

ICAR-CENTRAL INSTITUTE OF FISHERIES EDUCATION

(University under Sec. 3 of UGC Act, 1956)

Indian Council of Agricultural Research,

Panch Marg, Off Yari Road, Versova, Andheri (West), Mumbai-400061

Tel. No. 022-26361446/7/8

Fax No. 022-26361573

Web Site: www.cife.edu.in



QUOTATION DOCUMENT



RE- QUOTATIONS FOR EQUIPMENTS

UNDER

National Agricultural Higher Education Project



ICAR - CENTRAL INSTITUTE OF FISHERIES EDUCATION

(University under Sec. 3 of UGC Act, 1956)

Indian Council of Agricultural Research

Panch Marg, Off Yari Road, Versova, Andheri (West), Mumbai-400061

Tel. No. 022-26361446/7/8, Fax No. 022-26361573 Web Site : www67w.cife.edu.in



F. No.36-67/Master file/18-19/NAHEP-PROJ.

Date: 19.01.2019

The Director, ICAR-Central Institute of Fisheries Education, Ministry of Agriculture and Farmers' Welfare, Government of India, invites most competitive quotations in sealed envelope under National Agricultural Higher Education Project "NAHEP" for the following equipment from the reputed Indian/Foreign manufacturers and/or their accredited/sole authorized distributors/dealers-

| Item no. as per the document | Particular | QTY | Item No. | Particular | QTY |
|------------------------------|--|----------------------|----------|--|--------------------------|
| 4 | Biochar Kiln (Delivery at CIFE-Centre, Rohtak, Haryana) | 1 | 13 | Pumps and other accessories (*Package) (Delivery at CIFE-Centre, Rohtak, Haryana) | Please see specification |
| 5 | Fabrication of Ex-Situ Biofloc reactor with Online Monitoring System (*Package) (Delivery at CIFE-Centre, Rohtak, Haryana) | 1 | 18 | PIT Tags (Delivery at HQ CIFE, NEW CAMPUS) | 2000 |
| | | | 19 | Soil Water Analyser (*Package) i) pH Meter ii) EC meter iii) Portable DO/BOD iv) Refractometer (Delivery at CIFE-Centre, Rohtak, Haryana) | 1 1 1 1 |
| 6 | FRP Tanks and Plastic Pools (*Package) (Delivery at CIFE-Centre, Rohtak, Haryana) i) 500 Ltr ii) 1000 Ltr iii) 2000 Ltr iv) 5000 Ltr | 10 10 60 10 | 20 | Aerator and Blower (*Package) (Delivery at CIFE-centre, Rohtak, Haryana) | 2 4 9 |
| | | | | i) Blower with exhaust volume of 40 Ltrs/Min. | |
| | | | | ii) Blower with exhaust volume of 80 Ltrs/Min. | |
| | | | | iii) Paddle wheel aerators | |
| 7 | MID and GIS workstation MID GIS (Delivery at HQ CIFE, OLD CAMPUS) | 1 4 | 21 | Generator (62.5 KVA) with accessories (Delivery at CIFE-Centre, Rohtak, Haryana) | 2 |
| 11 | Gas Chromatography-Mass Spectrometry (Delivery at HQ CIFE, NEW CAMPUS) | 1 | | | |

TERMS & CONDITIONS OF QUOTATIONS

1. The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
2. Quotations must be submitted in the original prescribed form separately for each equipment with rates for delivery in the places mentioned in the document duly addressed to the Director, ICAR-CIFE, Mumbai-400061 in a sealed cover super scribing as **QUOTATION FOR EQUIPMENT FOR THE YEAR 2018-2019 UNDER NATIONAL AGRICULTURAL HIGHER EDUCATION PROJECT (NAHEP) with the **Item no. and Name of equipment.****
3. All duties, taxes and other levies payable on the raw materials and components shall be included in the total price.
4. In case the date of issued/receipt of opening of quotation is declared as Holiday for unexpected reasons, the quotation will be issued /received/opened on the next working day at the same time. The quotation documents are non-transferable. Director of the institute reserves the right to accept/reject any or all the quotations without assigning any reason thereof.
5. Quotations received **after the DUE DATE and TIME** will not be accepted in any circumstances.
6. Prices for extended warranty for one year and two years should be given separately. However decision about the warranty will be taken by purchaser at later stage.
7. No EMD and Tender fee are applicable.
8. The schedule to the quotation form should be submitted in prescribed format only.
9. Only one quotation should be included in one cover. Where more than one quotation is included in a cover, all quotation so enclosed in one cover will be liable to be ignored.

10. LATEST HOUR FOR RECEIPT OF QUOTATION

Unless otherwise specified in the schedule to quotation, your quotation must reach this office not later than 13.00 hrs. on the date of opening of the quotation. Quotation sent by hand delivery should be put in the quotation box kept in **NAHEP Office, 2nd floor, Room no. 225** located at Yari Road Campus of ICAR-CIFE, not later than 13.00 hrs. on the due date unless otherwise stipulated in the schedule to tender.

11. OPENING OF QUOTATION:

You are at liberty to be present or authorize a representative to be present at the time of opening of the quotation at the time and date as specified in the schedule. The name and address of the representative who would be attending the opening of the quotation on your behalf, should be indicated in your quotation. Please also state the name and address of your permanent representative, if any.

For and on behalf of

**ICAR-Central Institute of Fisheries Education
Panch Marg, Off Yari Road, Versova ,
Andheri (West), Mumbai-400061**

Signature



ICAR - CENTRAL INSTITUTE OF FISHERIES EDUCATION

(University under Sec. 3 of UGC Act, 1956)

Indian Council of Agricultural Research

Panch Marg, Off Yari Road, Versova, Andheri (West), Mumbai-400061

Tel. No. 022-26361446/7/8, Fax No. 022-26361573 Web Site :www.cife.edu.in



F. No.36-67/Master file/18-19/NAHEP-PROJ.

Date: 19.01.2019

| | |
|---|--------------------|
| 1. Issue of Quotation Document on | 19.01.2019 |
| 2. Last date for issue of tender document on | 29.01.2019 |
| 3. Date of Pre-bid meeting (15.00hrs) | 24.01.2019 |
| 4. Acceptance of sealed tenders 13.00 hrs on | 29. 01.2019 |
| 5. Opening of tender at 15.00 hrs on | 29.01.2019 |

Name of the equipment: _____

Item No. : _____

QUOTATIONS FORM HAS TO BE SUBMITTED SEPARATELY IN SEALED ENVELOPES

To,

M/s.

.....

Sub: Supply of Quotation Form - reg.

Dear Sir,

Please find enclosed herewith the quotation form along with detailed specifications for the supply of equipments mentioned in Annexure – 1.

Kindly acknowledge the receipt of the same.

Yours faithfully

Senior Administrative Officer

ICAR - CENTRAL INSTITUTE OF FISHERIES EDUCATION



(University under Sec. 3 of UGC Act, 1956)

Indian Council of Agricultural Research

Panch Marg, Off Yari Road, Versova, Andheri (West), Mumbai-400061
Tel. No. 022-26361446/7/8, Fax No. 022-26361573 Web Site : www.cife.edu.in



F. No.36-67/Master file/18-19/NAHEP-PROJ.

Date: 19.01.2019

(To be returned by Bidders along with the quotation duly completed and signed)

Name of Equipment: _____

Item No. : _____

| Sl. No. | Description of Goods | Specifications | Qty. | Unit | Quoted Unit Rate in Rs. | Total Amount | |
|-----------|---------------------------|----------------|------|------|-------------------------|--------------|----------|
| | | | | | | In Figures | In Words |
| | Please refer Annexure - 1 | * ** | * | * | * | | |
| Total | | | | | | | |
| Sales Tax | | | | | | | |

****Prices for extended warranty for one year and two years should be given separately**

Gross total cost _____ (in figures) (_____
_____ (in words).

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. _____ (amount in figures) (Rs. _____ amount in words) within the period specified in the Invitation for Quotations.

We also confirm that the normal commercial warranty/guarantee of _____ months shall apply to the offered goods.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

We also confirm that the normal commercial warranty/guarantee of _____ months shall apply to the offered goods.

Supplier

Name : _____

Signature : _____

Date : _____

INVITATION FOR QUOTATIONS FOR SUPPLY OF GOODS UNDER NATIONAL SHOPPING PROCEDURES

To

Dear Sir,

Sub : INVITATION FOR QUOTATIONS FOR SUPPLY OF FOLLOWING EQUIPMENTS

1. You are invited to submit your most competitive quotation for the following goods:-

| Brief description of the Goods | Specifications* | Quantity | Delivery Period | Place of Delivery | Installation Requirement if any |
|--|-----------------|--------------------------|-----------------|------------------------------|---------------------------------|
| Biochar Kiln | | 1 | 30 days | CIFE, Rohtak Center, Haryana | Yes |
| Fabrication of Ex-situ Biofloc reactor | | 1 | 30 days | CIFE, Rohtak Center, Haryana | Yes |
| FRP tanks and plastic pools 500 L 1000 L 2000 L 5000 L | | 10 10 60 10 | 30 days | CIFE, Rohtak Center, Haryana | Yes |
| MID and GIS workstation GIS MID | | 4 1 | 30 days | HQ CIFE, old campus | Yes |
| Gas Chromatography-Mass Spectrometry | | 1 | 30 days | HQ CIFE, new campus | Yes |
| Pumps, blowers and other accessories | | Please see specification | 30 days | CIFE, Rohtak Center, Haryana | Yes |
| PIT tags | | 2000 | 30 days | HQ CIFE, new campus | Yes |
| Soil Water Analyser | | Please see specification | 30 days | CIFE, Rohtak Center, Haryana | Yes |
| Aerator and Blower | | Please see specification | 30 days | CIFE, Rohtak Center, Haryana | Yes |
| Generator with accessories | | Please see specification | 30 days | CIFE, Rohtak Center, Haryana | Yes |

TECHNICAL SPECIFICATION OF ALL EQUIPMENTS:

Item No:4- Biochar Kiln (To be delivered at CIFE Centre Rohtak, Haryana)

- Round Type Bio Mass pyrolyzing electrical furnace having 24” diameter and 30” height
- 850 °C Three Phase 440 Volts, 12 kilowatts
- Digital temperature Controller'
- MS Angel frame MS powder coated Installation
- Equipment + Installation and transportation

Item No: 5- Ex-situ Biofloc reactor (To be delivered at CIFE Centre Rohtak, Haryana)

Biofloc reactor fabrication for and associated accessories:

A. Fabrication of biofloc reactor

- Stainless steel Tanks of cylindro-conical shape/ convenient shape (0.5 cu m *2 Nos) attached with mechanical stirrer housed inside a cabinet, drainage and aeration facility within the tanks
- Temperature and pressure to be regulated automatically.
- The inlet for aquaculture sludge supply and outlet for drainage should be at a suitable place to operate.
- Pulsating/ metered pump: 4 Nos attached to the reactor at inlet and outlet (2 each for single reactor).
- Attached floc separator (Solid –liquid separator) for harvesting biofloc once prepared is mandatory (Specifications attached in the accessory section)
- The reactor should have the provision for introducing media and additives
- The suitable sensors should be provided which will be sensing the various important water quality parameters while operating the reactor.
- The lyophilisation unit industrial scale (separate) as an accessory should be supplied along with the system (Requirement and specifications attached).

B. Solid liquid separator:

- Separation of particles from 50-100-micron size
- Mechanical vortexing at low 200 rpm
- Portable in nature
- Can separate the liquid from sludge

Accessories/machineries for biofloc reactor

Lyophilizer: (industrial scale)

- Cylindrical drying chamber size: made of stainless steel with top cover.
- No. of ports in drying chamber: 8 Nos.
- Digital microprocessor based PID temperature controller cum indicator with display
- Manifolds and quick seal valves: 10 Nos including two spares
- Proper sensors for each activity
- Double stage direct drive vacuum pump (pump capacity-100 litres/ min)
- Vacuum level: for -40°C: 0.01 MBAR
- Ice condensing capacity: 4 litres/4Kg
- Fin and tube air cooled condenser
- CFC free refrigerants for refrigeration system

Item No: 6-FRP tanks and plastic pools (To be delivered at CIFE Centre Rohtak, Haryana)

| Item | Specifications | Number |
|--------------------------|--|--------|
| FRP Tanks (500 L) | <ul style="list-style-type: none">• Volume -500 L with central drainage• Shape-Cylindroconical• Leg height-30 cm• Diameter-112 cm• Tanks height without legs-52 cm• Side slope at wall-1:8• Leg material-Solid FRP• Central Drainage-8 cm hole size with Stop cock• Other feature-No fibre glass should be exposed, Epoxy gel coating of 1 mm thickness should be provided. | 10 |
| FRP Tanks (1000 L) | <ul style="list-style-type: none">• Volume 1000 L with central drainage• Thickness-6-8mm• Water retention height-70cm• Leg height-30cm• Diameter-86 cm• Other feature-Drainage provision at the centre overflow system at the site about 2cm below the top surface, Bottom (flat) but slight slope to central drainage & Central drainage having locking system | 60 |
| FRP Tanks (2000 L) | <ul style="list-style-type: none">• Volume of tank-2000 L• Shape-Circular with flat bottom• Depth-700 cm• Diameter-200 cm• Wall thickness-7±1mm• Side slope at wall- 1:12• Other feature: No glass fibre should be exposed, Epoxy gel coating of 1mm thickness should be provided | 10 |
| Collapsible tank 5000 L) | <ul style="list-style-type: none">• Plastic portable aquaculture tanks constructed of interlocking tabular structure of non-corrosive HT grade alloy pipes.• 5 ton capacity – 2.25 m dia X 1.0 m height• Running GI wall imported pre- coated sheeting in blue or appropriate coat colour• Non-toxic UV stabilized highly tensile sky-blue vinyl lining.• Certificate of proof for non- toxicity of lining.• Easy to assemble fittings and accessories as required.• Party should install the tanks including Govt. taxes, transportation and fitting charges. | 10 |

Item No:7- MID and GIS workstation (To be delivered at HQ CIFE Old Campus)

a. Mid Workstation (Mobile workstation) (1 nos.)

- Intel Core i7
- Windows 10 Pro 64-bit operating system
- More than 15” display
- 8.0GB DDR4 RAM
- 1TB Hard Drive Capacity
- 128GB SSD Capacity
- 4GB (GDDR5) Graphics card

b. GIS workstation with UPS (4 nos.)

- Intel Xeon
- Windows 10 Pro 64 bit
- 16.0GB DDR4 RAM
- 2TB Hard Drive
- 4GB Graphics
-

Item No: 11- Gas Chromatography-Mass Spectrometry (To be delivered at HQ CIFE New Campus)

Gas Chromatograph (GC) System

- GC capable of isothermal temperature programming
- Oven temperature controllable from room temp + 4°C to + 450°C
- Temperature program steps more than 18 steps (Cooling Program possible)
- One split/split less capillary column injection unit, which is electronically controlled via EPC/PPC/AFC for Liquid sample.
- Capillary Injector Pressure Range more than 950 kPa / 140 psi
- Capillary Injector Programmable steps more than 5 steps (pressure program possible)
- Capillary Injector Split ratio range more than 9000
- Capillary Injector Maximum Flow Rate more than 1100 ml/min
- The system should have Pressure Program & Column average linear velocity constant while temperature increasing.

Mass Spectrometer (MS)

- The detector over-drive lens to minimize random noise enhancing the Signal to Noise.
- Mass Range of 1.5 to 1050 amu with unit mass resolution over the entire mass range
- Scan speed variable up to 20,000 amu/sec (single scan) with 0.1 amu step resolution in order to obtain reliable spectra for fast eluting peaks
- It must have Electron Impact (EI).
- Detector: Electron multiplier with low noise overdrive lens 8×10^6 (dynamic range)
- It must have a sensitivity of signal to noise ratio > 1500 at M/Z 272 for 1 pg Octafluoro naphthalene (OFN) in EI SCAN
- EI SIM IDL: 100 fg Octafluoro naphthalene: m/z 272 IDL-10 fg
- SIM capability of up to 64 groups of masses, with 128 masses per group time-programmed
- The vacuum system maintained by pump 30 L/min, rotary pump & 190 L/sec-170 L/sec (He) Turbo molecular pump differential exhaust system.
- The filament emission current user-selectable over the range of 5 – 250 μ A.
- The ion-source, the quadrupole and the interface heated independently over a user-selectable temperature range: Ion-source: 140 – 300 °C & Interface: 50 – 350 °C.
- The ion source accessible from the front for easy maintenance without the need to remove the top cover.
- Economy mode for lower running cost with less power consumption & carrier gas reduction in laboratory.

Software

- The Data Processing software 32/64 BIT application software.
- Long file name, drag and drop function fully utilized.
- System start-stop fully automated and controlled via the software
- System supplied with latest original licensed NIST databases.
- The library search software provided as standard capable of searching through libraries simultaneously including the user defined private library.
- Software shall have measurement mode of Scan, SIM, FASST (Simultaneous SCAN / SIM) capability.

- Automatic calculation of Retention Index for target compounds based on n-Alkane and able to carry out mass spectrum similarity Search function with the Retention Index.
- GC-MS software shall have in-built QA/QC function capability.
- Software has energy saving ecology mode facility.

Standard Accessories

- Single Gas Panel for He shall be provided.
- He Gas Cylinder shall be provided.
- 2 Stage Gas Regulator shall be provided.
- Gas Tubing for single gas shall be provided.
- 5KVA UPS with 30 min back up shall be provided.
- The system supply with compatible PC / Monochrome LaserJet Printer.

Item No: 13- Pumps and other accessories (To be delivered at CIFE Centre Rohtak, Haryana)

i. Solar powered blowers for aquaculture

- Number of blowers (2 nos.)
- Total power requirement: (1.5 hp each), 220V single phase
- Noise level: minimum

ii. Other pumps and accessories

- Submersible pump: Number 2, 1 hp each
- Submersible pumps: 0.5 hp each 12 Numbers
- Timers: 6 Numbers
- Plumbing accessories: PVC pipes, to cover (20 x10 m) area on both sides for water lines and airline pipes made of suitable material for covering the entire (20 x 10 m) area
- Plumbing works for tanks of 5 ton each (12 Numbers) for proper air circulation using aero tubes.
- Party should provide aero tubes with the following specifications

i. Aero tube diffusers: Non-clog type diffusers EPDM 200 sq. m coverage

- Application: Aeration in indoor aquaculture tanks
- Wall Thickness. 0.25 inch
- Optimal Air Flow. 0.4 CFM
- The bubble diameter: 20-50 μ m
- The air flow: 4-5 cubic meters/HRM
- Applicable water depth and dimension: 5-ton circular Tank X 12 Numbers
- Required dissolved oxygen: 5.5-6.5 ppm
- Compatibility with various types of blowers and diffusers
- Efficiently transfer oxygen in both fresh and salt water.
- Easier to clean – simply rinse the diffuser bars with water

ii. Aero tube disc diffusers (50 Numbers) to be provided

- Non-clog EPDM
- Air output: Not less than 3 cu m per hr per diffuser

Instruction to party

- The location for construction is ICAR-CIFE, Rohtak Centre, Haryana

- Reference of supplies to central and state government aquaculture/agriculture projects in past one year.
- Any major repair work during the said period should be carried out by the party.
- The civil works, transportation cost and the government taxes should be included within the specified amount.

Item No: 18- PIT tags (To be delivered at HQ CIFE New Campus)

- Size 12mm x 2.12 mm diameter
- Reading distance up to 10-15 cm
- RFID Transponder for subcutaneous injection to small animal
- ISO 11784/85 as well as ICAR certified

Item No: 19- Soil Water Analyser (To be delivered at CIFE Centre Rohtak, Haryana)

- **pH Meter**

| Item | Specifications |
|-----------------|---|
| pH meter (2Nos) | <ol style="list-style-type: none"> 1. μ controller based pH system with electrode and temperature probe. 2. Auto temperature compensation enabled with 5 point Calibration 3. Resolution limit 0.001 pH 4. Warranty 1 year against Mfg. defect |

- **EC Meter**

| Item | Specifications |
|-----------------|---|
| EC meter (2Nos) | <ol style="list-style-type: none"> 1. μ Controller. 2. Conductivity range- 0.1 μS to 200 μS, 3. Conductivity Resoulution - 0.001 μS 4. TDS Range- 0.1 ppm to 100 ppt 5. Temperature Calibration- Auto in Range of (0-100 °C) 6. Warranty 1 year against Mfg. defect |

- **Portable DO/BOD**

| Item | Specification |
|--|---|
| Portable DO/BOD meter (Quantity 2 no.) | <ol style="list-style-type: none"> 1. Type: Portable 2. Range: 0-20 ppm 3. DO measurement Resolution: 0.1ppm 4. Accuracy: $\pm 1\%$ of reading 5. Calibration: Two points 6. Temperature Compensation: Automatic in the range of 0 to 50 degree centigrade 7. Salinity compensation: Automatic in the range of 0 to 60 ppt 8. Temperature Resolution: 0.5 °C 9. Display: 1 line 8 character LCD 10. Pressure: Barometric correction 500 to 1499 mm Hg 11. Power: 9 volt battery or mains adaptor 9 – 12 V 12. Warranty: 2 years against MFG defect |

- **Refractometer**

| Item | Specifications | |
|-------------------------------|--|---|
| Refractometer (Quantity-4) | Scale | Dual scale system (Salinity & Specific gravity) |
| | Salinity range | 0-100 ppt |
| | Specific gravity | 1-1.07 |
| | Measurement accuracy | ±1ppt or ±0.001ppt |
| | Repeatability | - |
| | Automatic temperature compensation | 10-30°C |
| | Type | Handle |
| | resolution | 1ppt/0.001ppt |
| | Supplied with protective storage case & operation manual | |

Item No: 20- Aerator and Blower (To be delivered at CIFE Centre, Rohtak, Haryana)

i. Paddle Wheel Aerators (9 nos.)

- Motor: 2 HP, Self-cooling
- Gear box: Cast iron with Bevel gear
- Motor Cover: 100% virgin HDPE with UV resistance
- Impeller: 4-units 100 % virgin PPCP
- Frame: Stainless steel powder coated
- Float: 3-unit 100% virgin
- Rated Power: 1.5 KW
- Phase: 3 phase
- Voltage: 400 V± 20 V
- Rated frequency: 50 Hz
- Speed: >1400 rpm

ii. Blower with exhaust volume of 80 litres/minute (4 nos.)

- Rated Voltage (V) - AC100/120/220 - 240
- Power Supply Frequency (Hz)-50/60
- Normal Pressure (kPa)- 14.7
- Exhaust Volume (L/min)- 80
- Power Consumption (W)- 71
- Noise level Dba (1m)- 36
- Weight (kg)-7.0

iii. Blower with exhaust volume of 40 litres/minute (2 nos.)

- Type: Silent
- Rated Voltage
- Normal: AC100/120/220-240 V
- Power Supply Frequency: 50-60 Hz
- Pressure: 12.8 kPa
- Exhaust volume: 40L/min.
- Power consumption: 38 W
- Noise Level: 32 dBA(1m)
- Weight: 5.7 kg

Item No: 21-Generator with accessories (To be delivered at CIFE Centre, Rohtak, Haryana)

i. Engine- Diesel engine, silent

- Liquid cooled
- Electric start
- Four stroke, four cylinders, cold starting, TCI Aspirated
- Compression ignition
- Totally enclosed diesel engine developing 90 BHP at 1500 RPM at NTP.
- The Engine should be suitable for generating set application and fitted with the following standard accessories:
 - Flywheel to suit coupling
 - Suitable coupling
 - Water cooling arrangement
 - Radiator
 - Lube Oil Filter
 - Lube Oil Pump
 - Fuel Pump
 - Hoses to fuel tank
 - Air Cleaner assembly
 - Residential heavy duty silencer
 - Engine fitted with low lube oil pressure (LLOP) & high-water temperature (HVVT) Safety devices.
 - Fitted with requisite temperature and pressure gauges

ii. Alternator

- 62.5 KVA alternator, at 1500 RPM, 0.8 lagging power factor
- Three Phase 415 Volts suitable for 50 Hz
- H class insulated winding
- The alternator shall conform to IS: 13364, IS: 4722, BS5000, IEC: 34 and suitable for tropical condition

iii. Control Panel

- Fitted inside Canopy, fabricated out of 1.6 mm CRCA Sheet, cubical type, totally enclosed
- Powder Coated
- Control Panel incorporating the following:
 - Sedmac unit comprising:
 - Lube oil Pressure metering & Safety
 - High Water Temperature metering & Safety
 - Fuel Level Gauge in metering & Safety
 - Voltage metering & Safety
 - Ampere metering & Safety
 - Frequency meter metering & Safety
 - Engine RPM metering & Safety & many more metering & Safeties
 - Power metering & Safety
 - Power factor metering
 - 1. 1 set MCB
 - 2. 1 set of suitable current transformers
 - 3. 1 No. Toggle switch and indicating lamps
 - 4. Input and output terminals for incoming and outgoing

iv. Accessories

- Base frame: Suitable base frame of sturdy design with necessary reinforcement and with in-built diesel tank.
- Fuel Tank: Daily service fuel tank of sheet metal, suitable enough for minimum 8 hours running of DG, complete with drain valve, air vent, inlet, outlet connections and mechanical gauge.
- Battery (1No): 12 V charged make with its leads.

v. Installation

- GI chemical earthing (4 nos.)
- Power cable 70x3.5sqmm: 50 M
- Earthing cable 25x4: 20M
- Foundation 10x4: 1Job
- Unloading D.G set ground floor: 1 Job
- Cable lang and termination charge:1 Job
- 125 amps change over: 1 Nos

Address of Delivery location:

- ICAR-Central Institute of Fisheries Education (New Campus), Panch Marg, Off Yari Road, Versova, Andheri (West), Mumbai-400061
- **Centre In charge**
ICAR-CIFE, Rohtak Centre, Lahli, Via Anawal, Rohtak – 124 411, Haryana