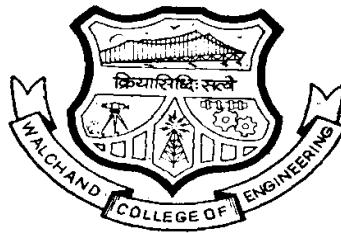


**COST OF TENDER FORM : Rs.1000/-**

**WALCHAND COLLEGE OF ENGINEERING,  
SANGLI  
An Autonomous Institute**

## **TENDER DOCUMENT**



**PREBID MEETING ON 18<sup>TH</sup> JANUARY, 2016 AT 3.30 pm**

**LAST DATE OF RECEIVING  
20<sup>th</sup> January, 2016 up to 12:00 noon**

**DATE OF OPENING THE TENDER**

**20<sup>th</sup> January, 2016 at 3.30 pm**

**In Conference Hall, Main Building**

**INVITATION FOR TENDERS**

Ref No; - WCE/CS/

Date: - 31/12/2015

To \_\_\_\_\_  
\_\_\_\_\_

Dear Sir,

**Sub: Invitation of Tender for supply of Equipments for various departments**

You are invited to submit your most competitive tender for supply of Equipments for various departments of this institution under the terms and conditions as enclosed herewith.

This tender form is also available on college website [www.walchandsangli.ac.in](http://www.walchandsangli.ac.in)

While submitting the Tender, offer must be submitted in the following fashion.

1. Two separate envelopes are to be used.
2. First envelope should be titled as “**Specifications Envelope**” and it should contain documents such as:
  - i) Shop Act license ii) I-Tax Return iii) Experience certificate iv) Sales Tax Registration v) Authorized dealer / distributor certificate vi) Proprietary item certificate , if applicable, viii) Copy of the receipt for Rs 1000/- for purchase of the tender form from the college office OR D.D. for Rs 1000/- if the tender form is down loaded from the college website (for cost of tender form which is non refundable & without which tender will not be considered), viii) Separate (not a single) E.M.D. D.D.s for each of the department as per page number 57. All of the above D.D.s must be drawn from nationalized bank, favoring “The Director, Walchand College of Engineering, Sangli” payable at Sangli, ix) Detailed Specification of the offered item (if it differs from what is indicated in the tender) as per the tender form, but with no indication of offered cost of the respective item. Each Page must be signed and rubber stamped. This envelope must be sealed. At the time of tender opening, if the specifications and the other documents in this envelope are found correct, second envelope will be opened, otherwise the tender submission is likely to be rejected. **The tender form is not transferable. Each bidder shall submit only one tender.**
3. Second envelope should be titled as “**Commercial Offer Envelope**” and it must be sealed. Your “Commercial Offer” sealed envelope should contain competitive offered prices for the items. Taxes for VAT and other if any (except LBT) should be clearly indicated in the column “Total Amount”. LBT is to be paid at actual by the tenderer, while supplying items. The LBT receipt must be in the name of the Director, Walchand College of Engineering Sangli. Separate envelopes (and not a single envelope) are to be used for each of the departments. All the department specific pages of the tender form **should be filled with the competitive prices offered, signed and rubber stamped on each page. The other specifications of the item, its make and model number, its detailed other features, leaflet of the items, customer list along with their contact details (where the tenderer has earlier supplied the item) etc., must be supplied in the department specific envelopes.** If the space provided in the tender form is insufficient, additional pages may be attached appropriately.
4. Two of the separate sealed envelopes, namely, “Specification Envelope” and “Commercial Offer Envelope” must be sealed together in a “common” single envelope.
5. Each of these envelopes should be also titled, as per the case for either “**Supply of Equipment for various departments**”. **Tenderer must also mention their Company name, Address, email, contact person, cell no. etc. on envelopes.**
6. **If tenderer has SSI registration, the tenderer will be exempted from paying E.M.D. The valid SSI registration documents, for this purpose, must be enclosed in “Specifications Envelope”.**

7. If the tenderer is selected for the supply of items, the selected tenderer will give an undertaking for supply of items as per the college's terms and conditions, and the tenderer will supply the items accordingly. If the tenderer fails to supply the items as per college's terms and conditions, the EMD amount of the tenderer will not be returned. EMD will be returned to all other "not selected" tenderers only when the selected tenderer supplies all the items as per college's terms and conditions. The selected tenderer has to submit Bank guarantee for 10 % of total purchase value. The Bank Guarantee will be returned, if no violation of terms and conditions are found, only at the end of the warranty period or at the end of contract to the tenderer.

The supply place is normally respective departments of college and supply period is usually 15 days from the date of placing order.


We look forward to receive your tender and thank you for your interest in this system.

Yours faithfully,

**Director**

Walchand College of engineering, Vishrambag, Sangli

## 1. Mechanical Engineering Department:

Item No.	Particulars	Approx Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		q	a	b	(a+b)*q	
01	<p><b>Desktop PC's of following specifications:</b>            Intel® 4th generation Core™ i5-4570 Processor (Quad Core, 6MB Cache, 3.2GHz, w/HD Graphics 4600), 8GB DIMM (4GB x2) DDR3 @ 1600MHz, 500GB @7200 RPM 3.5" SATA Hard Drive, 16X Half Height DVD+/-RW Drive, Intel® H 81 Chipset Mother Board, Integrated Intel® HD Graphics 4600 (with select CPUs),            Integrated Realtek® RTL8151GD Ethernet LAN 10/100/1000, USB Entry Keyboard, Optical Mouse, 18.5" Widescreen Monitor with TFT, Internal Business Audio Speaker. Microsoft® Windows®8 Professional 64 bit (English).            Mini Tower Chassis + Standard SMPS            Warranty: 3Year Next Business Day On-site Service.  <b>(Note: Only make Dell and HP)</b></p>	25				
02	<p><b>Computer Lab Chairs:</b>            Providing and supplying chairs in medium back of make RCF 32 or equivalent, wooden for seat and back chrome plated structure etc.</p> 	20				

3	<p><b>Resistance Spot Welding Machine-Specifications:</b></p> <ul style="list-style-type: none"> <li>▪ Minimum up-to 25KVA</li> <li>▪ Machine should be pneumatically operated</li> <li>▪ Fully programmable and various values of parameters like current, pressure, time etc. should be entered through screen/ computer provided with machine</li> <li>▪ Suitable to spot weld maximum 3 + 3mm Stainless Steel and MS Sheets and minimum 0.1 + 0.1 mm for ferrous material</li> <li>▪ Water or Air Cooled Electrode Holder Assembly</li> <li>▪ Air Compressor and proper cooling system should be provided and fitted with machine</li> <li>▪ Welding Current, Pressure of Electrodes and Weld Time should be adjustable and those variables should be properly measured through different measuring instruments.</li> <li>▪ Proper control for smooth welding current adjustments</li> <li>▪ Appropriate electrical protection system should be provided for entire machine</li> </ul> <p><b>Compatibility, Installation and Training:</b></p> <p>(1) Pre-installation inspection should be arranged at supplier's end for at least 2 persons by the party. For that visit all the related expenses (TA, DA as applicable etc.) are to be barred by the party.</p> <p>(2) Commissioning/ Installation in all respect at WCE lab and 2-3 days application oriented training at WCE should be done by the Party.</p> <p>(3) The above equipments include all relevant accessories e.g. stand, dust cover, cable, power supply, stabilizer etc.</p> <p>(4) No deviation is accepted from above mentioned specifications.</p> <p>(5) In case of dispute, persons appointed by WCE will act as Conciliator.</p> <p>(6) Payment will be made after issue of completion certificate by the WCE engineer to the supplier and subsequent bill is submitted by the contractor.</p> <p>(7) Quoted costs should be inclusive of all the taxes as applicable for Sangli municipal corporation (VAT, LBT or any other taxes (if any) etc.)</p>	1				
4	<p><b>Stereo Zoom Microscope with Imaging System</b></p> <p><b>System Suitable for failure analysis, fracture analysis, weldment analysis, tool study and other macro analysis</b></p> <p><b>Body:</b> Trinocular Body can be rotated a full 360 degree and lock in any position desired, having a facility of dioptic and interpupillary distance adjustment, mounted on pole type base.</p> <p><b>Base:</b> Main transformer is built in base with a</p>	1				

selector switch which allows them to be used separately or simultaneously. Stage plate of transparent glass is provided as standard.

#### **Optical Control**

- a) Fixed nose piece (Facilitated with threading for auxiliary objective fitting)
- b) Zooming Ratio 6.4: 1
- c) Rack and Pinion focusing stroke 50mm.

#### **Optical System**

- a) Objective - 0.7X to 4.5X
- b) Eyepiece- 10X (pair)

#### **Illumination Dual illumination**

Transmitted of 6 Volt 20 Watts Halogen Bulb & Oblique incident white light illumination

**Magnification** 7X to 45X.

**Field of view** 28.6-4.4mm

#### **Image Acquisition system for Stereo zoom microscope**

### **A. Hardware**

#### **A.1 Digital Color Camera (5 Mpixel)**

**Make – German / American**

#### **Features:**

- USB 2.0 interface (up to 480 Mbit/s)
- 8 Mpixels on-board memory for secure image transmission
- Micro-PLC for real-time sequencing (HRTC)
- Digital I/O – 1/1 opto-isolated
- Horizontal and vertical average binning
- Automatic gain control (AGC)
- Automatic exposure control (AEC)

<b>Sr</b>	<b>Description</b>	<b>Technical Specification</b>
1	Image Sensor	1 / 2.5" type CMOS
2	Effective picture elements	2592 x 1944 (H x V)
3	Maximum Frame Rate	5.8 at high resolution
4	Pixel Size	2.2 X 2.2
5	Shutter Type	Rolling / Global reset
6	ADC resolution / output	10 bit → 10 / 8 bit
7	SNR	>38 dB
8	Exposure Time	10 ms – 1 s

#### **A.3 Camera adapter**

Specially designed Camera adapter as per microscope photography port

#### **Software Features**

- a. **2D analysis of features of interest as per following**
  - Object counting

<ul style="list-style-type: none"> <li>• Distance between any two points</li> <li>• Angle between any two edges</li> <li>• Area Measurement</li> <li>• Circle – radius, perimeter, circularity percentage measurement</li> <li>• Rectangle measurement</li> <li>• Irregular shape measurement</li> </ul> <p><b>b. Weld Parameters Analysis</b></p> <ul style="list-style-type: none"> <li>• Leg length, throat, penetration, root penetration, metal thickness, gap etc</li> <li>• Area and depth of Heat Affected Zone (HAZ)</li> <li>• Joining Angle measurement</li> <li>• Color coding for independent measurements</li> <li>• Option for tagging the readings on image</li> <li>• Flexible tolerance limit facility with GO/ No GO indications for observed readings</li> </ul> <p><b>c. Special software to determine percentage of ductile and brittle fracture on impact sample</b></p> <p><b>d. Planar Stitching in X and Y direction</b> One can stitch multiple images captured randomly in X and Y directions to offer complete presentation of interested area in single frame</p> <p><b>e. Additional features</b></p> <ul style="list-style-type: none"> <li>• All the results can be reported in units like micron, mm, cm, inch etc.</li> <li>• Quick drag and drop Calibration attachment system with various options for font, color and thickness</li> </ul> <p><b>f. Report generation in MS-Excel format</b> - The above equipments include all relevant accessories (stand, dust cover, cable, power supply, stabilizer etc.), software and drivers together must be supplied from the same vendor (supplier) as a single unit and should be compatible.</p> <p><b>Compatibility, Installation &amp; Training:</b></p> <p>(1) Pre-installation inspection should be arranged at supplier's end for at least 2 persons by the party. For that visit all the related expenses (TA, DA as applicable etc.) are to be barred by the party.</p> <p>(2) Commissioning/ Installation in all respect at WCE lab and 2-3 days application oriented training at WCE should be done by the Party.</p> <p>(3) No deviation is accepted from above mentioned</p>					
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	<p>specifications.</p> <p>(4) In case of dispute, persons appointed by WCE will act as Conciliator.</p> <p>(5) Payment will be made after issue of completion certificate by the WCE engineer to the supplier and subsequent bill is submitted by the contractor.</p> <p>(6) Quoted costs should be inclusive of all the taxes as applicable for Sangli municipal corporation (VAT, LBT or any other taxes (if any) etc.)</p>					
5	<p><b>Dual channel , portable FFT analyzer with following functions</b></p> <p>*Measurement of overall values (acceleration, velocity, displacement, phase)</p> <p>*Analysis of vibration in the frequency range</p> <p>*Monitoring overall vibration in relation to time or velocity ( Bode plot)</p> <p>Balancing of rotating bodies in operating conditions on 1 or @ planes</p> <p>Units of measurement-acceleration (g), Velocity (mm/sec), Displacement(microns),Frequency(Hz)</p> <p>Measurement of the overall vibration value in pre defined frequency bands(10-1000Hz, 3-300Hz, 10-10000 hz) or band defined by user in the range of 3-20000Hz, Measurement of 1xFundamental vibration value and phase, Measurement of rotating body velocity</p> <p>FFT functions-</p> <p>FFT analysis (Manual/trigger)</p> <p>Maximum setttable frequency (25;100;:500; 1000Hz;2.5;5;10;15kHz)</p> <p>Resolution (100;200;400;800;1600;3200 lines)</p> <p>Number of averages : from 1 to 16</p> <p>List of main peak values</p> <p><b>MONITOR-DATA LOGGER FUNCTIONS</b></p> <p>Recording and display of overall vibration trend over time</p> <p>Storage and display of vibration trend and phase when rotation velocity changes.</p> <p><b>BALANCING FUNCTION</b></p> <p>Number of correction plans : from 1 to 2</p> <p>Graphic indicator of measurement stability</p> <p>Balancing procedure, guided step by step, with option for editing and intermediate changes</p> <p>Vectorial breakdown of the unbalance.</p> <p>Correction by adding or removing material</p> <p><b>GENERAL CHARACTERISTICS</b></p> <p>Display: 7" colour LED-backlit TFT LCD</p> <p>A/D converter: 24 bit resolution</p> <p>Dimensions:approx.225 X 200 X 50 mm</p> <p>Weight:1.4 kg</p>					



	<p>OPERATING CONDITIONS  Temperature :from -10° to + 50 °C  Air humidity : from 0 to 95% without condensate</p> <p>POWER SUPPLY  Rechargeable 6Ah Lithium battery  Charging time : &lt; 5 hours (when battery is fully discharged)  Power supply-battery charger for 100-240V, 50/60 Hz (24 V, 1.5A)  Battery life:&gt;8 hours based on typical use</p>					
06	<p>Six Component Wind Tunnel Balance with amplifier to measure Lift,Drag, Pitching moment, Yawing moment, side force. With standard models like Aerofoil (Symmetric, Cambered, and cylinder airfoil), sphere, cylinder, Airplane etc.  Suitable for Wind Tunnel Having Test Section 2' x 2' x 3' feet (WxHxL)  Contraction Ration: 9 Max. Velocity: 12m/s. Ele. Motor: Slip ring induction motor, Power: 15hp (400V, 3phase, 50cycles) Speed: 1440rpm.</p>	01				
07	Smoke wire flow visualization (used in wind tunnel)	01				
08	<p><b>Temperature Measurement infrared Thermal Image Camera with following specifications:</b>  Array Size – 160 X 120  FOV/Min Focal Length - 25° X 19°- 0.5 m  IFOV 2.72 mrad  Thermal Sensitivity <math>\leq 0.06^{\circ}\text{C}</math>  Frame Rate – 50/60 Hz  Focus – Manual  Zoom- 2X, 4X  Spectral Range – 8- 14 <math>\mu\text{m}</math>  CCD- 3 million pixel, CMOS module 2 LED Lights  LCD Display- 3.6'' TFT LCD, 640*480, Touch Screen  Color palette- 11 color palette  Image Adjustment – Auto/Manual  Image – Fast switch between infrared image and CCD image with fusion function  Image Enhance – Auto/Manual enhance mode  Range- -20°C to +350°C extended to 650°C  Accuracy- <math>\pm 2^{\circ}\text{C}</math>  Measurement Correction – Auto/Manual  Emissivity Correction – .01 to 1.00  Background Temperature Correction- Auto  Atmospheric Transmission Correction – Auto  Card -8GB Micro TF Card, Max.32 GB  Battery – Li-lon-recharge</p>	01				

	Video – Yes Power – DC 12 V Audio – Blue Tooth Drop Resistance – 2 meters					
8	<b>SKF Microlog Analyzer / Fault diagnosis analyzer with suitable vibration sensors and essential accessories to perform simultaneous 4 channel vibration measurement with fast and real time rate and display updates , suitable in hazardous area with following functions:</b> <b>a. Impact testing of M/C Structure</b> <b>b. Digital Recording</b> <b>c. Module Analysis</b> <b>d. Multi plane Balancing</b> <b>e. Run-up and coast down test</b> <b>f. Mechanical fault diagnosis capability including bearing and gear diagnosis</b> <b>g. Capable to display the type / nature of mechanical fault on screen</b>	01				
9	<b>Proximity Sensors (2 No.) with analysis software for shaft vibrations/shaft displacement Capable of analyzing shaft vibrations, orbital analysis.</b> <b>Separate fixture/magnetic holders for holding proximity sensors on bearing blocks are to be provided</b>	01				
10	Floating Carriage Diameter Measuring Machine along with Standard accessories <ul style="list-style-type: none"> <li>• Offer effective calibration of thread plug gauges and taps</li> <li>• Provides major, minor diameters calibration of threads.</li> <li>• Mechanical/ electronic model</li> <li>• Range: 25 mm</li> <li>• Resolution: 0.0002mm</li> <li>• Repeatability: 0.004 mm</li> <li>• Accuracy: 0.01 mm with P10 Probe</li> <li>• Capacity: Dia. 4"/100 mm</li> <li>• Length between Centers: 8.25"/215 mm</li> <li>• Least count: 0.0002 mm/0.00001"</li> <li>• Accessories: thread measuring wires, prisms, cylindrical masters &amp; plane thread plug attachment.</li> </ul>	01				
11	Tool Makers Microscope. <ul style="list-style-type: none"> <li>• Magnification : 30X</li> <li>• X-Y Table : 150 X 150 mm</li> <li>• Travel : 50 mm X 50 mm</li> <li>• Micrometer : 0.25 mm L.C. 0.01 mm</li> <li>• Light Source : Diascopic&amp;Epidiascopic 360 ‘ Graduated ring with 6 minutes vernier</li> <li>• Filter : Green</li> </ul>	01				

	<ul style="list-style-type: none"> <li>• View Field : 6 mm</li> <li>• Image : Erect</li> <li>• Electronic regulator to control light intensity.</li> </ul>					
12	<p>Autocollimator with angle dekker</p> <ul style="list-style-type: none"> <li>• Company Name: ALMICRO, Bangalore</li> <li>• Objective focal length: 220mm</li> <li>• Clear aperture: 40mm</li> <li>• Magnification: 11X</li> <li>• Measuring range Axis: 60-0-60 min. in X-Y</li> <li>• Least deviation on reticle: 1 minute of arc</li> <li>• Least division on micrometer drum: 2'' of arc</li> </ul>	01				
13	<p>Profile Projector</p> <ul style="list-style-type: none"> <li>• Screen: Glass screen with dia 300mm with crosslines</li> <li>• Magnification: 10x</li> <li>• Size of Top Plate: 140 mm X 135 mm</li> <li>• Measuring Traverse: X: 25 mm, Y: 25mm</li> <li>• Load Capacity: 5 Kg</li> <li>• Max Dia - 60mm.</li> <li>• Micrometer: 0 to 25 mm LC – 0.01 mm for X &amp; Y axes.</li> <li>• Measuring Systems: Linear 0-25 mm with L. C. 0.01 mm, Angular 360° Graduated rotary screen</li> </ul>	01				
14	<p>Monochromatic light source with specimen set and optical flat</p> <ul style="list-style-type: none"> <li>• Light source : 35 watts sodium vapour lamp</li> <li>• Ballast: Copper Ballast for longer life.</li> <li>• Unit: Beautifully finished Steel Fabricated box with scratch less powder coating.</li> <li>• Diffuser: Milky white acrylic sheet is used to get uniform intensity.</li> </ul>	01				
15	<p>Semi Micro Balances with motorized internal calibration</p> <ul style="list-style-type: none"> <li>• Model: CAI-304</li> <li>• Capacity: 300 gm</li> <li>• Readability: 0.0001 gm</li> <li>• Repeatability: 0.2 mg</li> <li>• Linearity: 0.4 mg</li> <li>• Pan Size: 100 mm</li> <li>• Power Req : 90-250V, 50/60Hz, 10 Watt</li> <li>• Operating Temperature : 10 to 45°c</li> </ul>	01				

16	<b>3D Co-ordinate Measuring Machine</b> <ul style="list-style-type: none"><li>• Measuring Range: X axis 500 mm, Y axis 500 mm, Z axis 400 mm</li><li>• Mode of operation : CNC</li><li>• Standard Joystick Control Unit</li><li>• Accurate MPEE(as per ISO 10360-2 with TP 200 in <math>\mu\text{m}</math>): <math>3.5 + L/250</math></li><li>• Resolution (in <math>\mu\text{m}</math>) : 0.5</li><li>• Optical linear transducers</li></ul>	01				
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## 2. Electrical Engineering Department

Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		<b>q</b>	<b>a</b>	<b>b</b>	<b>(a+b)*q</b>	
1	Visual presenter- Model CP155 3.2 Megapixels, 16 x 200 m Auto focus & Manual Focus .	03 Nos				
2	<b>Function Generators</b> <ul style="list-style-type: none"> <li>• Frequency and amplitude display simultaneously</li> <li>• Output waveforms: sine wave, square wave and triangle wave</li> <li>• Frequency of output signal: 0.2Hz ~ 2MHz , Duty cycle adjustable: 20% ~ 80%</li> <li>• Power: AC 110/220V</li> </ul>	04 Nos				
3	<b>Dual Power supply</b> : Two nos. of 0-30 V, 3A power supply with isolated ground in one unit , with Short circuit and current limiting protection	10 Nos				
4	<b>Single Power Supply</b> : 0-30 V, 5A, Variable with Short circuit and current limiting protection	10 Nos				
5	<b>Rheostats:</b> <ol style="list-style-type: none"> <li>(1) 19/20 ohm,8.5 Amp range Rheostat for practical use only, Make: Toshniwal</li> <li>(2) 300/350 ohm,1.2 Amp range Rheostat practical use only, Make: Toshniwal</li> <li>(3) 700/750 ohm,1.2 Amp range Rheostat practical use only, Make: Toshniwal</li> <li>(4) 170 ohm, 2.8 Amp range Rheostat practical use only, Make: Toshniwal</li> </ol>	05 No each				
6	D.C. Power Supply 0-300 volts/50A: DC Power Supply consists of 3-Ph, Transformer, 3-Ph Dimmer stat, 3-Ph Diode bridge, AC and DC voltage & current meters, MCCB on input supply side and DC output side	01				

7	Slip Power recovery scheme for 3-Ph, 440 volt, 3 H P, 50 Hz Induction Motor with suitable eddy current loading arrangement. The setup consists of 3-Ph diode bridge and line commutated Inverter, Associated firing angle control circuits AC, DC voltmeter and ammeter & wattmeter	01				
8	<b>Single Phase cum Three Phase Capacitive load suitable for 240/400 volts:</b> Can be Used as single or three phase load. Ten selectable load values on each bank 3-in-build star / Delta switch 4-Works as a balanced or unbalanced load in three phase circuits. Totally independent banks to all allow connection as a star or delta load Setup Includes:- Current : 4.6 A each phase (in star connection) 13 A each phase (in Delta Connection)	01				
9	<b>Single Phase cum Three Phase Inductive load</b> <b>Single Phase Operation :</b> Voltage : 240V AC $\pm 10\%$ , 50Hz, Current : 15A, Power : 3.5KVAR Loading steps : 30, <b>Three Phase Star Operation,</b> Voltage : 415V AC $\pm 10\%$ , 50Hz Current : 5A (per Phase) Power : 3.5KVAR Loading steps : 5 (per Phase), <b>Three Phase Delta Operation</b> Voltage : 415V AC $\pm 10\%$ , 50Hz Current : 15A (per Phase) Power : 10KVAR Loading steps : 5 (per Phase)	01				
10	Digital AC Voltmeters 75-150-300 V	06				
11	Digital AC Voltmeters 150-300 V-600 V	06				
12	Digital DC Voltmeters – 10V/50V	06				
13	Digital DC Voltmeters – 75-150-300 V	06				
14	Digital AC Ammeters – 2.5A-5A-10A	06				
15	Digital AC Ammeters – 5A-10A-20A	06				
16	Digital DC Ammeters –500 mA / 1000 mA	06				
17	Digital DC Ammeters – 5-10 A	06				
18	Digital DC Ammeters – 15-30 A	06				
19	Analog Wattmeter: 75-150-300 V and 2.5-5 Amp	04				
20	Analog Wattmeter 150-300 V-600 V and 5-10 Amp	04				
21	Analog Wattmeter: 0-150-300-600V and 0-10-20 Amp	04				

22	Power factor meter : 0.1 to 1 – lead + lag arrangement ( Digital )	02				
23	Power factor meter : 0.1 to 1 – lead + lag arrangement (Analog)	02				
24	Frequency meter : 0-90 cs/s ( Digital )	02				
25	Frequency meter : 0-90 cs/s ( Analog )	02				
26	Magnetic Flux Meter : We offer Magnetic flux meter measures flux cut a search coil and is widely used for general Magnetic flux measurement such as magnetic force of permanent magnet	02				
27	Phase Shift Transformer : 0 to 180 <sup>0</sup> & three phase DC battery testing kit	01				
28	R-L-C resonance Model variable resistance ( 1K ohm-2 to 10K ohm) variable capacitance ( 0.1 to 100 micro farad variable inductance 0.1 mega henri to 100 mega henry	01				
29	LCR meter: R = 1 milli to 100 k ohms, C = 1 micro farad to 10000 micro farad and L = 1 milli h. To 100 milli henry	01				
30	DC variable power supply : 0-30 volts-10 Amps	05				
31	Variable R ( Resistance ) boxes = 0 - 100 milli ohms	04				
32	Variable reactance boxes = 0 - 100 milli henry	04				
32	Variable Capacitance Boxes = 0 - 100 micro farad	04				
33	Kelvin double bridge : 1 milli ohms to 100 ohm resistance measurements & prescience galvanometer , rated current 10 A DC & rated voltage 0-30V DC, accuracy 0.00001 ohm ± 0.2 %, 10 steps of 0.001 ohms	02				
34	Murrays loop test Kit	02				
35	Trivector meter : 110 volts, 20/5 Amps, C.T. operated digital, accuracy ± 5 %, measured value KWH, Kvarh, Kvah	02				
36	3-Ph, ½ HP induction motor VFD drive, suitable for 1-Ph, 230V Supply frequency variation : 5 Hz to 50 Hz, Induction motor rated 230V, 3-Ph, 50 Hz , 1/2 HP induction	01				
37	Wheaston Bridge : 0.1 to 1 mega ohm, 230V AC and 0.5 V DC	01				

38	DC Potentiometer : variable resistance box 0.1 ohm to 10000 ohm	01				
39	<p>Real Time Digital Simulator (RTDS):</p> <p>The RTDS should be able to perform -</p> <ul style="list-style-type: none"> <li>• Real Time simulations for application areas like - Electromagnetic Transient Analysis in Power systems with sufficiently large number of busses and various power system components, Transmission &amp; Distribution, Protective Relay testing.</li> <li>• Renewable Energy &amp; Smart Grid studies like - Micro Grid, Protective equipment testing, Automation &amp; SCADA, wind farm &amp; PV integration etc.</li> <li>• High Voltage Power Electronics studies like - MMC, SVC, HVDC &amp; FACTS</li> <li>• Embedded systems &amp; controller, Power Converter applications to Hybrid Electric vehicles.</li> </ul> <p>The RTDS should have following features -</p> <ul style="list-style-type: none"> <li>• Hardware in Loop (HIL) facility</li> <li>• Rapid Control Prototyping (RCP) facility</li> </ul> <p>Tentative specifications -</p> <ul style="list-style-type: none"> <li>• High-Performance and Real-time High-Speed Connectivity</li> <li>• Intel I7 /i5 processor up to 3.3 GHz and 6 cores</li> <li>• Xilinx Kintex 7 with 326,000 Logic cells FPGA co-processors</li> <li>• Four (4) 5-Gbits SFP optical cable interface</li> <li>• Open and Optimized for Power Electronics</li> <li>• Compatible with RT-LAB, MATLAB, Simulink, RTW,</li> </ul>	01				



	<p>Xilinx System Generation Scope View and Lab VIEW for GUI</p> <ul style="list-style-type: none"> <li>• Advanced PWM signal generation with 10 nanosecond resolution for RCP application and event detection</li> <li>• Compatible with FPGA circuit solver for power electronic converter and motor drive simulation</li> <li>• Library of motor and power converter models</li> <li>• PCI express communication with CPU Simulink models</li> <li>• Small 2U chassis for desktop or rack mounted application</li> <li>• Up to 96 IO channels with galvanic isolation on DIO, short-circuit protection and signal conditioning</li> <li>• Robust rear-side DB37 and DB9 I/O connectors with two wires per I/O channel for differential signal transmission.</li> </ul>					
40	<p><b><u>3 PHASE INDUCTION MOTOR CONTROLLER USING V/F SCHEME &amp; PWM METHOD</u></b> for 0.5 H.P, 230 volt ,3 phase induction Motor. V (voltage) /F (Frequency is variable) &amp; V/F ratio can be calculated and is maintained almost constant. F is variable &amp; indicated by digital indicator and voltage is indicated on analog meter. The system operates to keep V/F ratio constant under software control of microprocessor. The power device is IGBT using PWM technique. Students can study all the functions such as acceleration time, deceleration Time, Over current protection, stall prevention, Motor direction control. Meters are provided to measure input A.C. line current and O/P A.C. Voltage. Test point and isolating transformer is provided to see PWM O/P waveform Unit comes With 0.5 H.P., 230 V, 3 phase, induction motor and loading arrangement. A detailed manual for performance of experiment is provided along with the unit.</p>	01				

41	<p><b><u>D.C. Drive trainer using 4Quadrant chopper converter using motor:</u></b>          With microcontroller based firing circuit, LCD display for speed, proximity switch Inbuilt PI controller, over current protection, Study of open loop /closed loop control, study of forward and reverse regenerative mode. Unit comes with ½ HP DC shunt motor with loading arrangement. Closed loop and open loop control can be performed in forward motoring and reverse motoring modes also. A detailed manual for performance of experiment is provided along with the unit.</p>	01				
42	<p><b><u>3 PHASE INDUCTION MOTOR CONTROLLER WITH FIELD ORIENTED CONTROL DRIVE FOR 0.5 HP,440V 3 PHASE INDUCTION MOTOR</u></b>          Advanced programmable FOC drive, display, keypad, motor with spring balance loading arrangement, torque calculation, MCB, speed indicator, proximity switch, R,Y&lt;B&lt; indicator ,fuses, 440v input, 440V output ,polycarbonate front panel, Sturdy motor base, manual selection of start/stop and direction, typical readings of torque vs speed. A detailed manual for performance of experiment is provided along with the unit.</p>	01				
43	<p><b><u>Experimental kit for 1 PHASE cascade type multilevel inverter</u></b>          (5 LEVEL INVERTER) With inbuilt dc sources, 16F870 microcontroller based firing circuit, opto isolator stage,4N35 , MOSFET are used as power device,+12V 3 NO, +5V,3 NO,24V,3 AMP POWER SUPPLY 2NO,24V,30 W LOAD, POLYCARBONATE PANEL,TAPER BIG SIZE MS BOX,TAG BOARD. A detailed manual for performance of experiment is provided along with the unit.</p>	01				

44	<p><b><u>Frequency response of a closed loop system</u></b></p> <p>The unit has to be operated from sinusoidal voltage with variable frequency in the range 10Hz to 500Hz with amplitude typically at 3.0 volts RMS. The unit comes with digital A.C. Voltmeter to measure I/P and O/p voltage form the circuit. Should include a digital phase angle meter to measure the phase difference between I/P and O/P of the system. Facility for Lead/Lag selection and calibration of phase difference. Different amplifiers with known variable gains, integrators and signal changes are based on op amp with built in power supply.. A detailed manual for performance of experiment is provided along with the unit.</p>	01				
45	<p><b><u>ON/OFF TEMPERATURE CONTROLLER (INDICATOR CUM CONTROLLER)</u></b></p> <p>(Using temp. Sensor RTD PT 100 and range: 0 to 200 degree centigrade. Mode of control: on/off 3) Relay: O/E/N make 5 Amp rating. Set up comes with digital temp. Indication, set point indication, set point control and calibration check up for 0 degrees and 100 degree centigrade. Accuracy of indication: +/- 1% of the full range. Complete set up with model process heated with bulbs A detailed manual for performance of experiment is provided along with the unit</p>	01				

46	<p><b><u>P. I. D. SIMULATOR.</u></b>  This set up is designed to develop clear understanding of a typical PID controller with facility for proportional. Integral and Derivative control mode. Proportional gain, Integral time constant and Derivative time constant can be adjusted. The generation of offset of A/c of only proportional action can be understood. How this offset can be removed by means of integral mode (P+I) can be checked and the improvement in the dynamic response also can be demonstrated. The set up comes with one analog voltmeter and a digital voltmeter. A detailed manual for performance of experiment is provided along with the unit</p>	01				
47	<p><b><u>PID Controller (Microcontroller based temperature control system) :</u></b>  The system is based on PIC microcontroller 16F870 with LCD display And separate potentiometers for KP,KI, KD selection and mode selection As PID or on/off mode.. The unit has following features.</p> <ol style="list-style-type: none"> <li>1) PT 100 RTD with associated instrumentation card.</li> <li>2) The software supplied facilitates experimentation in following modes. <ol style="list-style-type: none"> <li>a) Proportional controller. b) Proportional + Integral controller. c) Proportional +Derivative d)P+I+D controller e) On/off temperature controller . The system demonstrates working in the range 45 to 65 degree centigrade. A cooling fan is also provided to simulate load variations. Solid state relay controls the power to the model process. A detailed manual for performance of experiment is provided along with the unit.</li> </ol> </li> </ol>	01				

48	<p><b><u>DC MOTOR SPEED CONTROLLER (MICROCONTROLLER BASED)</u></b>          With 24V,60W ,PMDC MOTOR ,Microcontroller interfaced to LCD display, separate potentiometers for KP,KI,KD gain setting, proximity switch for speed measurement ,study of open and closed loop system ,inbuilt power supply, loading arrangement for the motor, digital speed indication. display of spp, app ,study of P,PI,PID mode independently. A detailed manual for performance of experiment is provided along with the unit</p>	01				
49	<p><b><u>D. C. POSITION SERVOMECHANISM DEMONSTRATION.</u></b>          Will include:          5k-ohm +/- 1-% linearity, Precision servo Potentiometers having bearings used as error detector. Output potentiometer, similar as input potentiometer to convert output position into a voltage signal. Summing amplifier with adjustable gain.          Armature controlled D. C. servomotor with suitable coupling required for output position indicator and Tachogenerator. Should include D.C. tachogenerator coupled to d. c. motor for derivative feedback. Preamplifier and power amplifier to drive the D.C. motor on the basis of the error signal. D.C. motor is 12 volt, lamp, permanent magnet a with gear train. Power supply for armature winding and electronic amplifier, suitable test points brought on the side panel. A detailed manual for performance of experiment is provided along with the unit.</p>	01				

50	<b><u>STEPPER MOTOR CONTROLLER (MICROCONTROLLER BASED)</u></b> System comes with microcontroller based system, pic16f870 based logic circuit, 2kg.cm stepper motor, inbuilt 12V power supply , inbuilt power supply for logic circuit, System enables speed control, direction control and no of steps control of the stepper motor. Suitable test points for CRO. Provision for manual mode control and microcontroller based control. A detailed manual for performance of experiment is provided along with the unit	01				
51	Liquid Flow-Ultra Sonic : Parametric Fluid velocity 0 to12 m/sec +/-0.5%	01				
52	Air Flow : Telescopic Vane type anemometer Air Flow- m/sec 0.4 to 40m/sec +/- (0.2m/s + 2% of mv)	01				
53	Pitot Tube (L Types) : Velocity Pressure	01				
54	Temperature : Thermal Imaging Camera : -20 to100°C/0-280°C +/- 2°C or +/-2% of reading (whichever is greater)	01				
55	Infrared Thermometer : Temperature in °C -30 to 500°C +/-1.0°C	01				
56	Thermocouple (K Type) : Temperature in °C -14 to 400°C	01				
57	Thermocouple (K Type) : Temperature in °C -200 to1000°C	01				
58	4-Channel temperature data logger Temperature in °C -200 to1300°C	01				
59	Humidity : Thermo hygro meter with data logging Temperature & RH 0-100% RH, +/-2.5% of RH & +/-0.5°C	01				
60	Flue Gas Analysis : Combustion Analyser Oxygen, CO Content 0 to21% for Oxygen +/-0.2% for O2 and +/- 20 ppm	01				
61	Pressure meter : Air Pressure 0 to100 hPa +/-0.03 hPa (0 to30 hPa)	01				
62	Bourdon Type Dial Pressure gauges: Liquid, 10 & 40 kg/cm <sup>2</sup>	01				
63	Lux Meter : Illumination level 0 to 99,999 Lux, +/-3%	01				
64	PH Tester : pH 0 to14 pH	01				

65	Distance & Area Measurement : 416D Laser Distance Meter Distance/Area :Range: 0.05 m to 60 m ± 1.5 mm (± 0.059 in)	01				
66	Ultrasonic Leak Detector : ultra sonic leak detector+ transmitter Gas leak / Air leaks	01				
67	RPM / Speed : tachometer: RPM Resolution0.1rpm (100 to 999.9 rpm) /1 rpm (1000 to 29.999 rpm) ± (0.02 % of rdg. + 1 digit)	01				
	<b>Electrical Maintenance section:</b>					
68	<b>14/16 SWG CRCA sheets using erecting of 4way or 6 way LT feeder panel</b> with aluminium busbar including following switchgear. Incoming : 100A TP MCCB-1 No, 0-200A ammeter-1 No, ammeter selection switch - 1 No, 200/5A current transformer -3 No, 0-500V voltmeter - 1 No, Voltmeter selector switch- 1 No, RYB indicating lamp -3 No, control fuse- 3 No and neutral link - 1 No, Outgoing : 63A TP MCCB - 5 Nos, Outgoing 63A + 3-Ph plug socket - Nos, Plug socket - 1 Nos	04				
69	<p><b>Magnetic Levitation Apparatus : Specifications</b></p> <ul style="list-style-type: none"> <li>• High Flux Drive Coils at Top &amp; bottom</li> <li>• Laser Feedback Sensors Top &amp; bottom</li> <li>• Low Friction Guide Precision ground &amp; polished glass</li> <li>• Rare Earth Magnets NbFeB, one or two at a time for SISO or MIMO</li> <li>• Laser Conditioning Electronics to provide high resolution position measurement</li> <li>• Magnet Storage Safely stows high strength magnets</li> <li>• Attachment For Turntable Optional, demonstrates induced field levitation</li> </ul> <p>Range of Motion- 15 cm total. 6 cm indefinitely 10 cm momentarily. Actuator Magnets- Very high flux, rare</p>	01 Set				

	<p>earth NdFeB, with laser reflective coating. Sensors- Laser light amplitude with low noise, stray light rejection circuitry. Drive Coils- Low inductance, high field constant, and air core.</p> <p><b>Drive Amplifiers</b></p> <p>- Linear range <math>\pm 40V</math> out, 500 Hz current loop bandwidth, Size &amp; Weight- 36x36x30 cm. (14x14x12 in.), 5.1 kg. (11 lb.), Turntable Accessory- Dynamically balanced spin platter, 0-500 RPM, Accessory Sensor &amp; Actuator- Optical encoder, 12,000 counts/rev. Rare earth, servo motor, Accessory Size &amp; Weight- 38x38x15 cm. (15x15x6in.), 4.3 kg. (9.5 lb.)</p>					
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## 3. INFORMATION TECHNOLOGY DEPARTMENT

Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		<b>q</b>	<b>a</b>	<b>b</b>	<b>(a+b)*q</b>	
01	<b>Switch</b> : CISCO Ws-C2950G-48-EI Catalyst 2950G 10/100 48-Port Switch	3				
	CISCO standard Image	1				
	CISCO GBICs (CISCO Linksys MFEFX1 100 Base-FX Minni GBIC SFP Transreceiver	1				
	Crossover Ethernet Cable	4				
	Serial Crossover Cable	3				
	Rollover RJ45 cable	1				
	Straight Ethernet Patch Card Cat6 RJ45 cable	4				
	Extra Power Cable	5				
	<b>Router</b> : CISCO 1700 Series 1721 Router with WIC 1T Card	4				
	<b>Router</b> : CISCO CCNA CCNP 2600 Series 2610 WIC 2T Router	2				
	CISCO IOS Image supporting for GNS3 in Open source	1				
2	<b>Server:</b> Processor : 2 x Intel® Xeon® Processor 8C E5-2630V3 2.4G 20M 8GT/s QPI, Chipset Intel® C612 chipset, RAM 4x 4GB DDR4-2133, Drives 4 X 500GB SATA 7.2K RPM Enterprise, Nvidia Quadro Card, Onboard 2x 10G SFP+ ports, Exp. Slots1x PCI-E 3.0 x16 slot (FH, 10.5" L), 7x PCI-E 3.0 x8 slots (5x FH, 10.5" L), Kbd/Mouse, 2U , 12x Hot-swap 3.5" Drive Bays, 1000W High efficiency (96%), Redundant PSU; Titanium Level	1				
3	<b>Dell Laptop L</b> (i7 Win 8.1 Pro) Intel Core i7-5600U (Dual Core, 2.6GHz, 4M cache, 15W), 4GB (1x4GB) 1600MHz DDR3L Memory, 512GB Mobility Solid State Drive, Integrated Intel® HD Graphics 5500, Intel Dual Band Wireless-AC 17265AC 802.11ac/a/b/g/n 2x2 + Bluetooth 4.0 LE Half Mini Card, 12.5" Non-Touch HD (1366x768) Anti-Glare WLED LCD, WLAN + WWAN capable, LCD Bezel Non-Touch with Camera and Microphone, Microsoft® Windows®8.1 Professional. Primary 4-cell 52W/HR Battery, 90W AC Adapter, 3-pin, Warranty : 3Year, or Equivalent	1				

4	<p><b>LED TV:</b>  Display Size - 127 cm (50, Brand - Panasonic  LED Display Type - Direct LED, Smart TV –  No, USB – 1, HD Technology &amp; Resolution,  Full HD, 1920 x 1080, Model Name - TH-  50A410D, 3D – No, Screen Type – LED,  HDMI – 2,Warranty Summary - 3 Year  Panasonic Domestic Warranty, Audio Features  Supported Audio Formats - TS, MP3, AAC,  WMA, Other Audio Features  Media Player (Music): Support Format (MP3,  AAC, WMA, FLAC, WAV), V-audio Surround  Mode, Speaker Output RMS - 10 W x 2,  Speaker Type - Full Range, Number of  Speakers – 2</p>	1				
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## 4. APPLIED MECH. DEPARTMENT

Item No	Particulars	Approx. Qty	Basic Unit Price	VA T + Other +L BT	Total Amount Rs.	EMD amount (3 % of the total amount)
		Q	a	b	(a+b)*q	
1	<p><b>Permeability of Hardened Concrete:</b></p> <p>a) AIM 384: Concrete Impermeability Apparatus, 3 cell model for 150 mm cube as per DIN Std. The permeability test apparatus should be such that one can conduct test as per DIN 1048. There should be three cell assembly for permeability apparatus. Concrete permeability Apparatus - 3 cell model (3 cubes) for 150 mm cube as per DIN 1048. The main components of the apparatus should be sample holding device assembly with stand, water reservoir and pressure regulation arrangement.</p> <p><b>Permeability Tester-</b> High Pressure Permeability Test can be conducted on different size specimens using different cells. Each cell shall be made of steel and provided with a top plate and a bottom plate having gasket seals held in position to render the joint water tight. The concrete specimens can be sealed in the cells to prevent any leakage along the side walls. The permeated water shall be collected in glass bottles attached at the bottom. Each cell should have its own control valve. The controls Valve should be mounted on a sturdy welded structural stand. All multi-units should be provided with end pressure gauges. Each unit should be provided with chamber pressure gauges of 0-15 kg/cm<sup>2</sup> and test pressure gauge of 0-15kg/cm<sup>2</sup>. Pressures shall be applied using any available pressure line at the site for a compressor.</p> <p>b) AIM 38401: Compressor for Permeability Apparatus, 15 kg/cm<sup>2</sup> working pressure <b>Compressor:</b> Compressor for Permeability Apparatus, 15 kg/cm<sup>2</sup> working pressure. Suitable for operation on 220 V, 50 Hz, Single Phase, AC supply.</p>	1				
2	<p><b>Vibrator Table for Concrete and Cement Blocks:</b> AIM 365-1 Vibrating Table, 50 x 50cm for 4 moulds of 150mm cube</p>	1				

	<p>Proper compaction of cement concrete while casting specimens for compression testing is essential to achieve higher compressive strength. The table top is suitable to hold cube moulds and has stops along its edges to prevent moulds from sliding off the table during operation. The specially designed vibro motor for operating the vibrator Suitable for operation on 220 V, 50 Hz, Single Phase, AC supply.</p>					
3	<p><b>Torsion Testing Machine:</b> AIM 670 New Torsion Testing Machine Torsion is the twisting of an object due to an applied torque &amp; is hence expressed in N-M or ft-lbf. Torsion Tests are done on materials to determine properties such as the modulus of elasticity in shear, the torsion yield strength &amp; the modulus of rupture. Torsion testing equipment consists of: A twisting head with a chuck for gripping the specimen and for applying the twisting movements to the specimen. A weight head, which grips the other end of the specimen &amp; measures the twisting movement or torque. <b>Features:</b> Sturdy &amp; reliable design, Easy to operate, Measurement of Torque with electronic load cell. Accuracy of Torque measurements <math>\pm 1\%</math> above 1/5th of the range. Can conduct torsion tests on both metallic &amp; non-metallic materials. <b>Technical Specifications</b> Maximum capacity : 100NM Least Count : 0.01NM Maximum clearance between grips : 500mm Grips for square specimens : 5-15mm Grips for flat specimens : 5-12x40mm Suitable for operation on a 3ph, 440v, 50Hz, A.C. Supply</p>	1				
4	<p><b>Rockwell cum Brinell Hardness Testing Machine:</b> AIM 663 New Brinell cum Rockwell Hardness Tester Impact testers are designed to determine the strength of a sample under impact load. This information is important as this strength determines performance characteristics of the material under impact loading conditions. Interchangeable pendulums &amp; specimen holders are used to measure the impact resistance of a variety of materials. Common test methods include Izod, charpy etc. Aimil supplies a Pendulum Impact Tester capable of conducting both the Izod &amp; Charpy Tests. The basic instrument for both the test methods is same. The attachments &amp; mountings for these are specific to the tests.</p>	1				

<b>Technical Specification:</b>						
	Charpy Test					
Pendulum drop angle	140°					
Pendulum effective weight	20.59kgs.					
Pendulum impact energy	30kg-m					
Min. graduation	0.2kg-m					
Distance of axis of hammer rotation and centre	825mm					
A)						
Striking Edge Angle	30°±1					
Radius of curvature	2.25mm					
Width	18mm					
B)						
Support Distance between arms	40mm					
Sloping angle	0°					
Relief angle	10°					
Radius of curvature	1.25mm					

## 5. REMOTE CENTERE OF NMEICT-IITB

Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		Q	a	b	(a+b) *q	
1	<p><b>Audio Mixer Z10FX Allen &amp; Heath/Studio master professional AiR series/Yamaha or equivalent</b></p> <p>General Specifications</p> <ol style="list-style-type: none"> <li>Operate with 220-240V 50Hz AC supply</li> <li>USB interface (USB1.1 or higher)</li> <li>4 channel (2 Mic/line + 2 Stereo input)</li> <li>8 segment left right LED meter</li> <li>Headphone output</li> </ol> <p>Technical Specifications</p> <ol style="list-style-type: none"> <li>Frequency response 10Hz to 20kHz</li> <li>Noise 22Hz to 22kHz -90dBu</li> <li>THD 0.01%</li> <li>Mono channel (XLR) Input, Mono channel Line Input (Jack socket)</li> <li>Stereo Input (Jack or phono sockets)</li> <li>L/R Outputs ( XLR) Normal/DI out, Aux &amp; FX Outputs (Jack sockets)</li> <li>Record &amp; Monitor Outputs ( Phono sockets)</li> </ol>	1				
<p><b>Note:</b> Your Price should include all accessories required for interfaces such as connector cables etc. If you have quoted for basic unit then prices for different accessories should be quoted on separate page and should be included in tender. <b>Tender should include broacher for product.</b></p>						

Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		Q	a	b	(a+b)*q	
2	<p><b>Audio Mixer Z16FX Allen &amp; Heath/Studio master professional AiR series/Yamaha or equivalent</b></p> <ul style="list-style-type: none"> <li>• 10 mono mic/line inputs,3 stereo channels with 2-band EQ</li> <li>• 16 internal time-delay effects</li> <li>• Neutrik mic XLRs, Neutrik 1/4 inch jacks</li> <li>• Channel insert</li> <li>• 3 band EQ with MusiQ</li> <li>• 2 pre-fade Aux sends ,1 post-fade Aux send</li> <li>• 1 internal FX send , Illuminated mute</li> <li>• Sound image pan , Illuminated PFL &amp; peak warning indicator</li> <li>• ALPS 100mm faders</li> <li>• Stereo returns &amp; playback ,All inputs with level control</li> <li>• 12 bar meters ,Mono/stereo function on auxes 1&amp;2</li> <li>• Monitor output section ,Alt stereo output source</li> <li>• Configurable USB stereo audio in/out</li> <li>• Cakewalk SONAR LE bundled with mixer</li> <li>• Rack ears available</li> </ul>	1				
	<p><b>Note:</b> Your Price should include all accessories required for interfaces such as connector cables etc. If you have quoted for basic unit then prices for different accessories should be quoted on separate page and should be included in tender. <b>Tender should include broacher for product.</b></p>					
<p>• Item No. 1 or 2 will be purchased depending on Budget availability EMD to be paid only for highest price item</p>						

Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		Q	a	b	(a+b) * q	
3	<b>P-S Series Yamaha/ Studio-Master or equivalent Power Amplifier 1000W</b> General Specifications 1. Operate with 220-240V 50Hz AC supply 2. Temperature and short circuit protection 3. USB interface (USB1.1 or higher) 4. 8 or 4 ohm speaker output 5. Frequency response 20Hz to 20kHz 6. THD <1%	1				
4	<b>P-S series Yamaha/ Studio-Master or equivalent Power Amplifier 1500W</b> General Specifications 1. Operate with 220-240V 50Hz AC supply 2. Temperature and short circuit protection 3. USB interface (USB1.1 or higher) 4. 8 or 4 ohm speaker output 5. Frequency response 20Hz to 20kHz 6. THD <1%	1				
	<b>Note:</b> Your Price should include all accessories required for interfaces such as connector cables etc. If you have quoted for basic unit then prices for different accessories should be quoted on separate page and should be included in tender. <b>Tender should include broacher for product.</b>					
<ul style="list-style-type: none"> <li>Item No. 3 or 4 will be purchased depending on Budget availability EMD to be paid only for highest price item</li> </ul>						



Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		q	a	b	(a+b)*q	
5	<b>Wireless Microphone System Mipro / Sure make or equivalent</b> General Specifications 1) Handheld and collar microphone set 2) Range 100 m 3) VHF band 160-245MHz , Transmitter RF output 30mW 4) S/N ratio > 90dB 5) Frequency response 5Hz to 15KHz . THD <1% at 1 KhZ	1				
6	<b>Wireless Microphone System Mipro ACT-72 Wideband Dual-Channel True Diversity Receiver / Sure make or equivalent</b> 1) Handheld and collar microphone set 2) Range 100 m, Bandwidth 72 Mhz 3) UHF band 482-698MHz/UHF 482 - 790MHz 4) Transmitter RF output 30mW 5) S/N ratio > 100dB 6) Frequency response 5Hz to 18KHz 7) THD <0.5 % at 1 khz  RF & Audio Meters, Transmitter Battery Meter, Diversity Signals, Interference Warning Indicator. Programmable User Name, Group, Channel, Squelch Meter, PC Address and Lock Status. Etc should be added features	1				
	<b>Note:</b> Your Price should include all accessories required for interfaces such as connector cables etc. If you have quoted for basic unit then prices for different accessories should be quoted on separate page and should be included in tender. <b>Tender should include broacher for product.</b>					
<ul style="list-style-type: none"> <li>Item No. 5 or 6 will be purchased depending on Budget availability EMD to be paid only for highest price item</li> </ul>						

Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		q	a	b	(a+b)*q	
7	<p><b>Stereo Amplifier Passive Speakers Quest or Equivalent make 150 Watt with 8 ohms</b></p> <p>Frequency range (+ -) 3dB:72 - 19K  HF Coverage angle:90 X 45 Deg  Rotatable Wave Guide  Max SPL :123 (Peak)  Long Term Power:200 watts  <b>Transducers</b> : 1 x 8" Cast Frame Quest  Bass driver, Injection moulded ABS plastic  Protective Grill : Foam covered perforated steel  Input Connections :2 x Speakon NL2 Pin 1+1-</p>	1				
8	<p><b>Stereo Amplifier Passive Speakers Quest or equivalent make 250 Watt with 8 ohms</b></p> <p>Frequency range (+ -) 3dB:72 - 19K  HF Coverage angle:90 X 45 Deg  Rotatable Wave Guide  Max SPL :200 (Peak)  Long Term Power:400 watts  <b>Transducers</b> : 1 x 8" Cast Frame Quest  Bass driver, Injection moulded ABS plastic  Protective Grill : Foam covered perforated steel  Input Connections :2 x Speakon NL2 Pin 1+1-</p>	1				
	<p><b>Note:</b> Your Price should include all accessories required for interfaces such as connector cables etc. If you have quoted for basic unit then prices for different accessories should be quoted on separate page and should be included in tender. <b>Tender should include broacher for product.</b></p>					
<ul style="list-style-type: none"> <li>• Item No. 7 or 8 will be purchased depending on Budget availability</li> <li>• EMD to be paid only for highest price item</li> </ul>						

Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		q	a	b	(a+b)*q	
9	<p><b>Osprey® 827e or Aver Media or Pinnacle make Video Capture Cards, PCi bus based</b>  Channel 1: 3G/HD/SD SDI or DVB-ASI  Channel 2: DVI/ HDMI/ VGA/ Component/ Composite and SVideo</p> <p><b>Ten Input Formats :</b> 3G SDI (424M) , HD SDI (292M) , SD SDI (259M) , DVB-ASI MPTS/SPTS (Windows only) ,DVI , HDMI ,Composite/CVBS , Component , S-Video , VGA/XVGA</p> <p><b>Audio :</b> AES/EBU (mini XLR), SPDIF (mini XLR) , HDMI (4 channels LCPM) , Balanced (mini XLR) , Unbalanced (RCA) ,Embedded SDI</p> <p><b>Driver Support : Microsoft® DirectShow® API , Linux V4L2</b></p> <p>Video Modes:  1080p 23.98, 24, 25, 29.97, 30, 60  1080i 50, 59.94, 60 etc.</p> <p>Analog Modes:  1920 x 1080/23.98, 24, 25, 50, 59.94, 60 :  1600 x 1200/60 : 1400 x 1050/60, 75  1360 x 768/60 : 1280 x 1024/60, 85 : 1280 x 960/60, 85 : 1280 x 800/60 : 1280 x 768/75, 85  1280 x 720/50, 60 :1024 x 768/60, 85: 800 x 600/85 : 640 x 480/60, 85</p> <p><b>Audio Input:</b>  Balanced analog audio (2 stereo pair, 4 x mini XLR) Always available</p>	1				
9B	<p><b>Video Capture Card</b></p> <ul style="list-style-type: none"> <li>• Codec H.264/AVC-Intra/DV NTSC/DV PAL/DVC PRO-HD/XDCAM/XDCAM HD/Uncompressed 9-bit 4:2:2, Uncompressed 10-bit 4:2:2</li> <li>• HDMI Video Input</li> <li>• Format Supports 720p50, 720p59.94, 720p60,1080i50, 1080p50, 1080p59.59</li> <li>• Resolution Support upto 1920X1080</li> </ul>	1				
<p><b>Note:</b> Your Price should include all accessories required for interfaces such as connector cables etc. If you have quoted for basic unit then prices for different accessories should be quoted on separate page and should be included in tender. <b>Tender should include broacher for product.</b></p>						
<p>No USB or Converter based (HDMI to VGA etc) solution is required. You need to demonstrate the video capturing with HDMI interface from Sony Handycam model 240e on A-view software from IIT Bombay</p>						

Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		q	a	b	(a+b)*q	
10	<p><b>Smart LCD Interactive Projector : Epson or equivalent make</b>  Smart Projector: Interactive Projector with Resolution : WXGA, Brightness : 2700 lumens, Aspect Ratio : 16:10, Contrast Ratio : 10000:1 Lamp Life : 5000Hr , Wireless Connection Projection System : 3LCD, 3-chip technology, LCD Panel :Ultra-short- throw, Projection Size : 60 inches - 100 inches with necessary cables, whiteboards and fittings and fixtures for both with installation</p>	1				
11	<p><b>Desktop Dell make –Inspiron 3000 series or HP make or Equivalent : 4th Generation Intel® Core™ i5-4460S Processor (6M Cache, up to 3.40 GHz), 8GB Dual Channel DDR3 1600MHz - 2 DIMMs, 1TB 7200 rpm SATA 6Gb/s Hard Drive, Intel® HD Integrated Graphics, USB Entry Keyboard, USB Optical Mouse, Wireless-N 1705 @ 2.4GHz + Bluetooth 4.0, AX210 USB Stereo Speakers, 19 Monitor   E1916HV 18.5",</b>  <b>Front</b>  USB 2.0, MCR 8:1, MiC and Headphone Jacks  <b>Rear</b>  (2) USB 3.0, (4) USB 2.0, HDMI, VGA, RJ-45 (10/100/1000 Ethernet), 3-stack audio jacks supporting 5.1 surround sound  <b>Media Card Reader</b>  Integrated 8-in-1 Media Card Reader (supports Secure Digital (SD), Hi Speed SD (SDXC), Hi Capacity SD (SDHC), Memory Stick (MS), Memory Stick PRO (MS PRO), Multimedia Card (MMC), Multimedia Card Plus (MMC Plus), xD-Picture Card(XD))  Software Security : Quick Hill antivirus for 3 Years  Windows 7 or above License OS. <b>3 Yr Hardware Warranty</b></p>	1				

Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		q	a	b	(a+b)*q	
12	Canon Make EOS Rebel T6i EF-S 18-55mm IS STM Lens Kit DSLR or Equivalent Make Camera	1				
13	Canon Make EOS Rebel T6s EF-S 18-135mm IS STM Lens Kit or Equivalent Make Camera	1				
14	Canon Make EOS 70D or Equivalent Make Camera	1				
15	Canon Make EOS Rebel T5 18-55 IS II Kit or Equivalent Make Camera	1				
	<b>Note:</b> Your Price should include all accessories required for interfaces such as Tri Pod , connector cables etc. If you have quoted for basic unit then prices for different accessories should be quoted on separate page and should be included in tender. <b>Tender should include broacher for product.</b>					
<ul style="list-style-type: none"> <li>Item No.12 to 15 only one item will be purchased depending on Budget availability</li> <li>EMD to be paid only for highest price item</li> </ul>						

## 6. A.G.C. Library Department:

Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		q	a	b	(a+b) * q	
01	<p><b>Desktop PC's of following specifications:</b> MNC Branded Desktop with PC with Intel code i5, 8GB RAM, 2TB SATA,DVD-RW,UISB Key Board&amp; Mouse, 22"WTFT Monitor, Microsoft Windows 8, Professional (64 Bit) operation system Warranty: 3Year Next Business Day On-site Service. <b>(Note: Only make Dell and HP)</b></p>	1 Desktop PC				
02	<p><b>Fujitsu ScanSnap SV600 Scanner :</b> Features: Hard Book Scanner Overhead scanner with simple one-touch operation Fast scanning in just 3 seconds up to A3 size Scans a wide variety of material – thick books, bound documents, loose paper, fragile information, business cards... Multi-cropping function – can scan multiple items (up to 10) and automatically crop to show only the scanned items Bundled software includes Rack2-Filer Smart and Magic Desktop with Easy Book Creation, as well as Adobe® Acrobat® Standard, ABBYY Fine Reader and CardMinder Functional Specifications Scanning Technology : Lens reduction optics / Colour CCD x 1 Light source (White LED + lens illumination) x 2 Scanning Mode :Colour, Greyscale, Monochrome, Automatic (Colour / Greyscale / Monochrome detection) Document Size: Automatically recognises document size, A3(landscape), A4, A5, A6, B4, B5, B6, Post card, Business card, Double Letter, Letter, Legal and Customized size (Max: 432 x 300 mm (17.0 x 11.8 in.), Min: 25.4 x 25.4 mm (1 x 1 in.)) 30 mm (1.18 in.) or less ,Scanning Speeds : (200 or 300 dpi, Colour, Greyscale and Monochrome) Output : Simplex, "Better mode" or "Best mode": 3 seconds / page Functions:</p>	1 Scanner				

	<p>Deskew by text on document, Auto paper size detection, Auto image rotation. Auto colour detection, Book image correction, Multiple document detection Interface :USB2.0 / USB1.1 (connector: B Type) System compatibility: Windows and Mac Warranty: Three Year</p>					
<b>03</b>	<p><b>QUANTA / EXIDE /ROCKET OR Equivalent Make 12V-26AH SMF Batteries</b></p> <p><b>with 6KVA UPS</b></p> <p><b>NOTE:</b> Don't quote for Lead Acid Water Batteries. Quote Batteries including Battery Installation / Battery Links</p>	<b>20Batteries</b>				
<b>04</b>	<p><b>Smart LCD Interactive Projector : Epson or equivalent make</b></p> <p>Smart Projector: Interactive Projector with Resolution : WXGA, Brightness : 2700 lumens, Aspect Ratio : 16:10, Contrast Ratio : 10000:1 Lamp Life : 5000Hr , Wireless Connection Projection System : 3LCD, 3-chip technology, LCD Panel :Ultra-short-throw, Projection Size : 60 inches - 100 inches with necessary cables, whiteboards and fittings and fixtures for both with installation</p>	<b>1</b>				

## 7. Central Computing Facility:

Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		<b>q</b>	<b>a</b>	<b>b</b>	<b>(a+b) * q</b>	
1	AMD DESKTOP with M0G03PC#ACJ, H8 Series , AMD A10 4.1 G, Windows 8.1 EM 64-bit OS, 4GB DDR3-1600 DIMM (1x4GB) RAM, 500GB 7200 RPM SATA 6G 3.5 HDD, Slim SuperMulti ODD MT, Ethernet LAN 10/100/1000, optical mouse and keyboard a) With 18.5 In LED LCD Monitor , b) Without Monitor	40				
2	Intel® 4th generation Core™ i5 (Quad Core, 6MB Cache, 3.2GHz, w/HD Graphics 4600), 4GB DIMM (4GB x1) DDR3 @ 1600MHz,500GB @7200 RPM 3.5" SATA Hard Drive, 16X DVD+/-RW Drive, Intel® HD Graphics 4600, Integrated Realtek® RTL8151GD Ethernet LAN 10/100/1000, USB Entry Keyboard KB212B, Optical Mouse, Microsoft® Windows®8 Professional <b>32/64</b> bit (English) a) with 18.5" LED monitor, b) Without Monitor	40				
3	Air Conditioners 2 Tons (Panasonic/Blue Star/Voltas/ or equiv.) with necessary installation and fitting at Central Computing Facility Server Room.	2				
4	48 port GBIC Switches with following specifications for necessary Installation for connectivity to departments Minimum Layer 2 Capability Switch with 48 x 10/100/1000BASE-T Ports, 2 x 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 x 10GBASE-X SFP <b>Note</b> : The edge switch should be compatible with Extreme make Core L3 Switch	10				
5	<b>MacBook Air with following minimum specs</b> (Mechanical Department) 11 inch retina display, 1.4GHz dual-core Intel Core i5, 3. 4 GB of RAM, 128 GB Flash,Wi-Fi and Blue tooth with Latest Mac OS with mac MSOffice, Carry case, Thunderbolt to VGA adapter, Thunderbolt to GB Ethernet Adapter, 1 TB external HDD/Flash Drive (USB/Thunderbolt/Dual)	3				
6	WiFi Camera – Indoor Panoramic, Ethernet Network Camera with field view 185°, autoswitch 1R cut, min 3 mpixel, resolution 2048 x 1536, 15 fps, digital pan/ tilt/ zoom with motion detection.	2				



7	<b>Office Chairs in net fabric, revolving, adjustable height hydraulics, primary material chrome, 5 wheels, 62 x 58 x 96 cm</b>	70				
8	Server HP BL460c Gen9 E5-2680v3 FIO Kit (Intel 12 core, 2.5Ghz) - 1 no.,BL460c Gen9 E5-2680v3 Kit (Intel 12 core, 2.5Ghz) -1, 16GB 2Rx4 PC4-2133P-R Kit-10 no., HP 200GB 12G SAS ME 2.5in EM SC H2 SSD 2 Ethernet 10Gb 2P 560FLB FIO Adptr -1, Smart Array P244br/1G FIO Controller -1 no., Ethernet 1Gb 4P 366M Adptr-1 no., Install c-Class Server Blade Service-1 no. (This system should be compatible with existing HP Server Chassis system.)	02				
9	<p><b>Campus Management Software (ERP) (Compatible with existing Tally and Moodle deployments) – Quote separately for Cloud and Server based models with module-wise training (min two days), data migration for last four years and deployment cost included</b></p> <p><b>Modules with Features</b></p> <p><b>College Management:</b> The software should have the ability to set up College and manage college Information and Create Manage Academic departments.</p> <p><b>Program and Course Management.</b> Under Program and Course Management the software should have the ability to create Academic Year and Session Management. Intake/Batch Management Master setup to create semesters for different programs, Create and manage the different Programs that are run in the Institute. Create and manage courses being offered by different departments of the Institute. Define the credits, hours and sections for the courses.</p> <p><b>Student Information System</b> Ability to Maintain students profile includes personal details, qualification details, experience details etc. Student snapshot to view personal, courses, fees, exam and attendance details on a single link. Feature to generate student ID card and barcode. Reporting tool to generate detailed students report using various search criteria.</p>	1				

<p><b>Academic Registration</b> Ability to create Bulk and Student wise enrollment/unenrollment of students from program and course. Enrollment/unenrollment of students from sections. Feature to import student section details using excel. Program transfer and admission cancelation flow. Assign department, course and sections to faculties. Student registration reports like program wise registration, Course wise registration reports etc. with user defined Reports</p> <p><b>Choice Based Credit System</b> Under Choice based credit system the software should have the provision to Define credits system for different semester. Enable students to select course which they wants to study during registration (core, mandatory and optional subjects). Define grades for the courses. Create timetable considering the constraint of different courses and their relationships</p> <p><b>Time Table Management</b> The software should Enter schedule for classes, faculty and resources such as rooms, auditorium. Ability to avoid any conflicts in terms of timetable depending upon the availability of various factors. Graphical representation of timetable for Students, Faculty, Rooms resources</p> <p><b>Attendance Management</b> Integration with Time table to generate session (periods) details for attendance. Course section wise student’s attendance marking. Attendance report like Class attendance, Course wise attendance and faculty wise attendance reports.</p> <p><b>Exam Management</b> Exam and Mark-sheet Management should have the provision for Pre-Examinations Preparation. Exam Notifications. Exam courses and student registration. Detention Management. Hall Ticket Generation. Exam Schedule. Exam Day. Exam Student Attendance Management. Post Exam activities -Evaluation and marking heads management Student Grade, SPA, CPA management. Result Preparation. Reports for result analysis. Multiple formats Mark-sheets &amp; Transcripts management</p>					
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<p><b>Library Management</b>  Create and manage Library master data such as – Shelves, Vendors, Publishers, Keyword Subjects and departments etc. Circulation day and fine rules. Create and manage book records. Update multiple book details on single click.  Generate bar codes for the library items. Generate Library Cards for Student, faculties and library books. Issue/receive library items to students/faculties.  Online book reservation by students/faculties. Book Recommendations.  Maintains magazines, project reports and journals, CD/DVD and other media. Manage late fine.</p> <p><b>Fees Management</b>  The software should be capable to provide multiuser support Security rights on add modify delete export. Multiple Students blocking unblocking. Direct linking with student and sponsors. Multiple Fee Plans Creation. Student fee plan enrollment at the time of program enrollment. . Security to prohibit double enrollment of students in to same fee plan into one semester.. Refunds and cheque bounce handling, Student Invoicing. General Ledger Accounts &amp; Sub Ledger Accounts. Opening Balances.</p> <p><b>Document Management</b>  Provision for Student /Faculty/Employee to request certificates that he/she wants to get issued. Auto approval, manual approval; rejection and complete certificate/document issue management can be done. Generate document using document generator and Print the certificates/documents directly on Institute stationary or predefined format is also present. Documents handed over at time of admission. Certificate management etc.</p> <p><b>Human Resource Management</b>  Ability to provide integrated and centralized employee database with filtered search capabilities. Maintain comprehensive employee profiles covering a wide range of essential workforce data – dependents information, contact details, educational details, work history and more. Configure employee working hrs and employee Leave for leave &amp; Timesheet management. Feature to print employee barcode and ID Card. Multilevel Leave approval. Define Annual working calendar includes holidays and vacations. Daily Attendance Marking and Direct import from biometric machine.</p>					
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<p><b>Hostel Management</b>  Hostel Management module should be able to Maintain details about hostels in the College. Maintain information related to total number of Floors, rooms, room type, bed no, warden, manager, etc.</p> <p><b>Asset Management</b>  Maintain a complete control over all the items (Capital and Consumable)  Create and maintain list of categorized products and items with serial number Vendors, Price lists. Payment Terms, Requisitions (With Approval/Denial) Enquiries, offers and comparison of Purchase orders &amp; Quotation based on comparisons Item Acceptance, Internal transfers and stock journals Returnable as per requirement.</p> <p><b>E-Learning System – Online Portal .</b>  Under E Learning System the software should have the capability to do communication to students, conduct various online assessments, and online sharing of content to students by faculties.</p> <p><b>Alumni Management</b>  Create and maintain a complete database of details of alumni. Real-time communication with and among alumni via message boards, email and File-sharing capability. Jobs/ vacancies can be posted by Alumni for the benefit of all the other Alumni or for the graduating batch on campus.</p> <p><b>Important</b>  System should also include tracking facility for following features  Supplier/Contractor Management System, Meeting Management Systems including Agenda/Resolutions/Proceeding, Recording &amp; Booking facility for Hall/Meeting Room, Inward Desk &amp; Dispatch Desk Systems, Real-time Attendance Management Systems with RFID/CCD/Thumb Recording Interface OR Bio-metric attendance recording system with ERP Interface, Leave Management Systems, Performance Appraisal Management, E-Payment Gateway Support for Online Payments, Interface to Web-page Student Portal/Faculty Portal/Alumni Portal/ Web-mail Portal/Ext. Participant Portal with RSS feeds,</p>					
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	SMS Center/Gateway Support to various Modules, Payroll Accounting & Management System, Visitors Pass Management System, E Ticket based Help-desk / Service Module <b>Note: All Formats should be as prescribed by Walchand Engineering College.</b>					
10	<p><b>Surveillance system: (Quote separately) ( Approx. total quantity required Camera- 80 DVR with HDD- 8 etc)</b></p> <ol style="list-style-type: none"> <li>1. IR Dome/Bullet camera (CPPLUS/HIKVISION/DAHUA/ CADYCE/AXIS/ SAMSUNG or equivalent make) HDCVI Min 2 MP, 1/2.9" , resolution 25/30 FPS@720P, Low power consumption, True D/N with IR cut filter with 10A power supply.</li> <li>2. DVR with 16 channel 2MP HDCVI with 1 Audio channel</li> <li>3. Hard disk – 2 TB</li> <li>4. Cabling with Casing-capping per meter</li> <li>5. Installation</li> </ol> <p><b>( Comparison will be based on total cost of above system quoted)</b></p>					
11	<p><b>NVR system ( Approx 15 camera and one NVR required)</b></p> <ol style="list-style-type: none"> <li>1. IP based camera: 1/3" Progressive scan 1.3MP HD real time video CMOS (CPPLUS/HIKVISION/DAHUA/ CADYCE/AXIS/ SAMSUNG or equivalent make) with POE adapters, IP 66 compliant</li> <li>2. Configuration and Installation</li> </ol>					
12	<p><b>UTM System</b> : Hardware with min 4 GBIC ports and open source implementation/installation of firewall/virus-wall /NAT/User Management console</p> <p>With features like multi-user management, link aggregation, VLAN management, NAT, Proxy, Web content filtering Administration</p>	1				
13	<p><b>Campus antivirus solution with Admin console management</b> (Symantec/QH/Kaspersky or equivalent)</p> <p>End point security, Server based up-gradation</p>	Min 500 users				


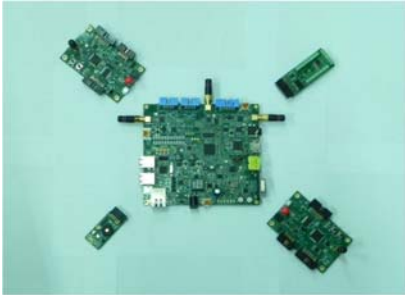
## 8. CSE Department:


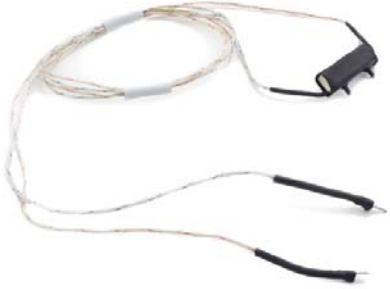

Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		<b>q</b>	<b>a</b>	<b>b</b>	<b>(a+b) * q</b>	
1	<p><b>Palm Print scanner 500 ppi</b>            Tenprint Livescan system: CS550p with 500 ppi or equivalent            The CS500p is a 500 ppi FBI-certified livescan device that captures all rolled fingers, flats, upper, lower, and writer's palms during the booking process. With its high-definition optics, the CS500p captures forensic-quality images that meet the ANSI/NIST and FBI Image Quality Specification (IQS) standards, allowing electronic interface with other law enforcement systems. Features include real-time image quality check, sequence verification, auto-center, and auto-contrast functions. The software guides the user through the capture process with on-screen prompts and graphical user interface displays.</p> <p><b>Specifications:</b>            Resolution: 500 ppi            Scanner Size: 8.9 x 17 x 5.7 in. (226 x 432 x 145 mm)            Palm Print Image Size: 5.1 x 5 in. (130 x 127 mm)            Flat Image Size: 5.1 x 5 in. (130 x 127 mm)            Rolled Image Size: 1.6 x 1.5 in. (41 x 38 mm)            Interface: USB 2.0            Capture Mechanism: Automatic, via foot pedal switch or capture button            Weight: 19 lbs. (8.6 kg)            Operating Temperature: 50° to 95° F (10° to 35° C)            Humidity: 10-80% relative humidity, non-condensing            Capture Format: Single finger flats, single finger rolls, four finger slaps, two thumbs, upper palms, lower palms, writer's palms            Power Supply: DC 12V, 4A</p> <p><b>Standard Software</b></p> <ul style="list-style-type: none"> <li>• FBI-certified processing software</li> <li>• Capture 14 NIST fingerprint images</li> <li>• FBI-certified WSQ compression module</li> <li>• SMTP, FTP, SML and NIST interface module</li> <li>• Quality check and sequence check module</li> <li>• Segmentation of flats into single fingerprint images</li> </ul>	One				




2	<p><b>Palm Print Scanner 1000 ppi</b>  Tenprint Livescan system: CS1000p with 1000 ppi or equivalent  The CS1000p is a 1,000 and 500 ppi FBI-certified livescan device that captures all rolled fingers, flats, upper, lower, and writer's palms during the booking process. With its high-definition optics, the CS1000p captures forensic-quality images that meet the ANSI/NIST and FBI Image Quality Specification (IQS) standards, allowing electronic interface with other law enforcement systems. Features include real-time image quality check, sequence verification, auto-center, and auto-contrast functions. The software guides the user through the capture process with on-screen prompts and graphical user interface displays.</p> <p>Specifications  Resolution: 500 or 1,000 ppi  Scanner Size: 13 x 17.1 x 5.7 in. (330 x 434 x 145 mm)  Palm Print Image Size: Up to 5104 x 5000 pixels  Flat Image Size: Up to 3200 x 3000 pixels for slaps  Rolled Image Size: Up to 1600 x 1500 pixels for rolled fingers  Interface: IEEE 1394 (FirewireB)  Capture Mechanism: Automatic, via foot pedal switch or capture button  Weight: 28.9 lbs. (13.1 kg)  Operating Temperature: 10° to 35° C  Humidity: 10-80% relative humidity, non-condensing  Capture Format: Single finger flats, single finger rolls, four finger slaps,  two thumbs, upper palms, lower palms, writer's palms  Power Supply: DC 12V, 4A  Standard Software</p> <ul style="list-style-type: none"> <li>• FBI-certified processing software</li> <li>• Capture 14 NIST fingerprint images</li> <li>• FBI-certified WSQ compression module</li> <li>• SMTP, FTP, XML and NIST interface module</li> <li>• Quality check and sequence check module</li> <li>• Segmentation of flats into single fingerprint images</li> </ul>	One				
3	<p><b>RFID Tags</b>  RFIDeas or equivalent  Intermec's flexible RFID Smart Labels and tags provide a versatile architecture that can be used in open or closed loop environments. Thermal transfer or direct thermal printing and chip encoding enable on demand generation of durable RFID labels and tags that can be deployed with confidence to meet a broad range of customer requirements.</p>	25				
4	<p><b>RFID Reader</b>  RFIDeas or equivalent  AIR ID RF IDEASD READER, 13.56 MHz I CLASS/MIFARE, USB</p>	04				
5	<p><b>RFID Software</b>  <a href="#">RedBeam</a> or equivalent  Android support apps for Inventory, Asset Tracking, Surveillance, Printing</p>	01				


6	<p>Beacons (Analyse what sections of your store get the most traffic.) Blesh CMS SDK kit UriBeacon or equivalent Online Dev Kit with 3 Beacons V2.0 UriBeacon firmware Ready for prototyping, Plug&amp;Play iOS and Android compatibility</p>	04				
7	<p><b>RFID Sling Bag</b> Tatonka or equivalent Check in RFID B Sling Bag  RFID system for Identification and reminder app [Document wallet with integrated read protection. The new RFID technology is advancing: data stored electronically on RFID chips that are used, for instance, on debit and credit cards, mobile phones, passports and ID cards, are read quickly and without physical contact using remote technology. However, this also attracts criminal interest, so you should protect any of your documents and devices that have this feature. The CRYPTALLOY foil in the Check In RFID B blocks these radio waves, making data theft impossible. Check In RFID B can be worn over the shoulder or attached to a belt. Two zips provide access to the large main compartment. Under the lid are various zip-up pockets for all the various little odds and ends you need when travelling.]</p>	01				
8	<p>RFID Wristbands/ MI bands (multi activity) BCI or equivalent New PDC Smart Woven RFID Wristbands are the ultimate multi-day, high-security event management solution! The special mix of nylon and cotton materials creates wristbands that are soft and extremely comfortable to wear. The combination of precise, multi-color weaving of custom graphics, a high-strength plastic one-way sliding closure and integrated RFID slider result in wristbands that are secure, non-transferable and impossible to counterfeit!</p>	01				
9	<p>E-health sensor shield v2.0 for arduino Raspberry pi and Intel Galileo</p> 	02				
10	<p>PATIENT POSITION SENSOR (ACCELEROMETER) FOR E-HEALTH PLATFORM unit</p> 	01				








11	<p>GLUCOMETER SENSOR FOR E-HEALTH PLATFORM &amp; BODY TEMPERATURE SENSOR FOR E-HEALTH PLATFORM</p> 	02				
12	<p>Raspberry Pi 2 Complete Starter Kit -- Includes Raspberry Pi 2 900 MHz</p> <p>Raspberry Pi 2 900 MHz Quad-Core CPU (1GB) -- Edimax EW-7811Un Wi-Fi Adapter -Clear Case--Power Supply--Kingston 8GB Micro SD Card and Micro SD to SD Adapter--HDMI Cable and Heatsink. XBMC Media Player Pi 2 Model B (Latest Version Released on 2 2 2015) Pi 2 - Model B Raspberry Pi Enclosure Case (Clear)-- Mounting slot and screws for a raspberry pi camera module 5-Foot Long 6FT High Quality HDMI Cable Edimax EW-7811Un 150Mbps 11n Wi-Fi USB Adapter XBMC Heatsink for Raspberry Pi - Set of 2 Heat Sink</p>	02				
13	<p><b>CDAC IoT Research lab setup Kit</b></p>  <p>CDAC Ubimote Wi-Fi Mote BLE mote WINGZ Ubi-Sense Ubi-DAQ Debugger</p>	10 10 10 1 10 10 1				
14	PULSE AND OXYGEN IN BLOOD SENSOR (SPO2)	01				

	<p>FOR E-HEALTH PLATFORM</p> 					
15	<p>AIRFLOW SENSOR (BREATHING) FOR E-HEALTH PLATFORM</p> 	01				
16	<p>GALVANIC SKIN RESPONSE SENSOR (GSR - SWEATING) FOR E-HEALTH PLATFORM</p> 	01				

17	<p>ELECTROCARDIOGRAM SENSOR (ECG) FOR E-HEALTH PLATFORM</p> 	01				
18	<p>ELECTROMYOGRAPHY SENSOR (EMG) FOR E-HEALTH PLATFORM</p> 	01				
19	<p>RFID 13.56 MHz / NFC Module for Arduino / Raspberry Pi</p> 	02				

20	<p><b>MATRIX</b> IoT Toolkit with 15 sensors for Smart office automation</p> 	01				
21	<p>Drones with remote control BLADE 180 QX HD quadcopter with SAFE™ (Sensor Assisted Flight Envelope) technology</p>	1				
22	<p><b>Video Surveillance:</b> IP based Camera unit with software IDE CP / Sony</p>	4 camera unit				
23	<p><b>GPS tracker</b> with navigation system EROCKET/DYTECH or equivalent</p>	2				
24	<p>Sensors with electronic actuators like Zigbee &amp; IR communicators</p>	10				
25	<p>IDE &amp; software API tools For connected integrated device app development</p>	01				
26	<p>ADXL335 Module 3-axis Analog Output Accelerometer for Raspberry Pi Arduino</p> 	05				

27	<p><b>Robohaat-Vibration Sensor Module</b>  Vibration analysis  Shock detection and event capture health Instrumentation,    </p> <p>diagnostics Safety.</p>	02				
28	<p><b>DHT11 – Humidity and Temperature Sensor</b></p> 	2				
29	<p><b>TCS230 TCS3200D Color Recognition Sensor Module with wide angle lens</b></p>  <p>On-board the TCS3200 color sensor  With removable wide-angle lens, can identify a large area or a small area of the object.</p>	2				
30	<p><b>IR Infrared Obstacle / Distance Sensor Module</b></p> <p>sensor module output port OUT can be directly connected with the microcontroller IO port .</p> 	2				

31	<p>eZ430-Chronos - Wireless development tool in a watch from Texas Instruments</p> <p>Texas Instrument</p>  <p>The image shows the eZ430-Chronos Wireless Development Tool, which is a smartwatch. It has a black strap and a color display showing the time 04:30, a heart rate icon, and a battery level icon. Next to the watch is its retail box, which features a running person icon and the text 'eZ430-Chronos'. Below the watch and box are two MSP430 microcontroller chips. The Texas Instruments logo and 'MSP430' are also visible.</p> <p>eZ430-Chronos Wireless Development Tool</p> <p>TEXAS INSTRUMENTS MSP430</p>	1				
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## 9. Exam. Cell:

Item No.	Particulars	Approx. Qty	Basic Unit Price	VAT + Other +LBT	Total Amount Rs.	EMD amount (3 % of the total amount)
		<b>q</b>	<b>a</b>	<b>b</b>	<b>(a+b)*q</b>	
1	<b>Grade Cards</b> Size:A4 Paper: 100gsm white maplitho Colour: 3 colourfront and 1 colour back Security features: High resolution border, Microline printing, Anti copy ink (Fluro ink) Copypentagraph, Opaque text, Penetrating numbering, Invisible UV printing, Conductive ink, and Water mark printing.	3500				

**Terms & Conditions**

Please note following terms and conditions before filling the tender form and return this **sheet duly signed along with company's seal.**

1. Essential additional Services to be included Installation and training on college site. Supplying documentation, Software Media /Software with media. (Licensed Version), Warranty for **three** years. Equipment for its malfunctioning, if any, must be replaced / repaired within 15 days during warranty period.
2. For any proprietary items, attach certificate from the manufacturer that the product is proprietary and also attach the valid certificate of authorized dealer/distributor/channel partner.
3. Local support for three years must be provided by the party/manufacturer.
4. The name of your principal party (if any) is to be indicated for the items, so as to enable to place the order with the principal.
5. **Usual payment terms:** 80% against successful installation, testing, training, tagging, satisfactory certification from concerned HOD and 20% after submission of Bank guarantee for three years of 10% of the total purchase order.
6. **The tender form is not transferable.**
7. The offer value is to be calculated on the basis of Rate x Quantity
8. Tender documents should be sealed in an envelope along with duly signed terms & condition sheet in the college office **on or before 20<sup>th</sup> January, 2016 (12:00 noon)**. Late documents will not be accepted. -
9. The cost of the TENDER document is in the form of DD of Rs.1000/-- in favour of Director, Walchand College of Engineering, Sangli. This amount is non refundable. The tender document after having downloaded from the college website, [www.walchandsangli.ac.in](http://www.walchandsangli.ac.in); is to be filled up by the bidder and the filled tender document is to be submitted along with the D.D. Document without D.D. will not be considered.
10. If the space provided in any one of the columns of the tender form is not enough, additional pages may be attached.
11. Earnest Money Deposit (EMD) is to be calculated as 3% of the offered total price of the items for a department. Separate Demand Drafts for each of the departments must be submitted along with the tender documents. Tender submissions, without Demand Drafts will not be considered. Demand Drafts must be drawn on any Nationalized Bank in favour of `The Director, Walchand College of Engineering, Sangli' payable at Sangli. If the tender offer is not acceptable, the EMD will be refundable.
12. **The right to reject or accept any or all offers with or without modifications from any or all parties without assigning any reason is reserved with the Director, Walchand College of Engineering, Sangli.**
13. The bidder has to submit an undertaking for terms and conditions, if selected for placing the order.
14. Rates quoted should be valid at least for **Two Months**.
15. The supply of materials should be done within two weeks after date of purchase order.
16. Legal matter will be restricted to Sangli jurisdiction.
17. Quantity mentioned in tender for item may vary depending on availability of fund.
18. Enough supporting documents, for example, specifications of the items, customer list, Authorization letter, Sales tax number letter, etc. must be submitted along with the tender documents.

I / We have read the above instructions carefully, and I /we abide by the instructions.

**Seal of Company**

**Authorized Signature**

**Name:**

**Date:**

**Details of EMD**



Sr. No.	Department	Total Amount		EMD		D.D. Details		
		Rs.	Ps.	Rs.	Ps	D.D. No.	D.D. Date DD/MM/YYYY	Nationalized Bank's Name
1	MECHANICAL							
2	CENTRAL COMPUTING FACILITY							
3	ELECTRICAL							
4	INFORMATION TECHNOLOGY							
5.	APPLIED MECH							
6	REMOTE CENTER OF NMEICT-IITB							
7	AGC LIBRARY							
8	CSE							
9	EXAM CELL							

Seal of Company

Authorized Signature  
Name:

Date:

For more details for filling up of the tender form, following respective head of the department may be contacted.

Sr. No.	Name of Department	Contact No.	Email Address
1	MECHANICAL	(0233)-2300716	<a href="mailto:hod.mechanical@walchandsangli.ac.in">hod.mechanical@walchandsangli.ac.in</a>
2	ELECTRICAL	(0233)-2300933	<a href="mailto:hod.electrical@walchandsangli.ac.in">hod.electrical@walchandsangli.ac.in</a>
3	INFORMATION TECHNOLOGY	(0233)-2301910	<a href="mailto:hod.IT@walchandsangli.ac.in">hod.IT@walchandsangli.ac.in</a>
4	CENTRAL COMPUTING FACULTY	(0233)-2300410	<a href="mailto:dinesh.kulkarni@walchandsangli.ac.in">dinesh.kulkarni@walchandsangli.ac.in</a>
5.	APPLIED MECH	(0233)-2300714	<a href="mailto:hod.apm@walchandsangli.ac.in">hod.apm@walchandsangli.ac.in</a>
6	REMOTE CENTER OF NMEICT-IITB	(0233)-2304470	
7	AGC LIBRARY	(0233)-2300357	<a href="mailto:librarian@walchandsangli.ac.in">librarian@walchandsangli.ac.in</a>
8	CSE	(0233)-2301327	<a href="mailto:hod.cse@walchandsangli.ac.in">hod.cse@walchandsangli.ac.in</a>
9	EXAM CELL	(0233)-2303307	<a href="mailto:madhukar.waware@walchandsangli.ac.in">madhukar.waware@walchandsangli.ac.in</a>