INVITATION FOR QUOTATION

TEQIP-III/2018/gwec/Shopping/33 **11-Jan-2019**

To,

Sub: Invitation for Quotations for supply of Goods for Heat Tranfer Lab (ME)

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

Sr. No	Brief Description	Quantity	Delivery Period(In days)	Place of Delivery	Installation Requirement (if any)
1	Actual Cut Section Automatic Gear Box Car (Internal Gear)	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
2	Actual Cut Section Gear Box Jeep (Sliding Mesh)	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
3	Actual Cut Section Model of Splash Lubrication System of an Automobile	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	YES
4	Actual Cut Section Model of Steering System	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
5	Actual Cut Section Model of Water Cooled Cooling System of an Automobile	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes

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6	Air Brake Actual Working	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
7	Anti-Priming Pipe	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
8	Benson Boiler Model	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
9	Blow Off Cock	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
10	Clutch	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
11	Combined High Steam and Low Water Safety Valve	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
12	Critical Heat Flux Apparatus	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
13	Dead Weight Safety Valve	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
14	Differential and Rear Axle Assembly	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
15	Differential Gear Assembly	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
16	Disc Brake Actual Working	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
17	Emissivity Measurement Apparatus	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
18	Expansion Steam Trap	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
19	Feed Check Valve	1	30	Mechanical Department, Govt.	Yes

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				Women Engineering College , Ajmer	
20	Float Steam Trap	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
21	Forced Convection Apparatus	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
22	Fusible Plugs	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
23	Gear Box (Constant Mesh)	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	GWECA
24	Green Economizer	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
25	Industrial microwave	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
26	Lamont Boiler	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
27	Lever Safety Valve	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
28	Loeffler Boiler	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
29	Mechanical Heat Pump Trainer	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
30	Model Board Consisting of Various Controls Used in Refrigeration & Air Conditioning System	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
31	Model of Babcock and Wilcox Boiler	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
32	Model of Cochran Boiler	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes

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33	Model of Cornish Boiler	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
34	Model of Electronic Ignition System of I.C. Engine	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
35	Model of Fuel Supply System of a Diesel Engine	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
36	Model of Fuel Supply System of a Petrol Engine	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
37	Model of Hydraulic Brake	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
38	Model of Ignition System of I.C. Engine	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
39	Model of Lancashire Boiler	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	yes
40	Model of Locomotive Boiler	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
41	Natural Convection Apparatus	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
42	Option I - Hydraulic Brake unit (Two Brake Drum)	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
43	Option II- Hydraulic Brake unit (Four Brake Drum)	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
44	Option- Gear Box with Clutch	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
45	Orsat Gas Analysis	1	30	Mechanical Department, Govt.	Yes

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	Apparatus (Without Chemicals)			Women Engineering College , Ajmer	
46	Parallel and Counter Current Flow in a Double Pipe Heat Exchanger	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
47	Pin Fin Apparatus	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
48	Power Brake Actual Working	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
49	Pressure Gauge	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
50	Reducing Valve	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
51	Spring Loaded Safety Valve	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
52	Steam Injector	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
53	Stefan Boltzman Apparatus	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
54	Sterling Boiler Model	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
55	Stop Valve Hopkinson Type	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
56	Sudgen Super Heater	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
57	Thermal Conductivity of Insulating Powder	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
58	Thermal Conductivity of	1	30	Mechanical Department, Govt.	Yes

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	Metal Rod			Women Engineering College , Ajmer	
59	Vapour Compression Refrigeration Cycle Test Rig	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
60	Velox Boiler Model	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
61	Vertical Water Tube Boiler	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
62	Water Gauge Model	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes
63	Wise & Film Wise Condensation Apparatus	1	30	Mechanical Department, Govt. Women Engineering College , Ajmer	Yes

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme[TEQIP]-Phase III** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.
3. Quotation,
   - 3.1 The contract shall be for the full quantity as described above.
   - 3.2 Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
   - 3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit price.
   - 3.4 Applicable taxes shall be quoted separately for all items.
   - 3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
   - 3.6 The Prices should be quoted in Indian Rupees only.
4. Each bidder shall submit only one quotation.

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5. Quotation shall remain valid for a period not less than **45** days after the last date of quotation submission.
6. Evaluation of Quotations,

   The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

   6.1 are properly signed ; and

   6.2 confirm to the terms and conditions, and specifications.
7. The Quotations would be evaluated for all items together.
8. Award of contract:

   The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

   8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

   8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.
9. Payment shall be made in Indian Rupees as follows:

   Delivery and Installation - 90% of total cost

   Satisfactory Acceptance - 10% of total cost

10. All supplied items are under warranty of **36** months from the date of successful acceptance of items.
11. You are requested to provide your offer latest by **15:00** hours on **20-Feb-2019.**
12. Detailed specifications of the items are at Annexure I.
13. Training Clause (if any) **Required On Site**
14. Testing/Installation Clause (if any) **Required On Site**

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15. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
16. Sealed quotation to be submitted/ delivered at the address mentioned below,
    Makhupura, Nasirabad Road, Ajmer -305002
17. We look forward to receiving your quotation and thank you for your interest in this project.
18. Your are requested to provide Company Profile details viz Company Registration Cetificate , GST Registration Certificate and necessary documents duly certified by Chartered Accountants and Notary Public.

(Authorized Signatory)
Name & Designation

Principal
Govt. Women Engg. College
Ajmer

Govt. Mahila Engineering College
AJMER

Annexure I

Sr. No	Item Name	Specifications
1	Actual Cut Section Automatic Gear Box Car (Internal Gear)	Actual Cut Section Automatic Gear Box
2	Actual Cut Section Gear Box Jeep (Sliding Mesh)	Actual Cut Section Gear Box Jeep (Sliding Mesh)
3	Actual Cut Section Model of Splash Lubrication System of an Automobile	Study of Lubrication system of an IC engine (Mist, splash and pressure lubrication)
4	Actual Cut Section Model of Steering System	Demonstration of Steering system and measurement of steering geometry angles and their impact on vehicle performance. NOTE: We are dealing in only demonstration model, Model consists of steering wheel rack & pinion, arm, drag link, steering arm and track road. Model is mounted on a base
5	Actual Cut Section Model of Water Cooled Cooling System of an Automobile	Actual Cut Section Model of Water Cooled Cooling System of an Automobile
6	Air Brake Actual Working	Air Brake Actual Working
7	Anti-Priming Pipe	Model is complete with seating of junction valve. The perforated pipe is about 30 cm long and 4 cm in diameter
8	Benson Boiler Model	It is a properly constructed non working model made of wooden and metallic parts showing necessary parts such as economiser, super heater, separated evaporator and feed pump etc
9	Blow Off Cock	The model is a metallic sectionised mounted on base.
10	Clutch	Study of transmission system including clutches, gear box

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		assembly and differential. Original, Dissected Model
11	Combined High Steam and Low Water Safety Valve	Safety valve blows off when the steam pressure exceeds the working pressure. This high steam safety valve is combined with another arrangement that allows the steam to escape as water level falls too low. A properly constructed model fitted on suitable wooden base
12	Critical Heat Flux Apparatus	(a) Experimental set up consists of: (i) Perspex Trough (ii) Stand for perspex trough (iii) Band heater test heater assembly (iv) Thermometer: 0-1000 C (v) Magnifying glass (b) Control panel consists of: (i) Digital Voltmeter (ii) Digital Ammeter (iii) Variac
13	Dead Weight Safety Valve	The valve is resting on the seat at the top of an outlet pipe. The valve and pipe are covered by a case carrying weights hanging freely from the valve.
14	Differential and Rear Axle Assembly	Model consists of original parts as pinion & bevel, crown wheel, differential gear, shafts and brake drums. Model is mounted on a base.
15	Differential Gear Assembly	Original, only dissected differential gear assembly mounted on a wooden base with driving handle
16	Disc Brake Actual Working	Disc Brake Actual Working
17	Emissivity Measurement Apparatus	(a) Experimental Set up consists of: (i) Test plate: Polished Copper (ii) Reference plate: Black Copper (iii) Wooden chamber with perspex cover (iv) Mica-insulated heaters for black and polished body (v) Set of Thermocouples (b) Control panel consists of: (i) Digital Voltmeter with or switch (ii) Digital Ammeter - 2 Nos. (iii) Variac - 2 Nos. (iv) Digital temperature indicator (v) Switch for mains & Heater
18	Expansion Steam Trap	In this system the advantage is taken of the expansion of materials on heating. The unit is all metallic, section cut,

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		mounted on 40 cm high wooden board
19	Feed Check Valve	Hopkinson's type, all metallic section cut model. A good design of non return valve and arrangement for regulating by hand can be easily demonstrated with this all metallic section cut model.
20	Float Steam Trap	This type is intended to separate water by a float which is raised when it accumulates in the trap, thus opening a valve and permitting water to escape. The model is all metallic section cut and mounted on cast iron base.
21	Forced Convection Apparatus	(a) Experimental set up consists of: (i) Blower (ii) Mechanical unit with heater on test section (iii) Set of thermocouples (b) Control panel consists of: (i) Digital voltmeter with a L.C. of 1 V (ii) Digital ammeter with L.C. of 0.01 A (iii) Variac (iv) Digital temperature indicator (v) Switch for mains & heater
22	Fusible Plugs	Section cut & properly constructed models mounted on polished wooden base.
23	Gear Box (Constant Mesh)	Original, sectionised 4/5 speed gear box with gear operating lever. Model is mounted on a stand
24	Green Economizer	It is an all metallic demonstration model to understand the working of a feed water heater. Complete with safety valve, scrapers, chains and pulleys. Flue passage i.e. all brick work is shown in wood work and the model is so dissectible that the inner construction can be seen clearly. The model is about 45 x 30 x 25 cm in size
25	Industrial microwave	Description Multi mode, continuous flow Max Power 1000 W Max Temperature 200°C Max Pressure 30 bar Max Vessel Volume 12-100 mL/min. Temperature controlAutomatic
26	Lamont Boiler	It is a properly constructed non working model made of wooden and metallic parts showing necessary parts such as boiler, feed pump, check valve, economiser, evaporator mud drum, circulatory pump, super heater, main valve, bleeder,

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		ash pan and grate
27	Lever Safety Valve	An all metallic demonstration model shows the valve seat, fulcrum and lever with adjustable weight.
28	Loeffler Boiler	It is a properly constructed model made of wooden and metallic parts showing necessary parts such as economiser, press convection, super heater, steam outlet, radiant super heater, feed pump and steam circulatory pump
29	Mechanical Heat Pump Trainer	To determine the COP and tonnage capacity of a mechanical heat pump Heat pump and refrigerating machine basically works on the same principle and with the same components. Heat pump is a machine which delivers heat at temperature suitable for either domestic, industrial and commercial purpose. The majority of heat pumps operate on the vapour compression cycle using a refrigerant as working fluid. This mechanical heat pump is fully sealed R-12 refrigerant system using water to water heat pumping principle. Compressor : 1/4 HP Kirloskar make Condenser fin : Air cooled, shell & coil type Solenoid valve : Expansion Valve : Thermostatic Expansion valve Thermostat ; 5C to 15C Evaporation : Shell & coil type LP-HP cutout, Pressure and Compound gauge, filter, drier, Rota meter and multi-channel digital temperature indicator are provided with the trainer. The test rig consists of all instruments mounted on wooden board with laminated sheet. Suitable pressure gauges and thermocouples are provided at crucial points to measure the parameters. The direction of the cycle names the various components
30	Model Board Consisting of Various Controls Used in Refrigeration & Air Conditioning System	To study various controls used in Refrigeration and Air conditioning systems.
31	Model of Babcock and Wilcox Boiler	It is a water tube boiler. The shell is 15 cm in diameter and 75cm in length and is fitted with a super heater and with inclined water tubes over the furnace connected with headers. The model is fitted with stop valve, safety valve,

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		water gauge, steam gauge, manhole, mudhole, regulating draught door, damper with counter weight and chimney. Seating and brick work are shown in wood work.The model is approximately one meter in length 28cm in breadth and 77cm high.
32	Model of Cochran Boiler	This is the best known vertical type fire tube boiler. The shell is about 25cm in diameter and 60cm high. The cylindrical fire box is with a door and gate at its bottom. Hot gases pass from the fuel to the combustion chamber through a short flue pipe and then to chimney through the tubes. At both ends of the tubes, covers are given and tubes can be cleaned after their removal. The model is complete with feed check valve, steam and water gauges, stop valve, safety valve and manhole.
33	Model of Cornish Boiler	In appearance this boiler model is similar to Lancashire boiler with the difference that one fire tube passes from end to end.
34	Model of Electronic Ignition System of I.C. Engine	Model consists of a solenoid starter, ignition switch, ignition coil, distributor, four plugs with necessary connections and terminals for battery connections
35	Model of Fuel Supply System of a Diesel Engine	Study of fuel supply system of a Diesel engine (fuel pump and fuel injector) Model consists of a diesel tank, fuel injection pump, filter and automizer. Model is complete on a base board.
36	Model of Fuel Supply System of a Petrol Engine	Study of fuel supply system of a petrol engine (fuel pump and simple carburetor) Model consists of a petrol tank, fuel pump, filter and carburetor. Model is complete on a base of size 60 x 30 cm.
37	Model of Hydraulic Brake	Study of braking system with specific reference to types of braking system, master cylinder and brake shoes. Model, a sectionised unit, consists of a master cylinder assembly, wheel cylinder, brake shoes, brake drum and necessary connections. Model is provided with a brake lever. Model is mounted on a wooden base
38	Model of Ignition System	Study of Ignition System of an IC engine (Battery and magneto ignition system) and Electronic Ignition System Model consists

	of I.C. Engine	of a solenoid starter, ignition switch, ignition coil, distributor, four plugs with necessary connections and terminals for battery connections and A small Battery with a charger
39	Model of Lancashire Boiler	Steel shell is about 75cm long and 22cm in diameter. Two large tubes known as fire tubes pass from end to end. At the front end of each tube a furnace fire grating is placed and a door is hinged. Brick work, seating and flues are shown in wood work. The boiler is complete with dead weight safety valve, manhole, mud hole, check valve high steam and low water safety valve, steam and water gauges, regulating draught doors, dampers with counter weights and chimney. The model is approximately one meter in length, 37cm in breadth and 45cm high. It is specially made dissectible for demonstration purpose.
40	Model of Locomotive Boiler	The model is specially designed to understand the working of a locomotive steam boiler. The steel shell is of about 20 cm dia and 60cm in length. The fire box is provided with a door and gate. The dissected barrel shows its inside view. Hot gases after passing through the fire tubes enter the smoke box with a door, nozzle and the blast pipe. The model is approximately 100cm in length, 45cm high and 35cm in breadth and is complete with whistle, steam dome, safety valve, check valve, steam regulator water and steam gauges
41	Natural Convection Apparatus	(a) Experimental set up consists of: (i) Vertical cylinder with heater inside (ii) Rectangular enclosure open from the top and bottom as well as one side perspex along with stand. (iii) Set of thermocouples to measure the tube wall temperature. (b) Control panel consists of: (i) Digital Voltmeter (ii) Digital Ammeter (iii) Variac (iv) Digital temperature indicator (v) Switch for Mains & Heater
42	Option I - Hydraulic Brake unit (Two Brake Drum)	Same as above but with two brake drums and a master cylinder

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43	Option II- Hydraulic Brake unit (Four Brake Drum)	Same as above but with four brake drums and a master cylinder
44	Option- Gear Box with Clutch	Original, sectionised 4/5 speed gear box with gear operating lever and clutch. Model is mounted on a stand.
45	Orsat Gas Analysis Apparatus (Without Chemicals)	Analysis of engine exhaust gases using Orsat apparatus / gas analyzer For the determination of CO2, CO and O2 particularly in fuel and furnace gases. Comprising of levelling bottles, 100 ml, gas burette with outer jacket, three absorption pippetes manifold with glass stop cocks in wooden case with sliding doors
46	Parallel and Counter Current Flow in a Double Pipe Heat Exchanger	(a) Experimental set up consists of: (i) Concentric pipe test section (1m long, Inner Tube 6.3 mm dia (internal) and 8.0 mm outer dia fitted in a suitable MS angle structure painted. (ii) Hot Water tank along with pump and immersion type heater (iii) Cooling medium water is provided with the help of water tap through rotameter. (b) Control panel consists of (i) Digital temperature indicator (ii) Switch for mains & heater (iii) Rotameter- 2 nos. (iv) Control valves
47	Pin Fin Apparatus	(a) Experimental set up consists of: (i) Mechanical unit with Heater on test section (ii) Set of thermocouples (b) Control panel consists of: (i) Digital Voltmeter (ii) Digital Ammeter (iii) Variac (iv) Digital temperature indicator (v) Switch for Mains & Heater
48	Power Brake Actual Working	Power Brake Actual Working
49	Pressure Gauge	This cutaway demonstrational model is to understand the system explaining the principle. The model is mounted on cast iron base with air nozzle. It is provided with transparent graduated dial to see the inner constructional details of the Bourdon's tube.

50	Reducing Valve	The function of this valve is to maintain a constant reduced pressure on the engine side while the higher pressure on the boiler side may be variable. It is a large size section cut model
51	Spring Loaded Safety Valve	The demonstration model is having two separate valves with one lever bearing loaded by a spring
52	Steam Injector	This cutaway demonstration model is to understand the system of feeding a boiler with water by direct use of steam. Showing water and steam inlet, overflow valve and overflow outlet. The central screw cut spindle carried valve and the upper end with handle. The steam cone is actuated by rotating the handle. It is fitted on 45 cm high wooden board
53	Stefan Boltzman Apparatus	(a) Experimental Set up consists of: (i) Copper semi sphere with copper vessel (ii) Hot water tank with immersion heater. (iii) Test piece (iv) Set of thermocouple (b) Control panel consists of (i) Digital temperature indicator (ii) Switch for Mains & Heater (iii) Control valves
54	Sterling Boiler Model	It is a properly constructed non working model made of wooden and metallic parts showing necessary parts such as two upper drums, mud drum, water tubes, baffle wall, super heater, steam pipe and stop valve etc. Overall size is about 50 cm x 20 cm x 75 cm.
55	Stop Valve Hopkinson Type	The type has many advantages over ordinary design of junction stop valve. The construction and the method of operating the complicated valve can be easily demonstrated with this all metallic sectional mode.
56	Sudgen Super Heater	Flue passage and all brick work is shown in wood work and the model is made in such a manner that an inner section view can be seen easily. The overall size is about 30 x 30 x 20 cm.
57	Thermal Conductivity of Insulating Powder	(a) Experimental set up consists of: (i) Testing material capillary, (ii) Guard heater & main heater assembly, (iii) Cooling water jacket (iv) Set of thermocouples (b) Control panel consists of: (i)

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		Digital voltmeter (ii) Digital ammeter (iii) Variac (iv) Digital temperature indicator (v) Switch for mains & heater (vi) Selector switch
58	Thermal Conductivity of Metal Rod	(a) Experimental set up consists of: (i) Test rod of Brass (ii) Band heater (iii) Cooling chamber with arrangement for water circulation (iv) Set of thermocouples (b) Control panel consists of: (i) Digital Voltmeter with L.C. of 0.1 V (ii) Digital Ammeter with L.C. of 0.01 A (iii) Variac (iv) Digital temperature indicator with L.C. of 0.1o C (v) Switch for mains & Heater
59	Vapour Compression Refrigeration Cycle Test Rig	To study refrigeration cycle, determination of coefficient of performance of cycle and tonnage capacity of refrigeration unit. Consisting of refrigeration cycle demonstration equipments Compressor : 1/4 HP Kirloskar make Condenser fin : Air cooled Solenoid valve : Expansion Valve : Thermostat : Evaporation : LP-HP cutout : Pressure and Compound gauge : The test rig consists of all instruments mounted on wooden board with laminated sheet. Suitable pressure gauges and temperature sensors are provided at crucial points to measure the parameters. The direction of the cycle explains the name of various components.
60	Velox Boiler Model	It is a properly constructed non working model made of wooden and metallic parts showing necessary parts such as air compressor, feed pump, and steam separating section, super heater, economiser, gas turbine, water circulating pump and steam outlet.
61	Vertical Water Tube Boiler	It is fitted inside a cylindrical fire box to increase the heating surface and improve the circulation of the water. The fire box is fitted with cross tubes. The model is complete with stop valve, check valve, safety valve, manhole, water gauge and steam gauge

62	Water Gauge Model	The model is an all metallic and properly constructed. Upper and lower parts are with transparent s to make the interior construction visible and are connected by a hollow column. The unit is complete with cock and stuffing's. The model is mounted on a wooden board.
63	Wise & Film Wise Condensation Apparatus	Experimental set up for determination of heat transfer coefficient in wise & film wise condensation

FORMAT FOR QUOTATION SUBMISSION

(In letterhead of the supplier with seal)

Date: _____

To:

_____

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Sl. No.	Description of goods (with full Specifications)	Qty.	Unit	Quoted Unit rate in Rs. (Including Ex Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
Total Cost							

Gross Total Cost (A+B): Rs. _____

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

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We confirm that the normal commercial warranty/ guarantee of ———————— months shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the Invitation Letter.

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

Signature of Supplier

Name: _____

Address: _____

Contact No: _____

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