

CENTRE FOR PERFORMING ARTS AT VARKALA

ELECTRIFICATION WORKS

PART - III

PART A

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
1)	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required.				
a)	Group C	102	point		
2)	Supplying and fixing of following sizes of 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.				
a)	20 mm	2000	Metre		
b)	25 mm	200	Metre		
c)	32 mm	60	Metre		
3)	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/recessed steel / PVC conduit as required.				

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
a)	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	1700	metre		
b)	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	225	Metre		
c)	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	125	Metre		
4)	Supplying and drawing following pair 0.5 mm dia FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required.				
a)	2 Pair	300	Metre		
5)	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required.	150	Metre		
a)	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface/ recessed steel/ PVC conduit as required.	400	Metre		
6)	Supplying and fixing stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	23	Each		

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
7)	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	10	Each		
8)	Supplying and fixing following size/ modules, GI box along with modular base and cover plate for modular switches in recess etc as required.				
a)	1 or 2 Module (75mm X 75mm)	22	Each		
9)	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				
a)	5/6 amps switch	26	Each		
b)	3 pin 5/6 amp socket outlet	26	Each		
c)	TV antenna socket outlet	2	Each		
d)	Telephone socket outlet	3	Each		

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
10)	Supply and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 6 amps modular socket outlet and 6 amps modular switch, connection etc. as required.	4	Each		
11)	Supply and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 6 & 16 amps modular socket outlet and 16 amps modular switch, connection etc. as required.	9	Each		
12)	Supplying and fixing 3 pin, 5 amp ceiling rose on the existing junction box/ wooden block including connection etc as required.	23	Each		
13)	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 FRLS PVC insulated copper conductor upto the terminal connector/ neutral link, earthing etc as required (But without MCB/ RCCB/ Isolator).				
a)	6 way , Double door	4	Each		
14)	Supplying and fixing following way prewired TP&N MCB distribution board of steel sheet for 415 volts on surface/ recess complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required.(But without MCB/ RCCB/ Isolator)				

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
a)	6 way (4 + 18), Double door	3	Each		
15)	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	20	Each		
16)	Supplying and fixing following rating, four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
a)	40 amps	9	Each		
b)	63 amps	4	Each		
17)	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current 30 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc.as required.				
a)	40Amps	3	Each		
18)	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 complete with connections testing and commissioning etc. as required.				

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
a)	6A SP MCB	36	Each		
b)	10A SP MCB	6	Each		
d)	25A SP MCB	6	Each		
e)	25A TP MCB	8	Each		
f)	32A TP MCB	16	Each		
19)	Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top alongwith 20 amps "C" curve, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	1	Each		
20)	Supplying and installing following size of perforated pre-painted M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders or as required including bolts & nuts, bend, coupler, reducer , etc complete as required.				
a)	100 mm width X 50 mm depth X 1.6 mm thickness	415	Metre		

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
PART B					
	PANEL BOARD				
1	Fabrication of fully partitioned, dust and vermin proof enclosure for panel assembly as per form 4 of IS 8623 (with latest amendments) using 1.60 mm CRCA sheet as per approved design and requirement, with front and rear access facility, bus bar chambers,hinged doors for all switch gear compartments,earthing the doors using 4 sq mm braided copper conductor,providing necessary cut-outs for mounting meters,relays,indication lamps,busbar interconnection etc, detachable covers for bus bar chamber and cable alley,powder coating the assembly after subjecting to 7 tank process etc as required. CRCA sheet alone be used for the fabrication. Angles/flats/slotted angles etc	6	m2		
	shall not be used for fabrication of panel assembly. The measurements should be taken the area of the complete sheets used for panel board including partitions,folding,shrouding etc. including control wiring.				
2	Fabrication, supply,conveyance and installation of base frame for floor mounting type panel board using channel of class designation ISMC 75 including cutting,welding,drilling holes,painting with two coats of synthetic enamel paint over a coat of zinc chromate primer, bolting the frame to the panel and to the finished floor using required bolt and nuts, making good the damages etc. as required.	2	m		
3	Supply and providing 2 mm thick of SMC sheets in the panel as barriers & shrouding using required bolts and nuts including cutting to shape etc., as required	1	m2		
4	Supply and fixing "A" section neoprene beeding suitable for 1.60/2.00 mm sheet along the periphery of doors/other detachable compartments to make the panel assembly dust & vermin proof including sticking with glue	40	m		
5	Fabrication,supply & fixing main bus bar system and interconnections with electrolytic grade copper strips/rigid conductors conforming to IS 1867 (with latest amendments) for bus bar arrangement with single strip per phase supported on finger type bus bar supports of adequate size,spacing between supports not exceeding 50 cm & overhang not exceeding 5 cm including bending to shape,drilling holes,tinning the points of contacts,fixing heat shrinkable PVC sleeves,plated bolts and nuts with plate washers and spring washers, copper sockets for round conductors,etc., as required.	2100	cm3		

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
6	Fabrication,supply & fixing earth bus system with copper strip/conductor and connecting all accessories as per rule including tinning the points of contacts etc as required.	225	cm3		
7	125A,25/35 kA (Ics=100%Icu), 4 pole,current limiting type MCCB having thermal setting range of 80-100% with thermal magnetic release having adjustable OL	2	EACH		
8	63A,25/35 kA (Ics=100%Icu), 4 pole,current limiting type MCCB having thermal setting range of 80-100% with thermal magnetic release having adjustable OL	5	Each		
9	LED indicators for all voltage ranges-Red, Green, Black, Yellow or Orange colour	3	Each		
10	Aluminum anodised Danger notice board of size 200x150 mm, with inscriptions (both in English and Malayalam) and conventional skull and bone in red colour	1	Each		
11	Carrying out control wiring for panel with normal meters and indication lamps alone with 650/1100 V grade PVC insulated stranded single core copper conductor cables conforming to IS 694 part I 1990 for interconnecting the control devices /equipments including providing suitable size insulated sockets at the termination points or soldered properly, providing numbering ferrules for the proper identification of the wiring, keeping the wiring firm by suitable tie/tie mounts/PVC duct etc as required. 1.50 sq mm single run with required sockets.	30	m		
	EARTHING				

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
12	Supply and providing <i>plate earthing</i> as per IS 3043 with 600x600x6.3 mm GI/Cl earth plate , 50 mm GI watering pipe fixed to the earth plate with 25 x 3 mm GI clamps, GI funnel with weld mesh, filling required quantity of charcoal including construction of inspection chamber with a bed concrete of 1:4:8 PCC using 40 mm broken stone (10 cm thick),brick work in cement mortar 1:6, plastering the surface of brick masonry and the exposed surface of PCC bed with cement mortar 1:4, 12 mm thick, (the finished inside dimension shall be 450 x 450 x 450 mm) but excluding test joint,earth continuity conductor to the plate,and covering at the top.(in ordinary soil)	7	Each		
13	Supply and providing the following sizes of <i>cast iron gully trap with covering</i> at the top of the inspection chamber of earth pit as required.				
a	300 x 300 x 6 mm cast iron gully trap with covering	7	Each		
14	Supply and providing <i>test joint for the earthing system</i> using 2 nos of the following sizes of strips including cutting and bending to shape,drilling necessary holes and fixed to the watering pipe etc as required.				
a	2 x 25x 6 mm GI strip	2	m		
15	Supply and providing <i>earthlead from the test joint to the earth electrode</i> using the following sizes of conductors/strips including cutting,drilling necessary holes (incase of strip) and fixing firmly with plate test joint etc as required				
a	25 x 3 mm GI tinned at the points of contacts	28	m		
16	Supply and laying the following sizes of strips laid 0.60m below ground level including excavating trench of suitable size and refilling etc. as required (in ordinary soil)				

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
a	4.00mm copper conductor	70	M		
SUPPLY & DRAWING EARTH CONDUCTORS					
17	Supply and drawing bare earthing conductors of the following sizes along with wiring/cables and giving connection as required				
a	2.65mm copper conductor (12 SWG)	740	M		
b	3.15mm copper conductor (10 SWG)	540	M		
18	Supply of superior quality copper earth socket for the following sizes of earth conductor including crimping etc. as required				
a	2.65mm (12 SWG)	48	Each		
b	3.15mm (10 SWG)	24	Each		
19	Supply and providing the following sizes of bolt and nut with washers on the existing MS box/earth bus etc. as required including drilling necessary holes as required				
a	25x3mm brass bolt & nut	24	Each		

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
b	25x6mm brass bolt & nut	16	Each		
	METER BOARD				
20	Fabrication, supply & installation of dust and vermin proof, wall mounting, thermoplastic meter box of following size suitable for fixing KSEB meter, fuse units, CT etc., hinged door construction for the front side with compartments if necessary, providing vision panel for the meter compartment, knock out for cable tray entry and exit.				
a	600x300x214mm	1	Each		
21	Supply and fixing the following accessories in the existing meter board and giving connections etc.				
a	125A,415V,DIN type fuse base	3	Each		
b	100A, DIN type fuse link	3	Each		
c	63A,230V, 2 way neutral link mounted on DMC/SMC base	1	Each		
	CABLING				

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
22	Supply & laying of one number PVC insulated and PVC sheathed armoured aluminium power cable of 1.1KV grade of the following sizes in the existing RCC/HUME/STONEWARE/GI/DWC pipe as required				
a	4 core 6sqmm	80	M		
b	4 core 10sqmm	30	M		
c	4 core 16 sqmm	60	M		
d	4 core 25sqmm	120	M		
e	3.5 core 50sqmm	30	M		
23	Supply & laying of one number PVC insulated and PVC sheathed armoured aluminium power cable of 1.1KV grade of the following sizes using clamps noted along with the cables, spacing of clamps not exceeding 60cms, making good the damages, colour washing etc. as required				
a	4 core 6sqmm with factory made clamp	120	M		

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
b	4 core 10sqmm with factory made clamp	50	M		
c	4 core 16 sqmm with factory made clamp	30	M		
d	4 core 25sqmm with factory made clamp	80	M		
e	3.5 core 50sqmm with factory made clamp	40	M		
24	Supply & laying of DWC pipe in ordinary soil 0.75m below ground level including excavation				
a	63/50mm or nearest size	170	M		
b	77/63mm or nearest size	120	M		
c	90/75mm or nearest size	30	M		

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
25	Supplying siemens/tropodur type nickel plated Double compression brass cable gland for PVC insulated and PVC sheathed armoured aluminium/copper conductor cable 1.1KV grade and making end termination suitable for 2/3/3.5/4 core cable of the following sizes as required				
a	6sqmm	12	Each		
b	10sqmm	10	Each		
c	16sqmm	4	Each		
d	25sqmm	8	Each		
e	50sqmm	4	Each		
26	Supplying and providing earth clamps for siemens/tropodur type cable glands of suitable length and other dimensions noted along with each size of glands for the following sizes of cables as required				
a	4sqmm-16sqmm with 12 mm widex1mm thick clip	26	Each		

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
b	25sqmm-50sqmm with 20 mm widex1.20mm thick clip	12	Each		
27	Supply of superior quality aluminium tubular cable socket and making core termination of cables of the following sizes including crimping etc. as required				
a	6sqmm	48	Each		
b	10sqmm	40	Each		
c	16sqmm	16	Each		
d	25sqmm	36	Each		
e	50sqmm	12	Each		

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
28	Supply and installation of sheet steel, phosphatised and painted, dust and vermin proof enclosure of MCB DB including copper/brass bus bar, neutral link, earth bus and DIN rail suitable for fixing MCB/ isolator etc. fixed on wall using suitable anchor bolts or fixed in recess including cutting hole on the wall, making good the damages, colour washing etc. as required.				
a	FP enclosure for independent mounting of MCB/RCCB/RCBO	6	Each		
	Light fittings				
29	Supply, conveyance installation testing and commissioning of pre- wired light fittings made of CRCA with 0.5mm thickness complete with all accessories and lamps etc. directly on walls or ceiling with PVC round block nearly painted to suit the fitting and giving connection with required length of 16/0.20 mm 3 core copper conductor flex wire conforming to relevant ISS and giving connection as required.				
a.	1200mm 16-20 W LED lamp with box type fixture	12	Each		
30	Supply and Fixing angle /straight brass lined skirt type, bikelite batten holder without shade and giving connection etc as required. Supply and fixing shades of the following types of shades on existing batten/ pendent/ bracket fittings as required	2	Each		
a	20 mm plastic shade	2	Each		
31	Supply and providing the following types and power rated lamps in the existing fittings as required				

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
a	Dwarf size 5 W BC/ES/E14 retrofit CFL	2	Each		
32	Supply, conveyance, installation, testing and commissioning of the following LED fitting LED fitting made of CRCA sheet 0.5mm thick with all accessories and lamps etc. suspended from ceiling using 4 nos steel chain of length not exceeding 30 cm properly hooked to steel hooks anchored to the ceiling and giving connections with required length of 16/0.20 mm 3 core copper conductor flex wire conforming to relevant ISS or extending the original wiring and giving connection etc. as required				
a	GREEN SQUARE RC 140B LED 29S-6500 PSE WH of M/s Philips or equivalent	19	Each		
33	Supply, conveyance, installation, testing and commissioning of the following type LED recess mounting down light fittings of all types directly in the existing opening in the false ceiling including giving connections with required length of 16/0.20 mm 3 core round copper conductor flex wire conforming to relevant ISS or extending the original wiring and giving connection etc. as required				
a	DN194B LED 155-6500 PSU WH of M/s Philips or equivalent	26	Each		
34	Supply, erection, testing and commissioning of LED Under water BCP 170 of make M/s Philips, IP 68 or equivalent make including supply of underwater cable, male female plug and socket etc complete.	30	Each		

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
35	Supply, erection, testing and commissioning of wall mounted Up light of make Tulip, Model number –TPW2202:Lamp:CFL; Power:36W; 2700K or equivalent make including supply and fixing 4 pin 36W 2700 K CFL lamp.	12	Each		
36	Supply, erection, testing and commissioning of wall washer light of make Jaquar: Model number-LWWL01S024XX; power: 24 W; 3000K;25 degrees or equivalent make.	8	Each		
37	Supply, erection, testing and commissioning of LED foot light of make Jaquar; Model number-LFT02S006XC; Power:6W; 3000K, IP 65, or equivalent make with aluminium housing and complete with all accessories. The make has to be got approved by the authority concerned before supply of the fitting.	5	Each		
38	Supply, erection, testing and commissioning of hanging light of make Jaquar; Landa Range;Model number- 165.02ngr; Lamp: CFL;Power : 23 W;2700K or equivalent make including supply and fixing E27 base 2700K 18W spiral CFL of make Osram or equivalent.The light fixture has to be got approved by the authority concerned before supply of the fitting.	1	Each		
39	Supply, conveyance, installation, testing and commissioning of <i>following type Bollard fittings</i> of all types directly on foundation and giving connections with the existing wiring etc. as required		Each		
a	8W LED Bollard sleek vera of K Lite or equivalent IP65 size 100 x 475 mm	10	Each		
	HIGH MAST AREA LIGHTING				
40	Supply and erection of octagonal galvanized pole 9 mtr height complete with 4 nos foundation bolt suitable size base plate, space for mounting control switch box with inspection type door at a height of 500mm from the base plate including Bakelite sheet with 6A SP MCB (4 Nos) with suitable N/L & Stud terminals etc. as required including all civil foundation works	2	Each		

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
41	Supply, installation of 50W LED flood light fitting with high pressure die cast housing acting as heat sink IP 65, and giving connection Model No. LFLD 01S050XC of M/s Jaquar	6	Each		
42	Supply, Conveyance and erection of the following sizes of 'B' class GI pipe in single section for post top lantern fittings of all types (excluding excavation & concrete base) and painting with 2 coats of synthetic enamel paint over a coat of zinc chromate primer etc. as required.(for lantern carriage suitable for accommodating 6nos flood light luminaries symmetrically) with 6 nos lock nut and bolt				
a	40mm dia	4	M		
43	Supplying and installation of supports, anchor bolts etc. made out of suitable size single section MS angle, flats etc. as required including painting with 2 coats of synthetic enamel paint (for pole supporting clamp and anchor bolt)	5	Kg		
44	Supply and drawing the following sizes of multi-core PVC insulated & PVC sheathed 650/1100V grade copper conductor round flexible cables conforming to IS 694 part I 1960 in the existing surface/ recess conduit as required including giving necessary connections of the following sizes				
a	4 core 1.00 sqmm	30	M		
45	Supply and drawing 650/1100V grade PVC insulated stranded single core copper conductor cables conforming to IS 694 part I 1990 in the existing surface/recess conduit as required including giving necessary connections of the following sizes				

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
a	4.00 sqmm 2 run	10	M		
	FAN				
46	Supply, conveyance, installation, testing and commissioning of ceiling fans of the following sizes using standard accessories excluding resistance type regulator, wiring the down rod with 16/0.20mm PVC insulated and PVC sheathed 650/1100V grade 3 core round copper conductor flex wire or with extended original wiring etc. as required				
a	1200mm sweep-5 star rated	16	Each		
47	Supply, conveyance, installation, testing and commissioning of the following sizes of exhaust fans in the existing opening, fixing necessary bolt and nuts, making good the damages etc. as required including giving connections with required length of 24/0.20mm PVC insulated and PVC sheathed 3 core round copper conductor flex wire conforming to relevant ISS.				
a	200mm, single phase, light duty exhaust fan in plastic body with self-opening louvers	1	Each		
	SITC OF DG WITH AMF				
48	Supply, conveyance, installation, testing and commissioning of 63/62.5 KWA DG set with AMF and standared control panel integral with Acoustic enclosure as per current CPCB norms and as per technical details given below				
	Engine				
	Make of engine:- ASHOK Leyland/ Kirloskar/Cummins.				
	Type of Engine:-Diesel Engine				
	No.of Cylinders:- Suitable to develop the required BHP as per manufacture standareds				
	Method of cooling:- Water cooling with radiator				

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
	Aspiration: Natural/ Turbo Charged				
	Design: Suitable for Generator set application				
	Output: 75.5 BHP at 1500rpm under NTP conditions or other BHP ratings specified by the respective manufacturers				
	Standard Accessories with Diesel Engine				
	Flywheel to suit coupling				
	Closed coupled				
	Air cleaner				
	Coolant kit				
	Fuel pump				
	Mechanical Governor				
	Fuel Filter				
	Lubricating oil filter				
	Residential type exhaust silencer				
	Exhaust piping				
	Starter for suitable application				
	Battery charger/ Generator				
	Engine instrument panel				
	Starting switch with key/push button				
	Lubricating oil temperature gauge				
	Lubricating oil pressure gauge				
	Water temperature gauge				
	RPM Indicator with Hour meter				
	Battery charging Ammeter				
	Safety control for Engine				
	Safety control trip for low lubricating oil pressure for engine				
	Safety control trip for high water temperature				
	Providing necessary warning system and other safeties as contemplated in relevant ISS				
	Alternator				
	Make: Kirlosker/KEL/Crompton				
	Type: self excited and self regulated				
	Capacity: 63/62.5 KVA, 50 KW at 0.8PF				
	System Voltage: 3 phase, 415 V				
	Speed:1500 RPM				
	Voltage Regulation band: Plus or minus 5% or rated voltage				

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
	Insulation: Class F/H				
	Control Panel.				
	Standard control panel Integral with acoustic enclosure comprising of the following.				
	100A,40KA 4Pole MCCB with adjustable setting-1 No				
	Earth fault relay using appropriate CT in neutral earthing conductor-1 no				
	Digital multifunction meter with accuracy class 0.5 to read parameters such as KW, KVA, PF, Voltage, Current, Frequency etc.- 1no				
	Digital type single function KWH meter with accuracy class 0.5- 1no				
	LED type Phase indication Lamp for indicating the presence of supply on all phases				
	Fuse protection shall be provided for the meter and indication lamps				
	Metallic danger notice board-1 no				
	Starting and Off switch with push buttons/key- 1set				
	Low lubricating oil pressure indication lamp- 1no				
	Battery charging ammeter- 1no				
	The alternator should conform to IS 4722 Routine tests as per relevant ISS shall be conducted and test reports of the same shall be furnished at the time of delivery				
	Fuel Tank				
	100 Litre capacity fuel tank (with full tank Diesel) Integrated with the acoustic enclosure complete with fuel pipig, provision for filling of Diesel, Electric fuel gauge etc.				
	Battery				
	Required number of suitably rated fully charged batteries with leads & terminals as required as per manufactures requirements and standards. Operation manual, service manual, list of spares shall be submitted				
	EXHAUST PIPING				
	Exhaust piping shall be vent to the top of the nearest tallest building if the pipe cannot be clamped/fixed to the building or any other structure of permanenet nature necessary fabricated structure using channel section or angle iron section of adequate mechanical strength duly painted with 2 coats of synthetic enamel paint over a coat of zinc chromate primer shall be provided for the support of the exhaust pipe (Additional piping will be measured excluding the standard length of pipe suplied by the manufacturer)				

Item No	Details of items	Quantity	Unit	Rate Rs (in figures & words)	Amount in Rs
	The DG set shall be guaranteed for 3 years from the date of commissioning from any defects in manufacturing. Any of the spares/ components which are found to be defective during this period shall be replaced immediately at free of cost. The DG set shall be installed as per the directions at the site. (The contractor entrusted with the work shall obtain scheme approval as well as Energisation certificate from Kerala state Electrical Inspectorate.)	1	Each		
49	Supply and providing following sizes of B class MS pipe with flanged coupling in each full length of pipe, an additional exhaust piping, fixing the same firmly in the building/structure using necessary supports such as angle iron MS clamps etc. Painting the pipe and accessories with synthetic enamel paint over a coat of zinc chromate primer etc. as required				
a	100 mm dia	5	m		
	TOTAL-PART III - ELECTRICAL WORKS				