



COMSATS Institute of Information Technology
Lahore Campus, Defence Road, Off Raiwind Road, Lahore

Tender No. CIIT-TN-13-17-918
Case # 2122

TERMS AND CONDITIONS

[All pages (BoQs & Terms & Conditions) are mandatory to be signed / stamped, failing which the bid may be rejected.]

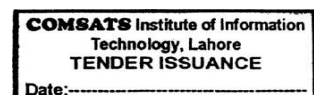
1. Any addition, deletion or modification of any clause of the procurement terms & conditions / BoQs of CIIT by any vendor will not be acceptable and may lead to rejection of the bid.
2. Only registered Suppliers, who are on Active Taxpayers List (ATL) of FBR, are eligible to participate in tender.
3. The contract will be executed and handed over in satisfactory conditions up to the entire satisfaction of COMSATS Institute of Information Technology, Lahore Campus.
4. Documents along with Pay Order / Demand Draft amounting to **Rs. 500/-** as a tender documents fee (Non-Refundable) shall be submitted in favor of COMSATS Institute of Information Technology, Lahore to the address given below. No bid will be accepted without tender documents' fee.
5. Part / Advance payments is not allowed.
6. The exact completion/delivery time from the date of the purchase / work order will be **30 days**. The handing over / completion time for this contract is of critical importance
7. Your bid proposal should be inclusive of freight and all other taxes and to be delivered at COMSATS Institute of Information Technology, Lahore Campus's premises.
8. After opening of bids, COMSATS Institute of Information Technology, Lahore Campus will examine the bids for completeness as per tender document.
9. Purchase order (s) will be awarded to the lowest or technically recommended bidder (s) on the basis of item wise / subtotal wise / grand total wise according to the nature of BoQs.
10. The bid should be submitted in a sealed envelope up to **August 23, 2017** on or before **1400hrs** and will be opened on the same date **at 1430hrs** in the presence of available bidders.
11. The envelope should be marked as under;

Secretary, Purchase Committee
COMSATS Institute of Information Technology, Lahore Campus
Defence Road, Off Raiwind Road, Lahore.
Tel: 042-111-001-007, Ext: 875

The envelope shall also bear the word "**CONFIDENTIAL**" and following identification quotation of "**Chemicals and Consumable Items for Chemical Engineering Department for Fall 2017**".

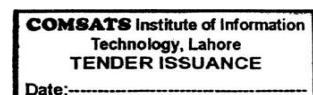
12. The bid form (BoQs) must be duly filled in, stamped and signed by the authorized representative of the bidder.

Signature & Stamp of Bidder



- 13. If the vendor fails to deliver the goods / services to CIIT-Lahore in time then the penalty will be charged as under:-**
- a. 1% per day of the invoice price for 5 working days.
 - b. 2% per day of the invoice price for further 5 working days.
 - c. If the vendor fails to deliver the goods / services during the extended period then the purchase / work order may be cancelled, earnest money and payment may be forfeited.
14. If the delivered goods / services are not according to the required quality standards / specifications, the same shall be liable to be rejected after inspection. The vendor would be required to supply as per requirements mentioned in our BoQs, otherwise the purchase / work order will be cancelled after due date with confiscation of earnest money.
15. Deduction of Income Tax and any other tax will be deducted at source according to Government prevailing rules.
16. Payment will be made on submission of Invoice in the name of “COMSATS Institute of Information Technology, Lahore Campus” with a copy of delivery challan (s) after the complete order has been supplied, inspected and accepted which includes delivery / installation, and COMSATS acceptance / inspection thereof.
17. All prices should be quoted on F.O.R (Pak Rupees).
18. All prices should be valid for at least **60 days**. Withdrawal or any modification of the original offer within the validity period shall entitle CIIT to forfeit the earnest money in favor of the CIIT and / or put a ban on such vendor participation in CIIT tenders / works.
19. It is the sole responsibility of the agent / supplier / manufacturer to comply with the applicable laws, be national or international.
20. In case of any dispute or grievance, the matter shall be addressed as per PPRA rules.
21. The CIIT reserves the right to modify the quantities of goods / services at any time before the award of purchase / work order.
- 22. The bidder is required to furnish in form of Bank deposit / CDR / Pay order equivalent to 2% of the total Bid price as Earnest Money crossed in favor of “COMSATS Institute of Information Technology, Lahore Campus”. Any bid not accompanied by Earnest Money shall be rejected without any right of appeal.**
23. COMSATS Institute of Information Technology, Lahore Campus reserves the rights to accept or reject the bid if;
- i. Received without earnest money
 - ii. Received later than the date and time fixed for tender submission
 - iii. The tender is unsigned/ unstamped
 - iv. The offer is ambiguous
 - v. The offer is conditional
 - vi. Offer is made by the unauthorized agent/ supplier of the original equipment manufacturer.
 - vii. The offer is from a firm, which is black listed by any Govt. Office.
 - viii. The offer is received by telephone/telex/fax/telegram.
 - ix. Any unsigned / ambiguous erasing, cutting / overwriting etc. is made.
24. The bidder should furnish a certificate as worded below in token of acceptance of all the terms and conditions of the tender. Otherwise the tender will not be considered under any circumstances.

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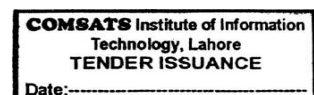
25. The undersigned affirm that the terms and conditions as contained in this document have been read and accepted and that in the event of selection of my/our rate the agreement in the prescribed form will be entered into:

- **Company / Vendor Name:**.....
- **Postal Address:**.....
- **Tel. / Mobile:**.....**Email:**.....
- **NTN# :**.....**GST#:**.....
- **Signature:**
- Please also attach the Certificate supporting being Active Taxpayer as per requirement of FBR.

BoQs of Chemicals and Consumable Items for Chemical Engineering Department for Fall-2017, CIIT-Lahore

| No change in the BoQs (Specs & Qty.) of CIIT, as detailed below, is allowed. Any additional information may be mentioned in the blank columns (i.e. model / brand or Price). Any modification in CIIT’s BoQ may lead to rejection of bid (fully or partially). | | | | Rates to be quoted inclusive of all (applicable) taxes | |
|--|----------------------|---|-----|--|------------------|
| Sr. # | Item Name | Quoted Model / Brand | Qty | Quoted Model / Brand | Total Price (Rs) |
| Items for Master Thesis (Item Wise Basis) | | | | | |
| 1 | Mass Flow controller | N2, preferably Bronkhorst or equivalent Flow range: 20 ml/min-1000 ml/min Discharge Pressure: 1-5 bar RS232 connection with cable, relevant accessories and software for triggering the mass flow controller from computer Standard NPT (1/4”) Connection Operating temperature range: 25-60 DegCelcius Minimal pressure drop as possible Installation of MFC and software installation along with trigger control of MFC by PC must be provided. Power supply and communication cables included Vendor must be attached the | 01 | No | |

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| | | | | | | |
|---|------------------------|--|----|----|--|--|
| | | exclusive distribution certificate of quoted brand / model alongwith the bid. | | | | |
| 2 | Dosing pump for liquid | Flow range 0.06 ml/min to 100 mL/min preferably KnF or equivalent Three digit LED display showing motor rpm LED indicators confirm motor direction stackable, splash-resistant ABS plastic housing; IP33 rated Installation of pump and software installation along with trigger control of pump by PC must be provided. Operating temperature range: 25-60 °Celcius Discharge Pressure: 2-5 bar Power supply and communication cables included Vendor must be attached the exclusive distribution certificate of quoted brand / model alongwith the bid. | 01 | No | | |
| 3 | Acetic Acid | > 99% purity, Sigma Aldrich Reagent Plus Vendor must be attached the exclusive distribution certificate of quoted brand / model alongwith the bid. | 4 | L | | |
| 4 | Ethanol | > 99% purity, Sigma Aldrich Reagent Vendor must be attached the exclusive distribution certificate of quoted brand / model alongwith the bid. | 5 | L | | |
| 5 | Methanol | > 99% purity, Sigma Aldrich Reagent or equivalent Vendor must be attached the exclusive distribution certificate of quoted brand / model alongwith the bid. | 10 | L | | |
| 6 | Castor oil | Lab grade | 5 | L | | |
| 7 | Toluene | > 99% purity, Anhydrous, Sigma Aldrich Reagent or equivalent Vendor must be attached the exclusive distribution certificate of quoted brand / model alongwith the bid. | 2 | L | | |

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|---|---|---|------|------|--|--|
| 8 | Iso-propyl alcohol | > 99% purity, Anhydrous, Sigma Aldrich Reagent or equivalent Vendor must be attached the exclusive distribution certificate of quoted brand / model alongwith the bid. | 2 | L | | |
| 9 | Phosphosilicic acid | Analytical grade Sigma Aldrich or equivalent Vendor must be attached the exclusive distribution certificate of quoted brand / model alongwith the bid. | 500 | g | | |
| Chemicals for CPT Projects (Item Wise Basis) | | | | | | |
| 10 | Aluminum nitrate nonahydrate | 98% Sigma Aldrich Or equivalent | 500 | g | | |
| 11 | Castor oil | Analytical grade Or equivalent | 5 | L | | |
| 12 | Chicken fat | Neat | 10 | kg | | |
| 13 | Chloroplatinic acid hexahydrate | ≥37.50% Pt basis (Sigma-Aldrich) Or equivalent | 1 | g | | |
| 14 | Corderite monolith substrate | 0.5 in diameter, 400 dpi | 10 | unit | | |
| 15 | Ethanol (2.5 l) | Analytical grade Or equivalent | 4 | unit | | |
| 16 | Ethylene glycol | 99.8% Purity, anhydrous Or equivalent | 1 | L | | |
| 17 | Ethylene propylene diene monomer rubber (epdm rubber) | Mooney Viscosity, ML 1+4 at 125°C 22-28; Ethylene, Mass % 65-70; ENB Mass % 4.8-5, Or equivalent | 20 | kg | | |
| 18 | Ethylene propylene diene monomer rubber (epdm rubber) | Mooney Viscosity, ML 1+4 at 125°C 57-63; Ethylene, Mass % 65-70; ENB Mass % 4.8-5, | 20 | kg | | |
| 19 | Ethylene propylene diene monomer rubber (epdm rubber) | Mooney Viscosity, ML 1+4 at 125°C 68-73; Ethylene, Mass % 48-55; ENB Mass % 4.8-5, Or equivalent | 20 | kg | | |
| 20 | Hydrochloric acid | Analytical Grade | 1000 | ml | | |

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|---|--|---|------|------|--|--|
| 21 | Methanol | Analytical reagent_ (2.5 L) Or equivalent | 6 | unit | | |
| 22 | Niobium(v) oxide | 99.9% Sigma Aldrich Or equivalent | 500 | g | | |
| 23 | Quartz wool | Fused quartz woolcoarse, white colour | 2 | kg | | |
| 24 | Silicon di oxide | fused (granular), 4-20 mesh, 99.9% trace metals basis or equivalent | 500 | g | | |
| 25 | Sodium hydroxide (500g) | Analytical grade, | 1 | unit | | |
| 26 | Sulphuric acid | Analytical grade, | 1000 | ml | | |
| 27 | Methylcyclohexane | 99% | 1 | L | | |
| 28 | Acetic acid | >99% | 1 | L | | |
| 29 | Hydroflouric acid | 48% | 1 | L | | |
| 30 | Acetone | >99% | 1 | L | | |
| 31 | Poly(ethylene glycol)-block-poly(propylene glycol)-block-poly(ethylene glycol) | average Mn~5,800, PEG-PPG-PEG, Pluronic® P-123, 435465 ALDRICH Or equivalent | 1 | L | | |
| 32 | Tetraethyl orthosilicate | reagent grade 98%, 131903-1L Or equivalent | 1 | L | | |
| 33 | Palladium(ii) nitrate solution | 10 wt. % in 10 wt. % nitric acid, 99.999% trace metals basis (Aldrich), 380040-10ML Or equivalent | 10 | ml | | |
| 34 | Cristal activ pc500 TiO ₂ Or equivalent | Commercial TiO ₂ (Formerly Millenium) or equivalent | 500 | gm | | |
| Automation Accessories for CPT Projects (Item Wise Basis) | | | | | | |

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|---|--|---|----|------|--|--|
| 35 | Acrylic transparent pipe | 5 cm ID or equivalent | 5 | unit | | |
| 36 | Analytical balance | OHAUS_RS 232 or equivalent interphase_Max. Cap : 200-250 g _ Readability : 0.0001 g | 2 | unit | | |
| 37 | Cyclone | Acrylic material or equivalent | 2 | unit | | |
| 38 | Differential pressure transmitter sensysdpd, display type) | 30 to 100 kPa | 2 | unit | | |
| 39 | Hotplate stirrer | Labtech or equivalent | 1 | unit | | |
| 40 | Flexible heating tape | Size: 0.5 inch x 4ft , Power density : 13.0 w/in ² (2.0 w/cm ²) , Model #AWH-0512-040D, Control Model #: Model No. LC-Z-240V or equivalent | 1 | unit | | |
| 41 | Air blower with adjustable fan speed | Adjustable speed | 1 | unit | | |
| 42 | Peristaltic/hplc pump | Calibrated ≤0.1ml/min to 20 ml/min or equivalent | 1 | unit | | |
| 43 | Bubble flow meter | Local | 1 | unit | | |
| Lab Accessories for CPT Projects (Item Wise Basis) | | | | | | |
| 44 | Aluminum foil roll | Heavy duty | 3 | Nos. | | |
| 45 | Centrifuge machine | Max. Speed: 3000-10,000 rpm; Capacity: 12x15ml China or equivalent | 1 | Nos. | | |
| 46 | Centrifuge tubes | Standard size (15 ml) | 10 | Nos. | | |
| 47 | Centrifuge tubes | 15ml, polypropylene RNase/DNase free (12 pieces in each bag). Or equivalent | 2 | Bags | | |

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|----|--|--|----|------|--|--|
| 48 | China dish or equivalent | 100 ml capacity | 10 | Nos. | | |
| 49 | Disposable dust mask for non-toxic dust | pkg of 50 ea (Aldrich) or equivalent | 5 | Nos. | | |
| 50 | Disposable gloves | Small | 3 | Pair | | |
| 51 | Disposable gloves | Medium | 3 | Pair | | |
| 52 | Ependorf tubes or equivalent | 2.0 ml, Cap (safe-lock lid), Propylene 500 Nos. in one Packet or equivalent | 1 | pack | | |
| 53 | Micropipettes | 1-10 μ L, | 1 | unit | | |
| 54 | Micropipettes | 10-100 μ L, | 1 | No. | | |
| 55 | Micropipettes | 100-1000 μ L | 1 | No. | | |
| 56 | Petri dishes | Glass, 90 mm diameter | 12 | No. | | |
| 57 | pH paper | Range 1-14 | 12 | No | | |
| 58 | Clear borosilicate sample vials/tubes with threaded teflon cap or equivalent | 10 ml | 24 | No | | |
| 59 | Pipette sucker | Standard size | 4 | No | | |
| 60 | Stainless steel mesh | 2 ft x 2 ft (US Mesh _500 /2500 micron) or equivalent | 5 | No | | |
| 61 | Steel spatula/soon | Small | 10 | No | | |
| 62 | Thermocouple | Upto 150 C | 1 | No | | |

| | | | | | | |
|----|--|--|----|-------|--|--|
| 63 | Tubing | PTFE made (8 mm) 5m Length Or equivalent | 1 | No. | | |
| 64 | Connector | PTFE made (8 mm) or equivalent | 5 | Nos. | | |
| 65 | Wash bottles | 500 ml | 5 | Nos. | | |
| 66 | Whatman filter paper or equivalent | 1001-090 Grade 1, or equivalent Diameter: 11cm(110 mm), Pore Size: 11µm 100 Nos. in one packet | 6 | packs | | |
| 67 | Wash bottles | Plastics | 5 | Nos. | | |
| 68 | Astm sieves case (5 inch diameter) or equivalent | ASTM Mesh #: 20, 25, 30, 35, 40, 45, 50, 60, 70, 80 (01 each) | 10 | Nos. | | |
| 69 | Astm sieves case (5 inch diameter) or equivalent | ASTM Mesh #: 200, 230, 270, 325, 400, 450, 500, 635 (01 each) | 8 | Nos. | | |
| 70 | Nitrile gloves or equivalent | Large (100 pair box) | 6 | Nos. | | |
| 71 | Chinadish or equivalent | 6 cm OD | 12 | Nos. | | |
| 72 | Petri-dish | 6 cm OD | 12 | Nos. | | |
| 73 | Crucible with cover | 15 ml | 12 | Nos. | | |
| 74 | Magnetic stirrer | 1.5 inch | 12 | Nos. | | |
| 75 | Parafilm laboratory film | 4inch x 125ft roll | 2 | Nos. | | |
| 76 | ph paper | Range: 3-5 | 6 | Nos. | | |
| 77 | Tissue jumbo roll | Large | 3 | Nos. | | |
| 78 | Laboratory coat | Large | 6 | Nos. | | |

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|----|---------------------------|--|----|--------|--|--|
| 79 | Beaker | 500 ml | 12 | Nos. | | |
| 80 | Beaker | 200 ml | 12 | Nos. | | |
| 81 | Flasks | 100 ml | 10 | Nos. | | |
| 82 | Flasks | 250 ml | 10 | Nos. | | |
| 83 | Flasks | 500 ml | 10 | Nos. | | |
| 84 | Flasks | 1 Liter | 10 | Nos. | | |
| 85 | Schott bottles | 250 ml | 5 | Nos. | | |
| 86 | Schott bottles | 500 ml | 5 | Nos. | | |
| 87 | Pasteur Pipet with sucker | KONTES® 63A54 Glass 5.75-Inch Pasteur Pipet, Unplugged, Disposable Soda Lime Glass or equivalent 100 Nos. in one packet | 1 | packet | | |
| 88 | Quartz cuvetts | Pair (2 quantity) | 2 | Nos. | | |

**Chemicals & Consumable Items for Undergraduate lab Requirements
(Sub Total / Turnkey Basis)**

1. Laboratory: Chemical Reaction Engineering

| | | | | | | |
|---|--------------------|---|-----|-------|--|--|
| 1 | HCl | 12 M or equivalent | 5 | Liter | | |
| 2 | Ethyl acetate | Commercial Grade or equivalent | 3 | Liter | | |
| 3 | NaOH | Commercial Grade or equivalent | 2 | kg | | |
| 4 | Sodium Thiosulfate | Commercial Grade or equivalent | 2.5 | kg | | |
| 5 | Calcium Carbonate | Fine | 1 | kg | | |
| 6 | Calcium Carbonate | Coarse or equivalent | 1 | kg | | |
| 7 | Conductivity Meter | Liquid conductivity measurement, digital Hanna μ S or equivalent | 1 | No. | | |

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|----|-------------------------------------|--|---|--------|--|--|
| 8 | Thermometer | Maximum 120°C | 2 | No. | | |
| 9 | Lab Coats | Medium size As per sample available at CIIT Lahore | 2 | No. | | |
| 10 | Beaker 100 mL | China or equivalent | 5 | No. | | |
| 11 | Beaker 500 mL | China or equivalent | 2 | No. | | |
| 12 | Measuring Cylinder 50 mL | China or equivalent | 1 | No. | | |
| 13 | Measuring Cylinder 10 mL | China or equivalent | 1 | No. | | |
| 14 | Pipet 50 mL with sucker | China or equivalent | 1 | No. | | |
| 15 | Cloth Duster | Local or equivalent | 1 | kg | | |
| 16 | Safety goggles | Splash preventing China or equivalent | 4 | Nos. | | |
| 17 | Safety Gloves | Rubber - Large size (containing 100 Nos. in each pack) | 5 | box | | |
| 18 | Safety Gloves | Rubber - Medium size (containing 100 Nos. in each pack) | 2 | box | | |
| 19 | Mask | To prevent the dust (containing 100 Nos. in each Pack) | 3 | pack | | |
| 20 | Liquid Soap/Hand sanitizer | Standard size (600 ml) Dettol or equivalent | 3 | Bottle | | |
| 21 | Liquid Detergents/Dis hwasher | Standard Size Max or equivalent | 6 | Bottle | | |
| 22 | Cleaning Brush | For pipett and separating funnel | 2 | Nos. | | |
| 23 | Scotch Brite or equivalent | | 2 | Nos. | | |

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| 2. Laboratory: Mass Transfer Operations | | | | | | |
|--|---|-----------------------------------|----|-------|--|--|
| 1 | Propionic Acid | Commercial Grade or equivalent | 10 | liter | | |
| 2 | Trichloroethylene | Commercial Grade or equivalent | 10 | liter | | |
| 3 | Water Filter Housing/Canister or equivalent | 20*4.5" | 3 | Nos. | | |
| 4 | Absorption Collumn Tubes | 6''*5.5' | 3 | Nos. | | |
| 5 | Absorption Collumn | 70mm dia,5-6mm wt | 1 | Nos. | | |
| 6 | Tissue paper(roll) | - | 5 | Nos. | | |
| 7 | Carbon dioxide cylinder Refil | 30Kg | 1 | No. | | |
| 3. Laboratory: Simultaneous Heat and Mass Transfer Operations | | | | | | |
| 1 | Ethanol | Commercial Grade or equivalent | 10 | liter | | |
| 2 | Methanol | Commercial Grade or equivalent | 10 | liter | | |
| 3 | Soap | Liquid (Lifebouy) or equivalent | 4 | Nos. | | |
| 4 | Water Submersible Pump | 300 kg/h, head = 8 m. | 1 | Nos. | | |
| 5 | Tissue Paper Roll | Rose Petal (Bigger) or equivalent | 2 | Nos. | | |
| 4. Laboratory: Heat Transfer Operations | | | | | | |
| 1 | Tissue rolls towel | Jumbo size | 6 | Nos. | | |

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|--|-----------------------------------|--|----|------|--|--|
| 2 | Screw Driver Set A+ quality | Complete Set (as per sample available at CIIT Lahore) | 01 | No. | | |
| 3 | Hand Wash Dettol or equivalent | Large size bottles (600 ml) | 6 | No. | | |
| 4 | Liquid Cleaner | Large size bottles (500 ml) | 3 | No. | | |
| 5 | open pan evaporator | 15 cm dia / 20 cm height = SS insulated cylinder with copper coil 6.5 mm outer dia 12 ft in length | 1 | No. | | |
| 6 | Copper pipe (insulated) | 6.5 mm outer dia | 8 | ft | | |
| 7 | In-line thermometer (Geyser) | In-line thermometer for temperature monitoring on a glass dial thermometer | 2 | Nos. | | |
| 8 | Cabinets locks + Hooks | As per sample available at CIIT Lahore | 6 | Nos. | | |
| 5. Laboratory: Fuels and Combustion | | | | | | |
| 1 | Silica Gel (For Desiccator) | VWR or equivalent | 1 | kg | | |
| 2 | Lab. Safety Gloves | China or equivalent | 3 | Pack | | |
| 3 | Lab. Safety Masks | China or equivalent | 3 | Pack | | |
| 4 | Liquid Detergent (for glass ware) | Local or equivalent | 2 | Pcs | | |
| 5 | Liquid Detergent (for hand wash) | Local or equivalent | 2 | Pcs | | |
| 6 | Brush for (washing glass ware) | Local (small,medium,large) (01+01+01) in one set | 3 | sets | | |

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|--|-------------------------------|---|------|-------|--|--|
| 7 | Tissue Roll (for lab.) | Local (Jumbo Size) | 6 | Packs | | |
| 8 | Spatula | Local (Medium (02 Nos.) Large (03 Nos.) | 5 | Pcs | | |
| 9 | Aniline | RDH or equivalent | 2.5 | Litre | | |
| 10 | Petrol | Local | 2.5 | Litre | | |
| 11 | Toluene | Sigma or equivalent | 2.5 | Litre | | |
| 12 | Sodium Dodecyl Sulphate(SDS) | Sigma or equivalent | 500 | g | | |
| 13 | Zinc nitrate hexahydrate | Sigma or equivalent | 500 | g | | |
| 14 | aluminium nitrate nanohydrate | Sigma or equivalent | 250 | g | | |
| 15 | Sodium Hydroxide | Sigma or equivalent | 1 | Kg | | |
| 16 | Weight Balance | OHAUS RS 232 interphase Max. Cap : 2000 g Readability : 0.01 g or equivalent | 1 | No. | | |
| 17 | Extension | Local or equivalent (04 Akai Socket + 2 pin Shoe 15A, on/off button with 06 meters Heavy Duty cable 40/76) with good quality wooden box with faceplate (Complete with all aspects as per sample of CIIT-Lahore) | 1 | No. | | |
| 6. Laboratory: Thermodynamics Lab | | | | | | |
| 1 | Steel Ball | D=2mm | 1000 | Nos. | | |
| 2 | Syringe | Volume-=5ml | 12 | Nos. | | |

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|---|---|---|----|-------|--|--|
| 3 | Medicare Gloves | 100 pairs in each box | 2 | Boxes | | |
| 4 | Small Battery | 09 V | 4 | Nos. | | |
| 5 | Button Cell | | 8 | Nos. | | |
| 6 | AA Cell | | 6 | Nos. | | |
| 7 | Remote Cell | | 4 | Nos. | | |
| 8 | Glass Stirrer | standard size | 12 | Nos. | | |
| 9 | Test Tubes | Standard, Glass, China or equivalent | 50 | Nos. | | |
| 10 | Test Tubes | Large, Glass, China or equivalent | 24 | Nos. | | |
| 11 | Helium Gas | Refilling (cylinder will be provided by CIIT) | 10 | kg | | |
| 12 | Pipette filler | | 6 | Nos. | | |
| 13 | Tissue Box | Jumbo size | 6 | Nos. | | |
| 14 | Hand Wash Bottles | Large | 2 | Nos. | | |
| 15 | Cloth Dusters | Medium size | 12 | Nos. | | |
| 16 | Extension | Local or equivalent (04 Akai Socket + 2 pin Shoe 15A, on/off button with 06 meters Heavy Duty cable 40/76) with good quality wooden box with faceplate (Complete with all aspects as per sample of CIIT-Lahore) | 3 | Nos. | | |
| 7. Laboratory: General Engineering Lab | | | | | | |
| 1 | Workpiece (cut by gas weld) for lathe machine | 25x120 mm | 50 | Nos. | | |
| 2 | Workpiece for fitting shop (cut by hacksaw) | L=70 mm, W=50mm, thickness=9mm | 50 | Nos. | | |

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|----|--|--|------------|--------------|--|--|
| 3 | Welding rod | J38.10 AWS E6013 (12 pieces in each pack) | 2 | pack | | |
| 4 | Bench grinder wheel | (Mild Steel) dia=10 in | 1 | No. | | |
| 5 | Bench grinder wheel | (Carbide) dia=10 in | 1 | No. | | |
| 6 | Cutting Tools Of Lathe Machine | parting tool | 2 | Nos. | | |
| 7 | Cutting Tools Of Lathe Machine | right angle tool | 4 | Nos. | | |
| 8 | Cutting Tools Of Lathe Machine | threading tool | 2 | Nos. | | |
| 9 | Tester (For Electric Shop) | | 5 | Nos. | | |
| 10 | Machine oil (For Lubrication of Machines) | Caltex or equivalent | 3 | liter | | |
| 11 | Workpiece for bench grinding machine | (3/4 x 18 inch)square | 4 | Nos. | | |
| 12 | Workpiece for welding shop | (2 x 1/4 x6 inch) | 100 | Nos. | | |
| 13 | Nitto tape (For Insulation of Wires) | | 10 | Nos. | | |
| 14 | Electric cables (For Electric Shop) | 3/29 (black + red) GM or equivalent | 4 | Coils | | |
| 15 | Cell (for digital vernier calliper) | | 4 | Nos. | | |
| 16 | Paint brush (for cleaning of machine parts) | 3 inch | 2 | Nos. | | |

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|----|---|--|-----------|--------------|--|--|
| 17 | Center drill (Tool for lathe machine) | 3 mm | 3 | Nos. | | |
| 18 | Hacksaw blade | eclipse (england) or equivalent | 15 | Nos. | | |
| 19 | Leather gloves long (For welding) | | 5 | pairs | | |
| 20 | Tool post bolt (for Small lathe machine) | (3/8 x 2 inches) | 8 | Nos. | | |
| 21 | Duster for machine | cloth duster | 5 | Kg | | |
| 22 | Welding helmet with face shield | | 4 | Nos. | | |
| 23 | Flat bustard files | 12 inches length | 4 | Nos. | | |
| 24 | Socket set (For Machine Shop) | 3mm to 25 mm | 1 | No. | | |
| 25 | Micrometer screw gauge | outside 0-25 mm | 6 | Nos. | | |
| 26 | Vernier caliper | upto 200 mm | 4 | Nos. | | |
| 27 | Combination plier (For Electrical Shop) | heavy duty 8 inches | 2 | Nos. | | |
| 28 | Cutter plier (For Electrical Shop) | heavy duty 8 inches | 2 | Nos. | | |
| 29 | Bulb holder (For Electrical Shop) | | 20 | Nos. | | |
| 30 | Revolving centre (For New Lathe Machine) | No-3 with 3 bearings | 1 | Nos. | | |

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|----|---|---|-----------|--------------|--|--|
| 31 | Drill Chuk (For New Lathe Machine) | 5/8 inches | 1 | Nos. | | |
| 32 | Machine vice (1 for Milling Machine & 1 for Pillar Drill) | heavy duty 4 inches | 2 | Nos. | | |
| 33 | Mobil oil (For Shapper Machine) | local | 15 | liter | | |
| 34 | Cam switch (For Three Phase Connection_1 for Old Lathe, 1 for Shapper, 1 for Milling, 1 for New Lathe Machine) | 3 phase | 4 | Nos. | | |
| 35 | End mill cutter (For Milling Machine) | 3-15 mm of each size | 01 | No. | | |
| 36 | Drill sleeve (For New Lathe Machine) | number 1 | 1 | Nos. | | |
| 37 | Machine vice bolt (For Shapper, Milling, Pillar Drill) | 5/8 x 4 inches | 12 | Nos. | | |
| 38 | Oil cane (For Pouring Oil in Machine) | 300 ml | 3 | Nos. | | |
| 39 | Metal packing with surface grinding(for milling and shaping) | 2"x(1/2)"x4" (9 piece)2"x(3/4)"x6" (6 piece) | 15 | Nos. | | |
| 40 | Hot glue gun | | 1 | No. | | |
| 41 | Work Table for welding | 3x3x3 feet cast iron | 1 | No. | | |
| 42 | Cloth wheel (For Bench Grinder) | 8" | 1 | No. | | |

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| 43 | Cutting disc (For Cut-Off Machine) | 14" | 2 | Nos. | | |
| 44 | Cutting disc (For Hand Grinder) | 4" | 5 | Nos. | | |
| 45 | Glass cutter (For Glass Cutting) | Model NO.: SZ-M or equivalent Cutting Thickness: 8-15mm of Glass | 2 | Nos. | | |
| 46 | Hand grinder (For Welding) | 7" | 1 | No. | | |
| 47 | Drill bit (For Pillar Drill & Milling Machine) | 15, 17, 19, 21, 23 25 mm (high speed) one of each | 5 | Nos. | | |
| 48 | Bench vice repairing (For Fitting Shop) | | 3 | Nos. | | |
| 49 | Lathe machine repairing and over hauling (Old & New Lathe Machine) | Motor Speed Needs to be repaired followed by adjustment of belts/pulley, Repairing of Thread Lever, Repairing of Gear Box and overhauling (including washing of parts) | 2 | Nos. | | |
| 50 | Grinding disk (For Welding Shop) | 7" | 5 | Nos. | | |
| 51 | Flap wheel (For Grinding) | 4" (grain 80, 100, 120, 150), 200 one of each size | 5 | Nos. | | |
| 52 | Teflon Tape | | 5 | Nos. | | |
| 53 | Two way switch (For Electric Shop) | | 12 | Nos. | | |
| 54 | One way switch (For Electric Shop) | | 12 | Nos. | | |
| 55 | Electric Shoe | | 10 | Nos. | | |
| 56 | Wood planer thickness Gauge Blade | (14" & 4") 2 of each | 4 | Nos. | | |

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| 57 | Metal seizer (For cutting of metal plates) | 14" length | 1 | No. | | |
| 58 | 3 phase motor 0.5 hp (For Old Lathe Machine) | copper wire | 1 | No. | | |
| 59 | Bench vice (For Filling Shop) | 4 inch | 1 | No. | | |
| 60 | Steel Screws (General Use) | (3/4 inch, 6 no), (3/4 8 no), (1.5 6 no), (1.5, 8 no), (2, 6 no) (20 Pieces in each Pack) | 5 | Pack | | |
| 8. Laboratory: Instrumentation and Process Control | | | | | | |
| 1 | RTD Temperature Sensor With Wires & Connectors | Temp. Range 1200 °C | 1 | Nos. | | |
| 2 | Float Sensor With Wires & Connectors | For liquid level detection | 1 | Nos. | | |
| 3 | Steel Tank | 1.5 mm Sheets of 316 S.S (2' x 2') | 2 | Nos. | | |
| 4 | Model Box | 1.2 mm Sheets of 316 S.S (2' x 3') with three spacing sheet | 1 | Nos. | | |
| 5 | Pump | Submersible water pump (0.5-5 l/min) 240 V | 1 | Nos. | | |
| 6 | PP liquid water level sensor with wire and Connectors | Horizontal float switch down for tank pool white (compatible with Aurdino Controller) or equivalent | 1 | Nos. | | |
| 7 | Thermistor With Wires & Connecting Clips | 500-C / 10K | 1 | Nos. | | |
| 8 | Multimeter | UniT/Yokogawa/Max (Auto Range) or equivalent | 1 | Nos. | | |

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| 9 | Syringe | Plastic 50cc (Shifa Local) or equivalent | 1 | Nos. | | |
| 10 | Lab Coat | Medium | 2 | Nos. | | |
| 11 | Gloves | For general lab use | 1 | Nos. | | |
| 12 | Stop Watch | Q/Q China or equivalent | 2 | Nos. | | |
| 13 | Screw Driver kit | From Narrow to wide range screw drivers | 1 | Nos. | | |
| 14 | Heating Plate Repairment | Velp Analog Hot Plates Repairing | 1 | No | | |
| 15 | Stand alone rig with insulated coating | Movable Work bench : H: 4 ft and Length and width according to Lab spacing | 1 | No | | |
| Laboratory: Chemistry Lab | | | | | | |
| 1 | Water Distillation Plant | Copper 2.5 Ltr/Hr, Operating fuel: Natural Gas | 1 | No. | | |
| 2 | TLC silica gel 60 F254 or equivalent | 25 aluminium sheets 20×20cm (Merck) or equivalent | 2 | Nos. | | |
| 3 | Heavy glass Dessicators | (08-595-B,12.5cm) Fisher brand or equivalent | 1 | No. | | |
| 4 | Dessicant for Dessicator(blue beads) | Fisher brand or equivalent | 1 | gallon | | |
| 5 | Aluminium foil | Diamond USA or equivalent | 2 | Roll | | |
| 6 | Tissue rolls (Jumbo Size) | China or equivalent | 6 | Roll | | |
| 7 | filter paper | (Whattman filterpaper)Pack of 500, sigma aldrich or equivalent | 1 | Pack | | |

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| 8 | Chromatogram sheets for paper chromatography | (2" x 10"), Brazil/China or equivalent | 1 | Roll | | |
| 9 | Inks | Dollar Pakmade or equivalent (blue,green,black,red) 01 each color | 4 | Nos. | | |
| 10 | Litmus paper (Red) | pack of 100 Strips, UK or equivalent | 2 | Pack | | |
| 11 | Litmus paper (Blue) | Pack of 100 Strips, UK or equivalent | 2 | Pack | | |
| 12 | Ink Pen | Local or equivalent | 6 | Nos. | | |
| 13 | Towels | Medium size | 2 | No. | | |
| 14 | liquid lemon MAX or equivalent | Large bottle | 1 | No. | | |
| 15 | hand wash (life buoy) or equivalent | Large Refill pouch | 1 | No. | | |
| Sub Total Amount (Rs) for Chemicals & Consumable Items for Undergraduate lab Requirements from Lab 1 to 9 | | | | | | |

Note:

- Purchase / work order (s) will be awarded on Item Wise basis for Sr. # 1 to 88 (Master Thesis & CPT Project) and Chemicals & Consumable Items for Undergraduate lab Requirements (Lab 1 to 9) on Sub Total Basis.
- Please submit the bid on CIIT-Lahore prescribed BoQs and clearly mention the quoted model brands, otherwise your bid / item may be rejected.
- Multiple rates of an item may also lead to the rejection of bid / item.

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