

**NATIONAL COUNCIL OF SCIENCE MUSEUMS
SECTOR-V, BLOCK-GN, BIDHANNAGAR,
KOLKATA – 700 091.**

TENDER NO. I-18012/8/22(279)

Technical Specification

Supply, Installation, Testing & Commissioning of Hi-Wall Split Acs & Allied Works for Innovation Hub at Sub-Regional Science Centre, Jodhpur(Rajasthan)

Sl. No.	Description of item	Quantity
1	<p>Supply, installation, testing & commissioning of Hi-Wall Split type Air-Conditioner of 2.0TR capacity with inverter technology, Min. BEE 3-STAR rated conforming to IS-1391, with multi-function cordlessLCD remote control, suitable for operation on 1Ph, 230V, 50Hzs. AC supply, each having 1No. of wall mounted indoor unit and 1No. of standard bracket/stand mounted outdoor unit with all Copper condensor including supplying & fixing of interconnecting insulated refrigerent copper piping of suitable size, HDPE/CPVC drain water piping and adequate sized interconnecting wiring/cablng with required plug top, etc. complete.</p> <p>The AC should be heavy duty with high EER, low noise (<50dB) compressor for eco-friendly refrigerent like R410A with standard accessories & protections for over-load, auto-temp. control, cut- in & cut-out, Temp. range 16 to30 Deg.C, timer setting, auto air swing, etc., 1No. of robust wall mounted/floor standing outdoor unit for evaporator & condenser units, indoor unit made up of ABS/HIPS - flame & impact resistant, cleanable air filters made up of synthetic material, electronic thermostat, remote control with ON/OFF, Speed selection, temp. Setting buttons & display, etc. including Standard Installation of the Split AC Units as offered above with leak testing, vacuuming, gas charging, testing & commissioning incl. supply & fixing of all hardware & accessories, making holes in brick-work, etc. complete.</p> <p>Acceptable Makes : VOLTAS / BLUE STAR / CARRIER / O General / DAIKIN / HITACHI / MITSUBISHI / other equivalent make to be approved by NCSM</p> <p>Notes :</p> <p>1. <i>The entire AC shall have a guarantee of 1 year whereas the compressors shall have a 5 years replacement warranty.</i></p> <p>2. <i>The scope of work includes drilling holes in wall, cutting & mending good, etc. as required, as also provision of framing, ply work, glass removal & fixing etc. if required.</i></p> <p>3. <i>The above Split ACs are to be supplied with upto 4.0Mtr(12') of</i></p>	10 Nos.

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	<i>appropriate sized interconnecting insulated refrigerent Cu. piping, suitable sized interconnecting Ele. cable/wire and rigid PVC drain piping within the cost of this item no.1.</i>	
2	Fabrication, supply & Installation of MS Stand made out of min. 40mmx40mmx5mm MS angle for mounting of Out Door Unit of 2.0TR Split AC as in item no.1 above, duly primered with red oxide and spray-painted with 2 coats of synthetic enamel paint with anti-vibration rubber pads incl. civil foundation work if & as needed. (To be operated only if required and not to be paid when standard mounting brackets are used)	10 Nos.
3	Supply & fixing of adequate sized Refrigerant Copper Piping between indoor & outdoor units for 2.0TR Split AC as in item no.1 above (beyond 4.0Mtr. as already considered in item no.1 above) duly insulated with close cell elastometric foam or 9mm nitril rubber tubular Superlon insulation as per manufacturers design & specs. incl. all required hardware & material, etc. complete.	30 Mtrs.
4	Providing & Fixing Electrical & control cable of Stranded Copper Conductors, FR PVC insulation of adequate size (Min.3Cx2.5sq.mm or as per manufacturer's standards as in the respective AC unit as in item no.1 above) between indoor & outdoor units beyond 4.0Mtr. as already considered in item no.1 above. (Polycab / Finolex / other equivalent make with ISI mark)	30 Mtrs.
5	Supplying & fixing rigid HDPE/CPVC heavy duty drain water piping of adequate size (Min. 25mm dia) with accessories & fittings, duly insulated with elastometric foam, etc. complete as per the design and specifications of the AC manufacturer incl. all required accessories beyond 4.0Mtr. as already considered in item no.1 above. (Supreme / Astral / Finolex / Surya other equivalent make with ISI mark)	30 Mtrs.

Sl. No.	Description of item	Quantity	Make & Model offered (To be entered by bidder)
01.	Hi-Wall Split Type Air-Conditioner of 2.0TR capacity with inverter technology strictly as per sl. no.1 above. (Provide all the details of the items offered)	10 Nos.	

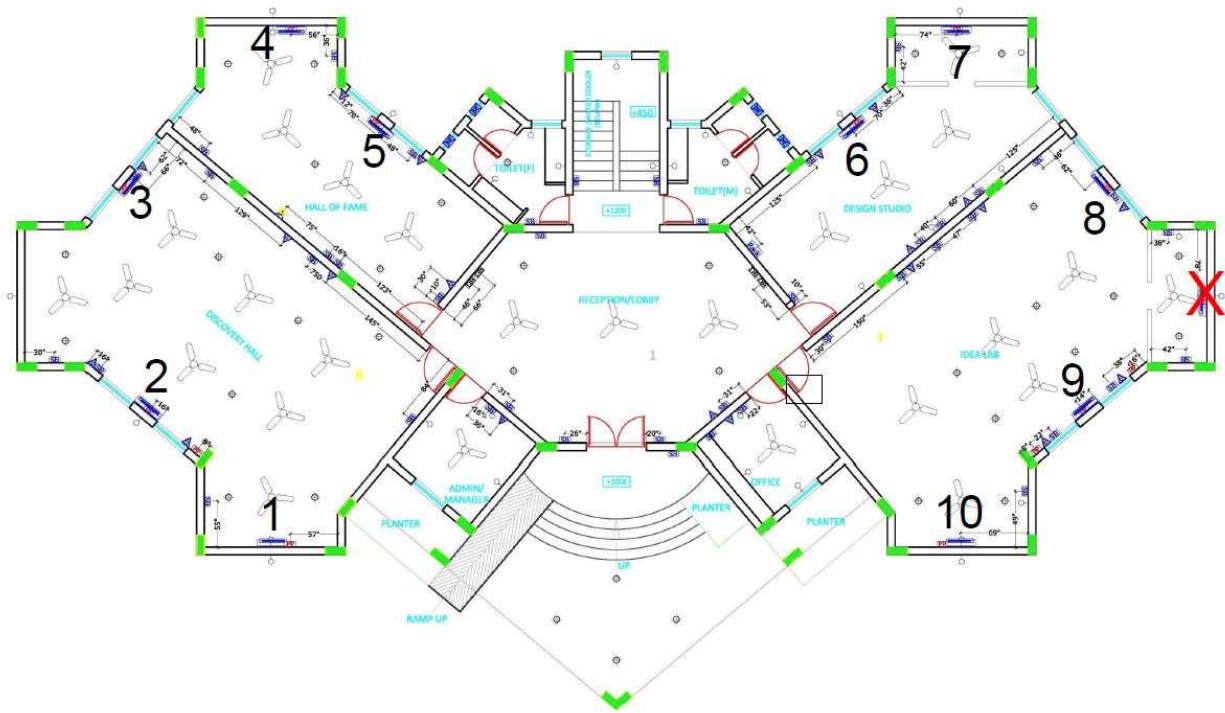
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Drawing (Switches & Data Point Layout)

INNOVATION HUB AT SUB-REGIONAL SCIENCE CENTRE, JODHPUR, RAJASTHAN



SPLIT AC IDU LOCATION MAP

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OTHER TERMS AND CONDITIONS

1. The tenderers MUST carefully go through the drawings, various clauses of the tender, technical specifications; BoQ, etc. and should make his offer comprehensive to fulfil all of them and to complete the work in true sense.
2. Tenderers may **visit the site, if necessary**, before quoting their rates if they feel it necessary to understand the nature of work and condition of the site.
3. **The quantities shown in the BoQ are only probable & indicative and actual quantities of work may vary to any extent and** the successful tenderer will ascertain before procuring any material, especially light fittings & fans, ACs, etc. at site for execution. No change in accepted unit rates will be admissible on variation of quantities to any extent on either side.
4. The quoted rates shall be inclusive of all taxes & duties; cost of all material & accessories for erection, connections, testing, commissioning; required labour including skilled manpower for execution and supervision of the work; tools, tackles, plant & machineries required for the work including their transportation; etc. All contingencies, breakage, wastage, sundries, scaffolding, etc. complete shall also be taken care of in the quoted rates including **a comprehensive maintenance of the installation as mentioned for 1 year** from the date of satisfactory completion and handing over.
5. **The works shall be carried out as per the latest relevant CPWD specifications for electrical and air-conditioning works, all relevant IE rules & regulations & BIS recommendations.** The quoted rates shall include for carrying out all works as per relevant standards and specifications whether so is specifically mentioned or not.
6. All expenses towards mobilization & demobilization of site including workforce, material, clearing of site, etc. shall be deemed to be included in the quoted rates.
7. **All material to be/used in the work** incl. their makes apart from those mentioned in the 'List of Approved/Acceptable Makes of Material' shall be **subject to approval & acceptance of the Engineer-in-charge/competent authority.**
8. The contractor shall be responsible for protection of the existing underground electrical, telephone & other cables, water lines and other services while working at the site. Any damage whatsoever done to such services shall be mended good by the contractor at his cost.
9. **The contractor shall take all necessary precautions for the safety including in the electrical safety of all workers while working and their health as special protection & precautions are necessary in such works.**

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10. Only the specified / acceptable makes of material shall be used in the work. For any kind of deviation from those mentioned in the tender in respect of makes of material and/or catalogue numbers as in the BoQ; **a prior approval of the Engineer-in-charge/competent authority MUST be taken.**

11. Duly endorsed **Warranty Certificates from the manufacturer/dealer MUST be handed over to NCSM** before submitting the FINAL BILL.

12. Defects reported to the tenderer during the **Defects Liability Period of 01 Year** MUST be attended to within 48 hours of reporting.

13. Beyond the unit prices, no extra amount will be payable on any ground.

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