

SCHEDULE OF QUANTITY.

Name of Work:- Strengthening of water testing laboratory at Nalagarh
(SH:- Supplying and installation including testing and commissioning of laboratory equipment for testing water quality parameters at Nalagarh).

Estimated Cost:-

618975

Earnest Money :-

12400

Time: -

Three months

Sr. No.	Description of item	Qty	Rate In fig.	In words.	Unit.	Amount
1	Pre Programmed water quality analysis spectrometer/ colorimeter auto select wave length type with minimum spectral band width 10 nm operating range 0-50 degree, AC/Battery operated for measuring the parameters like free chlorine, Fluorides, Calcium, Magnesium, Iron as Fe, NO3 as Nitrate, NO2 as Nitrite, pH and sulphate	1			Each	
2	Bacteriological Incubator having external body made of mild steel with strong seamless welding and covered with thick layer of stoved epoxy polyester paint which provide a strong, highly screech heat resistant surface for a long lasting attractive finish. Internal surfaces (include the doors) are manufactured from stainless steel, with great care in order to eliminate sharp edges. Double walled Chamber provided with digital temperature controller- cum-indicator fitted with fan to achieve the same temperature in each and every corner. Suitable for temperature upto 80 C with accuracy of +1 C, .	1			Each	
3	Distillation apparatus 2.0 liter capacity:- Automatic electrical heated all glass Distillation Apparatus heater embedded in spiral glass tube complete with metallic stand, plug and board etc. Flask Capacity: 3 ltr. Double distillation without cut off.	1			Each	
4	Electronic Balance of high contrast, large back lit LCD display for easy viewing RS. 232 Interface, capacity 220 C, readability 0.1 mg, and pan size 110 mm.	1			Each	
5	Hot Plate (Rectangular) provided with temperature controller having temperature range upto 350 C for general purpose.	1			Each	
6	Hot Air Oven:- External case made of mild steel, often with strong seamless welding covered with a thick layer of stoved epoxy- polyester paint. Internal surface made of Stainless Steel, Doubled walled chamber filled with high grade insulation to prevent heat loss suitable for temperature upto 250 C provided with digital temperature controller –cum-Indicator fitted with fan to achieve same temperature in each and every corner. Size:- 455x455x605 mm capacity 125 liter.	1			Each	

7 Magnetic stirrer 2.0 liter capacity with hot plate having rotation speed 0-1200 RPM, electronically controlled, heating element 300 Watt, Thermostatically controlled power supply 220 VAC +/- 25%, 47 to 53 Hz with PTFE (Teflon) coated magnetic stirrer bars.	1	Each
8 TDS Meter Pen Type of range 0-1999 ppm, resolution 10 ppm, accuracy +/- 0.1 full scale, TDS Factor 0.40-1.00 operating temperature 0-50 C and normalization temperature 25 C.	1	Each
9 Turbidity Meter 3.5 digit LED Display range upto 1000 NTU/JTU consisting of a light source focused on a test tube containing sample solution for 100 tests.	1	Each
10 pH meter pen type having range 1.0 to 15.0 pH, resolution 0.1 pH accuracy +/- 0.1 pH, automatic temperatures controller.	1	Each
11 Micro Pipette:- Lightweight, ergonomic design, easy to calibrate and maintain, auto cleavable tip, one hand operation. Tip cone manufactured of chemical resistant material, capacity. 1000-5000 ml.	1	Each
12 Conductivity meter 3.5 digit LED Display, conductivity range 0 to 20 mS/cm, accuracy +/- 5% 1 digit, resolution 1 uS/cm, temperature range 0 to 110 C with resolution 0.1 C and accuracy +/- 0.2% 1 digit.	1	Each
13 Autoclave Universal vertical with internal height at least 750 mm, internal dia at least 550 mm , heating element of at least 3000 Watt. Boiler fabricated from hard copper/brass sheet heavily lined inside. Outer jacket made of thick gauge mild steel finished in hammer tone grey stove enamel, lid of gun metal and highly nickel plated faced to from steam tight joint (with ring fixed on rim of boiler) with swing type bolts/ nuts, fitted with regulating valve of pressure adjustment of at least 20 lbs/in2, pressure range, safety valve, steam release cock, water level indicator, water drain cock, timer for at last 2 hours operation and adjustable in multiples of 15 minutes or less, auto cut offs, 220 Volts/ 50 Hz power operated and complete with perforated aluminum baskets spare gaskets (2 Nos) power cable plug and other accessories.	1	Each
14 Miscellanies items:-	Job	L.S
(i) Spirit lamp = 1 No.		
(ii) UPS = 1 ,,		
(iii) Computer with printer = 1 ,,		
15 Annual Maintenance Contract charges of the equipments, equipment-wise for		
2nd year	Job	L.S

3rd year

4th year

5th year

Total:-

TERMS AND CONDITIONS.

- 1 The work should be done as per the instructions of Engineer-in-Charge and completed within stipulated period of time as mentioned including all leads, lifts and loading/unloading charges, packing charges etc.
- 2 Nothing shall be paid extra for any other charges like all taxes in or outside of the state, excise duty if any, freight charges etc..
- 3 Work shall be started within 15 days after the award of the work.
- 4 Validity:- The offer shall be valid upto one year.
- 5 The contractor/firm shall have valid letter of authorization in writing from the manufacturer /dealer/distributor, otherwise same will be rejected.
- 6 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 vendors/authorized distributors of the spares..
- 7 Guarantee:- Guarantee of 12 months from the date of completion of work. In case any defect is found within guarantee period, the same will be repaired/replaced by the contractor without any charges at site of work. Security will be released only after expiry of guarantee period.
- 8 Normally only a registered contractor can work in IPH Department but if not so, the bidding contractor shall get himself registered in appropriate class if he is successful but within 15 days of award of work.
- 9 No extra/substitute item will be allowed for the completion of this work without prior approval.
- 10 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 delay.
- 11 The equipments shall conform to specification as per CPHEEO Manual, Implementation manual of National Rural Water Quality Monitoring and Surveillance Programme & relevant BIS Codes. All the equipments should generally conform CPHEEO manual and relevant specifications of manufacturer's country.

- 12 The specifications in respect of purpose to be served by the apparatus/ equipment, working range of the equipments configured in the schedule of quantities shall be strictly adhered to for the work.
- 13 80% of the payment shall be released after physical delivery of material in laboratory and balance shall be released after installation, calibration, testing and imparting 15 days training to departmental staff for operating and maintenance of the equipments. 10 % amount will be withheld for proper working of the equipments till guarantee period along with security deposit.
- 14 Nothing shall be paid for damaged or undelivered material to the firm in any condition.
- 15 The supplier shall install the equipments in the laboratory and shall be responsible for calibration, testing and commissioning of the same to the entire satisfaction of the departmental representative.
- 16 All equipments shall carry a replacement warranty of one year minimum or as specified by the manufacturer.
- 17 The performance guarantee bond in the shape of bank deposit in favour of Member Secretary (DWSM) cum Executive Engineer IPH Division Solan for an amount of Rs. 5.00 Lacs. will have to be deposited by successful firm/contractor before award of work. Earnest money will also have to be deposited in prescribed mode.

Member Secretary
(DWSM)Cum
Executive Engineer,
IPH Division Solan