

SCHEDULE OF QUANTITY

Estimated cost: ₹ 4,95,000.00

Earnest money: ₹ 9,900.00

Time: Two month

Name of Work:- Establishment of Divisional lab in Tehsil Jhandutta Distt. Bilaspur H.P (SH:- Establishing of water testing lab and conducting various quality

S.No.	Description of item	Quantity	Unit	In Fig.	In words	Rate	Amount
1	Providing UV visible spectrophotometer Luminar air flow chamber Computer controlled spectrophotometer which can be used with, rectangular cells of up to at least 10 mm thickness, and sipper flow through cell, having following specifications, dual display system Optical System • Double beam grating based single detector or dual display system Wave Range • 190 to 1100 nm Wave length readability• Better than or equal to 0.2 nm Accuracy • Better than or equal to ± 0.5 nm Scan speed • 1-3800 nm/min Wavelength repeatability• Better than or equal to ± 0.2 nm Photometric readout • Digital LCD/LED selectable for transmittance T, Absorbance A and Concentration C Spectral band width • Provisions should include at least 2.0 nm SBW (slit band width) Scan speed • Should be wide range 1 to 3800 nm/minute (variable) Photometric Range • Should cover -0.500 A to + 3.0 A range Photometric Accuracy • Better than 0.5% T or 0.005 A Noise • Better than 0.0002 A at 500 nm Data interval • 0.2, 0.5, 1.0, 2.0, 4.0, 10.0 nm Drift • 0.0002 A/hour after warm up Cell Holder • For holding upto 50 nm pathlength rectangular cuvette Interface • RS-232 C/USB Power Supply • 220 VAC ±10%, 47 to 53 Hz AC Quality Certificate • Installation qualification, operational qualification and performance qualification certificate from NABL Accredited Laboratory or US-EPA certificate of performance Accessories • Two pairs of square glass cuvettes (10 mm pathlength), Operation and maintenance manual (English), Dust cover, Power cable with plug to suit Indian socket• Computer (Pentium I3, at least 2 GB RAM, 360 GB HDD with necessary softwares• Printer (internal) Laserjet suitable for graphs/data printing • Rectangular cuvettes (50 mm & 25 mm pathlength)• Other accessories needed for calibration	1.00	Each				
2	Bacteriological Incubator Make:- Merck/Hach/Qic/Leh/Waters/Memmert:-Specifications inner size approx. 0.5 x 0.5 x 0.5 m (h x w x d) material inside stainless steel chamber hot enameled outside range 35 to 60 °C, thermostatically controlled accuracy ±1.0 °C power supply 220 VAC ± 25%, 47 to 53 Hz, approx. 400 Watt display digital display Features • 3 shelves • high quality insulation between inner chamber and outer wall • full length inner glass door with roller type latch for monitoring without disturbing inside temperature • thermometer access hole to display inside temperature Accessories • suitable thermometer having 0.1 °C graduation complete in all respect as per the direction and to the entire satisfaction of Engineer-In-Charge within all leads and Lifts.	1.00	Each				

3	<p>Balance Analytical Capacity 200grms and Sensitivity 1Mg</p> <p>Specifications</p> <p>Type electronic, single pan capacity up to 200 g resolution 0.1 mg pan size approximately 80 mm diameter display LCD power supply 220 V $\pm 25\%$, 47 to 53 Hz AC Power</p> <p>Features</p> <ul style="list-style-type: none"> • auto zero tare function • removable stainless steel tray • overload protection • auto calibration facility <p>Accessories</p> <ul style="list-style-type: none"> • set of certified calibration weights (0 to 200 gm. Full range) • voltage stabiliser • dust proof cover • necessary tools • operation manual 	1.00	Each
4	<p>Hot Plate (Rectangular) :- Specifications</p> <p>size approx. 0.3 x 0.45 m (l x w) temperature range ambient to 300 °C, thermostatically controlled top plate material cast iron, body hot enameled mild steel power supply 220 VAC $\pm 25\%$, 47 to 53 Hz</p> <p>Features</p> <ul style="list-style-type: none"> • 2000 Watt spiral heaters of best quality with porcelain beads insulation, embedded in top plate • power indicator light 	1.00	Each
5	<p>Oven:-</p> <ul style="list-style-type: none"> • The stove shall be safe to operate, spilled water shall not start corrosion or reach electric components • The stove shall be of corrosion free service and shall comply with IS 2994-1992. <p>Specifications</p> <p>dimensions approx. 0.4 x 0.3 x 0.3 m (l x w x h) temperature range 50 to 150°C temperature setting thermostatically controlled, $\pm 1^\circ\text{C}$ temperature reading at outside thermometer with good readability trays 2; adjustable in height power supply 220 VAC $\pm 25\%$, 47 to 53 Hz, single phase, 1000 Watt</p>	1.00	Each
6	<p>Magnetic stirrer Sartoris Specifications</p> <p>rotation speed 0 to 1200 rpm, electronically controlled heating element 300 Watt, thermostatically controlled power supply 220 VAC $\pm 25\%$, 47 to 53 Hz</p> <p>Features</p> <ul style="list-style-type: none"> • stainless steel top <p>Accessories</p> <ul style="list-style-type: none"> • PTFE (Teflon) coated magnets, size 10 mm to 50 mm, increasing with 5 mm, two of each 	1.00	Each
7	<p>Tds Meter Pen Type Lab Based of Range 1-1999 Ppm. resolution 10 Ppm. Accuracy +/- 0.1 full scale, Tds Factor 0.40-1.00 Operating Temperature 0-5 C and Normalization Temperature 25 C.(Direct Reading Digital Display)</p>	1.00	Each

8	<p>Ph Meter Lab Based</p> <p>Specifications</p> <p>Functions Measurement of pH, mV</p> <p>Display 4 digit LCD/LED</p> <p>pH Meter • Range: 0-14</p> <ul style="list-style-type: none"> • Accuracy: 0.01 pH unit • Resolution: 0.01 pH unit • Multipoint calibration (5 points) <p>mV Meter • Range: 0-1000</p> <ul style="list-style-type: none"> • Resolution: 0.01 mV • Accuracy 0.05 mV <p>Temperature Compensation</p> <ul style="list-style-type: none"> • 0 to 100°C, manual and automatic <p>Calibration • Calibration certificate from NABL Accredited Laboratory and installation qualification, operational qualification and performance qualification certificate</p> <p>Power supply • 220 VAC \pm10%, 47 to 53 Hz</p> <ul style="list-style-type: none"> • Dual power (battery/AC Power) <p>Accessories • Two electrodes with silicon body (one spare)</p> <ul style="list-style-type: none"> • Electrode stand • Carrying case for transportation in field • Operation manual • Three buffer solutions for calibration i.e. pH 4, pH 7, pH 9.2 	1.00	Each
9	<p>Micro Pipette:- The pipettes shall comply with IS 4162-1967</p> <p>Specifications</p> <p>material Corning glass or similar</p> <p>capacity 5, 10 and 25 ml</p>	2.00	Each
10	<p>Autoclave</p> <p>Specifications</p> <p>material stainless steel inside and lid hot enameled outside</p> <p>working pressure adjustable to 1 bar</p> <p>max. pressure 1.5 bar</p> <p>power supply 220 VAC \pm25%, 47 to 53 Hz, single phase, approx. 2500 Watt</p> <p>Accessories</p> <ul style="list-style-type: none"> • pressure gauge • steam release cock • safety valve • aluminium perforated basket • water level indicator • lifting arrangement <p>Capacity 10-12 ltrs</p>	1.00	Each
11	<p>Supplying of Referezirator</p> <p>Specifications</p> <p>type vertical double door</p> <p>capacity approx. 280 litre</p> <p>power supply starting automatic frost free voltage 160 to 260 VAC, 47 to 53 z</p> <p>running voltage 140 to 280 VAC, 47 to 53 Hz</p> <p>temperature continuous constant temperature at 4°C</p> <p>Features</p> <ul style="list-style-type: none"> • built in voltage stabiliser • 2 doors and 3 trays • self draining defrosting • PUF insulation • locking system 	1.00	Each
12	<p>Providing Thermometer of reputed Make</p> <p>Specifications</p> <p>type mercury filled glass made</p> <p>range three ranges: 0-80oC, 10-150oC, 20-250oC</p> <p>accuracy \square 0.5oC</p> <p>Accessories</p> <ul style="list-style-type: none"> • Storage box 	2.00	Each

13	Providing Nephelometer (Turbidity meter) Lab Based of Direct reading range 0-100 NTU Specifications range 0 to 1000 NTU, in at least 2 ranges accuracy $\pm 2\%$ Full Scale deflection power supply 220 VAC $\pm 25\%$, 47 to 53 Hz Accessories <ul style="list-style-type: none"> • ambient light shield • spare tubes (6 Nos) • stand for sensor • voltage stabiliser • instruction manual • dust cover 	1.00	Each
14	Providing and fixing of Voltage Stabilizer/ Inverter of Standard make .	1.00	Each
15	Providing and fixing of Water Bath of big size Specifications inner size approx. 0.4 x 0.3 x 0.1 m (l x w x d) material stainless steel inside, stove enameled outside temperature range ambient to 100°C, thermostatically controlled power supply 220 VAC $\pm 25\%$, 47 to 53 Hz accuracy $\pm 2^\circ\text{C}$ Accessories <ul style="list-style-type: none"> • stainless steel cover, 1 mm thickness, with 12 holes, 75 mm diameter Features <ul style="list-style-type: none"> • drain cock or plug • double walled, highly insulated • pilot lamp for thermostat operation 	1.00	Each
16	Providing Arsenic testing instrumentation Portable Type	1.00	Each
17	Providing Coolbar with icepacks. Specifications size place for 12, one litre bottles with enough space for ice blocks material galvanised iron Features <ul style="list-style-type: none"> • double wall having insulation filling • drain cock • locking facility 	1.00	Each

18	Providing Double distillation apparatus/ Ultra pure water purification system Conditions and requirements The conductivity after distillation shall be equal or less than 1.0 µS/cm at 25°C Specifications material quartz glass, thermal shock resis-tant capacity 1.5 litres/h power supply 220 VAC ±25%, 47 to 53 Hz, approx. 1 kW Accessories • sturdy metallic stand with supporting ring clamp for condenser • operation manual Features • glass embedded heating element with over-heating protection • switch and neon indicator light for power	1.00	Each
19	Providing Centrifuge Speed • Maximum 15,000 rpm Centrifugal force (RCF) • Maximum 18,000xg Tube size • Maximum 100 ml Capacity • Maximum 400 ml Rotary angle head • 8 x 50 ml Temperature range • Ambient Display, multifunctional • LCD/LED Power supply • 220 VAC ±10%, 47 to 53 Hz Protection • Auto shut down for imbalance	1.00	Each

Executive Engineer
Jal Shakti Division
Jhandutta

TERMS AND CONDITIONS

- 1 The work will be carried out as per IPH/JSV specifications including all leads, lifts and loading, unloading, packing charges etc.
- 2 The rates should be inclusive of all taxes, freight charges etc. nothing shall be paid extra.
- 3 Work shall be started within 15 days after the award of the work.
- 4 The firm shall supply the manufacturer's manual of O&M of these equipments and list of spares including periodical maintenance schedule along with list of
- 5 **Guarantee:** Guarantee of One year from the date of completion of work. In case any defect is found within guarantee period, the same will be repaired /
- 6 After sale, service i.e. warranty / Guarantee should be properly ensured by the bidder and proof to this effect be attached.
- 7 Normally only a registered contractor can work in IPH/JSV department but if not so, the bidding contractor shall get himself registered in appropriate class if he is
- 8 No extra / substitute item will be allowed for the completion of this work without prior approval
- 9 For any delay in execution of work beyond the time period or breakdown during the guarantee period 0.1% of the total cost shall be deducted for each day of
- 10 The equipments shall conform to specification as per CPHEEO manual, Implementation manual of National Rural Water Quality Monitoring and Surveillance
- 11 The specifications in respect of purpose to be served by the apparatus/ equipments, bearing range of the equipments configured in the schedule of quantities
- 12 80% of the payment shall be released after physical delivery of material in laboratory and balance shall be released after installation, calibration, testing and
- 13 Nothing shall be paid for damaged or undelivered material to the firm in any condition.
- 14 The supplier shall install the equipments in the laboratory and shall be responsible for calibration, testing and commissioning of the same to the entire
- 15 All equipments shall carry a replacement warranty of one year minimum or as specified by the manufacturer.
- 16 A certificate from the original manufacturer be attached to own the responsibility from the selected bidder for the execution of contract until its tenure.
- 17 Selected bidder has to ensure availability of spare parts and service maintenance for at least five years on payment of cost if applicable (List/ cost).
- 18 If during the warranty period, any system as a whole or any sub system has any failure on two or more occasions in a period of three months, it shall be replaced
- 19 The vendor should be original manufacture of the equipments or authorized supplier / representative in India.
- 20 10% security, income tax and GST will be deducted from each running bill of the contractor.
- 21 1% labour cess charges will be deducted from the contractor bill.
- 22 The validity of tender shall be 60 days from the date of the opening of the tender.
- 23 The warranty / Guarantee should be properly ensured by the bidder & proof to this effect be attached.

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