CHANDIGARH COLLEGE OF ENGINEERING & TECHNOLOGY,
(DEGREE WING), CHANDIGARH
e-SHORT TERM TENDER NOTICE

Chandigarh College of Engineering & Technology, Sector-26, Chandigarh invites short term tenders through e-tendering for purchase the Machinery/Equipments/Items for following Department:-

Name of Department	**Earnest Money** (₹)	**Start Date and Time of uploading of e-tender**	**End Date and Time of uploading of e-tender**	**Date and Time of opening of Online Bid (Technical Bid)**
Mechanical Engineering	27000/-	11.10.2012 at 3.00 P.M.	26.10.12 upto 3.00 P.M.	26.10.12 at 3.00 P.M.

Detailed Terms and Conditions are available in e-tender document.
The bid document can be downloaded from the website of Chandigarh Administration http:/www.etenders.chd.nic.in however for general information, guidance and reference, the tenderer can approach to office of Principal, Chd. College of Engg. & Tech., Sector-26, Chandigarh (Phone No. 0172-2750943)

Principal

INSTRUCTIONS TO BIDDERS REGARDING E-TENDERING PROCESS

a. Tenders without Digital Signatures will not be accepted by the electronic tendering system. No tender will be accepted in physical form and in case it has been submitted in physical it shall be rejected.

b. Before submission of on line bids, bidders must ensure that scanned copies of all the necessary documents have been uploaded with the bid.

c. Principal, Chd. College of Engg. & Tech., Chandigarh will not be responsible for any delay in online submission of bids due to any reason whatsoever.

d. Bidders should get ready with the scanned copies of EMD as specified in the tender documents. The original instruments in respect of EMD in the shape of FDR or Deposit at Call or Term Deposit Receipt or Demand Draft in favour of the Principal, Chd. College of Engg. & Tech. (Degree Wing), Sector-26, Chandigarh and Affidavit regarding non blacklisting should reach on or before 26-10-2012 by 3.00 p.m.

e. The details of EMD specified in the tender document should be same as submitted online (scanned copies). Otherwise tender will be rejected summarily.

TERMS AND CONDITIONS OF THE TENDER

CCET STANDS FOR CHD. COLLEGE OF ENGINEERING & TECHNOLOGY, CHANDIGARH.

1. The last date and time for receipt of tenders is **26.10.2012 upto 3.00 p.m.** through e-tendering only.
2. Each tender must be accompanied with Earnest Money Deposit of Rs. 27000/- for Mech Deptt in the shape of FDR or Deposit at Call or Term Deposit Receipt or Demand Draft in favour of the Principal, Chandigarh College of Engineering & Technology, Chandigarh, valid for six months payable at Chandigarh on any Scheduled Bank.
3. The sealed envelope of EMD should bearing the Advertisement No. and should be clearly superscribed as "EMD for Purchase of Machinery /Equipment/Items for Mechanical Engineering Department due on **26.10.2012** should be separately submitted in the office of Principal, Chandigarh College of Engineering & Technology, Sector-26, Chandigarh on or before **26.10.2012 upto 3.00 p.m.**
4. Any attempt direct or indirect, to cast influence, negotiation on the part of the tenderer with the officials/authority to whom he will submit the tender or the tender accepting official/authority before the finalisation of tenders will render the tenderer liable for exclusion from consideration.
5. Tender(s) received without earnest money shall be rejected straightway.
6. Earnest Money deposited with the Chd. College of Engg. & Tech., (Degree Wing), Chandigarh in connection with any other tender will not be considered against this tender.
7. The Public Sector Undertaking of the Central / State Govt. are exempted from furnishing Earnest Money Deposit.
8. This tender is not transferable.
9. The tender i.e. Pre-qualifying-cum-Technical Bid shall be opened at **3.00 p.m. on 26.10.2012** at Chandigarh College of Engineering & Technology (Degree Wing), Chandigarh.
10. Conditional offer shall be rejected.
11. The requirements of the Institute in terms of category of machinery/equipment/items, detailed specifications and quantity are

given in **SCHEDULE OF TECHNCIAL SPECIFICATION / REQUIREMENT (AS PER ANNEXURE-I)**. Principal, CCET reserves the right to change the quantity for any/all items without assigning any reason.

12. The tenders not accompanied by Earnest Money or incomplete in any respect will be rejected outrightly.
13. No advance payment will be made. Payment will be made after receipt of machinery/equipment/items, its inspection, installation and testing to the satisfaction of the Technical and Purchase Committees.
14. **The quoted prices must be inclusive of Excise Duty, VAT, Sale Tax, Central Sale Tax, Freight Duty and any other charges etc. etc. It is clarified that no payment on account of taxes / freight etc. will be made extra other than those quoted in the price bid.** Tenderers / Bidders / contractors must ensure that all the taxes are included in the price bid. If any bid / tender is found exclusive (without) of taxes will not be entertained in any circumstances and the same will be rejected straightway. **Tenderers / Bidders / contractors are instructed to mention the rates of Excise Duty, VAT, Sale Tax, Central Sale Tax, Freight Duty etc. for each and every item in Annexure –III and submit with the technical bid.**
15. The Principal, CCET reserves all rights to accept or reject any tender without assigning any reason.
16. Rates should be quoted F.O.R. Chd. College of Engg. & Tech., Sector-26, (Degree Wing) Chandigarh including packaging, forwarding, postage and freight etc.
17. The Principal, CCET reserves all rights to reject the goods if the same are not found in accordance with the required description / specifications.
18. In case of violation of any term and condition as mentioned, Earnest Money Deposit of the tenderer shall be forfeited in full or part at the entire discretion of the Principal, Chd. College of Engg. & Tech., Chandigarh.
19. Training for the operation of equipments, if any, shall be provided by the firm free of cost to the faculty / other staff of the college.

20. The defective machinery/equipment/items from the Store of Chd. College of Engg. & Tech., Chandigarh will be lifted at the entire cost & risk of the firm. Chd. College of Engg. & Tech., Chandigarh will not bear any expenses on this account and the machinery/equipment/items lying in the CCET premises will be at tenderers risk and cost.

21. The machinery/equipments/items will be maintained free of charges during the warranty period.

22. **PERFORMANCE SECURITY:-** Performance security @10% of the value of supply order covering the warranty period shall be furnished by the firm in the shape of Bank Guarantee duly pledged in favour of Principal, Chd. College of Engg. & Tech., Chandigarh before / along with supply of machinery/equipments/items. **The performance security should remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the supplier including warranty obligations.**

23. The CCET would return the Earnest Money Deposit to the successful tendering firm on the submission of the Bank Guarantee. EMD of unsuccessful tenderer will also be returned.

24. Rates quoted in Indian Currency only shall be accepted irrespective of foreign make of machinery/equipment/items which should include all kinds of charges, taxes, duties etc. Financial bids showing the rates in other currency shall not be considered and deemed to be rejected automatically.

25. **PERIOD FOR WHICH THE OFFER WILL REMAIN OPEN:-**

The tendering firms should keep their offers valid for acceptance upto **30.09.2013.** If the firms are unable to keep their offers open for the above said period, they should specifically state the period for which their offers would remain open but such a provision may result in the rejection of their offers.

26. Any conditional tender or any deviation from the terms and conditions of the tender document shall render the tender liable to rejection.

27. The machinery/equipments/items will be installed free of charge by the firm / agent at the designated premises. The cost of material required for installation shall be borne by firm. Material for

experimental set up such as Table, Stand etc. should be provided by the firm at its own cost. CCET will not provide any material required for installation. Foundations of equipments wherever necessary shall be provided/constructed by the supplier free of cost.

28. **DELIVERY PERIOD**:- The Delivery period of the machinery/equipment/items shall be strictly 6-8 weeks from the date of supply order. The delivery period will be extended at the sole discretion of the Principal, CCET in special circumstances on written request from the firm. Penalty @ 1% per week of the cost / price of machinery/equipment/items for actual period of delay after the due date of supply of machinery/equipments/items will be charged.

29. Installation and demonstration will be done by the supplier to the satisfaction of Head of Department concerned.

30. Warranty period, where applicable, should be clearly specified but not less than 1-year in any case.

31. Any fault or deficiency in the machinery/equipments/items should be rectified by the supplier within two weeks after intimation.

32. Instructional materials and **e-manuals** will be uploaded by the supplier free of cost.

33. The technical broucher for the equipments shall be uploaded along with Pre-qualifying – cum – Technical Bid.

34. **INSPECTION OF MACHINERY/EQUIPMENT/ITEMS**

The machinery/equipments/items will be inspected only at CCET premises. However, the inspection of machinery/equipments/items at factory site or any other place, if any, shall be carried out at the risk and cost of the Tenderer / Bider. The CCET will not bear any expenses on this account.

35. In the cases of failure or default in the performance or responsibilities or breach of terms and conditions of DNIT or MOU or any agreement of contract between the company / firm / agency / person or any legal entity and CCET, as the case may be, the said company / firm / agency / person or any legal entity shall be black listed in the light of notification issued by Chandigarh Administration vide their letter No. 1927-F&PO(3)-2009/1170 dated 27-02-2009 or any other instructions issued from time to time.

36. The tenderer has to submit an affidavit (as per Annexure II) regarding non black listing of individual / firm/ company, as the case may be and forward along with EMD.

37. **JURISDICTION**

The courts of Chandigarh alone will have the jurisdiction to try any matter, dispute or reference between the parties arising out of this purchase. It is specifically agreed that no Court outside and other than Chandigarh Court shall have jurisdiction in the matter.

38. **Force majure:**- Any failure or omission or commission to carry out provision of this tender by tenderer shall not give rise to any claim by one party against the other if such failure or omission or commission arise from an Act of God; which shall include all Acts of natural calamities such as fire, flood, earthquake, hurricane, or any pestilence or from civil strikes, compliance with any status and / or regulation of the Government, look outs and strikes, riots, curfew, embargoes or from any political or other reason beyond the parties control including war (whether declared or not), civil war or stage of insurrection, provided that notice of the occurrence of any event by either party to the other shall be given within two week from the date of occurrence of such any event which could be attributed to force majure conditions.

Annexure-I

Schedule of Technical Specification / Requirement

(SPECIFICATIONS AND ALLIED TECHNICAL DETAILS OF MACHINERY/ EQUIPMENTS/ITEMS AND SCHEDULE OF REQUIREMENT)

1. Mechanical Engineering Deptt. Schedule I,II

ANNEXURE-II

I/We (Name)_____

Contractor / partner / sole proprietor (strike out word which is not applicable)

or (Firm)/Company _____

do hereby solemnly affirm and declare that the individual firm / companies are

not black-listed by the Union or State Government or any autonomous body.

DEPONENT

Address _____

_____

I/We do hereby solemnly affirm and declare that the above declaration is true and correct to the best of my knowledge and beliefs. No part of it is false and nothing has been concealed.

DEPONENT

Dated:

CHECK LIST DULY FILLED IN TO BE ATTACHED WITH PRE-QUALIFYING-CUM-TECHNICAL BID FOR THE EQUIPMENT OF THE DEPARTMENT OF MECHANICAL ENGINEERING

1.	Whether EMD in the shape of FDR or Deposit at Call or Term Deposit Receipt or Demand Draft valid for six months, for the asked-for amount attached?	Yes / No
2.	Whether tender document duly signed by authorized signatory attached?	Yes/No
3.	Whether affidavit duly attested by Notary / Executive Magistrate regarding non-black listing of firm Attached?	Yes/No
4.	Whether a list of institutions / organizations where your firm has supplied this item / equipment / instrument recently, is attached.	Yes/No
5	If you are an authorized agent / dealer / distributor of the firm / company / manufacturer and whether authority letter as issued by them in your favour attached?	Yes/No
6.	Whether Technical broucher of the equipments attached?	Yes/No
7.	Whether information regarding rate of Excise Duty, VAT, Sale Tax, Central Sale Tax, Freight Duty etc. for each and every item attached as Annexure III?	Yes/No

Signature of authorized signatory
with seal of the firm

SCHEDULE-I

CHANDIGARH COLLEGE OF ENGG. & TECHNOLOGY, CHANDIGARH

SPECIFICATIONS AND ALLIED TECHNICAL DETAILS OF EQUIEPENTS AND SCHEDULE OF REQUUIRMENT FOR AUTOMATIC CONTROLS LAB OF MECHANICAL ENGG.

S. No.	Equipment Specification for Automatic Controls Lab	Quantity
1	**Flow Control Trainer :** This control unit should demonstrate flow process control experiments with a variable area flow meter. The storage tank should be of capacity 3 litres, the pump should have a power consumption of 18W, maximum flow rate of 8 L/min, max head of 6 m, rotameter 20….250l/min, flow sensor: 0.5 to 3 l.min. The unit should accompany a software which runs under Windows XP with the process schematic with controller configurable as P, PI, PID and step controller. The selection process should be manual, continuous, 2 or 3 point controller programmer .Time functions, Simulation functions and Variable disturbance inputs should be available. The weight should not exceed 20 kgs. A detailed technical manual for the software package and the experimental unit should be provided..	**01 SET**
2	**Temperature Control Trainer:** This trainer should be able to demonstrate temperature control processes equipped with the industrial components. The water circuit should consists of a pump, heater, and two different lengths of process delay. The pump should have a power consumption of 25-60W, a max flow rate of 3.6^3/h, max head of 4 m, screw in heater of 2 Kw. The surface area of the heat exchanger is 2.8 m^2.The heater should have dry running protection and temperature limiter. The air and water heat exchanger should have fans. The fan should have a power output of 250W, max flow rate of 780M^3/H, MAX differential pressure of 430Pa, speed of 2880rpm.The temperature measurement should be aided with thermocouples at various points. The thermocouple should be of J type with temperature from 0deg to 200 deg C. The thyristor power controller has a max load current 25 A. The disturbance variables should be generated by ball valve with the scale in the water circuit. The digital controller should be configurable as switching mode or a continuous mode. The process variables should be analogue signals. The unit should accompany a software which runs under Windows XP with the process schematic with controller configurable as P, PI, PID and step controller. The selection process should be manual, continuous, 2 or 3 point controller programmer .Time functions, Simulation functions and Variable disturbance inputs should be available The weight should not exceed 125kgs Detailed technical manual of the setup and the software should be provided	**01 SET**
3	**MATLAB (software)** Detailed technical manual of the setup and the software should be provided	**01**

SCHEDULE-II

CHANDIGARH COLLEGE OF ENGG. & TECHNOLOGY, CHANDIGARH

SPECIFICATIONS AND ALLIED TECHNICAL DETAILS OF EQUIEPENTS AND SCHEDULE OF REQUUIRMENT FOR THEORY OF MACHINES-I LAB of MECHANICAL ENGG

S. No.	Equipment Specification for Labs	Quantity
1	**UNIVERSAL GOVERNOR APPARATUS:** This benchtop unit should be used to demonstrate: (a) Determination the characteristics of sleeve position against speed for all governors. (b) Determination the characteristics curve of radius of rotation against controlling force for all governors. (c) To study the effect of varying the mass of central sleeve for porter and proell governors. (d) To study the effects of varying initial spring compression for Hartnell Governor . The drive should be with an electronically regulated motor fitted in the housing. The speed is to be continuously adjusted by using a 10-turn potentiometer and should be displayed digitally. The governor is to be placed in a chuck on the drive. The centrifugal masses and sleeve forces should be varied by using the accessories to be included. The stroke should be measured by using the marks on the governor shaft. When in operation, a transparent protective lid should cover the rotating centrifugal governor. The unit should only be operated if the lid is correctly fitted. The unit should be a benchtop unit. Technical specifications are: The Rotational speed should range between 60 to 400rpm; DC drive motor: 10-30V Weight : approx. 30 kg. The whole should not occupy more than 420 x 400 x 430 mm. Weight of the whole apparatus should not exceed 30Kg. **Detailed technical manual should be provided.**	**01**
2	**FLYWHEEL APPARATUS:** This unit should demonstrate the basic experiments on uniformly accelerated angular motion can be performed and how to calculate the minimum possible periods of oscillation if the point of suspension may be moved. A flywheel mounted in ball bearings is to be placed in motion by a weight attached to a pulley. The inertia of the flywheel should be determined from the fall time of the weight. The unit should be wall mounted. Due to the clear, robust construction the unit should excellently suit to student experiments. **The technical details are:** Flywheel - D=300mm, height: 40mm, mass: 22.2kg & mass moment of inertia: 0.25kgm²; Pulley D=22mm; of weights - 1x 1N (hanger), 4x 1N & 3x 5N; Base plate wxh: 250x200mm & hole spacing: 230x180mm, D10mm. The whole should not occupy more than 200 x 355 x 300 mm. Weight of the whole apparatus should not exceed 35Kg. **Detailed technical manual should be provided.**	**01**

3.	**CRANK & CONNECTING ROD APPARATUS:** This benchtop unit should demonstrate the conversion of smooth rotary motion into reciprocating motion. The input angle should be set on a ball bearing mounted crank disc made of anodised aluminum and read off on an angle measuring scale integrated into the base plate. A millimeter scale should be fitted for the outlet stroke. Crank radius and connecting rod length can both be adjusted, each should have three positions. The simple insertion of a bolt should enable the swivelling of cylinder to be locked, thus a crank drive with either a fixed or oscillating cylinder should be demonstrated. The components should be attached to a solid, painted base plate. Two metal handles should make the unit easier to carry. Technical specifications are: Crank radius - 25mm, 37.5mm & 50mm; Connecting rod length - 120mm, 140mm & 160mm. The whole should not occupy more than 380 x 280 x 60 mm. Weight of the whole apparatus should not exceed 5Kg. **Detailed technical manual should be provided.**	**01**
4.	**WHITWORTH QUICK-RETURN MECHANISM APPARATUS:** Whitworth's quick return is used to generate uneven reciprocating motion with slow feed and quick return. This benchtop model should clearly demonstrate the transmission behavior of such a layout. The input angle is to be set by turning the crank. The output stroke should be read on a ruler on the slider. The transmission components should be manufactured in aluminum. All axles are to be equipped with ball bearings. Unit should be of low weight & equipped with two handles so as to ease carrying. **Technical details are:** Drive crank radius: 46mm; Slider radius: 55mm; Axle offset drive slider: 30mm; Connecting rod length: 145mm. The whole should not occupy more than 360 x 280 x 60 mm. Weight of the whole apparatus should not exceed 4Kg. **Detailed technical manual should be provided.**	**01**
5.	**SLOTTED LINK APPARATUS:** The demonstration model should generate and investigate pure harmonic reciprocating motion. An anodised aluminium disc to be used as crank should be mounted on ball bearings on a white plate. This disc should have a pointer so that the input angle can be exactly read on the integrated angle measuring scale. The crank pin could be set at different radii on the disc. The slider crank should be attached to the crank pin on one side. On the other side the pin is to be mounted in straight guide that is fitted with a ruler to allow the output stroke to be read off with precision. The model needs to be equipped with plastic feet and is to be placed on the laboratory table for the experiment. There should be two metal handles make the unit easier to carry. Technical specifications are to be: Crank radius- 25mm, 37.5mm & 50mm; Output stroke - 50mm, 75mm & 100 mm. The whole should not occupy more than 380 x 280 x 100mm. Weight of the whole apparatus should not exceed 4Kg. **Detailed technical manual should be provided.**	**01**
6.	**FOUR BAR CHAIN:** Using the four bar chain model, rotary motion is to be converted into	**01**

	oscillatory motion. An anodized aluminum disc should be mounted on ball bearings as a crank. The disc should have a scale so that the input angle can be exactly measured. The crank pin should be set at different radii on the disc. The connecting rod and the oscillating lever, made of black anodized aluminum, should be connected together in different lengths using easy to fit knurled bolts. The oscillating crank is to be attached to a disc with an angle measuring scale. All components are to be fitted to a white plate fitted with plastic feet. The apparatus should be benchtop unit. Two metal handles should make the unit easier to carry. Technical specifications are: Crank radius- 25mm, 37.5mm & 50mm, Swing radius - 50mm, 100mm & 200mm; Connecting rod length- 160mm, 180mm, 200mm & 220mm. The whole should not occupy more than 380 x 280 x 100 mm. Weight of the whole apparatus should not exceed 5Kg. **Detailed technical manual should be provided.**	
7.	**Bifilar / Trifilar Suspension Apparatus** The model should permits oscillations on pendulums with bifilar or trifilar suspension to be investigated. For this purpose a bar, a cylinder, or a hollow cylinder made of galvanised steel should be there to hang from a wall mounted carrier plate made of aluminium and placed in oscillation. The bodies used in the experiments should have strong steel hooks for attachment to the suspension cords. The length of the cords can be rapidly changed and securely fixed using clamping wheels. The beam should oscillate, by translation, in the plane of suspension like an ideal mathematical pendulum. The cylinder and the circular ring should work as rotary pendulums. The setup should not exceed 13 Kgs in weight. Technical specification for machine should be: Bars- lxwxh: 40x40x160mm, mass: 2kg; Cylinder - Dxh: 160 x19mm, mass: 3kg; Hollow cylinder- outer diameter: 160mm, inner diameter: 100mm, height: 41mm, mass: 4kg; Cord thread length: up to 2000mm Base plate- wxh: 200x250mm Detailed technical manual should be provided.	**01**
8.	**WALSCHARET VALVE GEAR** Working model of Walschaert valve gear	**01**
9.	**D-SLIDE VALVE AND PISTON VALVE** Working model of D-slide valve and piston valve in case of steam engine	**01**
10.	**STEPHENSON LINK MOTION AND THE GOOCH LINK MOTION** Working model of Stephenson link motion and the Gooch link motion	**01**

SCHEDULE-II

CHANDIGARH COLLEGE OF ENGG. & TECHNOLOGY, CHANDIGARH

SPECIFICATIONS AND ALLIED TECHNICAL DETAILS OF EQUIEPENTS AND SCHEDULE OF REQUUIRMENT FOR AUTOMATIC CONTROLS LAB of MECHANICAL ENGG

S. No.	Equipment Specification for Labs	Quantity
1.	**Flow Control Trainer:** This control unit should demonstrate flow process control experiments with a variable area flow meter. The storage tank should be of capacity 3 litres, the pump should have a power consumption of 18W, maximum flow rate of 8 L/min, max head of 6 m, rotameter 20....250l/min, flow sensor:0.5 to 3 l.min. The unit should accompany a software which runs under Windows XP with the process schematic with controller configurable as P, PI, PID and step controller. The selection process should be manual, continuous, 2 or 3 point controller programmer. Time functions, Simulation functions and Variable disturbance inputs should be available. The weight should not exceed 20 kgs. A detailed technical manual for the software package and the experimental unit should be provided**.**	01 set
2.	**Temperature Control Trainer:** This trainer should be able to demonstrate temperature control processes equipped with the industrial components. The water circuit should consist of a pump, heater, and two different lengths of process delay. The pump should have a power consumption of 25-60W, a max flow rate of 3.6^3/h, max head of 4 m, screw in heater of 2 Kw. The surface area of the heat exchanger is 2.8 m^2. The heater should have dry running protection and temperature limiter. The air and water heat exchanger should have fans. The fan should have a power output of 250 W, max flow rate of 780M^3/H, MAX differential pressure of 430Pa, speed of 2880rpm. The temperature measurement should be aided with thermocouples at various points. The thermocouple should be of J type with temperature from 0deg to 200 deg C. The thyristor power controller has a max load current 25 A. The disturbance variable should be generated by ball valve with the scale in the water circuit. The digital controller should be configurable as switching mode or a continuous mode. The process variables should be analogue signals. The unit should accompany a software which runs under Windows XP with the process schematic with controller configurable as P, PI, PID and step controller. The selection process should be manual, continuous, 2 or 3 point controller programmer. The time functions, Simulation functions and Variable disturbance inputs should be available. The weight should not exceed 125 kgs. Detailed technical manual of the setup and the software should be provided.	01 set

ANNEXURE –III (Please refer Condition No. 14 of Tender Document)

Tenderers / Bidders are instructed to mention Rate of Excise Duty / VAT / CST / Freight/ Any other taxes etc. (if applicable). This annexure must be submitted along with technical bid

Sr. No.	Name of the Item	Excise Duty (if applicable)	VAT / CST (if applicable)	Freight (if applicable)	Any other tax (if applicable)
	Theory Of Machines-1 Lab				
1	Universal Governor Apparatus				
2	Flywheel Apparatus				
3	Crank & Connecting Rod Apparatus				
4	Whitworth quick-return mechanism apparatus				
5	Slotted Link Apparatus				
6	Four Bar Chain				
7	Bifilar / Trifilar Suspension Appartus				
8	Walscharet Valve Gear				
9	D-Slide Valve and Piston Valve				
10	Stephenson Link Motion and the Gooch Link Motion				
	Automatic Controls Lab				
11	Flow Control Trainer				
12	Temperature Control Trainer				