



# KERALAM MUSEUM OF HISTORY & HERITAGE

## Park View, Thiruvananthapuram-33

(Nodal agency of all museums under Cultural Affairs Dept. Govt. of Kerala)

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**KIM/8/Tender/2015-16**

**Tender Notice**

**15-12-2015**

Sealed tenders are invited from eligible Contractors/Firms for the work “Providing additional Electrical installations in the Museum Hall, Replacement of defective cables and post top lanterns at Pazhassy Kudeeram, Mananthavady”

PAC Rs. 2,18,218/-

EMD – 5500/-

Cost of tender form Rs. 400/-

Last date of submission of tender : 23-12-2015, 5 pm

Last date of opening of tender : 29-12-2015, 11 pm

Period of completion : 1 Month

EMD shall be enclosed by way of demand draft in favour of Executive Director, Interactive Museum of Cultural History of Kerala. Tender forms will be sold in office hours from 17-12-2015 and details will be available in website

[www.museumkeralam.org](http://www.museumkeralam.org)

**Executive Director**

PROVIDING ADDITIONAL ELECTRICAL INSTALLATIONS IN THE MUSEUM HALL , REPLACEMENT OF DEFECTIVE CABLES AND POST TOP LANTERNS AT PAZHASSY KUDEERAM, MANANTHAVADY						
ESTIMATE						
Sl.No	Specification	QTY		Rate	Unit	Amount
1	Supplying and fixing 20mm dia medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.	m	80.00	85.00	m	6800.00
2	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FR PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required					
2.1	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	m	50.00	160.00	m	8000.00
2.2	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	m	30.00	243.00	m	7290.00
3	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection etc. as required. (For light plugs to be used in non residential buildings).	E	2.00	432.00		864.00
4	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB/pillar box complete with connections, testing and commissioning etc. as required.	E	24.00	192.00		4608.00
5	Supplying and fixing following way prewired vertical type TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box of sheet steel, dust protected, duly powder painted, inclusive of 200 amps tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCB's, terminal connectors for all incoming and outgoing circuits, duly prewired with adequate size of FR PVC insulated copper conductor upto the terminal connector/ neutral link, earthing etc as required (But without MCB/ RCCB/ Isolator). (Note : Prewired vertical type MCB TPDB is normally used where 3 phase outlets are required.)					
5.1	6 way Double door	E	1.00	12014.00	Each	12014.00
6	Providing and fixing 2.65 mm dia copper wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable as required.	m	180.00	43.00	Metre	7740.00

7	Providing and fixing 3.15 mm dia copper wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable as required.	m	50.00	62.00	m	3100.00
8	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.					
8.1	Upto 35 sq. mm (clamped with 1mm thick saddle)	m	180.00	27.00	Metre	4860.00
9	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.					
9.1	Upto 35 sq. mm	m	40.00	157.00	Metre	6280.00
10	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required.					0.00
10.1	Upto 35 sq. mm	m	10.00	18.00		180.00
11	Supply of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following sizes					
11.1	2 core 6 Sqmm	m	180.00	115.00	Metre	20700.00
11.2	4 core 16 Sqmm	m	60.00	220.00	Metre	13200.00
13	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.					
13.1	2 X 6 sq. mm (19mm)	E	14.00	150.00	Each	2100.00
13.2	4 X 16 sq. mm (28mm)	E	2.00	256.00		512.00
14	Supply and installation OUT DOOR feeder pillar Box ( Sintex make GSJB-3525 of size388x304x170mm/equivalent ) comprising 1 No 1 phase way double door MCBDB with 1No 40 A 2 pole 100mA RCCB and 1 No 40 A 2 pole miniature type isolator as incoming and 4 Nos 6/10 A SP MCB C Curve as outgoing fixing the same on existing concrete foundation using suitable size Angle iron frame etc as required ( outdoor feeder pillar box for post top lanterns )	E	1.00	7072.00	Each	7072.00
15	Supply and installation OUT DOOR pillar Box ( Sintex make GSJB-1414 of size170x170x105mm/equivalent ) with hinged door and DIN rail for fixing MCB ,fixing the same on existing GI post using suitable size painted flat iron clamps etc as required ( outdoor feeder pillar box for controlling post top lanterns )	E	14.00	596.00		8344.00

16	Supply and installation of 30 W LED Flood light fittings complete with all accessories, fixing the same on existing concrete foundation supported by suitable size angle iron frame and giving connections with existing wire as required (Bajaj make MAGNUM BJFL/Equivalent make of philips/crompton)	E	2.00	12966.00	Each	25932.00
17	Supply and installation of weather proof anticorrosion Wall/ Ceiling mounted Opal colour decorative, oval shape engineering plastic housing with PC cover suitable for 15 W Retrofit CFL complete with all accessories, fixing the same on wall and giving connections with existing wire as required (HAVELs make OVALE-2/Equivalent make of philips/crompton)	E	5.00	1567.00		7835.00
18	Supply and installation of Energy efficient surface mounted LED luminarie (600x600mm), fixing the same on ceiling after dismantling the existing fittings using suitable size screws with washers and giving connections with existing flex wire etc as required ( Philips make Cirrus SM 365 C LED-34-5000 PSE-OD GR Grey/white colour/crompton/ Bajaj)	E	2.00	10457.00		20914.00
19	Supply of cast aluminium body with stove enamelled and transparent acrylic cover Wall Lantern with two pin ABS holder , 20 W CFL and cover. ( MEPRO make Wall Lantern Cat.No.PTL-77)	E	14.00	2209.00	Each	30926.00
20	Supply and providing the following types and power rated <i>lamps</i> in the existing fittings as required					0.00
20.1	Spiral 15 W BC / ES retrofit CFL	E	25.00	248.00	Each	6200.00
21	Earth work excavation in <i>hard soil</i> and depositing with a lead up to 50 m and lift up to 1.50 m including neat banking	m3	1.00	270.00	m3	270.00
22	<i>Cement concrete 1:2:4</i> using 20mm (nominal size) broken stone <i>for reinforced concrete work.</i>	m3	1.00	7187.00	m3	7187.00
23	<i>Plastering</i> with cement mortar 1:4, 12mm thick one coat.	2	2.00	250.00	m2	500.00
24	Supplying , threading , laying and jointing 32mm dia 6 kgf/cm2 PVC <i>pipe</i> with all required accessories <i>in ground in the existing trench</i> as protective covering to earth leads.	m	40.00	41.00	m	1640.00

25	<i>Supply and clamping 32mm dia 6 kg/cm<sup>2</sup> PVC pipe on wall with all required accessories and clamps including cutting and making good the walls, colour washing etc. as required as protective covering to cables.</i>	m	30.00	53.00	m	1590.00
26	<b>Providing and fixing plain 16/0.30mm 3 core circular flexible FR PVC insulated, PVC sheathed copper cable direct on the wall with PVC clips etc. as required.</b>	m	60.00	26.00	m	1560.00
	<b>Total</b>					<b>218218.00</b>

## **SPECIFIC CONDITIONS**

### **A. General Conditions**

#### **1. Wiring**

1. Wiring shall conform to IS 732 wiring shall not cross room through roof slab
2. Light wiring and power wiring shall be segregated
3. The points of connection in wires shall be properly soldered
4. If different materials happen to come at a connection point, corrosion inhibiting compound shall be applied.
5. Bare copper conductors which come close to live exposed portions inside switch boards/DB etc. shall be sleeved and connected using suitable sockets.
6. Wires and copper conductors which come inside switch boards/DB etc shall be properly clipped with suitable ties, neatly arranged and dressed before giving connections.

#### **2. Fixing Conduits**

- a. PVC pipes shall be clamped with GI saddles/painted MS saddles/PVC spacer saddles, spacing of clamps shall not exceed 60cms. For fixing saddles clips, minimum 30mm MS screws shall be used. Fibre plug/raw plug/phil plug alone will be permitted to fix screws and holes for providing plugs are to be drilled properly. Under no circumstances wooden pegs will be permitted.
- b. For fixing conduits in recess, grooves to the required depth shall be cut and pipes saddled in the grooves as is done for capping in surface. It can be fixed with staples also. In either case the spacing between saddles clips/staples shall not exceed 60cms. After fixing conduits as described the groove is to be filled and plastered with 1:6 Cement Mortar and the surface finely finished.
- c. All the junction boxes shall be screwed and fixed to the wall/ceiling
- d. Conduits shall be fixed with saddles at distance not exceeding 30 cm from a conduit accessory.
- e. The size of conduits shall be so fixed as to hold number of wires as stipulated IS 732.
- f. Layout of the conduits shall be so arranged so as not to disturb the aesthetic view of the building.

- g. Male/Female adopters shall be provided for the proper termination of PVC conduits they are in open position.

### **3. Fixing Switch Boards**

- a. Normally switch boards shall be fixed at a height of 1.35m from ground level. It can be lowered to a height of not less than 30cm from the ground level. The position of the switch board shall be fixed according to the directions of the field officers concerned.
- b. M.S. Boxes shall be fabricated from 16 SWG MS sheet duly painted with 2 coats of synthetic enamel paint over a coat of red oxide primer. The front side shall be fold and provided with taped holes for holding screws. Necessary knockouts shall be provided for the entry of conduits. 25x3mm brass bolt with nut shall be provided before they are fixed. Where M.S. Boxes are fixed on surface, they shall be fixed with adequate No. of 30mm M.S. screws.
- c. Front covers with 3mm, thick hylam sheet are permitted for switch boards of size only up to 300x200mm for switch boards of sizes 375x300mm and above 6mm thick hylam sheets shall be used. The hylam sheets shall be screwed to the box using 20mm steel/OD. Plated screws with cup washers.
- d. Screws shall be provided in variably at all corners while fixing hylam sheet cover. Under no circumstances, the spacing between adjacent screws shall exceed 150mm.

### **4. Fixing Accessories**

- a. Accessories such as switches, plug sockets, fan regulators etc. are to be arranged on hylam sheet cover in such a manner that there shall be a clear space of 25mm along the periphery on all sides. There shall be a clear space of at least 6mm in between individual switches/sockets etc. as the case may be. The spacing between adjacent fan regulators and between regulators and switches/plug sockets shall be 25mm. Size of the switch box shall so selected so as to have this spacing when the accessories are arranged.
- b. Only one row of switch/plug sockets shall be arranged on a switch board.
- c. The accessories shall be rigidly fixed to the hylam sheet using suitable size nut and bolt.
- d. Ceiling rose can be screwed directly to conduit outlets.

### **5. Fixing lamps/fittings/call bells/fans etc.**

- a. Batten holders can be fixed directly to conduit outlets.
- b. Bulk head fittings can be fixed either in recess or surface using 30mm iron screws.
- c. Mirror lamp can be fixed directly on wall using 30mm screws.

- d. Bracket fittings can be fixed on MS boxes with hylam sheet cover. The MS box as well as the fittings shall be earthed. Bracket shall be fitted using bolt and nut.
- e. Round block for suspending fluorescent fitting shall be screwed using 2 nos. 50mm M.S. screw and the fittings shall be screwed to the reaper using 20mm MS screws.
- g. Fan clamps to be fitted as per ISS.

**6. Installation of DBs.**

- a. DBs shall normally be fixed at a height of 1.5m from ground level. Two DBs shall not be at a distance less than 2m.

**7. Cabling.**

- a. Cables shall conform to IS 1554 and shall have ISI marking.
- b. Cables shall be laid conforming to relevant IS specification.
- c. At points of road crossing, cables are to be drawn through GI pipes laid at a depth of 1m.

**8. Panel boards/meter boards**

- a. Smaller size panel boards shall be fabricated using 1.6mm MS sheet and bigger size boards using 2.0mm MS Sheet
- b. Separate space for mounting metering equipment to and indicators are to be provided.

**9. Earthing**

- a. Earthing shall conform to IS 3043/1987

**10. Identification**

- a. Identification letters shall be written legibly in English language with white enamel paint on switch board up to DBs cable.

**11. General Requirements**

- a. The contractor shall conduct at site tests and furnish test results as specified in IS 732.
- b. As fitted drawing shall be submitted (3 copies) to the department.
- c. He shall prepare schematic diagrams, plans etc, required for submission to electrical inspectorate. He shall also follow up with electrical inspectorate and KSEB for getting the installations energized immediately on completion of work.
- d. The contract's supervisor shall be at site.



**B. Special Conditions**

1. The project is a time bound one. The selected contractor shall complete the work in all respects according to the time schedule appended herewith maintaining top quality of work.
2. The contractor shall produce samples of all materials and get the confirmation from the departmental officers concerned before starting the work.
3. As far as possible, same brand of products shall be used for the entire works (which have been approved. If, under any circumstances, the contractor intends to change the brand prior approval in writing shall be obtained from the departmental officers)
4. As per GO (MS) No. 73/2013/PWD dated 31-08-2013 the defect liability period of the electrical works will be as follows:
  - a. Original works - 36 Months
  - b. Special repairs - 18 Months
  - c. Ordinary repairs and maintenance - 6 Months