
- 6) **Bid Submission Start date & Time:** 15 /07/2026 at 5:00 PM.
- 7) **Bid Submission End date & Time:** 30 /07/2026 at 5:00 PM.

Note:

- I. The tender document and other details can be viewed / downloaded from the website <https://etenders.gov.in>.
- II. Corrigendum/ Addition/ Clarification/ Notification in respect of NIT of the above said work, if any, will be uploaded on the site i.e (<https://crridom.gov.in/tenders>)

(प्रमुख-ईएसडी)

CSIR-Central Road Research Institute
Delhi-Mathura Road, New Delhi-110025

File No: CRR/ QSP/ ESD/ 03/ Ren. of Council Hall/ 2026-27

Detailed Notice Inviting Tender

- 1.(A) Online **Item-rate** tenders are hereby invited through e-tendering portal <https://etenders.gov.in> for the work of **“Renovation of Council Hall at CSIR-CRRI, Mathura Road, New Delhi-110025.”** from contractors of appropriate class of CPWD, Railways, MES, State PWD’s, Semi government organizations and / or from those who have successfully carried out similar works for CSIR or its laboratories, govt. or semi government organizations. The tenderers should have successfully completed at least three similar works* amounting to 40% or at least two similar works amounting to 60% or at least one work amounting to 80% or above in single contract of the estimated cost of work during the last seven years, ending on the last day on the month previous to the one in which tender is being invited. The contractors may apply with proof of fulfilling the above conditions along with copies of PAN, GST registration number, satisfactory work completion certificates and Valid electrical license for electrical works only (or an undertaking confirming that electrical works shall be got done through a licensed electrical agency).
- 1.(B) ***Similar work shall mean “Renovation/ Construction of Council Hall/ Auditorium/ Meeting Hall/ Lecture Hall/ Conference Hall with Setup of Audio Visual System.”**
2. The Estimated cost of work **Rs. 1,79,64,720.00 (Rupees One Crore Seventy-Nine Lakh Sixty-Four Thousand Seven Hundred Twenty Only)** based on **CPWD & Market Rate** items. **Further Civil Items are based on DSR-2023 & Current Market Rate, Electrical Items are based on DSR-2025 & Current Market Rate, for Air Conditioning and Audio Visual Setup are based on Current Market Rate.** (The overall cost is inclusive of all taxes, ESIC & EPF etc. and shall be dealt as per CPWD guidelines)
3. Duration of contract for carrying out of the work will be 250 Days from the date of commencement which shall be reckoned from the tenth day of issue of award letter.
4. The tender in two bid system shall be submitted through online at CPP–portal by the tenderer, as per date given in Critical Date Sheet below:

Critical Date Sheet

S. No.	Schedule of activities	Date and time
1	Publish Date on CPP Portal	15 - 07 – 2026 and 05:00 PM
2	Bid document download start date	15 - 07 – 2026 and 05:00 PM
3	Bid submission start date	15 - 07 – 2026 and 05:00 PM
4	Bid submission end date	30 - 07 – 2026 and 05:00 PM
5	Technical Bid opening date (Cover – I)	31 - 07 – 2026 and 05:00 PM
6	Financial Bid opening date (Cover – II)	To be intimated later on

5. a) Scanned copies of Tender Cost (non-refundable) of Rs 1000.00 (Rupees One Thousand Only) and Earnest Money Deposit amounting to Rs. 3,60,00000 (Rupees Three Lakh Sixty Thousand only), deposited through RTGS / NEFT in favour of Director, CRRI (Account No. 30268867237; IFSC Code- SBIN0006069 of State Bank of India, CRRI) shall be uploaded in Cover-I of the tender. Tenders received without tender cost and earnest money deposit will not be considered for evaluation purpose.
- b) The scanned copy of undertaking as per (Annexure-I) on prescribed format shall be uploaded in Cover-I of the tender. Tenders received without “Undertaking” will not be considered.
6. The tenderer is to indicate the name & telephone nos. of issuing agency of the completion certificates to enable the verification of the documents, if necessary. It may be noted that even after opening of price bid, the credential submitted found to be false/forged the offer submitted shall be rejected out rightly. No further clarification will be sought from the tenderers.
7. The employer does not bind himself to accept the lowest or any tender and 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 rates quoted by him.
8. No tenderer shall be permitted to tender for works in the concerned unit of C.S.I.R. in which a relative is posted in the grade between Controller of Administration and Junior Engineer, (both inclusive). He shall also intimate the name of persons who are working with him in any capacity or subsequently employed by him and who are relatives as mentioned above.
- Note: A person shall be deemed to be a relative of another if, and only if, (a) they are members of a Hindu undivided family or (b) they are husband and wife or (c) the one is related to the other in the following manner: father, mother (including step mother), son (including step son), Son's wife, Daughter (including step daughter), Father's father, Son's son, Son's son's wife, Son's daughter, Son's daughter's husband, Daughter's husband, Daughter's son, Daughter's son's wife, Daughter's daughter, Daughter's daughter's husband, Brother (including step brother), Brother's wife, Sister (including step sister), Sister's husband.
9. Tenders submitted shall remain valid for a period of 120 days from the bid submission end date for the purpose of acceptance and award of work. Validity of the tender beyond 120 days from the bid submission end date shall be extended by mutual consent.
10. In e-tendering, tenderer can quote the rates in figure only. The rates in words, amount of each item and total is generated automatically. Therefore, the rate quoted by the tenderer in figure is to be taken as correct.
11. The tenderer should carefully see the contract drawings (as applicable or if available) as no claim whatsoever will be entertained for any alleged ignorance thereof. The enclosed drawings are for indicative purpose only and If there is any discrepancy found in the drawing the same be brought into the notice of Engineer-in-charge.
12. (a) Before tendering, the tenderer shall inspect the site to fully acquaint himself about the conditions in regard to accessibility of site, nature and area/extent of ground, working conditions of site and locality including stacking of materials, installations of tools & plants etc., conditions affecting accommodations and movement of labour etc. required for the satisfactory execution of contract. No claim whatsoever on such accounts shall be entertained by the Employer under any circumstances.

(b) The bidders are instructed that before quoting the rates of Audio Visual & RAC components they should carefully read the Special Condition related to Audio Visual and RAC.

13. If any tenderer withdraws his tender within the validity period or makes any modification in terms and conditions of the tender, before the award of work, which are not acceptable to CSIR-CRRI then CSIR-CRRI shall, without prejudice to any other right or remedy, shall be at the liberty to forfeit 50 % (fifty percent) of the Earnest Money deposit absolutely. Further, the tenderer shall not be allowed to participate in the re-tendering process for this work.
14. Except writing rates in figure only, the tenderer should not write any conditions or make any changes, additions, alterations and modifications.
15. 100% Earnest Money will be forfeited if the contractor fails to commence the work within the stipulated period after the Award of the work.
16. Some of the major provisions of General Conditions of Contract are given below. Interpretations, however, shall be as given in the General Conditions of Contract.
 - a. (i) DEFECTS LIABILITY PERIOD for Audio Visual Equipment is of 36 Months from the date of completion as certified by the Engineer-In-Charge. **(Anywhere in tender document where 36 months period is used for defect liability period, it will be applicable for Audio Visual Equipment and their installation etc.)**
(ii) DEFECTS LIABILITY PERIOD for Civil, Electrical and Air Conditioning Work will be 12 months from actual date of completion. However, 100% Security Deposit for tender will be released after completion of 36 months from actual date of completion of work.
 - b. Minimum value of work for the intermediate / interim certificate will be **Rs. 22,000,00.00 (Rs. Twenty-Two Lacs only)**. However, a lesser amount can be admitted for intermediate / interim certificate at the discretion of the Engineer-In-Charge.
 - c. PERFORMACE GAURANTEE:
 - i. PG shall be 5% of the Estimated cost put to tender (ECPT) or contract amount whichever is higher.
 - ii. Requirement of Additional Performance Guarantee (APG): In case of abnormally low bids as defined, the bidder shall be required to submit Additional Performance Guarantee (APG) in addition to the Standard Performance Guarantee. The amount of Additional Performance Guarantee (APG) shall be equivalent to the difference between the 80% amount ECPT and quoted amount. (Applicable for only abnormally rated bid.)
 - iii. The Performance Guarantee will be refunded to the Contractor after two month (60 Days) of the expiry of the contract upon the satisfactory performance of the contract. The Performance Guarantee will not be refunded to the contractor in case, he left the work before the schedule date of its completion.

- d. SECURITY DEPOSIT: A sum @ 10 % of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum along with sum already deposited as earnest money, amounts to 5 % of the tendered value of the work.
- i. On actual completion of the Project an amount equivalent to 5% of the total contract executed value shall be retained by the Employer as Security Deposit till the end of the Defects Liability Period which is 3 years and is reckoned from the completion /handing over the installation of Audio Visual Setup to the Employer in running condition, whichever is later.
- ii. The Security Deposit shall only be released after completion of 3 years of Defect Liability Period.
- iii. If the Contractors failed to rectify the work during the Defects Liability Period, then the Employer shall have the right to get such defective work rectified after giving due notice in writing to the Contractor/s and recover the cost of such repairs from Security Deposit.
- e. COMPENSATION: Contractor shall pay, as compensation, an amount equal to 1.0% (One percent) or such smaller amount as Employer (whose decision in writing shall be final) may decide on the cost of whole work as shown in the agreement, for every week that the work remains un-commenced or unfinished or due quantity of work remains incomplete after the scheduled dates. Compensation to be paid shall not exceed 10% (Ten percent) of the contract amount as shown in the agreement.
- f. One Graduate Engineer with minimum 02 years experience or one Diploma Engineer with minimum 05 years experience will be required, to be employed for the work costing more than 20 lacs and up to and above 1.5 Crores. (For Detail kindly refer GCC Clause no. 8(c).

17. For any queries relating to the Tender Document and the terms and conditions content therein should be addressed to **Head (Engineering Services Division). Mail Id – headesd.crri@nic.in**

18. Opening of Technical Bid (Cover. I)

- (a) The Technical bid will be opened **by Tender Opening Committee (TOC) on 31 / 07 /2026 at 5:00 PM, CSIR-CRRI, Delhi-Mathura Road, New Delhi-110025**, in the presence of such intending tenderers or their authorized representatives who may wish to be present at that time. No claim or any grievances will be entertained what-so-ever by the Tender Opening Committee in this regard.
- (b) The TOC, after evaluation of documents contained in Cover-I i.e. Technical Bid, will decide the eligible tenders, as per the criteria laid down in the NIT.
- (c) The TOC will then open the Financial Bids of only eligible tenderer.

19. Opening of Financial Bid (Cover- II)

The Cover-II of Technically Qualified Bidders/Tenderers shall be opened.

Tender Liable for Rejection.

Tender is liable for outright rejection if on opening it is found that –

- (a) The Tenderer has not strictly followed the procedure laid down for submission of tender.
- (b) If the tender **is CONDITIONAL**.
- (c) If the Tenderer has quoted his offer anywhere else other than specified place provided.
- (d) The Tenderer has not uploaded the documents or Failed to fill the prescribed format.
- (e) Any other ground as decided by the TOC in view of deviation from Tender Document.

20. The instructions for the submission of e-tender are available on the CPP portal i.e. <https://etenders.gov.in> under the “Instruction for Online Bid Submission”. All the intending tenderers are requested to go through these instructions before entering into the process of e-tendering.

21. The tenderer shall submit an **UNDERTAKING on Firm/Company letter head for black listed/bankrupt etc.** as per **Annexure-I (enclosed at Page no. 17)**. The scanned copy of the undertaking shall be uploaded in Cover-I and the Original Copy of the same should be submitted before award of work to Concerned Division / Office.

22. **TECHNICAL SPECIFICATIONS AND COMPLIANCE SHEET:** The detailed specification of equipments is mentioned in NIT, vide **Annexure-A (Sr. No. 140 to 169)**. It is mandatory for the bidders to clearly indicate the approved Makes of equipments as per **Annexure-A (Sr. No. 140 to 169)**. If offered Make of the product does not meet the requirement/ compatibility then technical bid liable to be rejected. If any bidder indicate/ mention Higher specification/ Makes other than approved Makes, in that situation the decision of TEC is final and binding on the contractor.

23. Mandatory declaration in respect of list of approved Makes of Products/ Materials related to Audio Visual Items. **(Refer Annexure – A)**

- i. Only approved makes or brands shall be allowed to be used for Supply, Installation, Commissioning, Testing.
- ii. If Bidder failed to mention the approved Make/ Brand in Annexure – A OR failed to submit Annexure - A for technical evaluation through online mode his tender shall be liable for rejection. No excuse in this regard will be entertain in future.
- iii. During quoting of Rates in financial bid, the bidder shall carefully quote the rates of particular brand as he has agreed to supply in Annexure – A sheet during technical evaluation.
- iv. As per **NIT Clause - 24 (vii)**, It is mandatory by the firm to submit the particular approved Brands of product/ material as per Annexure-A (Sr. No. 140 to 169). The same shall also be considered while quoting the rates in the Financial Bid (having Sr. No. 140 to 169).
- v. In **Annexure-A**, Item Nos. - 159, 160, 162 & 169, where the Approved Make/ Brand is not mentioned in column ‘e’ Contractor can mention any reputed Make/ Brand in column ‘f’. However, if Contractor may not quote any Make/ Brand in column ‘f’ of above items, then his tender will also be accepted and decision of TEC is final.

24. List of **Mandatory documents** to be scanned and uploaded in Cover-I & II are as per details given below.

Sl. No.	Cover-I (Technical Evaluation)	Cover-II
i.	Receipt of deposit of Tender Cost and EMD as per Detailed NIT Clause no. 5(a).	Financial/Price bid
ii.	Copy of GST registration number	
iii.	Copy of PAN Card	
iv.	Undertaking on firm's letter head as per detailed format given vide Annexure-I (Please refer NIT clause no. 5(b) and 21).	
v.	Copies of experience certificates of similar works completed satisfactorily as per detailed NIT clause no. 1(A) & 1(B)	
vi.	Valid electrical license or an undertaking confirming that electrical works shall be got done through a licensed electrical agency (In case of electrical works only)	
vii.	Mandatory declaration in respect of list of approved Makes of Products/ Materials related to Audio Visual Items. The detail list is enclosed as per Annexure – A. (Refer NIT Clause No. 22 & 23)	

**Mandatory declaration in respect of list of approved Makes of Products/ Materials related to Audio Visual Items
for Detail, kindly refer Clause No. 22, 23 & 24 (vii)**

Annexure - A

Sr. No. as per NIT/ BoQ	Description of Product/ Material with Minimum requirement	Qty.	Unit	Approved Make/ Brand	Make/ Brand provided by the Contractor during execution of Contract (It should be as per Column e)
a	b	c	d	e	f
	Audio Systems				
140	Supplying, Installation, Testing & Commissioning of Chairman Microphone Unit. - Digital Chairman Discussion Unit with built-in Digital Signal Processing, Unit with Priority and Next-in-Line Configuration. - Priority button silences all delegate microphones and allows only the chairperson to speak. - Next-in-line button gives the floor to the next speaker in a waiting list of speakers who requested to speak, User Button with Feedback. - Shielded microphone, immune to mobile phone interference. - High-quality integrated loudspeaker, Headphone output with Volume Adjustment. - Loop-through, daisy-chain cabling, Different LED Signaling for Mic (On/Off) with Request-to-Speak Push Button. - Audio Quality 16Bit digital, Frequency Response: 25Hz-15kHz. Should come with gooseneck microphone having length of 400mm-500mm.	1	No.	Bosch/ Shure/ Televic	
141	Supplying, Installation, Testing & Commissioning of Delegate Microphone Unit - Digital Delegate Discussion Unit with built-in Digital Signal Processing. - User Button with Feedback, shielded microphone, immune to mobile phone interference. - Integrated loudspeaker. - Headphone output with Volume Adjustment, Loop-through, daisy-chain cabling. - Audio Quality 16Bit digital, Frequency Response: 25Hz-15kHz Should come with gooseneck microphone having length of 400mm-500mm.	16	Nos.	Bosch/ Shure/ Televic	
142	Supplying, Installation, Testing & Commissioning of Wireless hand-held Microphone- Wireless digital Handheld Microphone transmitter.- Radio Frequency (RF) output 80mW or more.- Super cardioid pickup pattern.- Frequency Response of 20Hz to 20kHz.- Frequency range : 1880 to 1930 MHz.- Lithium-ion rechargeable Battery, 256 bit Advanced Encryption Standard (AES) (specifications includes single microphone set of transmitter and capsule) etc. and complete as required.	2	Nos.	AKG/ Shure/ Senneiser/ Bosch	

143	Supplying, Installation, Testing & Commissioning of Wireless lapel microphone - Wireless digital Handheld Microphone transmitter. - Radio Frequency (RF) output 80mW or more, super cardioid pickup pattern. - Frequency Response of 20Hz to 20kHz. - Frequency range: 1880 to 1930 MHz. - Lithium-ion rechargeable Battery, 256-bit Advanced Encryption Standard (AES) (specifications includes single microphone set of transmitter and capsule) etc. and complete as required.	2	Nos.	AKG/ Shure/ Senneiser/ Bosch	
144	Supplying, Installation, Testing & Commissioning of Digital Microphone Receiver, support with at least Two wireless transmitter. - Digital Microphone Receiver, Radio Frequency (RF) output 80mW or more, should support communication with at least two wireless transmitter simultaneously, Wireless Frequency range : 1880 to 1930 MHz, support for 256 Bit Advanced Encryption Standard (AES) easy installation on ceiling or wall, should have Power over Ethernet (PoE) and Dante, should have integrated automixer, it should not have latency of more than 30ms, should have integrated antenna, should be able to control/monitored on LAN with all the status of the transmitter etc. and complete as per direction of Engineer-in-charge.	2	Nos.	AKG/ Shure/ Senneiser/ Bosch	
145	Supplying, Installation, Testing & Commissioning of Wireless digital microphone charger for Hand Held microphone and Lapel, charging capacity.- Digital microphone charger for Hand Held microphone and Lapel, charging capacity: Two simultaneously with lighting indication, monitoring: LAN / RJ45. Should be from same OEM as of wireless mic/ Lapel etc. and complete in all respect as per direction of Engineer-in-charge.	2	Nos.	AKG/ Shure/ Senneiser/ Bosch	
	Control Unit				
146	Supplying, Installation, Testing & Commissioning of Conference Control Unit (chairman/ delegate goose neck) - Digital Central Conference Controller with Recording & Web Server. - Conference Controller with built-in Digital Signal Processing, Control up to minimum 50 Discussion Unit and expandable. - Controller unit with 4 Bus Connection. 4 Branches. - Control & Configure the Controller via the Integrated Web Server, Two USB Connections to connect USB Storage Device for Direct Recording of the Meeting. - The Second USB Storage Device will take over automatically in-scenario the First USB Storage get full. - Camera Control Integration Capability, Controller with LCD display to implement several Conference Mode: Direct access, Request, Push to talk, First in First Out (FIFO). - Vox control, Selectable Voice Activation, Digital Acoustic, Feedback Reduction. - With Audio Input & Output for connectivity with external system like amplifier, microphone & audio/video conference system. - Audio Quality 16Bit digital, With Power Saving Mode allows controller to sleep state if it has been left ON, Headphone Port, Certification: CE. - The device should be capable to control through CAT-6.	1	No.	Bosch/ Shure/ Televic	

147	Supplying, Installation, Testing & Commissioning of Video, audio and control transmitter over TCP/IP- Video, audio and control transmission over TCP/IP in Unicast (point-to-point) or Multicast (single-to-many, many-to-many) modes.- Support with 90° increments rotation.- The analog Line In on the Transmitter sends audio directly to the analog Line Out and is inserted into the HDMI output on connected Receivers.- The Mic In on the Receiver sends audio directly to the analog Line Out on the Transmitter.- Both Tx and Rx may powered directly by PoE when connected to a Gigabit Ethernet switch that provides PoE (802.3af). Maximum Input HDMI 4096x2160p @60. VGA 1920 x1200p@60RB. Maximum Output 10G LAN (Streaming). Supplying, Installation, Testing & Commissioning of Video, audio and control receiver over TCP/IP- Video, audio and control reception over Transmission Control Protocol (TCP)/ Internet Protocol (IP) in Unicast (point-to-point) or Multicast (single-to-many, many-to-many) modes.- Support video wall with 180° and 270° rotation.- Video output can be scaled to a selected resolution, or left unscaled.- The analog Line In on a connected Transmitter will send audio directly to this Receiver's analog Line Out as well as being embedded into the HDMI output signal.- The Mic In on the Receiver sends audio directly to the analog Line Out on the Transmitter.- May be powered directly by Power over Ethernet (PoE) when connected to a Gigabit Ethernet switch that provides Power over Ethernet (PoE) (802.3af).- Includes 3 LAN ports, allowing multiple Receivers to be daisy chained without the need for an external Gigabit Ethernet switch.- Input Signal Type 4096x2160p@60 8bit YUV4:2:0. Output Signal Type 4096x2160p@30 8bit RGB. Maximum Output HDMI 4096x2160p@30. VGA 1920x1200p@60RB.	10	Nos.	Crestron/ Extron/ Cypress	
148	Supplying, Installation, Testing & Commissioning of Network Audio Expander with Mic/Line Inputs. - Network Audio Expander with Mic/Line Inputs. Inputs-4xMic/Line with +48VDC Phantom Power, Power-PoE and Aux, Frequency Response-20 Hz to 20 kHz, Input/Output Dynamic Range - >105dB, Sample rate- 48 kHz, Bit depth-24 bit, Mounting - Surface- and wall-mountable hardware included. Compliance-CE, EU RoHS, UL, C-UL.	1	No.	QSC/ Extron/ BiAmp	
149	Supplying, Installation, Testing & Commissioning of Network Audio Expander with Line Outputs. - Network Audio Expander with Line Outputs. Outputs-4xLine Outputs, Power-PoE and Aux, Frequency Response-20 Hz to 20 kHz, Input/Output Dynamic Range - >105dB, Sample rate- 48 kHz, Bit depth-24 bit, Mounting - Surface- and wall-mountable hardware included. Compliance-CE, EU RoHS, UL, C-UL.	1	No.	QSC/ Extron/ BiAmp	
	Control System				
150	Supplying, Installation, Testing & Commissioning of Touch Screen Control - High Definition, Multi-touch, Touch Screen Controller with 24-bit color display. - Viewable Screen Dimensions (diagonal) – approximately 10 inch, Resolution - 1920 × 1200, Brightness - 380 Nits, Aspect ratio – 16:10. - Power – PoE, Mounting – Wall and Tabletop, Orientation - Vertical / horizontal. - Configurable LEDs on both sides. Sensors - Ambient Light Sensor, Proximity Detection. should come with table mount for touch panel. - Minimum 2 GB of RAM and 32 GB of internal memory with charger.	1	No.	QSC/ Extron/ Crestron	

151	Supplying, Installation, Testing & Commissioning of Control Network control expander with serial ports. - Control Network, Control Expander with serial ports. Ports - 1xconfigurable serial port (RS232/RS485/RS422), 3xRS232 ports, Power- Power over Ethernet (PoE) and Auxiliary (AUX) Port. Ethernet daisy-chaining up to four units. Surface and Wall-mountable hardware included.	1	No.	QSC/ Extron/ Crestron	
152	Supplying, Installation, Testing & Commissioning of Control Network control expander with serial ports. - Infrared Network control expander. Ports - 1xIR Receiver Input, 4xIR Emitter Outputs, Power- Power over Ethernet (PoE) and Auxiliary (AUX) Port. Ethernet daisy-chaining up to four units. 4xIR emitters included, Surface and Wall-mountable hardware included.	1	No.	QSC/ Extron/ Crestron	
153	Supplying, Installation, Testing & Commissioning of Digital Signal Processor/Echo Cancellation Device- Digital Signal Processor with 8 Mic/Line inputs, 8 Line outputs and 8 are assignable channels, configurable as Mic/Line Inputs or Line outputs.- The processor shall have minimum 16 assignable & routable Acoustic Echo Cancellation (AEC) channels.- The processor shall have minimum 8x8 Dante channels and shall also support up to 128x128 Network audio channels via Dante or AES67. It shall also support Plain Old Telephone Service (POTS) and Session Initiation Protocol (SIP) Softphone integration for Audio conferencing and configurable 16x16 USB Audio channels via USB-B ports supporting AV - USB Bridging for software or web-based conferencing applications.- The processor shall also have minimum 24 bit-A/D-D/A converters, 48 kHz Sample rate, Input frequency response of 20 Hz to 20 kHz @ +21dBu, Input dynamic range > 109.5 dB at @ +24 dBu sensitivity.	1	No.	QSC/ Extron/ BiAmp	
	IP Master Controller				
154	Supplying, Installation, Testing & Commissioning of AV over IP Master Controller - AV over IP Master Controller should have following functions: Enables the management and configuration of multiple compatible Video over Internet Protocol (IP) (VoIP) extenders through a single Web based Graphical User Interface (WebGUI). - Supports point-to-point (unicast) and multi-to-multi (multicast) routing selections, Control over both matrix and TV wall modes using WebGUI presets, Definable display groups. - WebGUI clearly displays the status of all connected Transmitters and Receivers, including IP address, channel selection, etc. - HDMI output displays the WebGUI and system status, Dual LAN ports enable control over VoIP installations that reside on a logically or physically separate network from the standard local network, Supports the use of a USB mouse and keyboard to locally control the Web based Graphical User Interface (WebGUI).	1	No.	QSC/ Crestron/ Cypress	
155	Supplying, Installation, Testing & Commissioning of HDMI to USB 3.0 video converter, Supports up to 4K UHD- HDMI to USB 3.0 video converter. Supports up to 4K Ultra High Definition (UHD) (18Gbps, 4K@50/60Hz 4:4:4, 8-bit) video input and output. simultaneously streaming the audio and video signal at 1080p to a USB connected PC for capture or re-broadcast. Automatically scales 4K sources to 1080p for USB capture. Video timing stabilization feature helps to ensure that the USB capture stream won't lock up or drop, even if the HDMI input	1	No.	QSC/ Aten/ Extron	

	source is intermittent or becomes disconnected. Digital stereo audio from either HDMI {Linear pulse-code modulation (LPCM 2.0)} or the 3.5mm analog audio input will be captured with the HDMI video source and is selectable within the configuration software. Inputs 1x HDMI [1x Uncompressed AV and Data] 1x 3.5mm [1x Stereo(L/R)]. Outputs 1x HDMI [1x Uncompressed AV and Data]. 1x USB Type-B [1x Propriety Data]				
156	Supplying, Installation, Testing & Commissioning of Ceiling Mount Speakers - 6.5" Ceiling Speaker with 60w output, 6.5" Paper Cone Woofer. - Minimum 0.75" Aluminum Dome Tweeter, 65 Hz to 20 kHz Frequency. - Range, 70/100V Transformer with 16-Ohm Bypass. - Directivity Matched Transition Waveguide, Snap-Fit Magnetic Grille, 3x Double Stepped Blind Mount System. - Removable Conduit Cover Plate, UL1480 and UL2043 Certified, Paintable to Match Any Décor. - Ceiling mount accessories.	10	Nos.	QSC/ Bose/ TW Audio	
157	Supplying, Installation, Testing & Commissioning of Power Amplifier- Quad Channel Class D amplifier. Power 200W per channel @8Ω/70V/100V.Each pair of amplifier channels can deliver up to 400 W total power, in any ratio.- Frequency Response at 8 Ω - 20 Hz – 20 kHz +/- 0.5 dBz. Signal to Noise ratio -> 103 dB, Input impedance - >10k, balanced or unbalanced.- User-configurable operating modes (per channel): - Dual Inline Package (DIP) switch selectable, low impedance 4 Ω or 8 Ω, high impedance direct drive 70 V or 100 V modes (per channel).- Selectable 80 Hz highpass filter on each channel, Front panel indicators: - Power, signal (per channel), limit / mute / protect (per channel).- Rear panel indicators: - Bi-Color LED signal / limit/ mute/ protect, Forced air cooling, thermally regulated fan speed, Remote standby, Power saving features - Auto-standby. Rock Unit.	1	No.	QSC/ Bose/ TW Audio	
	Display System				
158	Supplying, Installation, Testing & Commissioning of Projector of light Output (Standard): 6400 Lumens or better, Light Output (Centre): 7000 Lumens or better, Display System: 3 LCD System, Display device: 0.64"*3 Bright Era LCD Panel, Native Resolution: WUXGA (1920X1200) or better, Contrast Ratio: ∞:1, Light Source: Laser diode, Laser Life: 20000 Hrs Minimum, Zoom: Manual (Approx 1.6X), Throw ratio: 1.23:1 to 1.97:1, Lens Shift: Manual, vertical:-35% to +55%, Horizontal: +/- 15%, Speaker: Min 16W, Connectivity Ports: Mini D-sub 15-pin, HDMI (2), HD BaseT, Video In, Audio In, Audio Out as directed by engineer in-charge.	1	Set	Sony/ Barco/ Christie	
159	Supplying and Installation of Ceiling Mount Projector kit for above projector in the existing ceiling including all accessories as directed by Engineer in-charge.	1	No.		
160	Supplying, Installation, Testing & Commissioning of 150" Fixed frame White Fabric Projector Screen 16:9 Aspect Ratio Active 3D 4K Ultra HD Projector Screen as directed by Engineer In-charge.	1	No.		
161	Supplying, Installation, Testing & Commissioning of PTZ Camera - This device will transmit, capture and record the lecture/meeting. The PTZ (Pan, Tilt and Zoom) Cameras are remotely steerable. These Cameras also can be focused on classroom writing surfaces with look at me	2	Nos.	QSC/ EAPL/ Sony/ Lumens/ Data Video	

	features.- Zoom: 20x optical, View Angle: 6.9° (T) ~ 60.5° (W), Pan Rotation Angle: -170° ~ +170°, Tilt Rotation Angle: -30° ~ +90°, Pan Speed: 1.7° ~ 100° /s, Tilt Speed: 1.7° ~ 69.9° /focal Length: f= 3.5mm ~ 42.3mm, F1.8~F2.8, Image Sensor Type: 1/2.8-inch-high quality 2.07MP HD CMOS Sensor.- Video Format: 1080p 60fps, backward compatible, Video Output: USB3.0, HDMI, LAN, 3G-SDI, Video Compression: H.264 and H.265, AI based Lecture: Supported tracking, Audio In/out: 3.5mm Audio in/out separate loop port, Audio Compression: AAC 96Kbps, 128Kbps, 256Kbps.- Digital Audio Output: USB, HDMI, LAN, 3G-SDI, Network Interface: RJ45: 10M/100M Ethernet Interface, Network Protocol: TCP/IP, HTTP, RTSP, RTMP, DHCP, Multicast, etc., Preset: 255 (10 by remote controller), control Port: RS232/ RS485/ LAN PTZ, Control Protocol: VISCA/ PELCO-D/ PELCO-P, Minimum Lux 0.5 lux @(F2..0, AGC ON),S/N Ratio: ≥55 dB, White Balance: Auto / Manual, Focus: Auto / Manu.				
162	Supplying, Installation, Testing & Commissioning of Ceiling/ Wall Mount for PTZ camera. - Ceiling/Wall Mount for PTZ camera fixing accessories.	3	Nos.		
163	Supplying, Installation, Testing & Commissioning of Recording and Streaming DeviceIt is all-in-one media processor, it allows to mix four video sources, recording, streaming and live-switching simultaneously. It captures various video sources, including HDMI inputs, IP cameras, Real Time Streaming Protocol (RTSP) streams and also allows to switch among them.- Recording & Streaming Device, 4-Channel All-in-one Streaming Switcher with builtin switcher, camera controller and streaming encoder in one box, five video inputs with one SDI/HDMI selectable port.- Three HDMI only ports and one USB 3.0 port, can receive IP videos via an RJ-45 port, Multiple PGM Modes, Dual Multiview Modes.- Recording Resolution- Supports up to Full HD 1080p50/60 broadcast record quality with a low file size, XLR and stereo RCA ports for external analog audio and a 3.5 mm headphone jack for audio monitoring.- Storage-Serial Advanced Technology Attachment (SATA) (6Gb/s), Recording File Format-MP4.- Built in storage of minimum 2TB.	1	No.	Lumens/ Extron/ Data Video	
164	Supplying, Installation, Testing & Commissioning of Multi-View with Streaming Solution for Video Conference- HDMI inputs and outputs with 18Gbps (600MHz) 4K UHD support. Seamless switching (no loss of sync to display in Matrix Mode) when switching sources in 4x2 matrix mode. Supports the ability to store a multi-window arrangement as a preset that can be recalled later . Extended Display Identification Data (EDID) management. Supports easy adjustment of window size, position and settings in the PiP windowing mode via the WebGUI. Controllable via front panel buttons, WebGUI, Telnet, RS-232. Automatically scales 4K sources to 1080p for USB capture. Supports video timing stabilization to help ensure a reliable and stable USB capture stream. Capturing over USB 3.0 allows uncompressed video and audio data capture (1080p, LPCM 2.0). Capturing over USB 2.0 applies minimal Motion Joint Photographic Experts Group (MJPEG) compression to the video and audio data (1080p, LPCM 2.0). Supports capturing 2 channel digital audio from either HDMI {Linear pulse-code modulation (LPCM 2.0)} or the 3.5mm analog audio input (selectable via capture software). Compliance with the User Access Control (UAC) (USB Audio Class) and UVC (USB Video Class) standards, allows the unit to support most common capture and video streaming.	1	No.	Crestron/ Extron/ Cypress	

165	Supplying, Installation, Testing & Commissioning of Digital Podium. A platform on at which a person stand to be seen by an audience. The digital podium has a capability to integrate digital services such as touch screen for content display. 24", Figure play, pen touch, motorized tilting screen.- 21.5" interactive pen and finger touch interactive screen podium, Chassis Type Floor Mounted with Wheels.- Type of Chassis/ Frame – Metallic Material of Chassis - Polymer Coated Cold Rolled Close Annealed (CRCA) Steel Sheet, Thickness of Enclosure (mm) - 1.6 mm (Min) CRCA Sheet.- Screw less Chassis, Adequate Space for Additional Devices, Lockable Drawers / Cabinets, Tilt screen facility, Pre-Build Housing, Connectivity point- USB ports (3.0) X 02, VGA x 01.- HDMI input port (2.0)- 01 Nos HDMI out port (4K@60Hz) x 2, RJ45x 1 Nos, Self-Lockable wheels, Front logo sheet, Power Socket Strip, In-built racks to house amplifier, Digital Signal Processor (DSP) etc. Top: - XLR connector for Gooseneck Microphone.- CPU - Mini PC Intel - i5, RAM 8GB, Storage- 128SSD with Keyboard & Mouse.- Full HD web cam and wifi 6 enabled.	1	No.	Geeken/ Tech Vise/ Aha/ EAPL	
166	Supplying, Installation, Testing & Commissioning of Cables and connectors as per actual- 2-5M and 10/20M LAN Cable lot, as per requirement for connecting Digital Chairman Discussion Unit and Digital Delegate Discussion Unit with Digital Central Conference Controller.- Cable manager (Qty 3): Supply, Installation, Testing & Commissioning of Cable manager with HDMI, LAN and Power.- 10m USB3.0 Extension Cable (Qty 2): USB 3.1 Gen1 Type-A Male Connector, USB 3.1 Gen1 Type-A Female Connector, Data Bandwidth Up to 5 Gb/s, Backward Compatible with USB 2.0/1.1, Daisy-Chainable, 164' Maximum Distance, Multi-Platform Support for Windows & Mac, Additional Power Adapter, USB Extension Cable.- Require audio-video, speakers Cable and connectors: Require audio-video, speakers Cable and connectors.- HDMI cable per site requirement and all as per direction of Engineer-in-charge.	1	Job	Kremer/ Aten/ Manhattan	
167	Supplying, Installation, Testing & Commissioning of 15.6" Pen Display for director sir personal view and annotation on PPT etc. - Screen Size-15.6" or above, Display Resolution (Pixels)- 1920X1080, Display Brightness (Nits)-210, Interface-USB 2.0, Video Input-HDMI, Contrast Ratio-1000:1 (typical), Encryption- AES 256 / RSA 2048, Report Rate-187 points per second, Pressure Levels-8192, Coordinate accuracy-5080 lpi, reading technology- Electromagnetic Resonance (EMR), Response-25 ms (typical), Viewing Angle-176°/ 176°, Integrated adjustable stand, Stylus Type- Battery free, Cover glass surface- Tempered Glass with Anti Glare (AG) film.	2	Nos.	Wacom/ Samsung/ LG	
168	Supplying, Installation, Testing & Commissioning of 48 Port Gigabit Ethernet L2 Manageable Switch with PoE/PoE+ Ports - 48 Port Gigabit Ethernet L2 Manageable Switch with PoE/PoE+ Ports.	1	No.	NetGear/ HP/ Aruba/ Arista	
169	Supplying, Installation, Testing & Commissioning of 48U 19" AV Equipment rack with required accessories- 48U 19" AV Equipment rack with required accessories, cooling fan, power strip etc. it should be capable to hold all the proposed systems and their requirements.	1	No.		

UNDERTAKING

(To be given on Company's Letter head)

I age..... years is resident of..... do hereby

solemnly stated on oath that, I am the sole Proprietor /Owner/Power of Attorney Holder of the firm/Company named,

- i) That my firm/company presently not black listed/debar by any Central Govt./ State Govt./ Autonomous bodies/ PSU's etc.
- ii) That the firm/company is not under any liquidation, Bankrupt, Court receivership or similar proceedings.
- iii) That I have submitted online Tender for the **“Renovation of Council Hall at CSIR-CRRI, Mathura Road, New Delhi-110025.”** on Govt. official site i.e. <https://etenders.gov.in>
- iv) That I have carefully gone through, read, thoroughly studied and understood all terms & condition, specification included in the tender document (Tender Form, Detail Tender Notice, conditions and specifications common set of Deviations drawings etc.) I hereby accept all these conditions, I agree to abide by the terms & condition in the tender document and agree to execute the work/job as per terms and conditions, specifications laid down in the tender document.
- v) I do here by state on oath that the documents uploaded by me in Cover-I of this tender are true, correct and bonafide. There are no errors and omissions in the uploaded documents. In case in future, if it is found that, any of the uploaded document /information is false / wrong, I will be personally responsible for the same and I will be liable for legal action against me.

(Name, address and signature of Tenderer)

(Seal)

GENERAL CONDITIONS OF CONTRACT

1 INTERPRETATION

In construing these conditions, the Specifications, the Schedule of Quantities, Tender, Special Conditions and Agreement, the following words shall have the meanings herein assigned to them except where the subject or context otherwise requires.

This contract shall comprise of the Articles of Agreement, General Conditions of Contract, Special Conditions, Additional Special Conditions, the Schedule of Quantities, Specifications, letter of acceptance of tender and other documents mentioned in the contents sheet attached hereto and including those to which only reference is made herein.

WORK OR WORKS

Shall mean all work or works defined in schedule of quantities, specifications and such other work or works as the contractor may be entrusted with for carrying out under this contract.

EMPLOYER: - shall mean Director General, CSIR or any officer authorized by Director General for the purpose.

ENGINEER: - shall mean the Engineer designated by the Employer to superintend and perform other duties as indicated in the contract.

CONTRACTOR: - shall mean the individual or Firm or Company, whether incorporated or not, under- taking the work and shall include the legal personal representative or such individual or the persons composing such Firm or Company or the successors of such Firm or Company and the permitted assignees of such individual or Firm or Firms or Company.

SITE: - shall mean the site of the contract works including any buildings and erections thereon and any other land adjoining thereto (inclusive) as aforesaid allotted by the Employer or the Engineer for the contractor's use.

COMPENSATION: - shall mean all sums payable by way of compensation under any of the conditions shall be considered as reasonable compensation without reference to the actual loss or damage sustained and whether or not any damage sustained, and whether or not any damage shall have been sustained.

Words imputing persons include firms and corporations; words imputing the singular only also include the plural and vice versa where the context so required. The headings are given to the clauses for convenience and they will not limit the meaning or scope of the clauses in any way.

2 DRAWINGS AND SPECIFICATIONS

The contractor shall execute whole and every part of the work in the most substantial and workmanlike manner both as regards material and otherwise in every respect in accordance with the specifications. The contractor shall also conform exactly and faithfully to the design, drawings and instructions given in the respect of the work by Engineer. The contractor shall be furnished free of charge one copy of such specifications and all such designs, drawings and instructions as are not included in the printed publications.

3 CONTRACTOR TO PROVIDE EVERYTHING NECESSARY

- (a) The contractor shall provide at his own cost all materials. (except such materials, if any as may in accordance) with the contract be supplied by the Employer) plants, tools, appliances, implements, ladders, scaffolding, temporary works, etc. requisite or proper for the execution of the work whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or which may be necessary for the purpose of satisfying or complying to the requirements of Engineer, as to any manner as to which under these conditions he is entitled to be satisfied together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with means and materials necessary for the purpose of setting out works and counting, weighing and assisting in the measurement or examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer at the expense of the contractor and the expenses may be deducted from any money due to the contractor under the contract and / or from his Security Deposit.
- (b) The contractor shall provide himself with requisite quantity and quality of water for carrying out the works at this own cost. If, however, piped water is supplied by the Employer, the contractor shall pay for the water at one per cent of the total cost of the work done except on Electrical work, Air- conditioning work and Furniture work. The contractor shall make his own arrangement for water connection and laying of further pipelines from the source of supply of the Employer. It should be clearly understood that the Employer does not guarantee to maintain un – interrupted supply of water and it will be incumbent on the part of the

contractor to make alternative arrangement for water at his own cost in the event of any temporary break-down in the water mains so that the progress of work is not held up for want of water. No claim as damages or refund of water charges will be entertained on account of such break-downs. However, if the contractor is permitted to make his own arrangement to draw water from a well, hand – pump, or natural river or pond of the Employer, no charges will be made for the water drawn from the same, but the contractor will make good any damage done to the installation and ensure that the quality of water used in the work is conforming to BIS codes and provide for any Operation at his own cost.

- (c) The contractor shall be allowed to construct temporary wells in Employer's land for taking water for construction purpose only after he has permission of the Employer in writing. No charges shall be recovered from the contractor on this account but the contractor shall be required to provide necessary safety arrangement to avoid any accident or damage to adjacent buildings, roads and service lines. He shall be responsible for any accident or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.
- (d) The Employer on no account shall be responsible for the expenses incurred by the contractor for hired ground or water obtained from elsewhere.

Subject to availability the Employer may supply power at only one point from where the Contractor shall make his own cost. These shall be in the custody of the Employer. If there is any hindrance caused to other works the contractor shall reroute or remove such temporary lines without any extra cost. Such temporary lines shall be removed after the completion of work. The cost of power consumed by the contractor shall be payable to the employer at rates fixed by the Employer, which would be deducted from the running account bills. However, the Employer does not guarantee the supply of power and no compensation for any failure or short supply of power shall be entertained.

3A SUFFICIENCY OF TENDER

The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of the tender for the works and the rates and the prices quoted in the schedule of items, which rates and the 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.

4 AUTHORITIES, NOTICES & PATENTS

- (a) The contractor shall conform to any regulation and bye-laws of any corporation and of any electricity supply company and authorities with whose systems the structure is proposed to be connected, and shall before making any variations from the drawing and specifications that may be necessitated for so conforming by giving written notice to the Engineer specifying the variations proposed to be made, the reasons for making it and apply for instructions thereon. If the compliance with this clause involves any extra work not included in this contract, he shall specify these items of work and the allowance of extra payment required on their account.
- (b) The contractor shall give all notices required by the said regulations or bye-laws to be given to any Authority and pay to such Authority or to any public office all fees that may be chargeable in respect of the works and lodge the receipts with the bill to the Engineer for reimbursement.

5 RATES TO INCLUDE ALL TAXES

- a) Rates quoted by the contractor shall be *inclusive of GST* (Such as CGST, SGST and IGST) in respect of this contract. *However, at the time of submission of bill/tax invoice, the component of prevailing rate of GST (which has already been included in the rate/ amount quoted by contractor) should be extruded and shown separately in the tax invoice.* The Employer shall not entertain any claim whatsoever in this respect. However, pursuant to the constitution (Forty Sixth Amendment) Act, 1982, if any further tax or levy is imposed by Statutes, after the date of receipt of tenders and the contractor thereupon necessarily and properly pays such taxes/levies, the contractor shall be reimbursed the amount as per the rules on producing proof of payment so made provided such payments, if any, is not in the opinion of the Employer (whose decision shall be final and binding) attributable to delay in executing of work within the control of the contractor. The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of the Employer and further shall furnish such other information and documents as the Employer may require.
- b) The contractor shall within a period of thirty days of imposition of any further tax or levy pursuant to the Constitution (Forty Sixth Amendment) Act, 1982 give a written notice thereof to the Employer that the same is given pursuant to this condition together with all necessary information relating thereto.

6 MATERIALS

- (a) If the specification of schedule of items provide for the use of any material to be supplied by the Employer's stores or if it is required that the contractor shall use certain stores to be provided by the Employer as shown in the schedule of materials hereto annexed, the contractor shall be bound to procure and shall be supplied such materials and stores as are from time required to be used by him for the purpose of the contract only and value of the materials so supplied at the rates specified in the said schedule of materials and of the quantities incorporated in the work may be set off or deducted from any sums then due, or thereafter to become due to the contractor under the contract or otherwise or against or from the Security deposit. All materials so supplied to the contractor by the Employer shall remain the absolute property of the Employer and the contractor shall be the trustee of the materials so supplied / procured and the said materials shall not be removed / disposed off from the site of the work on any account and shall be at all times open for inspection by the Engineer of Employer. The contractor shall bear all incidental charges for cartage, storage and safe custody of all materials and against damage due to dampness, rain, sun, fire and theft and be fully responsible for their storage and maintenance. Any such material unused and in perfectly good condition in the opinion of the Employer at the time of the completion of work or termination of the contract, or earlier shall be returned to the Employer at a place directed by Engineer at contractor's cost and at rates stipulated in the said schedule but in case the Employer decides not to take back the materials the contractor shall have no claim for compensation on account of any such materials supplied to him as aforesaid being unused by him or for any wastage or damage to any such materials.
- (b) If for any reason there is delay or non-supply of material as shown in the schedule, the contractor shall procure the same and complete the work in time after due intimation and approval of the Employer. The difference in price (between his procurement price and price shown in the schedule) shall be paid to the contractor. However in case approval of the Employer is not given, only suitable extension of time would be considered and no other claim of compensation / damages shall be payable by the Employer.
- (c) After completion of the work or on determination / termination of the contract, the theoretical quantity of cement to be used in work shall be calculated on the basis of statement showing quantity of cement to be used in different items of work provided in current Schedule for the purpose printed by CPWD. In case any item is executed for which the standard constants for the consumption of cement are not available in the above mentioned statement or cannot be derived from this statement, the same shall be calculated on the basis of standard formula to be laid down by the Engineer. Over this theoretical quantity of cement, shall be allowed a variation up to 3% plus/minus for works estimated cost of which as put to tender is more including authorized variation, if not returned by the contractor, shall be recovered at twice the issue rate, without prejudice to the provision of other conditions regarding return of materials governing the contract. In the event of its being discovered that the quantity of cement which is less than the quantity ascertained as herein before provided (along with variation on minus side as stipulated above) the cost of quantity of cement not so used, shall be recovered from the contractor on the basis of stipulated issue rates and cartage to site.
- (d) The provision of foregoing sub-clause shall apply Mutatis-Mutandis in the case of steel reinforcement or structural steel sections (each diameter/section or category shall be considered separately) except that the theoretical quantity of the steel shall be taken as the quantity required as per design or as authorized by the Engineer, including lappages, plus 3% wastage due to cutting into pieces. Over this theoretical quantity 2% plus/minus shall be allowed as variation due to wastage.
- (e) The provision of foregoing sub-clause shall apply Mutatis – Mutandis in the case of cables (other than under – ground cables), wires, conduits / GI pipes, GI/MS sheets used in various items of work shall be calculated on the basis of measurements recorded in the measurement books for the purpose of payment and for assessing the consumption of materials used in the works. Over this quantity a variation of 5% plus shall be allowed for wastage of materials during execution in case of cables (other than under – ground cables), wires, conduits/GI pipes, and 10% plus in case of GI/MS sheets.
- (f) The provisions made above are without prejudice to the right of the Employer to take action against the contractor under the conditions under the contract for not doing the work according to the prescribed specifications.
- (g) In case of easy availability of approved quality of cement and steel in the open market it will be Employer's discretion to make these items as contractor's supply.

7 TESTING OF MATERIALS

The contractor shall provide assistance, instruments, materials, labour and any other arrangement normally required for testing, checking of materials and workmanship as stipulated in the specifications and by statutory authority at his own cost. The Employer has the right to appoint the testing authorities. The contractor shall pay for the cost of test samples, its packing, transportation including testing fees. Failing his so doing, the same shall be provided by the Engineer at the expense of the contractor and the expenses may be deducted from any money due to the contractor under the contract and / or from the Security Deposit or proceeds thereof or of a sufficient portion thereof.

8 CONTRACTOR'S ENGINEERS / FOREMAN & WORKMEN

- (a) The Contractor shall give all necessary personal superintendence and employ technical staff and foremen during the execution of the work and with such reduced technical staff foremen as long as thereafter as the Engineer may consider necessary until the expiration of the defects liability period. The number of technical staff, their qualifications and experience who shall be constantly attendance of the work while the men are at work has been specified at Para 16(e) . of the Notice Inviting Tender. Any directions, explanations, instructions or notice given by the Engineer to such technical staff or foremen or any other authorized agent shall be held to be given to the Contractor.
- (b) The Contractor shall provide and employ on site only such technical staff and foremen who are skilled and experienced in their respective fields and who are competent to give proper supervision to the work. The Contractor shall provide and employ skilled, semiskilled and unskilled labour as shall be necessary for proper and timely execution of the work.
- (c) **The Engineer shall be at liberty to object to and require the Contractor to remove from the work any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is considered by the Engineer to be undesirable. Such person so removed shall be replaced by competent substitute.**

Only foremen will be required to be employed for a work costing up to Rs. 20 Lacs, for work costing more than Rs. 20 Lacs, Site Engineer as per clause -16(f) of Notice Inviting Tender shall be employed. If the Engineer, whose decision in this respect shall be final and binding on the Contractor, is convinced that technical staff is not effectively appointed or is effectively not attending or not fulfilling the provision of this clause, a non refundable recovery shall be effected from the Contractor at the rate of Rs 20,000/= (Rupees Twenty thousand per month for graduate engineer) and Rs.15,000/= (Rupees Fifteen thousand per month for diploma holder).

9 ACCESS

- (a) The Engineer, and the Employer or its representative shall at all reasonable time have free access to the works and / or workshops, factories or other places the material are being prepared or constructed for the contract and also to any place where the materials are lying or from which they are being obtained and the contractor shall give every facility to them for inspection. Except the representatives of statutory authorities and those mentioned above no other person shall be allowed on the works at any time without the permission of the Engineer.
- (b) If any work is to be done at a place other than the site of works, contractor shall obtain written permission of the Engineer.

10 VARIATION & PRICE FOR VARIATION

- a) The Engineer with the approval of the Employer shall have power to make any alteration / omissions / additions and / or substitutions from the original specifications, drawings, designs, and written instructions and such alterations, omissions, additions, substitutions shall not invalidate the contract and any altered, additional, or substituted work which the contractor may be directed to do in the manner specified above as part of the work shall be carried out by the contractor on the same conditions in all respects on which he agreed to do the main work. The rates for such altered, additional or substituted work under this clause shall be worked out in accordance with the following provisions in their respective order.
- b) If the rates for the altered, additional, or substituted work are specified in the contract for the work, the contractor is bound to carry out the altered, additional, or substituted work at the same rates as are specified in the contract for the work.
- c) If the rates for the altered, additional, or substituted work are not specifically provided in the contract for the work, the rates will be derived from the rates for a similar class of work as are specified in the contract for the work.
- d) If the rates for the altered, additional, or substituted work cannot be determined in the manner specified in sub-clause (b) and (c) above, then the contractor shall, within 10 working days from the date of receipt of the order to carry out the work through notice in writing, inform the Engineer of the rate which it is his intention to charge for such class of work, supported by analysis of the rate claimed which shall be based on actual cost of work plus 10% as contractor's profit and over – heads except in case of departmental materials for which contractors profit and over- heads shall be 2.5 %. When such notice has been given, the Engineer with the consent of the Employer may agree to such a rate but if the Engineer does not agree to the contractor's rate the Engineer may cancel his order to carry out such class of work and

arrange to carry out in such a manner as he may consider advisable.

- e) Under no circumstances, the contractor shall suspend the work on the plea of non-settlement of rates of items falling under the clause.
- f) Deviation limits
 - (i) Building work 30%
 - (ii) Maintenance / emergency works 50%
 - (iii) Foundation works 100%
 - (iv) Services works 30%

11 FAULTY MATERIALS, WORKMANSHIP & DEFECTS AFTER COMPLETION

- (a) The Engineer shall have powers to require the removal from the site of all materials and work which in his opinion are not in accordance with specifications and in case of default, the Engineer shall be at liberty to employ other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials to be substituted thereof and in case of default the Engineer may cause the same to be supplied and all costs which may attend such removal and / or substitution are to be borne by the contractor.
- (b) If it shall appear to the Engineer or to the Employer based on audit / technical examination that any work has been executed with unsound, imperfect, or unskillful workmanship or with materials of any inferior description, or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to that contracted for or otherwise not in accordance with the contract, any defects, shrinkage or other faults which may appear within the defects liability period of thirty six months from the date of completion arising in the opinion of the Engineer, the contractor shall on demand in writing which shall be made within twelve months of the completion of the work from the Engineer specifying the work, materials, articles defects or other faults complained of notwithstanding that the same may have been passed, certified and paid for, forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove and reconstruct the work so specified in whole or in part, as the case may require or the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own cost. In case of any such failure, the Engineer may rectify or remove or re-execute the work or remove and replace with others, the material or articles complained of as the case may be at the risk and cost in all respects of the contractor.

In lieu of rectifying the work not done in accordance with the contract, the Employer may, allow such work to remain, and in that case make allowance for the difference in value, together with such further reduction as in his opinion may be reasonable.

- (c) Provided always that nothing in this clause shall relieve the contractor from his liability to execute the works in all respects in accordance with the terms and conditions of this contract, or from his liability to make good all defects.

12 WORKS TO BE OPEN FOR INSPECTION

- (a) All work under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the Engineer and the contractor shall at all times during the usual working hours, and at all other times at which reasonable notice of the intention of the Engineer to visit the works shall have been given to the contractor, either himself be present to receive order and instruction or have a responsible agent duly accredited in writing present for that purpose.
- (b) The contractor shall give not less than seven days notice in writing to the Engineer before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is so covered up or placed beyond the reach of measurement and shall not cover up and place beyond the reach of measurement, any work without the consent in writing of the Engineer and the Engineer shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of measurement without such notice having been given or the Engineer's constant obtained the same shall be uncovered at the contractors expense or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

13 ASSIGNMENT OR SUB-LETTING

- (a) The contract shall not be assigned or sublet without the written approval of the Employer. And if the contractor shall assign or sub-let his contract or attempt to do so or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so or if any bribe, gratuity or gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor or any of his servants or agents to any person in the employment of the Employer in any way directly or indirectly interested in the contract, the Employer shall have the power to

adopt any of the courses specified under clause – 23 as may be best suited to the interest of the Employer and in the event of any of the courses being adopted the consequences specified in the said clause shall ensue.

- (b) Where the contractor is a partnership firm, the approval in writing of the Employer shall be obtained before any changes in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement hereunder the partnership firm would have the right to carry out the work be deemed to have been assigned or sublet in contravention of clause 13 (a) and the same action may be taken and the same consequences shall ensue as provided in the said clause 13 (a).

14 INDEMNIFYING AGAINST DAMAGES TO PERSONS, PROPERTY & STATUTES

The contractor shall take all precautions to avoid all accidents by exhibiting necessary caution boards day and night, speed limit boards, red flags, red lights, and providing barriers. He shall be responsible for all damages and accidents caused due to negligence on his part. No hindrance shall be caused to traffic during the execution of work.

- (a) The contractor shall be responsible for all injury to persons, animals or things, and for all damage, whether such injury or damage arises from carelessness or accident in any way connected therewith. This clause shall be held to include interalia any damage due to causes as aforesaid to work, building (whether immediately adjacent or otherwise) and to roads, streets, foot paths, bridges or ways as well as all damage caused to the buildings and works forming the subject of this contract by inclemency of weather. The contractor indemnifies the Employer and holds him harmless in respect of all expenses arising from such injury or damages as aforesaid and also in respect of any award of compensation or damage consequent upon such claim including legal costs.
- (b) The contractor shall reinstate all damage of every sort mentioned in this clause, so as to deliver the whole of the contracted works complete and perfect in every respect and so as to make good and otherwise satisfy all claims for damage as aforesaid to the property of third parties.
- (c) The contractor also indemnifies the Employer against all claim which may be made upon the Employer for acts during the currency of this contract by any employee or representative of an employee of the contractor or any sub-contractors, employed by him, for any injury to or loss or life, of such employees, or for compensation payable under any law for the time being in force to any workmen or to the representative of any deceased or incapacitated workmen.
- (d) The contractor also indemnifies the Employer against all claims which may be made upon the Employer for acts during the currency of this contract by the Central / State Government or local Municipal authorities for the noncompliance of any laws, regulations, rules pertaining to wages act, safety act in force and any amendments thereof in respect of all labour and apprentices directly or indirectly employed in the work under this contract.
- (e) The Employer shall be at liberty and is hereby empowered to deduct the amount of any damages, compensation costs, charges and / or expenses arising or accruing from or in respect of any such claim and / or damages as aforesaid from any sum or sums due to become due to the contractor or security deposit.
- (f) The contractor shall indemnify the Employer against any action, claim or proceedings relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against the Employer in respect of any such matters as aforesaid the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise therefore. Provided that the contractor shall not be liable to indemnify the Employer if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the said Employer or his authorized representative.

15 LIEN IN RESPECT OF CLAIM IN OTHER CONTRACTS

- (a) Any sum of money due and payable to the contractor including the security deposit under the contract may be withheld or retained by way of lien by the Employer or Government or any other contracting person or persons against any claim of the Employer or Government or such other persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Employer or Government or with such other persons.
- (b) It is agreed term of the contract that the sum of money so withheld or retained under this clause by the Employer will be kept withheld or retained as such by the Employer or till his claim arising out of in the same contract or any other contract is either mutually settled or determined by the Arbitrator if the contract is governed by arbitration clause or by the competent court as the case may be, and that the contractor shall have no claim for interest or damages whatsoever on this account or any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

16 WITHHOLDING & LIEN IN RESPECT OF SUMS CLAIMED

- (a) Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the contractor, the Employer shall be entitled to withhold and also have a lien no retain such by or sums in whole or in part from the security deposit, if any furnished as the case may be and also have a lien over the lien over the same pending finalization or adjudication of any such claim. In the event of the security deposit being insufficient to cover the claimed amount or amounts or if no security deposit has been taken from the contractor, the Employer shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which at any time thereafter may become payable to the contractor under the same or any other contract, with the Employer or any contracting person pending finalization or adjudication of any such claim.

It is an agreed term of the contract that the sum of money so withheld or retained under the lien referred above, by the Employer will be kept withheld or retained as such by the Employer till the claim arising out of or under the contract is determined by the Arbitrator (if the contractor is governed by the arbitration clause) or by the competent court as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited amount or amounts in whole or in part from any sum payable to any Partner / Limited company as the case may be, whether in his individual capacity or otherwise.

- (b) The Employer shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been over paid in respect of any work done by the contractor under the contract or any work claimed by him to have been done by him under the contract and found not to have been executed the contractor shall be liable to refund the manner prescribed in sub-clause (a) of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under-payment shall be duly by the Employer to the contractor. Provided that the Employer shall not be entitled to recover any sum over-paid, nor the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Employer on the one hand and the contractor on the other hand, under any term of contract permitting payment for work after assessment by the Employer.

17 IN-CASE OF DEATH OF CONTRACTOR

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Employer shall have the option of terminating the contract without compensation to the contractor.

18 SUB-CONTRACTORS

The Employer reserves the right to use the premises and any portion of the site for the execution of any work not included in the contract. The contractor is to afford all reasonable facilities to all sub-contractors, specialists, merchants, tradesman and others who may at any time be appointed by the Employer for executing any work or supplying any goods relating to the constructions, servicing, equipping or furnishing of the work under this contract.

19 COMPLIANCE TO LABOUR LAWS & APPRENTICE ACT

The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, Contract Labour (Regulation and Abolition) Act, 1970, and rules and orders framed there under and other labour laws affecting contract labour and Apprentice Act, 1961 the building and other construction workers welfare Cess Rules 1998 and rules and orders framed there under that may be in force or brought into force from time to time. Contractor shall obtain a valid license under Contract Labour (R & A) Act 1970 and Contract Labour (R & A) Central Rules 1971 before commencing work and which should be valid till the completion.

20 COMPENSATION FOR DELAY

- (a) The time for carrying out the work as entered in the tender shall be strictly observed by the contractor and shall be deemed to be the essence of the contract on the part of the contractor. The work shall throughout the stipulated period of the contract be proceeded with all due diligence and the contractor shall pay as compensation an amount equal to one per cent or such smaller amount as the Employer (whose decision in writing shall be final) may decide on the amount of the whole work as shown in the agreement, for every week that the work remains uncompleted or unfinished after the proper dates.
- (b) And further to ensure good progress during the execution of the work, the contractor shall be bound in all cases in which the time allowed for any work exceeds one month (save for special jobs) to complete one – eighth of the whole of the work before one-fourth of the whole time allowed under the contract has elapsed; three-eighths of the work before one-half of such time has elapsed, and three-fourths of the work before three – fourths of such time has elapsed. However for special jobs if a time

schedule has been submitted by the contractor and the same has been accepted by the Employer, the contractor shall comply with the said time schedule. In the event of the contractor failing to comply with this condition, he shall be liable to pay as compensation an amount equal to one per cent or such smaller amount as the Employer (whose decision in writing shall be final) may decide on the said cost of the work for every week that the due quantity of work remains incomplete. Provided that the entire compensation to be paid under the provisions of this clause shall not exceed ten per cent on the cost of the work as shown in the agreement.

21 DAMAGE TO WORKS IN CONSEQUENCE OF HOSTILITIES OR WAR – LIKE OPERATIONS

- (a) The work (whether fully constructed or not) and all materials, tools, and plants, scaffolding, temporary buildings and other things connected therewith shall be at the risk of the contractor until the work has been delivered to the Employer and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or war- like operation, the contractor shall, when ordered in writing by the Employer, remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking, removal of serviceable materials and for the reconstruction of all works ordered by the Employer such payment being in addition to compensation up to the value of the work originally executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for the compensation shall be assessed by the Employer. The contractor shall be paid for the damage / destruction suffered and for restoring the material at the rates based on the analysis of rates tendered for in accordance with the provision of this agreement. The certificate of the Employer regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on the contractor.
- (b) Provided always that no compensation shall be payable for any loss in consequence of hostilities or war-like operation (i) unless the contractor had taken all such precautions against Air Raid as are deemed necessary by the A.R.P. Officers or the Employer, (ii) for any materials etc., not on the site of the work or for any tools and plant, machinery, scaffolding, temporary buildings and other things not intended for the work.
- (c) In the event of the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Employer.

22 EXTENSION OF TIME

- (a) If the contractor shall desire an extension of time for the completion of the work on the grounds of his having been unavoidably hindered in its execution or any other ground, he shall apply in writing to the Employer within thirty days of the date of hindrance on account of which he desires extension as aforesaid, and the Employer shall, if in his opinion (which shall be final) reasonable grounds shown therefore authorized such extension of time if any, which may, in this opinion, be necessary or proper.
- (b) In the event, the value of work exceeds the value of the Bill of Quantities owing to variations the contractor shall be entitled to ask for extension of time in proportion to the increased value work.

23 SUSPENSION OF WORK BY CONTRACTOR

- (a) The Employer may without prejudice to his right against the contractor in respect of any delay or inferior workmanship or otherwise or to any claims for damages in respect of any breaches of the contract and without prejudice to any rights or remedies under any of the provisions of this contract or otherwise and whether the date for completion has or has not elapsed by notice absolutely determine the contract in any of the following cases:
 - (i) If the contractor having been given by the Engineer a notice to rectify, reconstruct or replace any defective work or that the work is being performed in any inefficient or otherwise improper or un workman – like manner shall omit to comply with the requirements or such notice for a period of seven days thereafter or if the contractor shall delay or suspend the execution of the work so that in the judgment of the Employer (which shall be final and binding) he will be unable to ensure completion of the work by date for completion or he has already failed to complete the work by that date.
 - (ii) If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall be wound up or if a receiver or a manager on behalf of a creditor shall a appointed or if circumstances shall arise which entitle the court of creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
 - (iii) If the contractor commits breach of any of the terms and conditions of this contract.
 - (iv) If the contractor commits any acts mentioned in Clause – 13 hereof.

- (b) When the contractor has made himself liable for action under any of the cases aforesaid, the Employer shall have the following powers:
- (i) To determine or rescind the contract as aforesaid (of which termination or rescission notice in writing to the contractor under the hand of the Employer shall be conclusive evidence). Upon such determination or rescission the security deposit of the contractor shall be liable to be forfeited and shall be absolutely at the disposal of the Employer.
 - (ii) The Engineer may employ labour paid by the Employer and to supply materials to carry out the work or any part of the work debiting the contractor with the cost of the labour and the price of the materials (of the amount of which cost and price certified by the Engineer shall be final and conclusive against the contractor) and crediting him with the value of the work done in all respects in the same manner and at the same rates as if it had been carried out by the contractor under the terms of his contract. The certificate of the Engineer as to the value of the work done shall be final and conclusive against the contractor, provided always that action under the sub-clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the Employer are less than the amount payable to the contractor at his agreement rates, the difference should not be paid to the contractor.
 - (iii) After giving notice to the contractor to measure up the work of the contractor and to take such part thereof as shall be unexecuted out of his hands and to give it to another contractor to complete in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor if the whole work had been executed by him (of the amount of which exceed the certificate in writing of the Engineer shall be final and conclusive) shall be borne and paid by the original contractor and may be deducted from any money due to him by the Employer under his contract or any other account whatsoever or from his security deposit.
 - (iv) In the event any one or more of the above courses being adopted by the Employer the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken sum for any work thereof or actually performed under this contract unless and until the Engineer has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

24 SECURED ADVANCE

The contractor on signing an indenture in the form specified by the Employer during the progress of the execution of the work may be paid if agreed by the Employer up to 75 per cent of the estimated value which shall take into account the market value and contractors tendered rates for the finished item of any material which in the opinion of the Engineer is likely to be incorporated in the work within next three months, are non-perishable and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which and advance has been made under this clause are incorporated in the work the amount of such advance shall be deducted from the next payment made under any of the clause or clauses of this contract.

25 CERTIFICATES & PAYMENTS

- (a) No payments shall be made for a work estimated to cost Rupees ten thousand or less till the whole of the work shall have been completed and certificate of completion given. But in the case of a work estimated to cost more than Rupees ten thousand, the contractor shall, on submitting the bill be entitled to receive a monthly payment proportionate to the part of work executed, and to the satisfaction of the Engineer, whose certificate of the sum so payable shall be final and conclusive against the contractor, provided the amount of work done is as per the value of intermediate certificate or for a lesser amount at the discretion of the Engineer as mentioned in the NIT. All such intermediate payments for work actually done and completed and shall not preclude the requiring of bad, unsound, imperfect or unskilled work to be removed and taken away and reconstructed, or rejected or be considered as an admission of the due performance of the contract, of any part thereof in any respect or the accruing of any claim nor shall it conclude, determine, or affect in any way the powers of the Employer under these conditions or any of them as to the final bill shall be submitted by the contractor within two months of the date fixed for the completion of work or of the date of the certificate of completion furnished by the Employer and payment shall be made within three months if the value of the completed works is up to Rs. Two lakhs and in six months if the same exceeds Rs. Two lakhs of the submission of such bill. If there shall be any dispute about any item or items of the work then the undisputed item or items only shall be paid within the said period of three months or six months as the case may be.

- (b) Whenever there is likely to be delay in recording detailed measurements for making a running payment, advance payment without detailed measurement for work done worked out at 75 per cent of the tendered rates for assessed quantities may be made in running account bills by the employer on the basis of a certificate from the Engineer. The advance payments so allowed shall be adjusted in the subsequent running bills by taking detailed measurements thereof. Final payments shall be made only on the basis of detailed measurements.
- (c) A bill shall be submitted by the contractor each month on or before the date fixed by the Engineer on printed forms obtainable from the Engineer's office. The Engineer shall take or cause to be taken the requisite measurements for the purpose of having the same verified and the claim, as far as admissible, adjusted as far as possible, before the expiry of ten days from the presentation of the bill. If the contractor does not submit the bill within the time fixed as foresaid the Engineer may cause action within seven days of the date fixed as aforesaid, an authorized representative to measure up the said work in the presence of the contractor whose signature to the measurement will be sufficient warrant and the Engineer may prepare the bill from such measurements.
- (d) Before taking any measurement of any work the Engineer or his authorized representative deputed by him shall give reasonable notice to the contractor. If the contractor fails to attend such notice or fails to sign or to record the difference within a week from the date of measurement in the manner required by the Engineer then in any such event the measurement taken by the Engineer or by the authorized representative deputed by him as the case may be, shall be final and binding on the contractor and the contractor shall have no right to dispute the same.
- (e) The charges in the bills shall always be entered at the rates specified in the agreement or in the case of any extra work ordered in pursuance of these conditions and not mentioned or provided for in the agreement at the rate determined as per clause – 10. However in case of partially executed items of work, the Employer at his discretion allows proportionate rates for such items as determined by the Engineer whose certificate of the sum so payable shall be final and conclusive against the contractor.

26 SECURITY DEPOSIT

- (a)(i) A Sum of @ 10% of the gross amount of the bill shall be deducted from the each running bills of the contractor till the sum along with the sum already deposited as Earnest Money, will amount to security deposit of 5% of the Tendered value of the work. For release of Security Deposit, please refer detailed **NIT Clause No. – 16,d.**
 - (ii) **Performance Guarantee:** Regarding PG – Kindly refer NIT Clause No. - 16(c)
- In case a fixed deposit receipt of any scheduled bank is furnished by the contractor to the Employer as part of the security deposit and the bank goes into liquidation or for any reasons is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security deposit, provided always that the Employer for this purpose shall be entitled to recover the said percentage of the amount from each running bill till the balance of the amount of security deposit is realized. All compensation or the other sums of money payable by the contractor under the terms of this contract may be deducted from the security deposit or from the interest arising there from or from any sums which may be due to or may become due to the contractor by the Employer on any account whatsoever and in the event of his security deposit being reduced by reason of any such deductions aforesaid, the contractor shall within ten days make good in cash or further fixed deposit receipt pledged in favor of the Employer. The security deposit shall be collected from the running bills of the contractor at the rates mentioned above and the earnest money if deposit at the time of tenders will be treated as part of the security deposit.
- (b) The contractor if he so desires may furnish fixed deposit receipt in advance towards the security deposit. Such fixed deposit receipt shall be of a minimum value of Rs 25000/- each (The last such fixed deposit receipt could be of a lower value on the basis of the amount). In case any recovery is affected from running account bills, such recovered amount shall not be replaced with fixed deposit receipt. It is in the contractor's interest to keep a watch about the adequacy of the fixed deposit receipt submitted.
 - (c) No partial refund of security deposit shall be made during the defect liability period. In case the final bill is not settled within stipulated period for reasons beyond control and the Employer is satisfied that the security deposit is not required for adjustment of Employers dues or whatsoever dues either in this or any other contract then this security deposit either in full or in part could be refunded at the sole discretion of the Employer. However, release of security deposit would be only after written clearance of Labour Officer regarding no dues or claims is received.
 - (d) In case of termination of contract, this security deposit shall be forfeited and amount necessary to make up this amount shall be recovered from money due to the contractor under this contract, or any other contract with the Employer.

27 COMPLETION CERTIFICATE

- (a) Within ten days of the completion of the work, the contractor shall give notice of such completion to the Employer and within days of the Engineer shall inspect the work. If there is no defect in the work the Employer shall furnish the contractor with a certificate of completion otherwise a certificate of completion indicating defects shall be issued but the work shall not be considered to be completed until the contractor shall have removed from the premises on which the work shall be executed all the scaffolding, surplus material, rubbish, and all huts and sanitary arrangements required for his work, people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor and cleaned of the dirt, splashes, droppings of finishing items from all wood work, doors, windows, walls, floors or other parts of any building, in, upon or about which the work is to be executed or of which he may have had possession for the purpose of the execution thereof. If the contractor shall fail to comply with requirements of this clause on or before the date fixed for the completion of the work, the Employer may at the risk and cost of the contractor take action as he may think fit and the contractor take action as he may think fit and the contractor shall have no claim except for any sum actually realized by the sale thereof.

28 ESCALATION

- (a) If the prices of materials not being supplied by the Employer and / or wages of labour required for execution of the work increase, the contractor shall be compensated for such increase as per provisions detailed below and the amount of the contractor shall accordingly be varied, subject to the condition that compensation for escalation in prices shall be available only for the work done during the stipulated period of the contract including such period for which the contract is validly extended under the provisions of Clause- 22 of General Conditions of Contract without levy of compensation under Clause – 20 of General Conditions of Contract and also subject to the condition that no such compensation shall be payable for a work for which the stipulated period of completion is eighteen months or less. Such compensation for escalation in the prices of materials and labour when due, shall be worked out based on the following provisions.
- (i) The base date for working out such escalation shall be the last date on which the tenders were stipulated to be received.
- (ii) The cost of work on which escalation will be payable shall be reckoned as 85% the cost of the work as per the bills, running or final, and from this amount the value of material supplied by the Employer and proposed to be recovered in the particular bill shall be deducted before the amount of compensation for escalation is worked out. In case of materials brought to site for which secured advance is included in the bill full value of such materials as assessed by the Engineer in charge (and not the reduced amount for which secured advance has been paid), shall be included in the cost of work done for operation of this clause. Similarly, when such materials are incorporated in the work, the secured advance is deducted from the bill the full assessed value of the materials originally considered for operation of this clause shall be deducted from the cost of work shown in the bill running or final. Further the cost of work shall not include any work for which payment is made for any item at prevailing market rates.
- (iii) The compensation for escalation for materials & labour shall be worked out as per the formula given below:

$$(a) \quad vm = W^A / 100 \times (MI - MIO) / MIO$$

VM- Variation in material cost i.e. increase or decrease in the amount in rupees to be paid or recovered.

Cost of work done worked out as indicated in sub Para (ii) above.

Component of materials expressed as per cent of the total value of work and is predetermined as 75.

MI- Index numbers of Wholesale prices in India for all commodities published by the Reserve Bank of India for the period under reckoning.

Mio- Index numbers of Wholesale prices in India for all commodities published by the Reserve Bank of India on the date of receipt of tenders.

$$(LI - Lio)$$

$$VL = W \times B / 100 \times Lio$$

VL- Variation in labour cost i.e. increase or decrease in the amount in rupees to be paid or recovered.

W- Value of work done, worked out as indicated in sub Para (ii) above.

B- Component of labour expressed as per cent of the total value of work and is predetermined as 25.

LI- All India consumer price index numbers for industrial workers published by the Reserve Bank of India for the period under reckoning as for the period under consideration.

Lio- All India consumer price index numbers for industrial workers published by the Reserve Bank of India and valid on the stipulated date of receipt of tenders.

The following principle shall be followed while working out indices mentioned in sub Para (iii) above.

- (i) The compensation for escalation shall be worked out at half yearly intervals and shall be with respect to the cost of work done during the six calendar months of the said work. The first such payment shall be made at the end of the eighteen months after the month (excluding) in which the tender was accepted and thereafter at six monthly intervals. At the time of completion of work, the last period for payment might become less than six months, depending on the actual date of completion.
- (ii) The index (MI or LI) relevant to any six months for which such compensation is paid shall be the arithmetical average of the indices relevant to the six calendar months. If the period up to date of completion after eighteen months covered by the last such installment of payment is less than six months, the index MI or LI shall be the average of the indices for the months falling within that period.
- (iii) The base index (Mio or Lio) shall be the one relating to the month in which the tender was stipulated to be received.

In the base event the price of materials and / or wages of labour required for execution of the work decreases there shall be downward adjustment of the cost of work so that the price of materials and / or wages of labour shall be deductible from the cost of work under this contract and in this regard formula herein before stated under this clause shall mutates mutandis apply, provided that no such adjustment for the decrease in the prices of materials and / or wages of labour aforementioned would be made in case of contracts in which the stipulated period of completion of the work is eighteen months or less.

Employer shall have the discretion to permit the IEEMA (Indian Electrical & Electronics Manufacturers' Association) clause for escalation in case of specialized works e.g. lifts and electrical and mechanical installations etc. where the price variation is not similar to building works.

29 ARBITRATION

- a) In the event of any question /dispute/difference arising under the agreement or in connection herewith (except as to matters the decision of which is specially provided under this agreement) the same shall be referred to the Delhi International Arbitration Centre for appointment of Arbitrator to adjudicate the dispute.
- b) The award of the Arbitrator shall be final and binding on the parties. The Arbitrator may give interim award(s) and /or directions, as may be required.
- c) Subject to the aforesaid provision, the arbitration and conciliation act, 1996 and the rules made hereunder and any modification thereof from time to time being in force shall be deemed to apply to the Arbitration proceedings under this clause.

30 DISMANTLED MATERIAL

The contractor shall treat all material obtained during dismantling of a structure, services sub systems / installations, excavation of the site for a work etc., as employer's property and such material shall be disposed of to the best advantage of the Employer according to the instructions issued in writing by the Engineer.

ADDITIONAL CONDITIONS OF CONTRACT-I

These special conditions are meant to amplify the general specifications and general conditions of contract.

1.

Work shall be done as per CPWD specification. In case of any discrepancy, the order of precedence in interpretation shall be as under:-

- (i) Schedule of quantities
- (ii) Drawings
- (iii) Additional conditions
- (iv) General conditions of contract
- (v) Special condition
- (vi) Additional Technical Specifications
- (vii) CPWD latest Civil and Electrical specifications
- (viii) IS codes
- (ix) International codes
- (x) Best Engineering practice

2. STEEL

- (i) Steel to be issued as stated elsewhere in the contract shall be for reinforcement bars for RCC work.
- (ii) Reinforcement bars for RCC work will be issued in available coils and straight lengths.
- (iii) Issue of steel of diameters above 10 mm dia will be regulated on sectional weight basis, weight being calculated with the help of the standard sectional weights as given in the CPWD latest specifications for conversion of length to weight. However, for bars up to and including 10 mm dia the following procedure shall be adopted. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The actual weight of steel issued shall be modified to take into account the variations between the actual and the standard co-efficient and the contractor's account will be debited by the cost of this modified quantity only.
- (iv) For theoretical consumption of steel reinforcement bars will be balanced diameter wise for the purpose of penal recovery as envisaged in the contract.

3. CEMENT

Cement to be issued as stated elsewhere in the contract shall be only for site work. For factory made products such as Pre-cast tiles, hollow concrete blocks, RCC pipes etc. cement shall not be issued.

4. Unless otherwise provided in the schedule of quantities the rates tendered by the contractor shall apply for all heights, lifts, leads and depths of the work and nothing extra shall be payable on this account.

5. The surplus excavated earth which is beyond the requirement of the Employer's work may be allowed by the Employer to be disposed off by the contractor on his own or sell the surplus excavated earth to private parties at his discretion but nothing extra will be paid for the carriage or disposal of surplus earth if the same is not required on any other work of the Employer

ADDITIONAL CONDITIONS OF CONTRACT-II

1. No payment shall be made to the contractor for any damage caused by rain, snowfall, floods or any other natural cause whatsoever during the execution of work. The damage to work will be made good by the contractor at his own cost, and no claim on this account shall be entertained.
2. In the interest of work, If Contractor need that his Workers should work beyond Office hours or on Holidays then he has to applied for seeking permission from the Department 24 hours before actual carrying out the work as per Proforma enclosed at Annexure – III(A) & Annexure - III(B)
3. The Contractor shall also comply the Public Procurement (Preference to Make in India), Order 2017 issued by Department of Industrial Policy & Promotion (DIPP) vide Order No. P-45021/2/2017-B.E.-II dated 15.06.2017 or any other latest order issued in this regard and as directed by Engineer-in-charge.
4. Essence of Contract – Time allowed for execution of the work shall be strictly adhered to and shall be deemed to be the essence of the contract. The Contractor shall deploy sufficient manpower, machinery, material and resources to ensure completion of work within the stipulate time mentioned in NIT/ Agreement.
5. Continuous Execution of Work – The Contractor shall ensure uninterrupted progress of work. Work shall not be slowed down or stopped due to any reason attributable to the Contractor.
6. Execution Respective of Running Account Bill Payments – The Contractor shall maintain continue execution of work respective of delay if any in Running Account payment by the Institute.
7. Financial Capacity requirement – Participant in the tender implies that the Bidder has adequate financial resources to complete the project within stipulated date as given in NIT/ Agreement irrespective of any delay in any running account bill/s.
8. Drawings – It is to inform that the division has no arrangement to provide Drawings related to this work. However, if contractor need or required a drawing the division will provide the detailed inputs about the structure and the contractor will prepare the drawing at his own resources and at his own cost. No extra cost will be entertain/ pay related to preparation of drawing by the contractor under this contract. It is the responsibility of contractor/ his engineer that the details related to work will get from the Engineer-in-charge and execute the work as per the items/ specification mentioned in the NIT/ Contract.
9. Malba Disposal – Since CRRI is a national importance institute and engaged in various research activities for development of technologies in large public interest, there is a visit of VIPs and VVIPs in the institute frequently and also due to space constraint in the institute, contractor is strictly instructed that during currency of contract, any excavated material, building rubbish, malba etc. gathered during execution of work shall be disposed of beyond municipal limit immediately as per the direction of Engineer-in-charge.
10. In disposal of Malba item, the miscellaneous (Lum sum) quantity of Research waste are also included for disposal. The same shall be uplifted either through mechanically or manually by the firm under this contract and nothing extra shall be payable under this contract. Contractor while quoting the rates should carefully quote the rates under this item which include disposal of site construction waste and research waste kept in different location of the institute. The disposal shall strictly be done under the direction of Engineer-in-charge.

ADDITIONAL CONDITIONS OF CONTRACT FOR CEMENT AND STEEL

I. CONDITIONS FOR CEMENT

- a. The contractor shall procure 33 grade (conforming to IS: 269) or 43 grade (conforming to IS: 8112) ordinary Portland cement as required in the work, from reputed manufactures of cement , having a production – capacity of one million tones oer annum or more, such as ACC, L&T,J.P. Rewa, vikram, Shri cement, Birla Jute and cement Corporation of India etc. as approved by Ministry of Indistry, Government of India, and holding lincense to use ISI certification mark for their product whose name shall be got approved from Engineer-in charge. 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 test results indicate that the cement arranged by contractor does not confirm to the BIS codes, the same shall stand rejected and 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.
- b. The cement shall be brought at site in bulk supply of approximately 50 tones or as decided by the Engineer-in charge .
- c. The Cement godown of the capacity to store a minimum of 2000 bags of cement shall be constructed by the contractor at site of work for which no extra payment shall be made. Double lock provisions shall be made to the door of the cement godown. The keys of one lock shall remain with the Engineer –in charge. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-charge at any time.
- d. The contractor shall supply free of charge the cement required for testing. The cost of tests shall be borne by the contractor.
- e. The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 6 of the contract and shall be governed by conditions laid therein.
- f. Cement brought to site and cement remaining unused after completion of the work shall not be removed from site without written permission of the Engineer-in charge.

II. CONDITIONS FOR STEEL

1. The contractor shall procure steel reinforcement bars. Conforming to relevant BIS codes from reputed manufactures as approved by the Engineer-in-charge . The contactor shall have to obtain and furnish test certificates to the Engineer-in-charge in respect of all supplies of steel brought by him to the site of work. Sample shall also be taken and got tested by the Engineer-in-charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to BIS codes, the same shall stand rejected and shall be removed from the site of work by the contractor at his cost within a week's time from written orders from Engineer-in-charge to do so.
2. The steel reinforcement shall be brought to the site in bulk supply of 10 tones or more as decided by the Engineer-in-charge.
3. The steel reinforcement shall be stored by the contractor at site of the work in such a way as to prevent distortion and corrosion and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
4. For checking nominal mass, tensile strength, bend test, re-bend test etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:

Size of bar	For consignment below 100 tons	For consignment over 100 tons.
Under 10 mm dia.	One sample for each 25 tons or part thereof	One sample for each 40 tons or part thereof
10 mm to 16 mm dia	One sample for each 35 tons or part thereof	One sample for each 45 tons or part thereof
Over 16 mm dia	One sample for each 45 tons or part thereof	One sample for each 50 tons or part thereof

5. The contractor shall supply free of charge the steel required for testing. The cost of tests shall be borne by the contractor.
6. The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 6 of the contract. The theoretical consumption of steel shall be worked out as per procedure in clause 6 of the contract and shall be governed by conditions laid therein.
7. Steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer –in Charge.

IV. SPECIAL CONDITION OF CONTRACT RELATED TO SETUP OF AUDIO VISUAL EQUIPMENTS

Following are proposed Terms and Conditions for Audio-Visual Equipment under Council Hall Renovation Tender:

1. **OEM Authorization:** Before installation, the bidder must submit **bid-specific authorization letters from the Original Equipment Manufacturer (OEM)/ Authorised Dealer** for each of the quoted audio-visual components. This ensures that only **genuine, brand-new products** are supplied and that the bidder is authorized to offer **OEM-backed warranty, support, and service**. It also helps maintain **product quality, accountability, and procurement transparency**.
2. **Submission of Datasheets (Technical Specification Sheet):** During execution of Contract as directed by EIC, the bidder must provide **detailed datasheets** for all quoted audio-visual equipment. These datasheets must be **publicly accessible** (e.g., via the OEM's official website) for verification of compliance with the tender specifications.
3. **OEM Website Reference and Datasheet Links:** As directed by EIC, the bidder must provide the **official OEM website link(s)** for each quoted make and model. Additionally, **direct links to the corresponding product datasheets** must be submitted. These will be used by the EIC to verify technical specifications and product authenticity.
4. **All-Inclusive Quotation:** Before quoting price, the quoted price must ensure that the price of equipment/ products are **comprehensive and inclusive of all required cables, connectors, mounting hardware, and any other auxiliary components** necessary for the complete and smooth functioning of the system. No additional charges for missing components will be entertained **post-award**; the bidder is fully responsible for delivering a **functional and integrated system** as per the tender specifications.
5. **Installation, Testing, and Commissioning:** As and when directed by EIC, the bidder shall be responsible for the **complete installation, integration, testing, and commissioning** of the audio-visual system at the designated site. The system must be demonstrated as **fully functional** in the presence of the buyer's representatives. Any deficiencies must be rectified at **no additional cost**.
6. **Warranty and Support:** All supplied equipment must carry a **minimum 3-year onsite comprehensive warranty** from the OEM/ Authorised dealer. The bidder shall ensure **timely support, replacement, or repair** during the warranty period. A **single point of contact (SPOC)** must be designated for all support-related communications.
7. **Product Lifecycle and Support Commitment:** Before installation for all quoted audio-visual equipment, the bidder must provide an **undertaking from the OEM** confirming that **long-term maintenance support, including the availability of spare parts**, will be provided for a **minimum period of three (3) years** from the date of the **Purchase Order or Work Order**. In cases where the OEM does not publish formal End-of-Life (EOL) or End-of-Sale (EOS) dates, this undertaking shall serve as a binding commitment of continued support. Products without such assurance may be **considered non-compliant** and such equipments may be rejected by EIC.
8. **Compliance Certificate:** Upon completion of installation, the bidder must submit a **compliance certificate** confirming that all equipment has been installed according to tender specifications and is fully operational. This certificate must be **jointly signed** by the bidder, EIC and CCN Officials as per Annexure-II.
9. **Training and Documentation:** The bidder shall provide **basic user training** to designated staff on system operation and routine maintenance. Additionally, **user manuals, system schematics, and technical documentation** must be handed over at the time of commissioning.
10. **Penalty for Non-Compliance:** Failure to meet any of the **technical specifications, delivery timelines, or performance standards** may result in **rejection of goods, withholding of payments, or forfeiture of performance security**.
11. **Scope of Works:** The primary objective of this project is to supply, install, and configure a state-of-the-art AV system that seamlessly integrates audio, video, and control components. The system should provide reliable and high-quality audio and video distribution, along with intuitive control interfaces for easy operation. The project aims to enhance the overall user experience, improve efficiency in conducting meetings and presentations, and elevate the AV capabilities to meet the evolving needs of CSIR-CRRI.
12. **Samples for approval:** Before supply of material, Contractor should show the samples of all the materials/ products to the Engineer-in-charge of contract and get it approved before supply, if required.
13. **Special instructions to bidders:** The rates quoted in the tender shall include all charges for scaffolding, centring, hire charges for any tools and plants, loading unloading of equipment marking out and clearing of site after erection of

materials etc. as mentioned in the NIT. The rates quoted shall be deemed to be for the finished work to be measured at site.

14. **Inspection of Materials:** Before dispatching of equipment to the site, if required, the equipment/ product may be inspected by CRR I Engineers/ Officials/ EIC at the manufacturer's specified location and then cleared for shipment. The contractor at his own expense offer to the inspection with all reasonable facilities. CRR I at its discretion may inspect the equipment at the manufacturer's works plan before dispatch of the same to the site.
15. **On site Comprehensive Warranty:** The entire equipment shall be on warranty/ guarantee and will also be free from defective workmanship, any defects that may appear within 3 years from the date of issue of completion certificate for the work, which in the opinion of CRR I institute officials have arisen due to bad workmanship or materials will be made good by the Contractor at his own cost within the time specified (up to 72 hours). During the said period of 3 years, the contractor shall make periodical inspection, of working of the, AV system free of charge at least once in a three months or as per requirement and also attend to the servicing of the various parts if required to keep the AV System in good operative condition all the time.
The contractor shall be fully responsible for the warranty, in respect of proper design, quality and workmanship and warrant all components, accessories, spare parts etc. against any manufacturing defects during the warranty period. Warranty shall not become void for use or non-use of AV System. The warranty period shall be 3 years from the date of handing over of the AV System to CRR I .i.e. date of actual completion.
16. **High Resolution Projector:** High Resolution Projector should be from OEM/ Authorized dealer only. Customization/ local fabrication of the High Resolution Projector is not allowed. Bidder has to provide a letter from OEM/ Authorized dealer stating the complete model no. along with serial no. In order to ensure compliance.
The bidder should have proper and adequate support mechanism to provide all necessary support under this project through their own support offices only. The contractor must also have a centralized help desk for logging all the services complaints. The Contractor will arrange the spare parts within stipulated time or will make standby arrangements at his own cost.
17. **Defects after Completion:** Any defect may appear within the "Defects Liability Period" i.e. within a period of three years after the actual completion of the work then it is a responsibility of the Contractor for making good at his own cost within specific timeline (72 hours).
18. **Testing and Acceptance Criteria:** Testing and acceptance criteria of Audio visual(AV) system serve as objective measures to assess the performance, functionality, and compliance of the proposed AV system against the institute requirements.
19. **Functional/ Performance Testing:**
 - i. The bidder shall verify that all audio sources, including microphones, line inputs, and media players, are correctly connected and produce clear and intelligible sound as required by the institute.
 - ii. The bidder shall ensure that all High Resolution Projector are properly installed and provide high-quality picture output without distortion or defects, further fixing equipment meeting the institute standards as directed by Engineer –in- Charge.
 - iii. The bidder shall conduct tests to validate the functionality of the control system, including buttons, touch panels, and remote controls, ensuring they accurately and reliably control the AV components as directed by Engineer-in-charge.
 - iv. The bidder shall confirm the signal routing capabilities, ensuring that audio and video signals are correctly transmitted to the intended destinations according to the institute defined requirements as directed by Engineer-in – Charge.
 - v. The bidder shall verify and if needed correct the audio clarity meets their defined standards set forth/directed by the Engineer- in -Charge, with minimal background noise, distortion, or interference.
 - vi. The bidder shall ensure that High Resolution Projector resolution and color accuracy meet the specified requirements for each display device as directed by EIC and also ensure high-quality visuals.
 - vii. The bidder shall measure and confirm the response time of the control system and reliability of the network connectivity etc.
20. **Acceptance Criteria :**
 - i. All functional tests related to AV system must pass without any issues or breakdown.
 - ii. Audio clarity and High Resolution Projector quality must meet the defined standards or as directed by the EIC.
 - iii. The control system must accurately and reliably control all AV components as per the institute requirement.

- iv. The PTZ Camera must accurately and reliably placed and capture pictures/videos as directed by EIC.
21. **Scope of Services related to Maintenance activities:** Contractor will provide competent personnel, all the necessary labors, materials, equipment and tools for performing the following duties : -
- a. The contractor will carry out AV Installations & maintenance, consistent with CRRI requirements as described NIT. The contract will cover all tools, tackles, transportation, skilled and unskilled labor, supervision and all such costs to achieve results under this contract.
 - b. To guide, support and impart training to person as directed by Engineer-in-charge regarding control processes and procedures.
 - c. Manage all situations of escalation in a professional manner to satisfactory Conclusion.
 - d. Essential spare/materials schedules to be established and stock/condition controls maintained.
 - e. Ensure that all safety procedures are strictly adhered to.
22. **Confidentiality:** Some of information like login ID, Password etc. during execution of Contract are confidential in nature and must only be used for the purposes of execution/Maintenance of Contract. Bidder can share the information Except as may be required by operation of law, by a court or by a regulatory authority having appropriate jurisdiction, no information like login ID, Password relating to execution/ maintenance of equipment will be disclosed by bidder or other person not officially authorized by CSIR-CRRI. Failure to adhere to this requirement may result in penalty or civil action as deemed fit by the Competent Authority.

Note - All requisite documents required in above sections are mandatory and required to be produced as directed by EIC.

V. SPECIAL CONDITION OF CONTRACT RELATED TO VRV/VRF AIR CONDITIONING SYSTEM

1. SETTING OUT WORK ETC.

- (a) The successful e-tenderer at his own expense shall set out the works and shall be responsible for the true and perfect setting out of the same and for the correctness of the positions, levels, dimensions and alignment of all parts thereof. If at any time any error shall appear during the progress of any part of the work, the Successful e-tenderer shall at his own expense rectify such error if called upon to the satisfaction of the Engineer-in-charge.
- (b) All soil, filth, or other matter of an offensive nature taken out of any trench, sewer, drains, cesspool or any other place shall not be deposited on the surface, but shall be at once carted away by the Successful e-tenderer to some pit or place to be provided by him.

2. MATERIALS

All materials used for this work shall be conforming to the Specifications.

As far as practicable materials shall conform to the latest Indian Standards as amended up to-date. All materials used on the project shall be approved by the Engineer-In-charge before use.

(a) Storage of Materials

All materials shall be stored in a proper manner protected from natural elements so as to avoid contamination and deterioration.

Successful e-tenderer's store shall be open to inspection by the Engineer-in-charge at all reasonable hours.

Locations of stores and storage yards shall be approved by the Engineer-in-charge prior to construction or occupation.

(b) Inspection and Testing of Materials

The Successful e-tenderer at his own expense shall make all necessary arrangements for carrying out tests on materials as required by the Engineer-in-charge. He shall also be required to produce manufacturer's test certificates for the materials supplied by him whenever required by the Engineer-in-charge.

3. ACCESS

The CSIR-CRRI or its representatives shall at all reasonable time have free access to the works and/or to the workshops factories or other places where materials are being prepared or constructed for the contract and also to any place where materials are lying or from which they are being obtained and the Successful e-tenderer shall give every facility to them for inspection, examination and testing of the materials and workmanship.

No person shall be allowed on the works at any time without the prior written permission of the Engineer-in-charge.

4. DEFECT LIABILITY PERIOD AND DEFECTS AFTER COMPLETION

Defect Liability, Period shall be one year from the date of actual completion of work, as certified by the Engineer-in-charge, CSIR-CRRI.

5. OPENING OF WORK

All works under or in course of execution or executed in pursuance of the contract shall at all times be open to the supervision of Engineer-in-charge, the CSIR-CRRI or their representatives.

6. HEIGHTS

Successful e-tenderer's rates shall include lifts upto all heights as directed by Engineer-in-charge during execution. They should satisfy themselves for correctness and allow for variation if necessary. Nothing extra will be paid for additional lifts.

7. SCAFFOLDING, CENTERING & SHUTTERING

The Successful e-tenderer shall use external scaffolding to ensure true line in vertical and horizontal planes without any additional cost.

8. SITE CLEARANCE AND CLEAN UP

The Successful e-tenderer shall, from time to time clear away all debris and excess materials accumulated at the site. After all fixtures, equipment and appliances have been installed and commissioned, they shall clean up the same and remove all plaster, paints, stains, stickers and other foreign matter of discoloration leaving the

construction in ready to use condition.

On completion of all works they shall demolish all temporary storages put up by them, remove all surplus materials and leave the site in a broom clean condition.

9. SCOPE OF WORK:

The scope comprises supply, installation, testing commissioning of air-conditioning by VRV/ VRF system. The system to facilitate the operation & control of Ducting type Air conditioning units for Council Hall CSIR-CRRI Delhi. The system shall be able to cater the partial load, which can be as low as 20% of the total load. Thereby the operation of indoor & outdoor units is minimized. The Inverter based Scroll Compressors/Digital Scroll Compressor which has higher EER is employed in the VRV/VRF systems ensures trouble free operation. Proper drain for each unit shall be worked out without major additional/ alteration to the building. Proposed AC system will be microprocessor controlled inclusive of safety factor & gadgets.

The condensing units should be capable of providing cooling within ambient range of 15 degree C to 50 degree C in the range of 10 degree C to 35 degree C. The Outdoor Unit should have DC Inverter Scroll Compressor and Constant Speed Scroll Compressor. The Outdoor Unit should have a D-Shape Coil for better efficiency and DC Current Operated Fan Motor or as per manufacturer specifications.

The contractor shall be responsible for any leakage / seepage due to poor installation of HVAC drain until the guarantee period. Drain point to be tested for 24 hours after blocking one end. Drain piping will be plugged at both ends by appropriate method after completing the drain test to avoid chocking due to foreign material.

10. DRAWING / DESIGN APPROVAL:

The contractor shall prepare and furnish all relevant drawings along with the sections after inspection at the site for approval of the Engineer-in-charge. The execution work shall commence only after the drawings/design are approved by the Engineer-in-charge and responsible for the fitment of equipment and accessories. The contractor will submit drawing/ design for approval of the Engineer-in-charge at the earliest.

The list of drawings shall be as follows:

- Detail plans for complete area.
- Refrigerant piping routes with sections.
- Outdoor unit location.
- Location of Grills.
- Electrical panel for outdoor unit, indoor unit, D.B and control scheme.
- Mounting stand & foundation details.
- Drain piping layout with section.
- Control cabling detail along with sizes.
- Power cable sizes and earthing wire sizes etc.

11. GUARANTEE/ WARRANTY:

The contractor shall guarantee/ warranty (as per manufacturer specifications) the equipment against all defects of materials and workmanship for the period of twelve months from the date of commissioning & Handing over of the equipment to the owner as certified by the Engineer-In-Charge. However, compressor will have the standard warranty. Any defects arising during the guarantee/ warranty period shall be rectified and made good by the vendor at his own risk & Cost to the satisfaction of the Engineer-In-Charge.

12. INSPECTION:

Routine performance testing of equipment shall be carried out at works in the presence of the Engineer-in-charge / representatives.

13. SECURITY

The contractor is responsible for all the equipment like piping, wiring and all related accessories until the time of handing over to the customer.

14. TEST

The contractor will perform weather(s) test and confirm the performance of units as specified in the design data or as per manufacturer specifications.

15. MAINTENANCE

The contractor will provide sufficient of service team along with the service spares during the guarantee/ warranty under defect liability period at site. The plant is not likely to run on all days. However, any defects, including drain, arising during warranty period will be attended within 24 hours.

16. CIVIL WORK

Chasing, cutting and finishing with chicken wire mesh of the brick work or floor for laying the drain pipe and copper pipe to be in contractor scope.

17. VIBRATION

A compressor running at fixed speed imposes vibrations on its associated framework at a set group of frequencies. The framework can of course be designed such that its natural frequencies differ from the imposed frequencies.

18. OUTDOOR UNIT WITH HEAT PUMP

- The outdoor shall be factory assembled weatherproof casing constructed from heavy gauge as per manufacturer specification and as directed by Engineer-in-charge. The unit should be completely factory wired tested with all necessary control.
- The condensing unit shall be capable of assessing the requirement of liquid refrigerant flow of each evaporating unit at all time by means of a microcomputer control expansion valve and generating the required total flow of refrigerant liquid for supply to the evaporator unit.
- ODU shall have minimum 2 Scroll Compressors and be able to operate even in case one of the compressors is out of order.
- The ODU shall be modular in design and should be allowed for side by side installation. The unit shall be provided with its microprocessor control panel. The ODU unit should have anti-corrosive paint steel plate for easy mounting of the unit. The unit shall be manufactured/ assembled in India as per Indian atmospheric conditions and should be capable of performing for outdoor temperature of 50 deg. C .
- The ODU should be filled with low noise, aero-spiral as per manufacturer specifications and as directed by Engineer-in-charge.
- The condensing unit shall be designed to operate safely when connected to Ducting type Air-conditioning.
- Noise level shall not be more than 58 dB (A) or as per recommended manufacturer specifications and as directed by Engineer-in-charge.
- Control Wiring from ODU to IDU shall be in contractor's scope.

A. HEAT EXCHANGER

- i. The heat exchanger shall be constructed with copper tubes mechanically bonded to Aluminum fins to form a cross fin coil.
- ii. The Aluminum fins shall be treated with anti-corrosion resin film.(suitable chemical coating)
- iii. The unit should be with E- bypass / Split type Heat Exchanger for good efficiency of Condenser.
- iv. The unit shall be provided with necessary number of direct driven low noise level propeller type fan arranged for vertical/ horizontal discharge. Each fan shall have safety guard.
- v. All necessary safety devices shall be provided to ensure safe operation of the system.

B. REFERIGERENT CIRCUIT

- i. The refrigerant circuit shall have liquid and gas shut off valve or a solenoid valve at condenser end.
- ii. All necessary safety devices shall be provided to ensure the safety operation of the system.

C. SAFETY DEVICES

Following safety devices shall be part of ODU

- | | |
|-----------------------------|---------------------------------|
| (a.) High Pressure Switch. | (b.) Fuse. |
| (c.) Fan Drive OLP. | (d.) Fusible plug |
| (e.) OLR | (f.) OLP for Inverter/ digital. |
| (g.) Single Phase preventer | |

D. ANTI CORROSION TREATMENT

As per manufacturer specifications or/ and directed by Engineer-in-charge.

19. INDOOR UNIT

A. GENERAL

The selection deals with supply installation testing commissioning of Ducting types air conditioning units confirming to general specifications. Each indoor unit has Electronic Expansion Valve which senses the temperature based on variation of the load and conveys the same for the outdoor modules to respond accordingly.

- i. Indoor units shall be Ducting Type Air Conditioning type as specified in BOQ.
- ii. Unit shall have cleanable type filter fixed to an integrally moulded plastic frame. The filter shall be slide away type and neatly inserted.
- iii. Each unit shall be provided with Electronic Expansion Valve for cooling/heating.
- iv. Each Ducting Type Air Conditioning type unit shall be with wireless LCD type remote controller. The controller shall be able to change the fan speed and angle of swing flap individually and changes in set temperature as per requirement.

B. DUCTING TYPE AIR CONDITIONING UNITS

As per manufacturer specifications or/ and directed by Engineer-in-charge.

20. REFRIGERENT

- i. Refrigerant should be only R-410A.
- ii. The entire condensing unit & evaporative unit should be factory assembled and tested. The units should come with an initial charge of referred R-410A from the factory. Any additional required refrigerant shall be added at site free of cost as per direction of Engineer-in-charge.

21. REFRIGERANT PIPING

- All refrigerant piping for the air-conditioning system shall be constructed from soft seamless up to 19.1mm and hard drawn copper refrigerant pipes for above 19.1mm with copper fittings and silver soldered joints. The refrigerant piping arrangements shall be in accordance with good practices within the air conditioning industry, and are to include charging connections, suction line insulation and all other items normally forming part of proper refrigerant circuits.
- All joints in copper piping shall be sweat joints using low temperature brazing and or silver solder. Before joining any copper pipe or fitting, its interiors shall be thoroughly cleaned by passing a clean cloth via wire or cable through its entire length. The piping shall be continuously kept clean of dirt etc. while constructing the joints subsequently it shall be thoroughly blown out using nitrogen.
- After the refrigerant piping installation has been completed, the refrigerant piping shall be pressure tested using **Nitrogen** at 32 Kg per sq.cm. Pressure shall be maintained in the system for 24 hours. The system shall then be evacuated to minimum vacuum of 1700 mm Hg and held for 24 hours. The air- conditioning supplier shall be design sizes and erect proper interconnections of the complete refrigerant circuit.
- The thickness of copper piping shall not be less than as specified in the BoQ.
- The suction line pipe size and the liquid line pipe sizes shall be selected according to the manufacturers specified outside diameter. All refrigerant pipe shall be properly supported and anchored to the building structure using steel hangers, anchors brackets, and supports which shall be fixed to the building structure by means of inserts or expansion shields of adequate size and number to support the load imposed thereon.

22. DRAIN PIPING

The pipe shall be laid in proper slope for efficient draining of the condensate water.

23. PIPE INSULATION

- i. Refrigerant Pipe Insulation should not be less than as specified in the BoQ.
- ii. Drain pipe carrying condensate water shall be insulated with 6 MM thick Nitrile rubber close cell insulation or as per manufacturer specifications.

FORMAT OF COMPLETION CERTIFICATE

Format of Completion Certificate to be given at letterhead after completion of work : Having executed the work in terms of the contract, we hereby certify and affirm that we have completed the contracted work. **(Renovation of Council Hall at CSIR-CRRI, Mathura Road, New Delhi-110025.)**

We hereby certify that the work has been executed wholly to the satisfaction and with materials and workmanship in accordance with the contract.

We do certify further that we have executed the work in accordance with the applicable laws and without any transgression of such laws.

Signature of the Contractor:

Place :

Date :

Name :

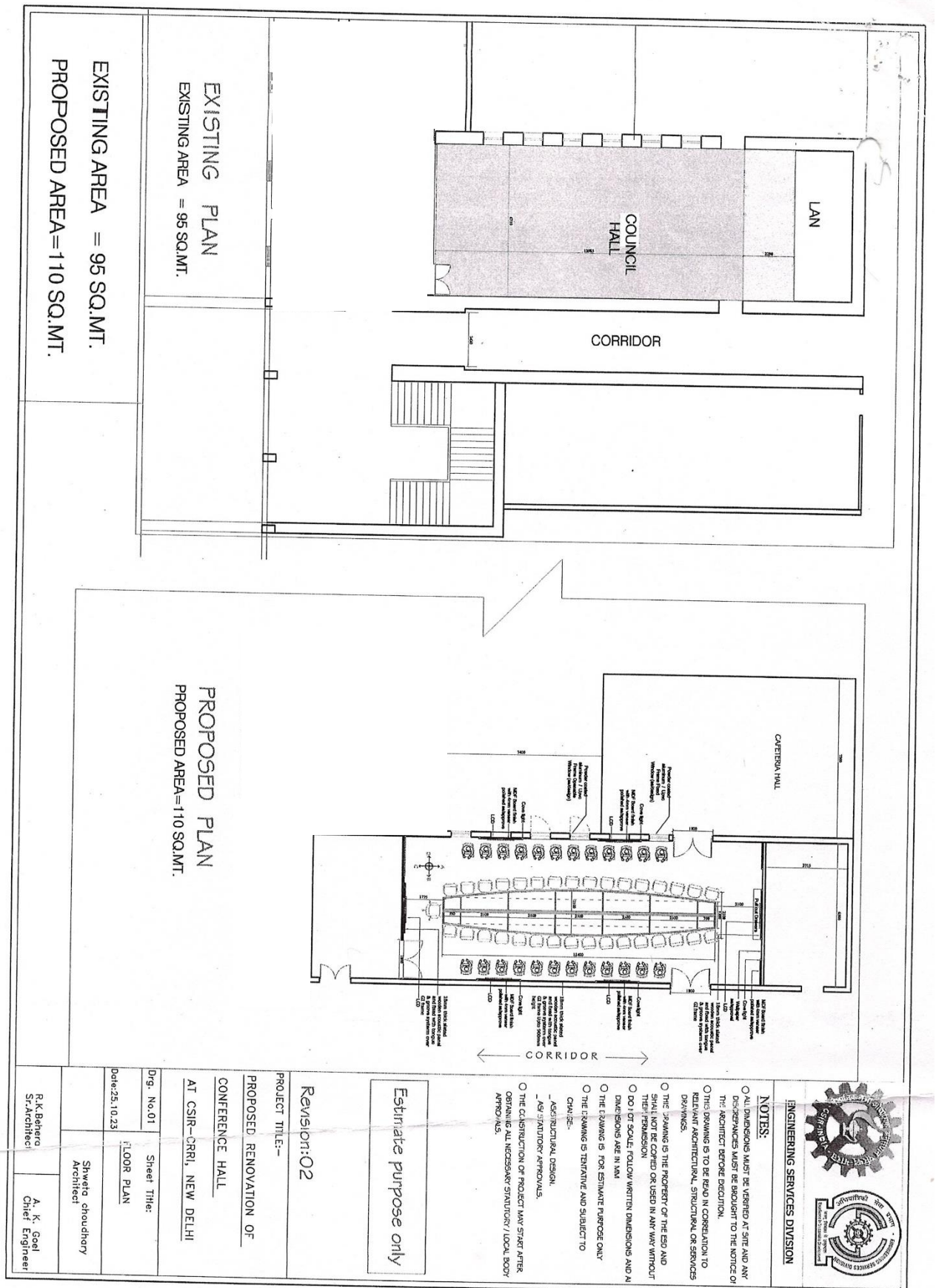
Address :

Seal :

CCN Officials

EIC

Regarding Council Hall Table – Please Refer drawing enclosed at Page No. 45





SECTIONAL ELEVATION D

Estimate purpose only

PROJECT TITLE:-

AT CSIR-CRI, NEW DELHI

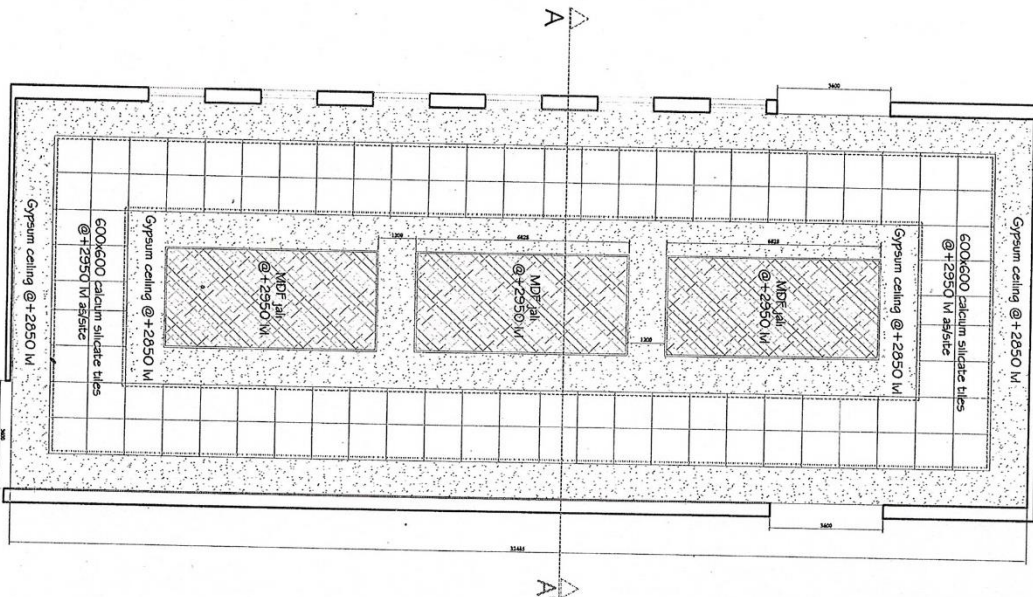
Sheet Title:

R.K.Behera
Sr.Architec

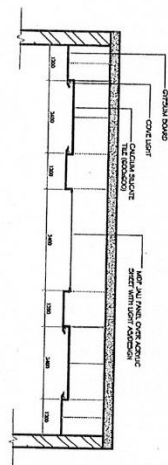
A. K. Goel
Chief Engineer

- ALL DIMENSIONS MUST BE VERIFIED AT SITE AND ANY DISCREPANCIES MUST BE REPORTED TO THE NOTICE OF THE ARCHITECT BEFORE DECISION.
- THIS DRAWING IS TO BE USED IN CONJUNCTION TO RELEVANT ARCHITECTURAL, STRUCTURAL OR SERVICES DRAWINGS.
- THIS DRAWING IS THE PROPERTY OF THE ESO AND SHALL NOT BE COPIED OR USED IN ANY WAY WITHOUT THEIR PERMISSION.
- DO NOT SCALE; FOLLOW WRITTEN DIMENSIONS AND ALL DIMENSIONS ARE IN MM.
- THE DRAWING IS FOR ESTIMATE PURPOSE ONLY
- THIS DRAWING IS ITERATIVE AND SUBJECT TO CHANGE.
- ASSEMBLY DESIGN.
- NO STRUCTURE APPROVALS.
- THE CONSTRUCTION OF PROJECT MAY START AFTER OBTAINING ALL NECESSARY STATUTORY/LOCAL BODY APPROVALS.

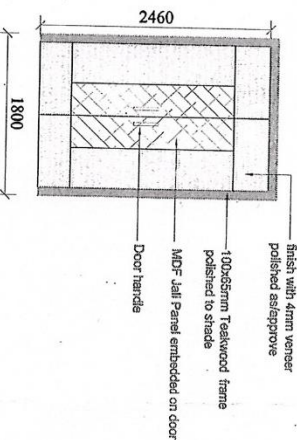
REFLECTED FALSE CEILING PLAN



FALSE CEILING SECTION AT-AA



DOOR DETAILS



NOTES:

1. ALL DIMENSIONS MUST BE VERIFIED AT SITE AND ANY DISCREPANCIES MUST BE BROUGHT TO THE NOTICE OF THE ARCHITECT BEFORE EXECUTION.
2. THIS DRAWING IS TO BE READ IN CORRELATION TO RELEVANT ARCHITECTURAL, STRUCTURAL OR SERVICES DRAWINGS.
3. THIS DRAWING IS THE PROPERTY OF THE ESD AND SHALL NOT BE COPIED OR USED IN ANY WAY WITHOUT THE PERMISSION.
4. DO NOT SCALE, FOLLOW WRITTEN DIMENSIONS AND ALL DIMENSIONS ARE IN MM.
5. THE DRAWING IS FOR ESTIMATE PURPOSE ONLY.
6. THE DRAWING IS TENTATIVE AND SUBJECT TO CHANGE.
7. (STRUCTURAL DESIGN, - (S) STATUTORY APPROVALS.
8. THE CONSTRUCTION OF PROJECT MAY START AFTER OBTAINING ALL NECESSARY STATUTORY / LOCAL BODY APPROVALS.

Estimate purpose only

Revision:02

PROJECT TITLE:-

PROPOSED RENOVATION OF

CONFERENCE HALL

AT CSIR-CRRI, NEW DELHI

Dwg. No.03

Sheet Title:

Date:25.10.23

REFLECTED CEILING PLAN

Shweta choudhary

Architect

R.K.Behara

Sr.Architect

A. K. Goel

Chief Engineer



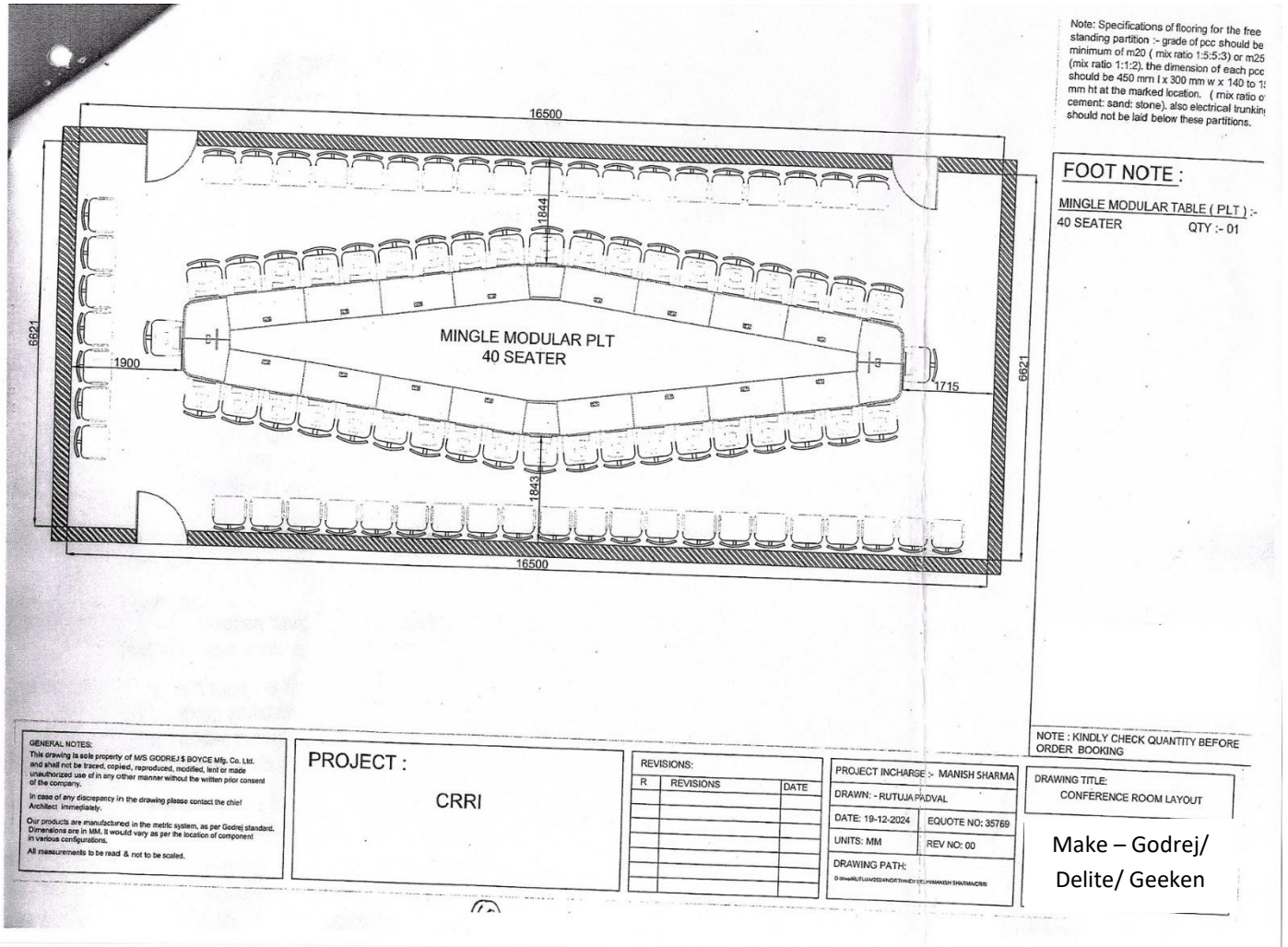
ENGINEERING SERVICES DIVISION

Pictorial View of Council Hall Main Table

Refer Item No. 67 (Council Hall Main Table)

For Detailed Specification of this table please refer item no. 67 of BoQ

The table shall be manufactured and supplied in accordance with the approved drawing & specifications enclosed stated in BoQ Item No. 67. The size of table can be referred from this Drawing. The basic price of table is – Rs. 7,80,000.00 (without GST, Contractor Profit, etc.)



ARTICLES OF AGREEMENT

ARTICLES OF AGREEMENT MADE AT _____ this _____ day of _____
BETWEEN the Council of Scientific & Industrial Research, New Delhi, a Society registered under the Societies Registration Act 1860 (Hereinafter referred to as the Employer, which expression shall include its successors and assignees and authorized officers of the Society) of the one part and _____ trading in the name and style of _____ (hereinafter referred to as the contractor(s) which expression shall include his / their respective heirs, executors, administrators and permitted assignees) of the other part.

WHEREAS the Employer is desirous of getting the work of _____ done and has caused drawings, schedule of Quantities and Specifications describing the work to be prepared.

AND whereas the said specifications and the schedule of quantities and other documents have been signed by on the behalf of the parties.

NOW IT IS HEREBY AGREED AND DECLARED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

1. In consideration of the payments to be made to them as hereinafter provided the Contractor shall upon and subject to the conditions hereinafter contained execute and complete, the work at the rates specified in the attached schedule of quantities and with such materials as are provided for and in accordance in all respect with specifications, designs, drawings and instructions in writing. Time for carrying out the work will be _____ and the date of commencement shall be reckoned from the tenth day of issue of award letter.
2. The Employer shall pay to the Contractors such sums as shall become payable hereunder at the times and in the manner specified in the said conditions.
3. This agreement contains the following documents in addition to pages of Articles of Agreement.

(i) General Conditions of Contract Page No _____ to _____

(ii) Special Conditions Page No _____

(iii) Additional Conditions Page No _____

(iv) Indenture for Secured Advance Page No. _____ to _____

(v) Original tender document along with the covering letter of the firm dated _____ Page No: 1 to _____

In witness whereof the parties hereto have set their respective hands the day and year herein above written.

Signed by, for and on behalf of Employer _____

In the presence of

(1) _____
(2) _____

Signed by the said contractor

In the presence of

(1) _____
(2) _____

INDENTURE FOR SECURED ADVANCE

This indenture made the _____ day of _____ 199 between _____ (hereinafter called the contractor which expression shall where the context so admits or implies be deemed to include his heirs, executors, administrators and permitted assignees) of the one part and Council of Scientific & Industrial Research, New Delhi, a Society registered under the Societies Registration Act 1860 (hereinafter called the Employer which expression shall include its successors and assignees and authorized officers of the Society) of the other part.

WHEREAS by an agreement dated _____ (hereinafter called the said agreement) the contractor has agreed AND WHEREAS the contractor has applied to the Employer that he may be allowed advances on the security of materials absolutely belonging to him and brought by him to the site of the works the subject of the said agreement for use in the construction of such of the works as he has undertaken to execute at rates fixed for the finished work (inclusive of the cost of materials and labour and other charges) AND WHEREAS the Employer has agreed to advance to the contractor the sum of Rs. _____ (Rupees _____) on the security of materials the quantities and other particulars of which are detailed in accounts of secured advances attached to the running account Bill for the said works signed agreement and in consideration of the sum of Rs. _____ on or before the execution of these presents paid to the contractor by Employer (the receipt whereof the contractor doth hereby acknowledge) and of such further advances (if any) as may be made to him as aforesaid the contractor doth hereby covenant and agree with the Employer and declare as follows:-

1. That the said sum of Rs. _____ advanced by the Employer to the contractor as aforesaid and all or any further sum or sums advanced as aforesaid shall be employed by the contractor in or towards expediting the execution of the said works and for no other purpose whatsoever.
2. That the materials detailed in the said account of secured advance which have been offered to and accepted by the Employer as security are absolutely the contractor's own property and free from encumbrances of any kind and the contractor will not make any application for or receive a further advance on the security for materials which are not absolutely his own property and free from encumbrances of any kind and the contractor indemnifies the Employer against all claims to any materials in respect of which and advance has been made to him as aforesaid.
3. That the materials detailed in the said account of secured advances and all other materials on the security of which any further advance or advances may hereafter be made as aforesaid (hereinafter called the said materials) shall be used by the contractor solely in the execution of the said works in accordance with the directions of the Engineer and in the term of the said agreement.
4. That the contractor shall make at his own cost all necessary and adequate arrangements for the proper watch, safe custody and protections against all risks of the said materials and that until used in construction as aforesaid the said materials shall remain at the sit of the said works in the contractor's custody and on his own responsibility and shall at all times be open to inspection by the Employer or any officer authorized by him. In the event of the said materials or any part thereof being stolen, destroyed or damaged or becoming deteriorated in a greater degree that is due to reasonable use and wear thereof the contractor will forthwith replace the same with other materials of like quality or repair and make good the same as required by the Engineer.
5. That the said materials shall not on any account be removed from the site of the said works except with the written permission of the Employer or any officer authorized by him on that behalf.
6. That the advances shall be repayable in full when or before the contractor receives payments from the Employer of the price payable to him for the said works under the terms and provisions of the said agreement. However, if any intermediate payments are made to the contractor on account of work done then on the occasion of each such payment the Employer will be at liberty to make a recovery from the contractor's bill for such payment by deducting therefrom the value of the said materials then actually used in the construction and in respect of which recovery has not been made previously, the value for this purpose being determined in respect of each description of materials at the rates at which the amounts of the advances made under these presents were calculated.
7. That if the contractor shall at any time make any default in the performance or observance in any respect of any of the terms of provisions of the said agreement or of these presents the total amount of the advance of advances that may still be owing to the Employer shall immediately on the happening of such default be repayable by the contractor to the Employer together with interest thereon at twelve per cent per annum from the date or respective dates of such advance or advances to the date of repayment and with all costs charges, damages, and expenses incurred by the Employer in or for the recovery thereof or the enforcement of this security or otherwise by reason of the default of the contractor and the contractor hereby covenants and agrees with the Employer to repay and pay the same respectively to him accordingly.

8. That the contractor hereby charges all the said materials with the repayments of the Employer of the said sum of Rs. _____ and any further sum or sums advanced as aforesaid and all costs charges, damages and expenses payable under these presents PROVIDED ALWAYS and it is hereby agreed and declared that notwithstanding anything in the said agreement and without prejudice to the powers contained therein if and whenever the covenant for payment and repayment herein before contained shall become enforceable and the money owing shall not be paid in accordance therewith the Employer may at any time thereafter adopt all or any of the following courses as he may deem best :-
- a. Seize and utilize the said materials or any part thereof in the completion of the said works on behalf of the contractor in accordance with the provisions in that behalf contained in the said agreement debiting the contractor with the actual cost of effecting such completion and amount due in respect of advances under these presents and crediting the contractor with the value of work done as if he had carried it out in accordance with the said agreement and at the rates thereby provided. If the balance is against the contractor he is to pay same to the Employer on demand.
 - b. Removed and sell by public auction the seized materials or any part thereof and out of the moneys arising from the sale retain all the sums aforesaid repayable or payable to the Employer under these presents and pay over the surplus (if any) to the contractor.
 - c. Deduct all or any part of the moneys owing out of the security deposit or any sum due to the contractor under the said agreement.
9. That except in the event of such default on the part of the contractor as aforesaid interest on the said advance shall not be payable.
10. In witness whereof the said _____ and _____ by the order and under the direction of the Employer have hereunto set their respective hands the day and year first above written.

Signed sealed and delivered by the said contractor : _____

In the presence of

Signature: _____

Address : _____

Signed by : _____

By the order and direction of the Employer : _____

In the presence of

Signature : _____

Name : _____

Address : _____

PERFORMANCE GUARANTEE

To,

Council of Scientific & Industrial Research

In consideration of Council of Scientific & Industrial Research (hereinafter) called "The Council" having awarded to M/s _____ a Company registered under the Companies Act 1956 (hereinafter) called the Contractor, a contract for (hereinafter) called the said contract under the terms and conditions of an Agreement dated ----- made between the Council and the Contractor hereinafter called and said agreement and Council agreed to accept a Deed of Guarantee as herein provided for Rs. _____ (Rupees _____ only) from a Scheduled Bank towards due performance of the contract by the Contractor as per the terms and conditions of the contract on the condition that the Bank on demand from the Council and without demur pay to the Council the aforesaid amount.

We, _____ Bank Ltd., (hereinafter) referred to as the 'bank' do hereby undertake to pay to the Council an amount not exceeding Rs. _____ against any loss or damage caused to or suffered or would be caused to or suffered by the Council by reasons of any breach or breaches of any of the terms of conditions of the said agreement by the said contractor.

We, _____ Bank Ltd., do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from the Council by stating the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Council for reasons of any breach by the said contractor (s) of any of the terms & conditions contained in the said Agreement or by reason of the contractor (s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards 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 _____.

This guarantee shall come into force immediately and continue in force and remain valid till six months after the completion of all works under the said contract which according to the terms of the said contract, should be six months from the probable date of completion viz., the _____ day of _____. If, however, the period of the completion of the works under said contract is for any reason extended and upon such extension if the Contractor fails, before the terms of this guarantee expires, to furnish a fresh or renewed guarantee for the extended period, the Bank shall pay to Council the said sum of Rs _____ or such lesser sum as Council may demand.

This guarantee shall not be affected by any change in the constitution of the Bank or of the Contractor.

Notwithstanding anything hereinbefore contained, the liability of the Bank under this guarantee is restricted to Rs _____ (Rupees _____ only) and the guarantee shall remain in force till _____ day of _____ 19 _____ unless claim or demand under this guarantee is presented to the bank within two months from that date all the rights of Council under this guarantee shall be forfeited and the Bank shall be released and discharged from all obligations hereunder.

LIST OF PREFERRED MAKES OF VARIOUS ITEMS FOR CIVIL WORK

S. No.	Name/ Description of Material	Manufacturing Company/ Brand
1	Lamination Sheet	Century/Formica/ Decolam/ Greenlam/ Nationai
2	Prelaminated Board	Novapan/ Ecoboard/Action Tesa/ Bhutan /Green/National
3	Comm / Teak Board & Ply Sheets	Duro /Centuryarchitect/ Green / National
4	Texured Paint	Spectrum/ Unitile /Birla /Heritage
5	Mirror	Atul/ Twin Modi/ Saint Gobin
6	Plain Glass	Modi Guard/ Saint Gobain / Asahi
7	Enamel Paint	Asian / ICI /Berger/ Nerolac
8	Paint	Asian / ICI /Berger/ Nerolac
9	Gypsum Board	India Gypsum Or Equivalent
10	Aluminium Sections	Indalco /Hindalco / Jindal
11	Distemper	Asian / ICI / Berger/ Dulux/ Nerolac/ Shalimar
12	Wall Puttey	Birla, J.K. Wall Putty Or Equivalent
13	Pop	Shriram/SakarniOr Equivalent
14	Veneers	Duro(Nature'ssignature)/Century/Greenveneers
15	Vitrified Tiles	Marbito/ Kajaria/ Euro/ Asian / Nitco/Orient
16	Blinds	Mac/ Luxalon/ Vista
17	Cabinet Locks	Godrej / Dorset/ Shrikornark
18	Door Closer	Sandhu/ Samrat/Door King / Everest / Everite /Britan
19	False Ceiling Tiles (Minerals)	Armstrong Or Equivalent
20	Ceramic Tiles	Orient / Nitco / Bell / Kajaria / Somany
21	Flush Door	Durodoor / Tower / Kutti
22	Rectified Tiles	Marbito /Euro/Asian/Nitco
23	Sanitary Fittings	Parryware/Hindware/Cera / Jaquar
24	Plumbing Fittings	Parryware/Parko/Jaquar/ Prima
25	Oil Bound Washable Distemper, Acrylic Distemper	Bison Acrylic distemper – Berger Paints. Nerolac Beauty OBD -Nerolac Paint limited Tractor AD- Asian Paints 39 line mahillite acrylic distemper of I.C.I paints No. 1 Premium Acrylic Distemper(PAD) – Shalimar Paints Maxilite AD- Akzonobel (Dulux) –
26	Cement Primer	Thinable Berger Paints Primolite cement primer of goodlassNerolac paints Ltd Jenolin cement primer of Jenson & Nicholson Shalimar W.N.C.Primer
27	Premium Acrylic smooth exterior	Extra Maxima – self clean – Shalimar Paints WeathercoatAllgaurd of Berger Paint Apex Ultima of Asian paint Impression Excel- Nerolac Weatheshild Max- Akzonobel (Dulux)
28	Acrylic Smooth exterior Paint	Weather shield paint of ICI paint Weather coat smooth of Berger Paint Apex- of Asian paint Xtra of Shalimar paint Excel- Nerolac Dulux weather shield- Akzonobel (Dulux)
29	Plastic Emulsion Paint	23 line Dulux Acrylic emulsion paint of ICI paints Nerolac Beauty Gold - Nerolac paint Ltd.

		Rangoli super Acrylic Emulsion of Berger paints SAPEP of Shalimar paints Ltd. Asian premium Emulsion – Asian Paints Dulux (DAEP)- Akzonobel (Dulux)
30	Synthetic Enamel Paint	Luxol Satin enamel of Berger paints . 28 line Dulux Gloss synthetic enamel of I.C.I paints in Brilliant white and other standard colours, Except black and chocolate. Nerolac (NSE) -Nerolac Paints. Superlac Hi Gloss (SHE) of Shalimar paints Ltd. Apolite (ASE) – Asian Paints Maxilite AD- Akzonobel (Dulux)
31	Deluxe velvet touch Paint	I.C.I Paint or equivalent .
32	Dry Distemper	Berger , b) Nerolac, c) Shalimar, d) Asian, e) I.C.I
33	Water Proofing Cement Paint	Durocem extra water cement coating of Berger paint. Snowcem plus of super Snowcem India Ltd. Nerolac with Titanium+ water proofing cement paint of goodlassNerolac paint ltd. CementkePlus of Shalimar Paint Ltd.
34	Epoxy/ polymer	Fosroc, Sikka, BASF.
35	Conference Table	Godrej/ Delite/ Geeken.

Note:-

1. The above makes are all indicative. In case, the Contractor would like to use any other make, he must submit the technical literature about the capabilities of these items and get it approved from the Engineer-in-Charge, prior to using the same.
2. The items for which no makes are specified, only ISI marked and/ or the make approved by Engineer-in-Charge shall be used.
3. The Contractor shall also comply the Public Procurement (Preference to Make in India), Order 2017 issued by Department of Industrial Policy & Promotion (DIPP) vide Order No. P-45021/2/2017-B.E.-II dated 15.06.2017 or any other latest order issued in this regard.

LIST OF PREFERRED MAKES OF VARIOUS ITEMS FOR ELECTRICAL WORK

Sr. No.	Description	Manufacturer /brand required.
1.	Wires	Polycab, Finolex, Havells
2.	Switches, Sockets	Legrand-Britzy, Anchor-Penta Modular, Havells
3.	Rj 45 Sockets and Telephone Sockets	Legrand-Britzy, Anchor-Penta Modular
4.	Conduits, Bends, Tee	AKG, Precision, Plasto
5.	GI Boxes	Polycab, Havells, Legrand
6.	SP / DP / FP / MCBs (All Type)	Legrand, L&T, Hager, Havells
7.	MCB Enclosure	Legrand, L&T, Hager, Havells
8.	VTPN / ETPN / SPN DBs (All Type)	Legrand, L&T, Hager, Havells
9.	LED Ceiling Panel 2'X2'	Havells, Crompton, Philips
10.	UTP 4 pair CAT 6 LAN Cable	Finolex, D-Link
11.	Smoke Detector and Response Detector	Apollo, Agni, Honeywell
12.	Manual Call Points	Apollo, Agni, Honeywell
13.	Fire Alarm Cables	Polycab, Finolex, Havells
14.	Electric Cables	Polycab, Havells, Gloaster
15.	LED downlight, LED luminaire, LED Strip Lights, Spot light	Havells, Philips, Crompton
16.	Cable Tray/ Raceway/ Accessories & Fittings	Legrand, Super Cable Tray
17.	On load changeover switch	L&T, HPL, Legrand
18.	All MCCBs & Panel Accessories	Legrand, Havells, L&T
19.	Mobile Signal Booster, Antenna Kit, Coaxial cables	Seguro, Collexxa, Lintratek
20.	DALI driver, dimmable lighting System	Havells, Crompton
21.	Smart Touch Switches, Touch Screen Light Controller & protective Accessories for dimmable operation etc.	Havells, Legrand
22.	Pop-up-Box	Legrand, Havells, Honeywell

Note:-

1. The above makes are all indicative. However Contractor must submit the technical specifications of items before placing any order and get it approved from the Engineer-in-Charge.
2. The items for which no makes are specified, only ISI marked and/ or the make approved by Engineer-in-Charge shall be used.
3. Some LED lights are of dimmable types which need to be operated in DALI (Digital Addressable Lighting Interface) System with touch panel switches. All the necessary switch gears for operating dimmable lights in DALI System are included in the BoQ (Item No. 94, 95, 98 & 134-139). The contractor will have to provide all necessary software/ program and complete the configuration and integration work all complete to accomplish the task for proper operation of these Dimmable LED Lights in DALI System without any extra cost.
4. The Contractor shall also comply the Public Procurement (Preference to Make in India), Order 2017 issued by Department of Industrial Policy & Promotion (DIPP) vide Order No. P-45021/2/2017-B.E.-II dated 15.06.2017 or any other latest order issued in this regard.

LIST OF PREFERRED MAKES OF VARIOUS ITEMS FOR VRV/ VRF AIR CONDITIONING WORK

S. No	Description of Item	Approved Makes
1.	<u>High Rise Equipment</u>	
1.1	VRV/VRF System using Compressor of following make only	Daikin/O-general/Mitsubishi/Voltas
1.2	Y-Joints VRV/VRF system	Daikin/O-general/Mitsubishi/Voltas
2	<u>Ducting Type Air Conditioning type AHU Indoor unit</u>	Daikin/O-general/Mitsubishi/Voltas
3	<u>Cables & Accessories</u>	
3.1	Control Cables	Finolex/Havells
3.2	Communication Cable	Finolex/Havells
3.3	MS/ GI Conduit (ISI Approved)	BEC/ AKG/ STEEL KRAFT
4	<u>Pipes & Fittings</u>	
4.1	UPVC pipe for drain	Supreme/Astral
4.2	Copper Pipes	Totaline /Rajco/Max flow/Mandev
5	<u>Insulation</u>	
5.1	Closed Cell Elastomeric Insulation	Armacell/K-flex/A-flex/Supertlon
5.2	Aluminum Tape	Johnson/ Birla 3M

- Note:**
- 1) The Tenderer shall confirm the make of the system intends to use, however the Engineer-In-Charge reserves the right to approve any of the make specified.
 - 2) The contractor shall get the samples of all other items, which are not covered in the approved price list, approved from the Engineer-In-Charge.
 - 3) The Contractor shall also comply the Public Procurement (Preference to Make in India), Order 2017 issued by Department of Industrial Policy & Promotion (DIPP) vide Order No. P-45021/2/2017-B.E.-II dated 15.06.2017 or any other latest order issued in this regard.

8) I. Proforma for seeking permission for working on Holidays or Beyond working hours

Refer Additional Conditions – Clause No. 2

कार्य का नाम –

कार्य का स्थान –

ठेकेदार का नाम –

फर्म का नाम –

ठेकेदार द्वारा दिया गया वचन/ Undertaken given by Contractor

अवकाश के दिनों या **Office Hours** के उपरांत जो **Workers** कार्य करेंगे उससे संबंधित निम्नलिखित वचन मेरे द्वारा दिये जा रहे हैं –

1. जिन workers की permission मेरे द्वारा मांगी गई है उनका records मेरे पास उपलब्ध है।
2. मेरे द्वारा सभी workers को यह बताया गया है कि संस्थान में धूम्रपान या किसी भी तरह का कोई नशा करना गैरकानूनी है, यदि ऐसा करते हुए कोई पाया जाता है तो उसके खिलाफ मेरे द्वारा आवश्यक कार्यवाही की जाएगी एवं संस्थान भी आवश्यक कार्यवाही करने के लिए स्वतंत्र है।
3. सभी Workers संस्थान में प्रवेश तथा निकास के दौरान सुरक्षा जांच में सहयोग करेंगे।
4. कार्य के दौरान मेरा Supervisor, Workers की निगरानी करेगा तथा किसी भी अप्रिय स्थिति की जानकारी, सुरक्षा अधिकारी को देगा।
5. संस्थान की चल व अचल संपत्ति की सुरक्षा संबंधी निर्देश सभी Workers को दिये गए हैं तथा व उसका अनुपालन करने के लिए प्रतिबद्ध हैं। यदि ऐसा करने में असफल पाया जाता है तो उसके खिलाफ नियमानुसार कार्यवाही की जा सकती है जिसकी भरपाई मेरे द्वारा की जाएगी।
6. संस्थान में मेरे तथा कर्मचारियों द्वारा लाये गए सभी सामानों/ औजारों की सुरक्षा की ज़िम्मेदारी सिर्फ मेरी होगी। खोने या चोरी होने की स्थिति में संस्थान इसके लिए जिम्मेदार नहीं होगा।
7. जो भी Workers, अवकाश के दिनों एवं Office Hours के उपरांत संस्थान में कार्य करेंगे उसकी जानकारी संबंधित Undertaking के माध्यम से मेरे द्वारा 24 घंटे पूर्व Annexure – II(B) के माध्यम से ईएसडी को दी जाएगी।
8. स्वीकृत समय तक ही मेरे Workers द्वारा कार्य किया जाएगा तथा समय के पूर्ण होने पर सभी Workers द्वारा कार्य बंद करके संस्थान खाली कर दिया जाएगा।
9. कार्य के दौरान संस्थान को स्वच्छ रखने संबंधी स्थिति का मेरे तथा मेरे Workers द्वारा पालन किया जाएगा।
10. क्रम संख्या – 1 से 9 में दिये गए सभी वचनों में यदि कोई त्रुटि पायी जाती है तो संस्थान मेरे विरुद्ध नियमानुसार कार्यवाही करने के लिए स्वतंत्र है।

ठेकेदार के हस्ताक्षर

अवकाश के दिनों एवं Office Hours के उपरांत संस्थान में Contract Labour द्वारा कार्य किए जाने संबंधी Proforma

कार्य का नाम -

ठेकेदार का नाम -, फर्म का नाम -

कार्य करने की तारीख -, कार्य का स्थान -

कार्य करने का समय -, सुपरवाइज़र का नाम और मोबाइल नंबर. -

क्र. सं. Sr. No.	ठेकेदार के कर्मचारी का नाम Name of Contractor's Worker	आधार संख्या या पहचान दस्तावेज़ Aadhar No. OR Identity Document	फ़ोटो Photo
1.			
2.			
3.			
4.			

ठेकेदार के हस्ताक्षर