

**UNIVERSITY OF KERALA****ENGINEERING UNIT**

**Tender Schedule for Air conditioning works related to the renovation of Question Paper room in the CE Building, SH Campus, Palayam.(Retender)**

<b>Sl. No</b>	<b>Item Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Rate / Unit</b>	<b>Rate in Words</b>	<b>Amount</b>
	<b>1 Air conditioning</b>					
1	od191261/2020_2021 Supply, conveyance, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular / round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports, etc as per approved drawings and specifications of following sheet thickness complete as required. Site fabricated GSS sheet metal rectangular ducting as per IS 655-2006 for 0.63 mm thick. (24 gauge)	30	sqm			

2	<p>od191262/2020_2021</p> <p>Supply, conveyance, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular / round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports, etc as per approved drawings and specifications of following sheet thickness complete as required. &lt;br&gt;Site fabricated GSS sheet metal rectangular ducting as per IS 655-2006 for 0.80 mm thick. (22 gauge)</p>	5	sqm			
3	<p>od191266/2020_2021</p> <p>Supply, fixing and testing of acoustic insulation for Supply Air Ducts using 10 mm thick open cell processed, fire retardant nitrile rubber having density of 140-180 kg/m<sup>3</sup> after applying suitable adhesive for nitrile rubber and with Microban certified anti-microbial protection etc. complete as required and as perspecifications</p>	5	sqm			

4	od191267/2020_2021 Supplying and providing flexible canvass connection for interconnecting IDU and Supply Air Ducts using suitable gauge fabricated at site GSS sheet metal rectangular / round ducting and fire retardant canvass cloth, secured to the galvanized sheet metal on either side by a double lock seam is inserted between the equipment / air duct & the ductwork to provide a wear resistant airtight flexible connection to eliminate vibrations, noise & rattles complete as required as per specifications. 	1	E			
---	---	---	---	--	--	--

5	od191268/2020_2021 Supplying and fixing 9 mm thick closed cell elastomeric Nitrile foam rubber having a density of 40-60 Kg/m <sup>3</sup> (class "O") insulation on the existing Supply Air Duct after applying two coats of cold setting adhesive (CPRX compound). The joints shall sealed with 50 mm wide and 3 mm thick self adhesive nitrile rubber tape insulation and having Microban certified anti-microbial protection complete as per specifications and as required	30	sqm			
---	--	----	-----	--	--	--

6	od191269/2020_2021 Supply and providing adequate length of suitable sizes of superior quality hard drawn bright annealed copper refrigerant pipes (for suction and discharge) suitable for VRV / VRF application for connecting the refrigerant piping between ODU and IDU of the ducted AC unit including properly insulating the copper pipes with suitable size closed cell Class "O" elastomeric nitrile rubberized foam sleeve insulation and the joints sealed with self adhesive nitrile rubber insulation with proper mechanical fixing including brazing, pressure check, leak testing etc as required.	15	m			
---	---	----	---	--	--	--

7	<p>od191270/2020_2021</p> <p>Supply and drawing the following sizes of multi-core PVC insulated &amp; FRLS PVC sheathed 650 / 1100 V grade copper conductor round flexible cables conforming to IS 694 part I 1960 as power cable connection for ODU of the AC unit with necessary supports and PVC conduits including giving connections etc complete as required.&lt;br&gt;4 core 6.00 sq. mm</p>	10	m			
8	<p>od191271/2020_2021</p> <p>Supply and drawing the following sizes of multi-core PVC insulated &amp; FRLS PVC sheathed 650 / 1100 V grade copper conductor round flexible cables conforming to IS 694 part I 1960 as control cable for connecting IDU and ODU of the AC unit with necessary supports and PVC conduits including giving connections etc complete as required.&lt;br&gt;3-core 2.50 sq. mm</p>	20	m			

9	<p>od191272/2020_2021</p> <p>Supply and drawing the following sizes of multi-core PVC insulated &amp; FRLS PVC sheathed 650 / 1100 V grade copper conductor round flexible cables conforming to IS 694 part I 1960 as communication cable connection between IDU and ODU of the AC unit with necessary supports and PVC conduits including giving connections etc complete as required.&lt;br&gt;2 core 0.75 sq. mm</p>	20	m			
10	<p>od191273/2020_2021</p> <p>Charges for topping up of refrigerant gas R-410A after necessary leak testing, pressure holding of nitrogen to 500 PSI and vacuuming out the nitrogen from system etc complete as required.</p>	6	kg			
11	<p>od191274/2020_2021</p> <p>Supply and providing 40 mm dia PVC drain pipe (6 Kg F / cm<sup>2</sup>) with all required accessories including 9 mm nitrile sleeve insulation to condensate drain water and also cutting and making good the walls, colour washing etc connecting to the nearest drain point complete as required</p>	10	m			

12	od191275/2020_2021 Supplying, installation and testing of fresh air opening duct with bird and cowl screen with damper arrangement out of aluminium construction along with wire mesh for all ducted indoor units etc complete as required	1	E			
13	od191276/2020_2021 Supplying and providing under deck insulation with 13 mm Class "O" nitrile sheet with adhesive and tightened with suitable fasteners and screws on regular intervals complete as per specifications and as required (only duct and machine area).	30	sqm			

14	<p>od191280/2020_2021</p> <p>Supply,Installation,Testing and Commissioning of 5TR air cooled inverter type ductable split air conditioner with inverter scroll compressor, full copper evaporator and condenser coils, microprocessor control box,full charge of refrigerant gas as per OEM standards, safety devices,like HP/LP cutout,single phase preventor,overload relays,R-410A gas,Vibration isolation pads,necessary ribbed rubber pads etc complete as required at site.</p>	1	E			
15	<p>16.17</p> <p>Supplying, fixing testing commissioning of supply air diffusers of powder coated aluminum with aluminum volume control dampers with anti smudge ring and removable core.</p>	1.5	m			
16	<p>16.18</p> <p>Supplying, fixing testing commissioning of Return air diffusers of powder coated aluminum without volume control dampers with anti smudge ring and removable core.</p>	1.5	m			

17	od236662/2020_2021 Supply and fixing Drain tray with insulations for indoor units with PVC connection etc..as per the site requirement	1	E			
	TOTAL					
	<b>GRAND TOTAL</b>					<b>292727.00</b>

**PAC Rs2,92,727/- (Rupees Two Lakhs Ninety Two Thousand Seven Hundred and Twenty Seven Only)**

I/We agreed to execute the work at quoted rates

**CONTRACTOR**

sd/-  
**UNIVERSITY ENGINEER**