

## PART-1

### Price Bid Sheet I Of NIT -IGIMS/EW/E-Tender /119/2017

Name of the work-Revamping of AHU and other work of Modular OT no 7 and 8 at IGIMS at IGIMS. Patna-14

Estimated cost ₹	59,09,122.00
Earnest Money Deosit₹	1,18,500.00
Cost of B.O.Q.₹	10,000.00
Time of completion in days	90 days
Last day for submitting and uploading Tecnical and price bids on e portal <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a>	27/06/2017 up to 16.30 hrs
Last day for submitting hard copy of Technical & Price bids in Director's office	28/06/2017 up to 15.30 hrs
<a href="http://www.eproc.bihar.gov.in">Date and place of opening the Technical Bid on www.eproc.bihar.gov.in</a>	29/06/2017 at 15.30 hrs
Date and place of opening thePrice Bid on <a href="http://www.eproc.bihar.gov.in">www.eproc.bihar.gov.in</a>	As per NIT

**Bidders are requested to quote their minimum % rate above or below or at estimated rate for following Schedule items**

Sr. No.	Description of item	Unit	Quantity	Rate ₹	Amount ₹
1	Supply of 1.1 Kv 3.5 core 95 sq.mm XLPE /PVC insulated PVC Sheathed ( heavy duty) armoured electric cable with aluminium conductor (BSR 2210)	Meter	120	658	78960
2	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.				
a)	4 x 16 sq.mm + 1 x16 sq.mm earth wire (BSR 1.7.2)	Meter	60	1060.00	63600
3	Laying and fixing of one number PVC insulated and PVC sheathed /XLPE power cable of 1.1 KV grade of following size on wall surface as required				
a)	Above 35 sq.mm and upto 95 sq. mm (Clamped with 1 mm thick saddle (BSR 7.4.2)	Meter	120	55	6600
4	Supplying and making end termination with brass compression gland and aluminium lug s for following size of PVC insulated and PVC sheathed /XLPE aluminium conductor cable of 1.1 KV grade as required				
a)	3.5 core 95 sq mm (45 mm) (BSR 9.1.24)	Each	8	482	3856
5	Earthing with G.I. earth plate 600 mm x 600 x 6 mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe 2.7 metre long etc with charcoal /coke and salt as required.(BSR 3.4)	Each	4.00	5520.00	22080
6	Providing and fixing 25 mm x 5mm GI Strip on surface or in recess for connection etc. as required(BSR 3.15)	meter	240.00	141.00	33840
	Total schedule Amount ₹				208936

I/we offer in Figures..... in words..... % (Percentage) High / Less/Estimated rate on schedule items which is as mentioned above.

In figure

In words

High/Low /as per estimated schedule items

Bidders should Quote their minimum item wise rate for following Non schedule items					
Sr. No.	Description of item	Unit	Quantity	Quoted Rate ₹	Amount ₹
A)	<b>AHU system</b>				
	AIR COOLED VRV UNITS (WITH HEAT PUMP)				
7	OUTDOOR UNITS (HEAT PUMP TYPE)				
	<p>Supplying, installing, testing and commissioning of aircooled variable refrigerant volume modular type airconditioning out door unit system with R-410A refrigerant suitable for 415±10%, 50 cycles as per detail given in specifications and having following items :</p> <p>Modular type outdoor units equipped with highly efficient all inverter type Hermetically Sealed scroll type compressors, low noise condenser fan housed in compact housing duly powder coated, Cooling Capacity 95500 Btu/h , Heating capacity 107000 Btu/h, Air flow 165 cubic meter /min Sound level not more than 57 dB(A), operation range cooling -5 to 49 degree C DB, heating -20 to 15.5 degree C WB.</p> <p>The cost includes all loading, unloading, transportation, construction of foundation, power cabling/wiring etc as per requirement</p>	Each	4.00		0.00
	<b>INDOOR UNITS</b>				
	<p>Supply, installation, testing and commissioning of AHU unit with cordless/cordless remote controller. Fully Factory assembled, wired and tested Indoor Units as per specifications and as required to make the system complete. Floor Mounted Double skin with fan section, fan motor, cooling coil with coil section, with face and by pass dampers complete with blower, blower section filter section with microvee filters &amp; pre - filters complete with motor, drive package etc. The capacity of the AHU suitable for 125mm WG static pressure for OT's etc as required ( without Hepa filters as it will be installed at terminal in OT's) 3500 CFM/to suit at site. It must be compatible with the outdoor unit as mentioned in sr. no.1 ( Make:- ZECO/EDGTECH/WAVES/FLAKWOOD or equivalent as per following details</p>				
	AHU Casing - frame work Aluminium, Floor mounted, Panel construction Outer skin- minimum 0.8 pre-coated GI, Inner skin Minm 0.63 mm Plain GI, Panel Thickness 46 mm Insulation 40+/- 2KG/square meter 43 mm thick CFC free PUFF. All panels Sealed with framework by heavy duty O ring gasket. All panels detachable or hinged made of die cast aluminium with stainless steel pivots.				
8	<p>Fan motor 440 v 3 phase, Minimum 5.5 Kw, explosion proof type with F class insulation and IP 55 protection Siemens / ABB/ Crompton of suitable RPM . Drive to fan provided through belt drive arrangement. Belts should be oil resistant</p>	Each	2.00		0.00
	<p>Supply air fan Centrifugal type conforming to AMCA 210 fan double width double inlet with forward inclined Aerofoilly designed and suitable for required operating pressure. Fan casing made of galvanised steel sheet. Fan shaft should be of grounded C 40 carbon steel. outlet velocity minimum 8.09 m/s Air Volume 3500 CFM unit, Make-Nicotra/DIDW</p>				

	Evaporator coil - Direct Expansion 8 row deep size 635 mm x 1170 mm ,having 12.5 to 15 mm dia. Copper Tubes minimum 24 SWG thickwith sine wave aluminium fins firmly bonded to copper tubesassembled in zinc coated steel frame. Face and area should ensure rated capacity from each unit and air velocity across the coil not exceeding 150 meters/ minute . Each coil tested at minm 21 kg/Square meter. fin spacing 4-5 fins/cm				
	Each filter unit should be factory assembled containing washable synthetic type air filter having anodised aluminium frame . Media supported with HDP mesh. Easily drawable and accessible . Filter banks face air velocity maximum 100 m / minute. Differential pressure switch must be fixed across the filer bank as part of AHU				
9	<b>SITC of expansion valve and Casual dryer, etc as required</b>	Each	4.00		0.00
10	<b>SITC outdoor MS stand for for condensing unit at etc as required</b>	Each	4.00		0.00
11	Room temperature meter	Each	2.00		0.00
	<b><u>REFRIGERANT PIPING</u></b>				
12	Supply, installation, testing and commissioning of Interconnecting refrigerant pipe of seamless DHP copper tubework with ( 19mm thick) closed cell elastomeric nitrile rubber tubular insulation between each set of indoor & outdoor units as per specifications, all piping inside the room shall be properly supported with hangers and all external piping with UV coating shall run in cable tray.				
a)	19.05 mm with 13 mm thick nitrile rubber insulation	Meter	14.00		0.00
b)	28.58 mm with 19 mm thick nitrile rubber insulation	Meter	10.00		0.00
c)	41.2 mm with 19 mm thick nitrile rubber insulation	Meter	10.00		0.00
	<b><u>TRANSMISSION &amp; CONTROL WIRING</u></b>				
13	Providing & fixing control cum transmission wiring in medium duty PVC Conduit between indoor and outdoor units.				
a)	2C x 1.5 Sq mm Copper Cable	Meter	54.00		0.00
14	Supply and fixing of Perforated GI Tray with hangers & supports for copper piping (250 mm wide)	Meter	20.00		0.00
15	Supply , charging & Leakage testing of refrigerant -410A in additional copper piping circuit.	kg	16.00		0.00
	<b><u>DRAIN PIPING</u></b>				0.00
16	Providing & fixing rigid PVC piping complete with fittings, supports as per specifications and pre insulated with 6mm thick closed cell elastomeric nitrile rubber tubular insulation.				0.00
a)	32mm dia	Meter	15.00		0.00
	<b><u>Ducting work</u></b>				
17	Site fabricated rectunglar aluminium ducting free from costruction debris. All the curves and bends should ensure easyn flow and air tight by applying silicon sealent after fabrication. It should be complete with hangers, anchor fasterns, GI coated rods which will not be more than 2.5 meters apart . Jooinets should be lapped with Nitrite Rubber tape or better insulationl. Make Aluminium Ducting : Hindalco/Balco/ Nalco Thermal Insulation-Aflex/Kflex/Armcell				
a)	Duct of Aluminium Sheet,20 Gauge (0.81 mm thick) Brand- Hindalco	Sq. meter	25.00		0.00
b)	Duct of 22 Gauge (0.65 mm thick) Brand -Hindalco	Sq. meter	25.00		0.00
12	Supply & installation of powder coated Aluminium grills and Diffuser				0.00
a)	With volume control damper	Sq. meter	2.00		0.00
b)	Without volume control damper	Sq. meter	2.00		0.00

18	Supply and fixing of Thermal insulation for duct with UV filmed chemically crossed linked closed cell Polyethylene XPS Fire retardent grade insulation for supply and return air duct				0.00
a)	15 mm thick	Sq. meter	50.00		0.00
19	Supply instalation testing & commissioning of iron sheet steel powder distribution panel board , fabricated with 16 SWG CRCA sutable for drawable mounted switch gear including 300 Amps alluminium bus bar chamber ,insulator, volt meter, Ampre meter digital type meter ,indicator lamp(RYB) MCCB ,confirms to IS/IEC 60947-2 containing following Incomer and Outgoing MCCB cubicles a) Incomer 1 no. 4 pole MCCB 200-250 Amps with thermal magnetic release breaking capacity 50 KA suitable for Isolation ,(L Cat no.L & T DU -250 CM 98065OOPQ or equivalent) and b) Outgoing as per following (1) 3 Nos outgoing each having 4 pole 63-80 Amp MCCB (Cat no.L & T DU -100 H CM 9793300H or equivalent) (2) 3 Nos outgoing each having 4 pole 16-20 Amp L & T MCCB suitable for isolation ,(3) 3 Nos motor starting cubicle each consisting of 1 No. motor protection circuit breaker 20 Amp ( L & T cat ST419350000) 3 pole contactor L&T ML-1.5 1 set start stop switch. Panel should be of size 2000x1980x350mm size along with digital ammeter and volmeter unit and CRCA painted by 7 process tank.	Each	2.00		0.00
20	Three Phase Dry type 100 kva 415 volt 3 phase Servo voltage Stabilizer having H class insulation. Input voltage range 300 v-460 volt, Out put- 400 volt+/_ 1 %, Salient Features- High efficiency & Fast response. Wide input voltage range trip conditions. 99.99% failure proof control circuit. No over under, shoots and hunting. Built in bypass switch upto 250 Kva. Less active component avoids failure ratings. Special electronic circuit to operate on Generator sets. No effect of power factor and frequency variations. Voltage at speed related to rate of fluctuations and avoids oscillations & hunting In ac motor drive. Variable speed high torque ac servo motor proportionally controls corrections. Rugged and smooth ac motor drive control through optoisolator circuit which is Highly reliable. Separate isolated PCB for triac switching for motor. Protection: Input and Output Low/high Voltage protection, Phase rotation/single phasing preventer. Input protection using MCCB. Electronic overload protection.	Each	2.00		0.00
<b>B)</b>	<b>Other items required OT</b>				0.00
21	Antibacterial Paint water based liquid plastic aseptic and self sterilizing wall coating to a d f. T of 300 micron with primer	Sq. meter	174.00		0.00
22	Peripheral Light recess mounted IP 54 protocal , non hygroscopic having suitable LED to fit in the existing sloot	Each	4.00		0.00
23	Hepa Filter dust spot efficncy 99.99 % 0.3 micron, made out of perforated SS 304 sheet	Each	12.00		0.00
24	Diffuser Cloth a fine meshed fabric for laminar displacement flow. The element will be removable, and ca be easily replacable and disinfected as per required size	Each	2.00		0.00
25	Doctor entry door sealing with Suitable gasket	Each	2.00		0.00
26	X-ray view box on/off PCB	Each	2.00		0.00
27	Providing viberation isolation pad for AHU	Each	2.00		0.00
28	Charge of making PCC foundation for AHU inclung all related matterials	Each	2.00		0.00

29	SITC of humidification packkage comprising of Pan type humidifier with humidification tank, heaters, inernal control wiring etc complete in all respect	Each	2.00		0.00
	Total Amount ( Non Schedule items) ₹				0.00
	Additional VAT On schedule items @ 3%				
	Total schedule + non schedule ₹				
	Labour cess @ 1 %				
	Total Amount ₹				
Name and Address of the Bidder:					
<b>PART-2</b>					
Price Bid shhet 2 (CMC) Of NIT -IGIMS/EW/E-Tender /119/2017					
Bidders are requested to submit their minimum rates for the following work					
months (valid for 3 consecutive years only)					
Sr. No.	Description of the work	Unit	Quantity	Quoted rate ₹	Amount ₹
1	Complete comprehnsive maintenance of AHU of Modular O.T.	Each AHU/year	2		0
Name and Address of the Bidder:					