

OFFICE OF THE PRINCIPAL
GOVERNMENT POLYTECHNIC, MUNGELI, DISTT - MUNGELI (C.G.) 495334
e-mail Address:- polymungeli@rediffmail.com

TENDER - DOCUMENT
FOR
PURCHASE OF EQUIPMENTS/MACHINES
(2021 - 2022)

निविदा सूचना क्रमांक/शापोमु/स्टोर/2021-22/14 / मुंगेली, दिनांक 07.01.2022

- | | |
|------------------------------|--|
| 1. Value of work | Approx Rs. 54.00 Lacs (Rs. Fifty Four lakh only) |
| 2. Tender document issued to | M/s-----
----- |
| 3. Cost of Tender | Rs 500-00 (Rs Five Hundred only) |
| 4. Money receipt & Date | ----- |
| 5. Date of issue of tender | ----- |

Issued by

Principal
Government Polytechnic Mungeli
Distt - Mungeli (C.G.)
District-Mungeli (C.G.)

OFFICE OF THE PRINCIPAL
GOVERNMENT POLYTECHNIC, MUNGELI, DISITT – MUNGELI (C.G.) 495334
 E-mail Address:- polymungeli@rediffmail.com

No./Tech/GPM/Store//2021-22//4/

Mungeli, Dated 07.02.2022

Sealed Tenders are invited from the intended manufacturer/authorized dealer/distributor for supply of Goods/ Equipments/ Machine to Government Polytechnic Mungeli, Disitt. – Mungeli (C.G.). Details are as follows. Suppliers are required to submit separate tender for each part through only registered/Speed post. Other forms of submission of tender documents are not acceptable.

1.	Last Date and time for Issue of Tender	09.02.2022 (5:00 PM)
2.	Last Date and time for Receiving Sealed Tender	10.02.2022 (3:00 PM)
3.	Date and time of opening the tender	10.02.2022 (4:00 PM)
4.	Tender fee	Rs. 500
5A	EMD for Mechanical Engg.	Rs. =99104=00
5B	EMD for Electrical Engg.	Rs. 30179=00
5C	EMD for Civil Engg.	Rs. 33696=00

TERMS AND CONDITIONS

Terms and conditions for supply of Machines/ Equipments are as per following list:

1. For participation in tender process following signed and stamped documents must be furnished in envelope A – super scribed as “Technical Bid envelope A”.
 - a. Income Tax returns of the last three years and Commercial Tax clearance certificate as well as PAN/TAN/TIN/GST registration No. with documental proof.
 - b. Registration of firm/company.
 - c. Sales tax/GST clearing certificate.
 - d. GST certificate from commercial tax department for the related business. GST Registration certificate must be valid and live. In GST Registration certificate the items of tender must be clearly mentioned.
 - e. ISO/BIS certificate for firm/product.
 - f. Manufacturer/dealer/distributor certificate.
 - g. Balance sheet /Turnover of firm/company of last three years duly signed by CA.
 - h. Demand Draft for Tender fee (if downloaded from website) and Demand Draft for EMD.
 - i. Item specifications/Literature /Brochure / leaflet regarding quoted items.
 - j. Acceptance of terms and condition (signed and stamped copy of tender document).
 - k. Any other document which you consider as necessary.
 - l. The bid shall be accompanied by Proforma for Technical bid in Annexure-I.
 - m. The bid shall be accompanied by Proforma for DECLARATION FOR NOT BLACK LISTED in Annexure-III.
 - n. The bid shall be accompanied by affidavit in prescribed format as given in Annexure-IV on non judicial stamp paper or Rs 50 certified by Notary.

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- taxes and discount if any and super scribed as "Financial Bid envelope B".
3. Both envelope A & B should be put in a third big envelope and Super scribed as "Tender for supply and installation of machine/equipment" All envelope should be signed and should be sealed on all joints.
 4. Sealed envelope for the tender should be super scribed as tender Notice No....., dated- should be addressed to Principal, Government Polytechnic, Mungeli Vill.- Dharampura, District – Mungeli (CG) Pin No. 495334 Tender forbe clearly mentioned on the envelope (at Left- hands side Top Corner).
 5. Envelope-A of Technical bid and documents will be opened first and if it is found worth consideration then only the Financial bid Envelope –B will be opened.
 6. The tender is liable to be rejected if not submitted as per the prescribed conditions and in the prescribed format in envelope A and B .as given in point 1 & 2 .No further clarification will be entertained.
 7. The suppliers should quote their offer/ rate in clear terms without any ambiguity. Discount if any must be clearly specified.
 8. If the same supplier is submitting tender for more than one part then duplicate documents /certificates are not required. Only one set of documents is sufficient.
 9. The tender will be opened on the date and time given above in the presence of tenderer(s) or their representative who desire to be present.
 10. Tender received after due date and time will not be entertained.
 11. Tender form is non transferable.
 12. The tender document is also available on the website <http://govtpolymungeli.ac.in> & cgdteraipur.cgstate.gov.in tenderer can downloads the document from the website, in that case he has to deposit DD of Rs 500-00 in favor of **Principal, Government Polytechnic, Mungeli Distt – Mungeli (C.G.)** at the time of submission of tender. Otherwise his tender will not be entertained.
 13. A soft copy of the tender should be submitted along with the tender document.
 14. Item no. and page no of the tender form should be strictly in chronological order. Make/model, name of the manufacturer with complete address should be mentioned against each item and equipment.
 15. The tender should be sent in firms own letter pad along with terms and conditions. Printed condition on the back of the tender will not be binding unless separately mentioned.
 16. The tenderer must furnish complete and detailed technical specification supported by printed literature/catalogue/leaflet of the equipment offered. Item no. and page no. of the equipment should be mentioned in it. Incomplete specifications/ absence of printed literature support may result in to the rejection of the tender.
 17. The rate should be FOR destination (**Govt. Polytechnic, Mungeli, Village & P.O. – Dharampura Tehsil - Jarhagaon, Distt - Mungeli (C.G.)**) including all taxes, packing forwarding, transportation etc. Warranty/Guarantee installation if any on any item it should also be stated clearly.
 18. Taxes, (whichever is applicable state clearly item wise) if leviabale extra, should be clearly indicated, failing which the rate quoted in the tender will be considered as inclusive of all taxes.
 19. There should be no alterations / corrections made in the Tender. The quoted rate should be in figures and words both. The tenderer may quote the rate of any or all the items listed in the tender form. Rates should be quoted separately for individual item and not in lump-sum for all taken together.
 20. The tender should clearly indicate whether the equipment is complete in itself. If in the opinion of the tenderer, certain accessories are necessary with the type of the equipment tendered, the tenderer must quote for aforesaid accessories under the heading "extra but essential".
 21. The tenderer are required to deposit EMD separately for each head The EMD should be deposited in the form of Demand Draft drawn in favor of **Principal, Government**

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- Polytechnic, Mungeli payable at Mungeli Disitt – Mungeli (C.G.)** against tender -----
-----Mungeli Disitt – Mungeli, dated -----. Tenders received without EMD will be rejected. Requests for relaxing EMD will not be entertained. EMD by cheque or MO will not be accepted.
22. In case of non- acceptance of the tender the EMD will be refunded to the tenderer in due course of time without interest. The EMD will be treated as security deposit in case of selected tenders EMD/ security deposit will be forfeited in case of breach of agreement of supply by the tenderer/supplier. The order shall stand cancelled and security deposit forfeited if.
- (I) Supplier expresses his inability to execute the order for the quoted items within validity period of the tender at the rate quoted in the tender and for makes/ brand quoted in the tender.
- (II) The complete equipment is not supplied within the delivery period mentioned in the order or within the extended period permitted.
- (III) The supplier executes only a part of the order.
23. Any Equipment/ Trainers/ Hardware or software breakdown must be attended within 48 hours during the valid warranty period of the equipment/ software, free of cost.
24. Payment shall be released after the successful installation and demonstration/testing of the machine equipment at the institution.
25. The training for at least two persons for handling the machine/equipments shall be testing provided by the supplier at his own cost.
26. The tenderer has to give demonstration/testing of the machine/ equipments software at **Government Polytechnic- Mungeli Disitt – Mungeli (C.G.)** wherever necessary at his own cost.
27. The one time extension in the delivery period may be granted at the discretion of the undersigned. The penalty at a rate of 2% per month of the full cost of the equipment is liable to be charged for the extension of the delivery period.
28. Equipment received after the delivery period or dispatched after the delivery period mentioned in the order will also be subjected to this penalty.
29. In case of any default in execution of the order, the undersigned reserves the right to forfeit the EMD/Security deposit. The undersigned also reserves the right to cancel the order and forfeit the EMD/Security deposit in case the tenderer fails to adheres strictly to all terms and condition of the order/ tender.
30. If defects of any kind or deviations from the specification are detected and reported to the supplier, the supplier should make replacement or rectify the defects free of cost within 10 days from the date of report, failing which the equipment will not be accepted and will be taken back by the supplier at his own cost and risk, and the EMD will be forfeited, In case the equipment is sent for repairs to the firm, it should be repaired within 10 days. From the date of receipt of equipment failing which the same will not be accepted and EMD will be forfeited, however the undersigned may consider the delay in deserving cases at his/her discretion.
31. The undersigned reserves the right to increase/ decrease the quantity of the equipment to be supplied. If equipment supplied are not according to the ordered specifications and are not of proper quality, the same will not be accepted .Similarly second hand, reconditioned, damaged, repaired and substandard equipments and equipment having poor workmanship would not be accepted. Only brand new equipment calibrated in SI unit and with fine workmanship will be accepted.
32. The submission of the tender will be deemed to be the acceptance of all the terms and condition of the tender as stated herein and/ or elsewhere in the tender document.
33. Tenders should be valid upto next 31th March. The prices should be firm without variations of any kind.
34. The undersigned reserves the right to accept the lowest or any tender and also of rejecting whole (all) or any part of tender without assigning any reasons for the same or

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to split up the tender as he/she may deem fit.

35. Exact and earliest possible time of delivery should be indicated in the tender against each item. The delivery period given in the order will be the date of receipt of the equipment in the institute and not the date of dispatch of the equipment by the supplier.
36. No advance payment will be made. The successful tenderer will have to execute in the form as approved by Government of Chhattisgarh.
37. If tenderer has supplied these items to any PSU/ Government/reputed Private firm/deptt. Then submit last three years PSU/ Government/ Private Supply record as far as possible.
38. The minimum guarantee/warranty period for the equipment supplied by the supplier should be mentioned clearly and should not be less than one year from the date of installation. The tenderer will be required to undertake repair/ replacement of defective parts free of cost at the institution during the guarantee period.
39. All the disputes with regard to the contract of purchase of equipment etc. is subjected to **Mungeli Chhattisgarh** Jurisdiction only.
40. In the event of the order, supplier who is the manufacturer of the equipment will be required to furnish a certificate to the effect that they are manufacturers of such and such make whereas the authorized dealer/distributor will have to furnish certificate issued by the manufacturer certifying that tenderer is their authorized dealer/distributor of that product/item. Without this certificate tender will not be accepted.
41. The tenderer shall guarantee that after sales services will be provided as and when required. Replacement or repair of part should be done and delivered free of cost at this institution within guarantee/warranty period.
42. The supplier will render necessary assistances, if required, in the installation of the equipment/ machinery in the institute/ site free of charge.
43. No. offer should be made for imported item for which import license has to be arranged by the undersigned. The entire imported item will have to be delivered in the institute and payment will be made in rupees.
44. The payments shall be released only after satisfactory and successful commissioning and installation of the equipment/ machinery at the designated site/ institute and on submission of bill by the firm.
45. The rate quoted should preferably be net, inclusive of all taxes and duties, packing forwarding, freight, insurance and other incidental charges. In case these charges quoted extra in addition to the quoted rates, the amount there of must be specified.
46. In the event of any dispute arising out of the tender or from the resultant contract, the decision of the Principal, **Government Polytechnic, Mungeli Disitt – Mungeli (C.G.)** will be final.
47. The Tender document/ resultants contract will be interpreted under Indian laws.
48. If the successful tenderer, on receipt of the order fails to execute the order within the stipulated period, in full or part it will be open to the **Principal, Government Polytechnic, Mungeli Disitt – Mungeli (C.G.)** to recover liquidated damage from the firm at the rate of 2% of the value of undelivered goods per month or part thereof, subject to a maximum of 5% of the value of undelivered goods. Alternatively, it will also be open to the Principal, Government Polytechnic Mungeli Disitt – Mungeli (CG) to arrange procurement of the required goods from any other source at the risk and expenses of the tenderer.
49. The undersigned is not responsible for any loss or damage to the equipments during transit irrespective of the fact that they are insured or not insured or delivery is ex- go down or factory station.
50. No claim shall be entertained in respect of interest on Earnest Money/Security deposit/ Tender Deposit.
51. Inspection of the equipment will be carried out at the institution after receipt of the equipments. Any request for the inspection of the same at the firm's factory/ go down/ showroom etc. will not be accepted.

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52. Illustrated operation manuals, pamphlets/catalogue/literature/working instructions, trainers, software and hardware, erection/ wiring details as the case may be of the ordered equipments must be supplied in suitable damp proof cover. Without operational/ instruction manual no equipment/machinery will be accepted.
53. If there is any variation of specification of any machine /equipment from tendered specification, it should be clearly mentioned. Specification nearest can also be considered if it is as per technical norms for the given equipment/machinery.
54. Tenderer should mention list of spares, tools and accessories provided along with equipment without any extra cost.
55. Only actual manufacturer or their authorized dealer/distributor may submit the tender. It is mandatory to have ISO/BIS certification for supply/manufacture of the item/equipments/ machineries. Only BIS/ISO /ISI certified item has to be quoted. Tenderer (actual manufacturer or their authorized dealer/distributor) should be registered with State GST department.
56. Important Machines should be purchased only through registered firm in DGS&D department.
57. The bidder shall submit a signed and stamped (on each page) copy of tender document as testimony of acceptance of T&C of tender document.
58. No octroi/excise duty shall be paid by the institution.
59. All prices quoted and other information in this regard having a bearing on the price shall be written both in figures and words in the prescribed offer form. If there is a discrepancy between words and figures, the amount mentioned in words will prevail. All prices should be in Indian National Rupees (INR).
60. Tenderer shall be entirely responsible to pay all Government. (Central and State) GST Taxes & DUTIES, custom duties and levies, sales tax, payable on components, raw materials any other items used for their consumption or dispatched directly to respective location of **Government Polytechnic, Mungeli Disitt – Mungeli (C.G.)**.
61. The performance bank guarantee (PBG) as per (ANNEXURE-V) has to be submitted before the date of commencement of the execution of the purchase order contract for an amount equal to 10% of the contract value as valid up to 60days after the date of completion of performance obligations including guarantee/warranty obligations on the form of bank guarantee issued by any nationalized bank in prescribed format. All charges whatsoever such as premium; commission etc. with respect to the performance bank guarantee shall be borne by the selected Bidder.
62. Award of contract: before award the contract, the supplier shall furnish performance security to the **Principal, Government Polytechnic Mungeli**, payable at **Mungeli (C.G.)** for an amount of 10% to the contract value through a Bank guarantee by a nationalized bank, in the prescribed proforma (ANNEXURE-V) as valid up to 60 days after the date of completion of performance obligations including guarantee/warranty obligations. If the desired performance security is not deposited by the Tenderer in the specific period, the Earnest Money already deposited with the tenderer shall be forfeited . In the event of any correction of defects or replacement of defective material during the guarantee/warranty period the warranty for the corrected/replaced material shall be extended to a further period of 24 months and the performance Bank guarantee for proportionate value shall be extended 60 days over and above the extended guarantee/warranty period. In the event of contract, as amended for 60 days after the completion of performance obligations including guarantee/warranty obligations.
63. All provisions of Chhattisgarh Store Purchase Rules 2002, with all amendments upto the date of publication of this tender, shall be applicable.

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GOVERNMENT POLYTECHNIC, MUNGELI, DISITT – MUNGELI (C.G.) 495334**ANNEXURE - I****Format for Technical Bid to be put in envelope A only****(Please provide hard copy as well as soft copy (CD) in MS. Words/M.S. Excel Format in the envelope)**

S. No.	Name of Items along with Make and model	Specifications given in the Tender	Technical Specification the bidder wants to supply as per catalogue/ brochure	Brochure/ literature/ catalogue attached Yes/No	Remark
1	2	3	4	5	6

Signature:

(Name & stamp of the Firm/tenderer)

GOVERNMENT POLYTECHNIC, MUNGELI, DISITT – MUNGELI (C.G.) 495334**ANNEXURE - II****The Price offer should be submitted in the following format envelope B only****(Please provide hard copy as well as soft copy (CD) in MS. Words/M.S. Excel Format in the envelope)**

Sl. No.	Name of Items along with Make/ Model	Specifications given in the Tenders	Technical Specification which the bidder wants to supply as per Catalogue/ Brochure	Price of the Equipment excluding (GST) In Rs.	(GST) %	GST In Rs.	Cost of the Equipment Inclusive of all taxes & charges sum of column 5&6	Remark
1	2	3	4	5	6		7	8

Signature:

(Name & stamp of the Firm/tenderer)

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ANNEXURE - III

DECLARATION FOR NOT BLACK LISTED

Date.....

To,

The Principal,
Government Polytechnic Mungeli,
Disitt – Mungeli,(C.G.).

Dear Sir,

Ref.:- Tender No.

I/We hereby confirm that our firm has not been banned or blacklisted by any Government organization/Financial Institution/Court/Public sector Unit/ Central Government.

Place

Signature of Bidder

Date

Name

Designation

Seal


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District Mungeli (C.G.)

ANNEXURE-IV

(On Non Judicial Stamp Paper of Rs. 50/-)

निविदाकर्ता Bid के साथ दिए जाने वाला शपथ-पत्र

निविदाकर्ता फर्म मेसर्स की ओर से मुझे/हमें अधिकृत किया गया है और मैं/हम निम्नलिखित कथन शपथपूर्वक कहता हूँ/कहते हैं कि :-

1. मैंने/हमने निविदा की सारी शर्तें ध्यानपूर्वक पढ़ी हैं और उनसे सहमत हैं तथा उन्हें मानने के लिए वचनबद्ध है।
2. मेरे/हमारे द्वारा संलग्न किए गए सभी दस्तावेज सही हैं और उनमें किसी प्रकार की कांट-छांट नहीं किया गया है एवं गलत जानकारी नहीं दी गई है।
3. मेरे/हमारे द्वारा कामर्शियल बिड में सामग्रीयों के लिए जो स्पेशिफिकेशन दिया गया है। और उनके सपोर्ट में जो भी संबंधित दस्तावेज, कैंटलॉग/ब्रोशर्स आदि संलग्न किए गए हैं उनमें लिखा विवरण निर्माता द्वारा जारी किया गया है एवं मूल रूप में है, और उनमें कोई फेरबदल या कांट-छांट नहीं किया गया है।
4. मेरे/हमारे द्वारा निर्माता से मुझे/हमें जारी अथॉराइजेशन प्रमाण-पत्र जो कि बिड के साथ संलग्न किया गए है। वे सही एवं मूल रूप में है और उनमें कोई फेरबदल नहीं किया गया है।
5. मैं/हम दिए गए क्रयादेशानुसार सामग्रीयों को निर्धारित समय सीमा में स्पेशिफिकेशन के अनुसार सप्लाई करने के लिए बाध्य है। देर होने या सामग्रीयों के स्पेशिफिकेशन में अन्तर होने पर मुझे/हमें दिए गए क्रयादेश को निरस्त किया जा सकता है, एवं शासन को होने वाले नुकसान की भरपाई मेरे/हमारे द्वारा की जावेगी।
6. टेण्डर के तहत प्राप्त क्रयादेश द्वारा प्रदाय की जाने वाली सामग्रीयों में लगने वाले सभी शासकीय (केन्द्र व राज्य) GST Taxes & DUTIES, custom duties and levies, sales tax इत्यादि का भुगतान करने की सम्पूर्ण जिम्मेदारी मेरी/हमारी होगी।
7. मेरे/हमारे द्वारा दी गई जानकारी असत्य पाए जाने पर मुझे/हमें एवं हमारी फर्म को निविदा में भाग लेने से वंचित किया जा सकता है।
8. उपरोक्त बिन्दुओं की जानकारी गलत पाये जाने अथवा टेण्डर के नियमों का पालन नहीं करने पर हमारी फर्म को **BLACK LIST** किया जा सकता है। जिसकी सम्पूर्ण जिम्मेदारी मेरी/हमारी होगी।

दिनांक

हस्ताक्षर
 नाम
 धारित पद
 फर्म का नाम
 (सील सहित)

Principal
 Govt. Polytechnic, Mungeli
 District-Mungeli (C.G.)

ANNEXURE-V

Performance Bank guarantee (PBG) Form

To,

The Principal,
Government Polytechnic Mungeli
Dist.- Mungeli (C.G.)

WHEREAS (Name of Supplier) hereinafter called "the supplier" has undertaken, in pursuance of contract (Notification of Award) No..... dated..... to supply..... (Description of Goods and Services) hereinafter called "the Contract"

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a Bank Guarantee by a nationalized bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the contract.

AND WHEREAS We have agreed to give the Supplier a Guarantee:

THEREFORE WE hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of (Amount of the Guarantee in words and figures) and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the day of2022

Signature and Seal of Guarantors - Authorized officer of Bank

Name and Designation of Officer

Date

Address of bank and branch


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District-Mungeli (C.G.)

List and Specification of Equipments for Mechanical Engineering

Branch: - Mechanical Engineering

Name of the Laboratory:- CAD/CAM Lab

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	Windows Server Latest Version	<ul style="list-style-type: none"> → CPU - Intel 9th Generation Core i7- 9700, Base frequency 3.0 GHz and Frequency 4.7 GHz, 12 MB cache or higher upgraded → CPU Certifications - Windows 10, Energy Star, EPEAT, FCC/UL/MET → Chipset - Minimum Intel Q-300 series chipset or Higher → Memory - 8 GB DDR4 (2666Mhz) RAM with 4 DIMM Slots expandable upto 64 GB or Higher 2 DIMM slots should be free available for future upgrade → Hard Disk Drive - 4600 GB → Display - 19.5 inch or larger. TFTLED Backlit Digital, HD+ color Monitor with min resolution (1600 x 900) or higher, TCO-07 certified → Graphics - Intel integrated HD or higher Graphics, Graphics Expansion Slots - 3 PCI/PCIe, 1 M.2 Slot or higher → Keyboard - 104 keys or higher multimedia with rupee symbol. OEM USB Keyboard → Ports - Cabinet Minimum 6 USB ports (with at least 2 in front, 2 ports with USB 2.0 or higher and remaining with USB 3.0 or higher), 1 dual port for Micro phone and headphone / 3.5 mm audio jack in front, 1 VGA, 1 Display port / HDMI port, Optional Ports: 1 Type C USB port, → Optical Drive- 8X or better DVD writer → Mother Board Drivers - Networking facility All drivers should be provided in form of DVD/CD/USB Drive → Networking Facilities - Integrated Gigabit Ethernet LAN 10/100/1000 on-board. WiFi and Bluetooth min 4.0. Optional- integrated Network port with PACE support and remote management software → Power Management - 250W or higher, Surge protected SMPS having efficiency min 85% with Screen Blanking. Hard Disk and system Idle mode in Power on, set password → Preloaded Software - Latest version of Norton or McAfee, Quick heal. F-secure, e- Trust. e-Scan, Forefront. Trend Micro, PC Tool or equivalent Antivirus with 3 years License → Desktop warranty - 3 year comprehensive onsite OEM Warranty 	01
2	Application Software	<ul style="list-style-type: none"> → Windows (64 bit OS) Single User, Academic version → Microsoft Office → Acrobat Reader (PDF) → Adobe Photoshop → Nero Smart net → Adobe PageMaker → Corel Draw → Visual Basic → Mozilla Firefox/Opera <p>All Application software should be Latest Version</p>	Each 01


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Branch: - Mechanical Engineering

Name of the Laboratory:- Workshop Practice Lab

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
Tools & Equipments for Machine Shop			
1	Heavy Duty Lathe Machine	<ul style="list-style-type: none"> → Center lathe, Horizontal type all geared, center height 300mm, → Distance Between centers :1500 mm → 3 Jaw Self Centered Chuck → Main Drive Motor power 7.5 Hp → 3 phase Power Supply 110-440V → Head Stock Drive gears Conformity (Confirming to alloy steel material specification 15 Ni 7 Cr 4 M02, hardened 58-62 HRC , 0.8 micron surface roughness) → 600 mm swing over bed, 380 mm swing over cross slide, 840 mm swing in Gap, 2400 Length of Bed, 510 mm Bed width, 600 mm facing dia, 133 mm spindle size → Coolant pump arrangement → Chucking Dia.(200-300 mm) → 63 mm Tail Stock sleeve Dia. → Lathe machine length 2500 mm, width 900 mm,950 mm Height, → Taper turning arrangement → Thread cutting arrangement → 1 set of tools With all standard accessories, Test brochure and user manual.	02
2	Rough bastard File	<ul style="list-style-type: none"> → Size - 300mm (with Handle) → High Carbon Steel 	10
3	Flat Smooth file	<ul style="list-style-type: none"> → Size - 300mm (with Handle) → High Carbon Steel 	10
4	Flat File Rough	<ul style="list-style-type: none"> → Size - 300mm (with Handle) → High Carbon Steel 	10
5	Round File	<ul style="list-style-type: none"> → Size - 300mm (with Handle) → High Carbon Steel 	10
6	Triangular File	<ul style="list-style-type: none"> → Size - 300mm (with Handle) → High Carbon Steel 	10
7	Half Round File	<ul style="list-style-type: none"> → Size - 300mm (with Handle) → High Carbon Steel 	10
8	Square File	<ul style="list-style-type: none"> → Size - 300mm (with Handle) → High Carbon Steel 	10
9	File Card	<ul style="list-style-type: none"> → Size 200mm (with Handle) → High Carbon Steel 	10
10	File Handle	→ wooden	10
11	Screw Driver Set	→ 0-300mm	01
12	Spanner Set	→ 0-32mm	01
13	Micrometer (Outside)	<ul style="list-style-type: none"> → Material : Stainless steel → Resolution: 0.01mm → Measuring Range : 0 to 25 mm → Measure small distance & thickness 	05
14	Micrometer (Inside)	<ul style="list-style-type: none"> → Caliper type jaw made of high-grade tool steel → Locking clamp for positive locking of spindle → Satin: Chrome finished → Measuring Range : 25 to 50 mm → Resolution: 0.01mm → Graduation: 0.01mm or 0.001" → Measuring faces: carbide tipped 	05

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15	Vernier calipers	→ Measures inside diameter, outside diameter → Material : Stainless steel → Range : 0-300mm → Least Count : 0.01mm	05
16	Height Gauge	→ Range :0-300mm → Material : Stainless steel → Least count : 0.01mm	01
17	Depth Gauge	→ Range :0-150mm → Material : Stainless steel → Least count : 0.01mm	01
18	Screw Gauge	→ Range : 0-25mm → Material : Stainless steel → Least Count : 0.001mm	05
19	Screw Gauge	→ Range : 25-50mm → Material : Stainless steel → Least Count : 0.01mm	05
20	Steel Rule	→ Teeth per inch: 12/ Graduation in mm → Length: 12" → Material: Stainless steel	20
21	Ball Pin Hammer with handle	→ weight - 450gm → High Carbon Steel or Alloy Steel	10
22	Caliper Inside	→ Size- 150mm → Material - Stainless Steel	10
23	Caliper Outside	→ Size- 150mm → Material - Stainless Steel	10
24	Caliper odd leg	→ Size- 150mm → Material - Stainless Steel	10
25	Center punch	→ Size- 150mm → Material - Stainless Steel	10
26	Scriber	→ Size- 150mm → Material - High Carbon Steel	10
27	Try Square	→ Size- 150mm → Material - Stainless Steel	10
28	Hack Saw Frame Adjustable with Blades	→ Size- 250-300mm → Material - High Strength Steel	10
Tools & Equipments for Welding Shop			
1	Single Phase Arc welding machine	→ Single Phase 250amp, 220VAC, 50Hz, Cooling Natural, with electrode holder and wire With all standard accessories and user manual	01
2	Hand Gloved	→ Made of Chrome leather	10 pairs
3	Leather Apron	→ Made of chrome leather, Light Weight	02
4	Head Screen	→ Standard Size, Reinforced Fiber Glass	10
5	Steel Wire Brush	→ Easy Grip Handle	10
6	Chipping Hammer	→ 19x28 Dimension Alloy Steel	10
Tools & Equipments for Fitting Shop			
1	Steel Rule	→ Length: 30cm → Graduation Both English and metric units → Material: Stainless steel	20
2	Caliper Inside	→ Size -150mm → Material: steel	20
3	Caliper Outside	→ Size -150mm → Material: steel	20
4	Caliper odd leg	→ Size -150mm → Material: steel	20

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5	Center punch	→ Size-150mm → Mild Steel	10
6	Number Punch	→ 0-9 (1set) → Mild Steel	01 set
7	Scriber	→ Size- 150mm → High Carbon Steel	20
8	Measuring Tape	→ Length -10mtr → Material - Fiber	02

Branch: - Mechanical Engineering

Name of the Laboratory:- Thermal Engineering

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	Model of Bab Cock and willcox boiler	→ Made of wooden/ metal material With all mounting and accessories	01
2	Model of Benson boiler	→ Made of wooden/ metal material → With all mounting and accessories	01
3	Model of Lancashire Boiler	→ Made of wooden/ metal material → With all mounting and accessories	01
4	Model of Cochran Boiler	→ Made of wooden/ metal material With all mounting and accessories	01
5	Model of Safety Valve	→ Made of wooden/ metal material With all mounting and accessories	01

Branch: - Mechanical Engineering

Name of the Laboratory:- Strength of Material

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	Universal Testing Machine	<ul style="list-style-type: none"> → Test type - tension compression transverse etc. are conducted. → Continues roll autographic load vs elongation recorder. → Suitable for wide range of metallic materials. → Type: Mechanical type computerized digital, electrically Operated. Accessories: → (1) Tensile test attachment for flat and round specimen up to 32 mm. → (2) Compression test attachment → (3) Shear test attachment with sizes of bushes 5,6,8,10,12,16,20,24 mm, → (4) Transverse test attachment with bending Punch, → (5) Service tools, Operation and maintenance manuals - 1nos. → Extra Accessories - Mechanical Extensometer, load stabilizer attachment for brinell test, tensile test for soldered and threaded single and double shear test volt nut and washer test, 180° bend test. → Capacity from - 100KN to 2000KN With all standard accessories, Test brochure and user manual	01


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Branch: - Mechanical Engineering

Name of the Laboratory:- Fluid Mechanics & Hydraulic Machine Lab

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	Bernoullis Theorem	<ul style="list-style-type: none"> → Test Section - Material Acrylic (01 Piece) → Pizometer tube - material glass or PU (7 No.) → Pump → Power - 0.33HP → Head - 15 meters → Flow - 60 L/min → Pump Body - Cast Iron with an epoxy electro coating treatment with threaded ports in compliance with ISO 228/1, → Body Back Plate - Stainless steel AISI 304, → Soft Diameter - 12 mm → Stationary ring - Ceramic → Rotational ring - Graphite → Sump Tank - 70Ltrs → Inlet Tank - 20Ltrs → Flow Measurement - Using Measuring tank with pizometer (25 Ltrs) → Stop Watch - Electronic → Control Panel Comprises of - Standard make on/off switch. Mains Indicator, → Tanks should be of stainless steel → Utility Required → 230V, 50/60Hz, 1 Phase <p>With all standard accessories, Test brochure and user manual</p>	01
2	Reciprocating Pump test Rig (Variable Speed with DC Motor)	<ul style="list-style-type: none"> → Pump - Double acting single cylinder (1HP), Speed - 250rpm (Max), Head 5kg/sqcm (Max) → Medium Flow - Clear water → Drive - 1HP DC Motor with Thyrastrer controlled DC Drive for variable speed → Sump Tank - 65Ltrs → Flow measurement - Using Measuring tank with pizometer (40Ltrs) → stop Watch - Electronic → Pressure Gauge - Bourdon type → RPM Measurement - Digital RPM indicator with proximity sensor → energy measurement - electronic energy meter <p>Control Panel Comprises of - Standard make on/off switch. Mains Indicator, With all standard accessories, Test brochure and user manual</p>	01
3	Pelton Wheel Turbine Test Rig	<ul style="list-style-type: none"> → Length - 580mm → width - 230mm → Height - 500mm → Case size - 0.078m³ → Accessories - Digital Tachometer, Pump Speed display → Horizontal type <p>With all standard accessories, Test brochure and user manual</p>	01


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Branch: - Mechanical Engineering

Name of the Laboratory:- Theory of Machine

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	Static & Dynamic Balancing machine	<ul style="list-style-type: none"> → Balancing Weights - 4 nos, stainless steel with different sized drills for varying the unbalance → Power Supply - 230V A.C. single phase electric. → 0.5 kw power → Rotating Shaft - Stainless Steel With all standard accessories, Test brochure and user manual	01

Branch: - Mechanical Engineering

Name of the Laboratory:- Automobile Lab

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	Single Cylinder Four Stroke Petrol Engine Test Rig with Rope Brake Dynamometer	<ul style="list-style-type: none"> → Type of Engine - Single Cylinder Four Stroke air cooled hand start self lubricating petrol engine HONDA Model - GX200 → Type of loading - Rope brake dynamometer → RPM measurement - RPM indicator with proximity sensor → Fuel measuring system - Fuel measuring system consist of a fuel tank, a burette and a three way cock arrangement. → Air intake measuring- air tank filled with orifice and water manometer system. → Exhaust gas calorimeter - An exhaust calorimeter, made of stainless steel will be provided for calculating Heat carried away by exhaust gases. the body of the calorimeter is insulated with ceramic wool and gladded by aluminium foil. With all standard accessories, Test brochure and user manual	01
2	Single Cylinder Four Stroke Diesel Engine Test Rig with Rope Brake Dynamometer	<ul style="list-style-type: none"> → Type of Engine - Single Cylinder Four Stroke vertical water cooled, Crank start diesel engine developing 5HP at 1500rpm. → Type of loading - Rope brake dynamometer → RPM measurement - RPM indicator with proximity sensor → Fuel measuring system - Fuel measuring system consist of a fuel tank, a burette and a three way cock arrangement. → Air intake measuring- air tank filled with orifice and water manometer system. → Exhaust gas calorimeter - An exhaust calorimeter, made of stainless steel including body and the tube for cooling water circulation and designed to get maximum temperature difference. The body of the calorimeter is insulated on all sides to prevent radiation heat losses. With all standard accessories, Test brochure and user manual	01
3	Single Cylinder Engine Petrol Actual cut section working model	<ul style="list-style-type: none"> → 4 stroke 1 cylinder petrol engine manual driven actual cut section model With all standard accessories, Test brochure and user manual	01


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List and specification of Equipments for Electrical Engineering

Branch: - Electrical Engineering

Name of the Laboratory:- Electrical Measurement & Measuring Instruments

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	Analog Ammeter	→ 50/60 Hz, → Testing 5A/15A With all standard accessories and user manual	08
2	Analog voltmeter	→ frequency -50/60Hz, → Range 0-600v With all standard accessories and user manual	08
3	Analog portable wattmeter	220-240V AC, Single Phase With all standard accessories and user manual	08
4	Digital 3- ϕ energy meter	→ wiring count 3 ϕ , 4wire → voltage range 230/240v(L-N) → 400/415(L-L), Current range- 5.30 A,10,60A → 20-100A,Class-1.0 → Frequency-50Hz (+ 5% to -5 % tolerance) With all standard accessories and user manual	03
5	1 phase Energy meter	→ 2 wire → accuracy class 1.0 → warrenty-1 year → conformation with 15:13779 With all standard accessories and user manual	06
6	Phase Sequence meter set	→ operating voltage 110-600v AC → time limit for continuous>500volt within 5 min frequency 50Hz/60Hz → Applicants Industrial With all standard accessories and user manual	03
7	Frequency Meter (portable)	→ voltage-230V → Range 45-55Hz With all standard accessories and user manual	02
8	Power factor meter	1 phase laboratory usage portable With all standard accessories and user manual	02
9	Maximum Demand indicator (intelligence demand controller)	→ Key feature-Average & Instantaneous demand → Active power (W) → Apparent power(VA) → reactive power(KVAR) With all standard accessories and user manual	01
10	Wheat stone bridge trainer kit	→ 230V Supply AC → 50Hz Frequency With all standard accessories and user manual	01
11	Kelvin Double Bridge Trainer	→ 230V Supply AC → 50Hz Frequency → Patch cords- 2mm With all standard accessories and user manual	01
12	Maxwell Bridge Trainer kit	→ 230V Supply AC → 50Hz Frequency With all standard accessories and user manual	01
13	Earth Tester	→ Digital Earth Resistance Tester with Kit With all standard accessories and user manual	03
14	Hand driver Generator	→ Type earth tester → 0-10-100 ohm Analogs display → 4 terminals	03

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		With all standard accessories and user manual	
15	Megger	→ Hand Driver Megger → 50KV,100ohm → analogous display With all standard accessories and user manual	04
16	Battery operated megger	→ 500V, 0-1000M ohm With all standard accessories and user manual	02
17	Digital Multi meter	→ meter current range 10A → Frequency 9.99 MHz → Display type LCD With all standard accessories and user manual	08
18	Linear potentiometer set	→ type road and Slide → standard resistance (KΩ) → 1,2,3,5,10K ohm → Insulation Resistance (Mega ohm) → Mega ohm>500 → Dielectric strength 500V(1min) With all standard accessories and user manual	03
19	Owen bridge trainer kit	→ 230V Supply AC → 50Hz Frequency With all standard accessories and user manual	01
20	DC supply kit	→ Output Voltage- 0-30V → Output Current- 0-5A, LED Display With all standard accessories and user manual	01
21	Anderson Trainer kit	→ 230V Supply AC → 50Hz Frequency With all standard accessories and user manual	01
22	Function Generator	→ 220-250v volt With all standard accessories and user manual	02

Branch: - Electrical Engineering

Name of the Laboratory:- Instrumentation & Control

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	LVDT Trainer Kit	→ Clock Freq.11.0592Mhz → Display LCD, → Voltage 240V With all standard accessories and user manual	01
2	Water level measurement by capacitive transducer kit	→ frequency50hz → Usage-Laboratory voltage 230v-460v AC&DC Digital With all standard accessories and user manual	01
3	PH meter (portable)	→ 2x1.5 V AAA Batteries → 0-14pH,Accuracy +/-0.1, → Resolution-0.1 With all standard accessories and user manual	01
4	Pressure measurement trainer kit through LVDT	→ Single Phase supply → LCD Display With all standard accessories and user manual	01
5	Inductive transducer trainer kit for Lab	→ AC +Dc 230V to 460V ,50Hz With all standard accessories and user manual	01
6	strain gauge trainer kit	→ + 5V DC → 3.5 digit With all standard accessories and user manual	01
7	Non contact radiation Pyrometer (online)	→ Storage Temp 25 to 70 °C → Relative Humidity 0%-95% → working 10-60C With all standard accessories and user manual	01

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8	Angular Displacement by capacitive transducer kit	<ul style="list-style-type: none"> → 220V, 50Hz → 3.5 Digit DPM → OP-Amp in signal conditioner circuit With all standard accessories and user manual	01
9	CRO with specification with between	<ul style="list-style-type: none"> → 2Mhz, → Rise time <25ns,vertical → sensitivity 2MV-5v/dt, → Vertical Resolution 5dt With all standard accessories and user manual	02

Branch: - Electrical Engineering

Name of the Laboratory:- Electrical Workshop Lab

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	Combination plier	<ul style="list-style-type: none"> → Material -Mild Steel → Size - 8 inch → With all standard accessories and user manual 	01 dozen
2	Nose plier	<ul style="list-style-type: none"> → length- 5 inch → With all standard accessories and user manual 	01 dozen
3	Crimping Tool	<ul style="list-style-type: none"> → 50 to 5000 sq.mm → With all standard accessories and user manual 	02 dozen
4	Cutter (wire cutter)	<ul style="list-style-type: none"> → length- 165mm → 0.5 - 2mm diameter → With all standard accessories and user manual 	02 dozen
5	Ball Pin Hammer with handle	<ul style="list-style-type: none"> → 450gm → With all standard accessories and user manual 	06
6	Phase Taster	<ul style="list-style-type: none"> → Voltage Range - 40 - 700 V With all standard accessories and user manual	24
7	Digital Multi meter	<ul style="list-style-type: none"> → meter current range 10A → Frequency 9.99 MHz → Display type LCD With all standard accessories	03
8	Clamp on meter	<ul style="list-style-type: none"> → 400-500mA, 10 Hz- 10MHz With all standard accessories and user manual	10
9	Safety Kit	<ul style="list-style-type: none"> → complete set (personal protective equipment) With all standard accessories and user manual	05 sets

Branch: - Electrical Engineering

Name of the Laboratory:- Basic Electronics

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	DC Power Supply	<ul style="list-style-type: none"> → Trainer Kit For Laboratory → input-230V,AC → output- 5 -10 volt DC With all standard accessories and user manual	01
2	RC -coupled Amplifier Trainer Kit	<ul style="list-style-type: none"> → 12V DC With all standard accessories and user manual	01
3	Hartley oscillator Trainer kit	<ul style="list-style-type: none"> → ET- HOSC, DC Supply → LED Indicator Type → Glass Epoxy SMOBC PCB Cords With all standard accessories and user manual	01
4	Crystal Oscillator Trainer Kit(ETHOSC)	<ul style="list-style-type: none"> → 12V, DC Supply → 500mA with Patch cords With all standard accessories and user manual	01
5	RC phase shift Oscillator Trainer kit	<ul style="list-style-type: none"> → 12V, DC Supply → 500mA Current With all standard accessories and user manual	01

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6	Clipper and Clamper Trainer kit	<ul style="list-style-type: none"> → +15V using → Clipper 741 Op-amp → Clamper 741 Op-amp With all standard accessories and user manual	01
7	Integrator & Differentiator Trainer kit	<ul style="list-style-type: none"> → 12V, DC Supply → Pulse generator → OP-AMP Trainer kit With all standard accessories and user manual	01
8	Multi vibrator Using Transistor (Ohm Tech)	<ul style="list-style-type: none"> → +5V DC → 230V → Astable, Monostable & Bistable With all standard accessories and user manual	01

Branch: - Electrical Engineering

Name of the Laboratory:- Electrical Machine

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	3 Phase induction motor power (cage motor)	<ul style="list-style-type: none"> → 2hp(6.84kw), → voltage 100 to 360V → frequency-50Hz With all standard accessories and user manual	01
2	Single phase (1phase ac supply) Induction motor,	<ul style="list-style-type: none"> → power:-60-250w → high starting current, → small power rating With all standard accessories and user manual	01
3	Auto Transformer required for Step up,	<ul style="list-style-type: none"> → voltage 220 to 250V → Number of Winding 2000 Turns, → output rated 10KVA With all standard accessories and user manual	01
4	Motor-generator set	<ul style="list-style-type: none"> → motor shunt DC, → Voltage 240V, → Resistance 120 ohm, → Armature resistance -0.12 Ohm, → Generator (Alternator) 4pole With all standard accessories and user manual	01
5	potentiometer	<ul style="list-style-type: none"> → power-25 W Required → voltage 16V For power, → Current 12A Measure With all standard accessories and user manual	02
6	Current Transformer	<ul style="list-style-type: none"> → Frequency range 50/60Hz, → High O/P voltage With all standard accessories and user manual	02
7	Potential transformer	<ul style="list-style-type: none"> → Voltage Range 480:120V → Primary winding-120V, → High output With all standard accessories and user manual	02
8	Discharge Rod,	<ul style="list-style-type: none"> → Highly in offering → 11KV/33/220/400KV With all standard accessories and user manual	02
9	Drill Machine	<ul style="list-style-type: none"> → Rating 4.3 out of 5.0, 1041 verified power 550W, Capacity 13mm, → speed 2-800RPM With all standard accessories and user manual	05


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Branch: - Electrical Engineering

Name of the Laboratory:- Digital Electronics

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	Digital storage Oscilloscope with set	<ul style="list-style-type: none"> → Band width-25MHZ → real time sampling 150 m sa/s → rise time <14ns → I/P impedance: (1M) !!17pf → vertical sensitivity:-2MV,-5V/division → vertical resolution : 8bit With all standard accessories and user manual	02
2	Function generator	<ul style="list-style-type: none"> → frequency range in 1mhz, 2mhz,3mhz → Auto range frequency counter → 16 x 2 LCD → S.C. protection, → Long working duration → 20 output amplitude With all standard accessories and user manual	02
3	RS, D, J-K Flip Flop Trainer kit	<ul style="list-style-type: none"> → +5DC, 500 m Amp → 4 Logic I/P switch with LED With all standard accessories and user manual	02
4	4 bit Ripple counter trainer kit	<ul style="list-style-type: none"> → 50Hz → 230v, Digital With all standard accessories and user manual	02
5	8-bit ring counter trainer kit	<ul style="list-style-type: none"> → 5V, DC, Single Phase → 230V → 50Hz With all standard accessories and user manual	02
6	4 bit Multiplexer and De multiplexer trainer kit	<ul style="list-style-type: none"> → 4 Logic Input switches with green LED Display → DC Supply → +5V → 500mA Current With all standard accessories and user manual	02
7	Microprocessor trainer kit 8085	<ul style="list-style-type: none"> → 8255, → 8k byte ram → 16 bit time counter With all standard accessories and user manual	04
8	Micro controller trainer kit	<ul style="list-style-type: none"> → RAM- 88k byte → Board Memory- 128kb → Supply- 5V, DC With all standard accessories and user manual	02

Branch: - Electrical Engineering

Name of the Laboratory:- Seminar Hall

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	Sound System	<ul style="list-style-type: none"> → 2000W peak (1300 LF + 700 HF) 1000W continuous RMS (650LF + 350HF) → 8 Inch (203mm) LF driver, 2.5 inch (65mm) high-temperature voice coil → High quality, lightweight, cabinet design for easy transport, set up and installation → With all standard accessories and user manual 	04


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List and specification of Equipments for Civil Engineering

Branch:- Civil Engineering

Name of the Laboratory:- Surveying Lab

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	Prismatic Compass	<ul style="list-style-type: none"> → The Compass light weight surveyors tripod with a ball and socket head using standard 3/4 inchx24 threads. 11.1 cm diameter, 3.8cm thick and 539 gm weight. → With all standard accessories and user manual 	06
2	Level Staff	<ul style="list-style-type: none"> → Aluminum white color 6x5x27cm closing section 5(no of section), 5 mm least count → Folding type → With all standard accessories and user manual 	10
3	Dumpy Level	<ul style="list-style-type: none"> → Material Aluminum → Threaded on base for tripod: 5/8 and 20 thread → Size 300 mm → Magnification 32X → Objective Aperture 40mm → Field of View 1 degree 30' → Shortest Focusing Distance 0.5m → With all standard accessories and user manual 	02
4	Auto level with tripod	<ul style="list-style-type: none"> → Extended range powerful 32x magnification working range-400 feet, Accuracy - 1mm for 1km, double run leveling. → With all standard accessories and user manual 	04
5	Theodolite	<ul style="list-style-type: none"> → Telescope model 20 length 178mm, magnification 25x, short focus 1.5m, stadia ratio 1:100, stadia constant :0, revolving power 4", Graduation-20" → size 10 cm plate → With all standard accessories and user manual 	01
6	Plane Table (Survey set)	<ul style="list-style-type: none"> → size 60x75cm soft wooden, single plate → Brass alidade (slide vane) 450mm, Tough compass -15cm, Spirit level -15 cm → With 100 meter length plastic tape (2 piece) → Plumb bob → With all standard accessories and user manual 	01

Branch:- Civil Engineering

Name of the Laboratory :- Material Testing Lab

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	Vicat apparatus set	<ul style="list-style-type: none"> → 1.15mm dia, → 10mm plunger dia, → Conical penetration probe 8mm dia 50 mm long (100 gram) → Vicat mould → With all standard accessories and user manual 	03
2	Slump cone test (workability)	<ul style="list-style-type: none"> → one slump cone with handle and foot pieces → Base dia. 20cm (cone), → top dia. 10cm, → height 30cm,, → Tamping rod- 16mmøx600mm long → With all standard accessories and user manual 	04

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3	Compaction factor test	→ 2 conical hopper with 1 cylinder → With all standard accessories and user manual	02
4	Impact Value test (for aggregate)	→ hammer ball 380 ±5mm, → Cylindrical mould 75mm dia, → 50mm depth with 2.36mm I5 Sieve . With all standard accessories and user manual	02
5	Le-chatelier apparatus (Soundness of cement) set	→ 30mm Dia mould → 5mm thick copper material → glass plate With all standard accessories and user manual	06
6	Vee-Bee consistometer	→ Base dia-20 ∅, → Top dia-10∅, → Height -30 cm. With all standard accessories and user manual	02
7	Rebound rammer test	measuring range 10to100n/mm With all standard accessories and user manual	02

Branch:- Civil Engineering

Name of the Laboratory :- Fluid Mechanics Lab

S. No.	Name of the Equipment to be procured	Specification	APPROX. QTY.
1	Open channel flow	→ Meter (volt2-230V) → Range 0.28 Lit/sec-1850 Litr/sec. → Output 4∅20Amp. With all standard accessories and user manual	01
2	Pipe fitting apparatus	→ power supply 50v AC → Basic piping, → pipe fitting, → fit pipe, → Elbow pipe, → Bend sudden expansion.1/2inch to 1". → Sudden expansion 1" to 1/2" → Differential Manometer With all standard accessories and user manual	01

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