

MATHABHANGA COLLEGE

P. O. - MATHABHANGA
Dist- COOCH BEHAR
Pin - 736146

Phone - (03583) 255282 (O)
Fax - (03583) 256340 (O)

E-Mail : mtbcollege1969@gmail.com

Website www.mtbcollege.ac.in

NAAC ACCREDITED



Ref. No. MC/197/03/22

Date : 11/06/2022

TENDER NOTICE

Date: 11.06.2022

Scaled quotations are invited from reputed firms/agencies/vendors to supply, installation, testing and commissioning of 3kWp On-grid Rooftop Solar PV power plant at Mathabhang College with following description:

Sl. No.	Item/Job description	Qty
1	Supply of Solar Photovoltaic Panels, Poly Crystalline, 335Wp (Each) (Make: Panasonic/ Trina/ Solex/ Zinco) The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS14286 .The rated output power of any supplied module shall have tolerance of +/- 3%.The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with captive screws and cable gland entry points or may be: of sealed type and IP-65 rated.	10
2	Module Mounting Structure: MS mounting structures may be used for mounting the modules/ panels/arrays. Each structure should have angle of inclination as per the site conditions to take maximum insolation.The mounting structure aluminium casts has electrophoretic powder spraying as per latest ISO9001 quality management system and anodized galvanization of the mounting structure shall be in compliance of latest IS structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Aluminium structures also can be used which can withstand the wind speed of respective wind zone. Necessary protection towards rusting need to be provided either by coating or anodization.The minimum clearance of the structure from the roof level should be 300 mm.	1
3	Supply of PV Array Junction Box (AJB): a) The junction boxes are to be provided in the PV array for termination of	01

B. Anand
Teacher in Charge
Mathabhang College
11/06/22



	connecting cables. The Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium/M.S alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.b) Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups. Voltage: Max. 1000V DC Make: Power One.	
4	Supply of Grid tie solar PCU Rating : 3KW, 1Ph Ongrid Inverter - 1 Nos with nominal DC voltage 600 V DC., Make: Panasonic / Power One / Microtech / Siemens /SMA Germany etc. Control : Microprocessor /DSP. Hybrid Inverter .Nominal AC output voltage : 220V, 1 Phase, . Output frequency : 50 Hz . Max. DC input Power 3kW. MPPT Voltage Range 60 - 540 VDC. . Output Voltage Range - 180V - 260V AC. Grid Frequency Synchronization range : +/- 5 %. Ambient temperature considered : -10o C to 55 °C. Humidity : 90 % Non-condensing. Protection of Enclosure :: IP-21(Minimum) for Indoor. Grid Frequency Tolerance range : +/- 5 %. Grid Voltage tolerance : 180 V to 260 V. No-load losses : Less than 1% of rated power. Inverter efficiency 92%. THD : < 3%. Efficiency Measurement IEC 61683/ Equivalent BIS Std.Environmental testing IEC 60068-2 (1,2,14,30) / Equivalent BIS Std.Interfacing with utility grid IEC 61727. Islanding Prevention Measurement IEC 62116. EMI/EMC : IEC 61000-6-3>16 Amps IEC 61000-6-4<16 Amps. Safety: IEC - 62109-1 (2010/4) C - 62109-2 (2011/6). All above IEC's should be from NABL/ IEC Accredited Testing Laboratories or MNRE Approved Test Centers/ International laboratories.	01
5	Supply of ACDB : Designed for 3 kWp Ongrid solar power plant with all protections as per MNRE guidelines.DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection. The bus bars are made of copper of desired size. AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III. All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz.All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.	01
	Zero Export Device/ Export Blocker for grid tie solar system.....etc complete.	01
	Supply of System Earthings : Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition the lighting arrester/masts should also be earthed inside the array field, PCU, ACDB and DCDB should also be earthed properly. Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.	02
8	Lightning Protection: The SPV power plants shall be provided	01

B. Anand
 Teacher in Charge
 Marthabhangga College
 Bangalore
 16/02/2022

	with lightning & overvoltage protection. The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc. The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per IEC standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.	
9	Supply of Cables DC & AC: Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter, Battery to Inverter etc. shall be so selected to keep the voltage drop of the entire solar system to the minimum. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use. The size of each type of DC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 1%. The size of each type of AC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 2 %. i. Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards.	01
10	2:1, 3:1, 1:1 Male-female MC4 connector.....etc complete.	20
11	Installation, Testing & Commissioning including Maintenance with Foundation of Mounting Structure.	01

Total estimated cost no more than Rs. 3 lakh/-

N.B:

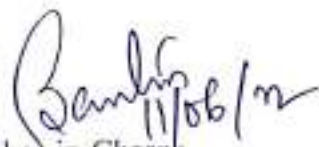
(a) Quotation should be submitted through College E-mail :

mtbcollege1969@gmail.com

(b) Last date for submission of Quotation : 21/06/2022

(c) Tender is open only to the eligible Firms/Vendors

(d) The college reserves the rights to reject any/all the quotations without assigning any reasons for this.


Teacher-in-Charge
Mathabhanga College

Teacher-in Charge
Mathabhanga College
Mathabhanga, Circh B-har
Pin-736146

