

SRI VASAVI ENGINEERING COLLEGE
(An Autonomous Institute permanently affiliated to JNTUK, Kakinada)
(Accredited by NAAC with "A" Grade & NBA Accreditation for 4 UG Programmes)
Pedatadepalli, TADEPALLIGUDEM – 534101. W.G. Dist. (A.P.)

Inviting Quotations for Supply of Required Equipment to DST – SEED Funded Project

Project Title: "Design and Development of an Integrated Solar PV based Water Purification and IOT based Water Quality Monitoring System in Apparaopet Area, TadepalligudemMandal, West Godavari District"

Detailed specifications against each requirement are at the location apparaopetarea ,upparagudem village.

- S.No 1:**
1. Panel size :72 cell configuration 39 inch×77 inch(3.25ft×6.42ft)
 2. Voltage:200-300v
 - 3.Area available:60sqmeters
 - 4.Net metering system for integrated grid power system

S.No 2:RO Plant of 1000 LPH

1. ROW WATER PUMP. (To feed the dual media filter pressure more than 2.0 bars which is min. operating pressure for filter.)
2. DUAL MEDIA FILTER (To Remove the total suspended solids, dirt iron and reduce silt density index, which can foul the membranes).
3. ACTIVATED CARBON FILTER (To remove the total colour, smell, odour, from the water).
4. DOSING SYSTEM (To dose antipant chemical to protect the scaling formation on RO Membranes).
5. REVERSE OSMOSIS MEMBRANE (To Remove the major part of TDS up to 98% by Reverse Osmosis Membrane arranged and designed to give adequate flow and recovery).
6. MICRON FILTER (To remove the fine particles up to 5 micron and reduce silt density index levels to acceptable level.).
7. REVERSE OSMOSIS PRESSURE TUBE (To pack Reverse Osmosis Membrane and operate at high pressure up to 400 psi.).
8. HIGH PRESSURE PUMP (To feed the Reverse Osmosis Membrane at pressure more than the osmotic taking into consideration flux rate, flow and recovery.)
9. Alkaline filtering.

S.No 3: 1.Sensor for the measurement water quality Parameters like pH, TDS/Conductivity, Turbidity, Dissolved oxygen, Rasp berry pi, wi-fi router, DSO, LED monitors, Cloud server with following specifications.

Specifications of water quality sensors are given in the following table.

Type of sensor	Output	Range	Operating voltage	Current	Operating temperature	Size of probe
pH	4-20 mA	0 to 14 pH	10 to 30 V _{DC}	5.5 mA + sensor o/p	-5 to +55 °C	(3.2 cm dia. x 25.4 cm long)
Turbidity	4-20 mA	0 to 50 NTU	10 to 36 V _{DC}	30 mA + sensor o/p	-10 to 50°C	3.8 cm dia. x 21.6 cm long
TDS/ Conductivity	4-20 mA	0 to 1000 µS	12 V _{DC} (± 5%)	0.8 mA + sensor o/p	-40 to +55 °C	3.175 cm dia. x 30.5 cm
DO	4-20 mA	0 - 100% saturation, 0 - 8 ppm	10 to 36 V _{DC}	15.5 mA + sensor output	-40 to +55°C	3.2 cm dia. x 27.9 cm long

DSO: 100 MHz, dual channel.

LED monitors: 52” inches size.

S.No 4: Equipment required for Monitoring of microbial load and bacteriological parameters.

1. Laminar air flow cabinet [vertical]

Laminar Flow principle involves double filtration of air. Atmospheric air is drawn through pre-filter and is made to pass through highly effective HEPA (High Efficiency particular Air - deep pleat) filter having efficiency rating as high as 99.99% with cold DOP and 99.97% with hot DOP [with the help of 1/5HP motor-1440 Rpm] in vertical way. Thus retaining all air-borne particles of size 0.3 micron and larger. Double filtered air blows in laminar flow to the worktable at designed velocity of 90 ft/min +/-20%. Noise level Less than 65 db at work area, and Vibration:-0.00005 cm of work table.

2) Autoclave – [Vertical]:

Double wall construction with inner S.S. 304, all these sheets are argon welded & outer chamber made of high quality S.S. 304 sheet duly powder coated. Electrically heated by means of I.S.I. quality immersion heaters with working pressure 15 PSI. Hydraulically dye pressed Lid from S.S. Plate with, easy pedal lifting device, having pressure gauge, two Nos. safety valve, quick release coupling and handle with heater cover stand.

3) Magnus Binocular Microscope Model CH20i standard microscope: set complete with Binocular head, integrated 6V 20W halogen light illuminator, Anti-Fungal coated Achromatic Objectives iNEA 4x,10x,40x (spring) & 100x (oil, spring), paired wide field eyepieces iCWHK10x (F.N.18).

NOTE: Separate quotation is required for each S.No.

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