

**WOMEN'S POLYTECHNIC COLLEGE
(PIPMATE - A GOVERNMENT OF PUDUCHERRY UNDERTAKING)
LAWSPET, PUDUCHERRY – 605 008
Phone No. 0413-2252833**

TENDER SCHEDULE–IV: Supply of Equipment/ Machineries/ Laboratory Articles for Department of Electrical and Electronics Engineering of Women's Polytechnic College, Puducherry under Centrally Sponsored Scheme of MHRD - Up-gradation of Existing Polytechnics.

TERMS AND CONDITIONS

Bidders intending to offer rates for **Supply of Equipment/ Machineries/ Laboratory Articles** to Women's Polytechnic College, Puducherry should observe the Terms and Conditions given below:

1. Each Bidder must go through the Terms and Conditions containing the Description and Specification of the Equipment/ Machineries/ Laboratory Articles, carefully and understand them before submitting their tender on-line. No excuse that the Terms and Conditions have not been read or misunderstood will be entertained later.
2. The Bidders shall either be the Manufacturer or an Authorized dealer / Supplier of the quoted Equipment/ Machineries/ Laboratory Articles.
3. The Bidders shall submit their Tenders for the Equipment/ Machineries/ Laboratory Articles as per the specifications, supported with necessary Technical details and pamphlets/ catalogues. The Technical details and pamphlets/ catalogues of the Equipment/ Machineries/ Laboratory Articles quoted shall be submitted along with other documents required for Technical Bid.
4. The Bidders shall submit their Tender on-line before the last date for submission. Bidders are requested to stick to the date and time limit specified in the e-Tender notice. Tenders will be accepted only if they are submitted in the prescribed manner.
5. Each tender must be accompanied by an **Earnest Money Deposit (E.M.D.) of ₹10,300/-** (Rupees Ten thousand and three hundred only) as mentioned in the e-tender notice. **The E.M.D. amount should be in the form of demand draft drawn on any of the nationalized banks, in favour of "The Principal, Women's Polytechnic College, Puducherry", payable at Puducherry. Bank guarantee or payment in any other form will not be accepted.**

6. The tenders submitted without the requisite E.M.D. amount will be summarily rejected and no request for exemption will be entertained except from the firms registered as Industrial Co-operative Society / Small Scale Industries with Government of Puducherry / N.S.I.C./ D.G.S. & D. as applicable. In such cases, a copy of the valid certificate for exemption of E.M.D. should be furnished along with the tender.
7. The E.M.D. amount will be returned to the unsuccessful bidders, but retained in the case of successful bidders and will be refunded only after execution of the supply order.
8. The bidder withdrawing the tender once submitted / not executing the supply order will lose the entire E.M.D. amount paid.
9. The rates should be quoted in whole Rupee and paisa only. The rates for each Equipment/ Machineries/ Laboratory Articles should be independent of other Equipment/ Machineries/ Laboratory Articles.
10. The rates quoted should be exclusive of all taxes, duties and all incidental charges such as loading, unloading, packing, forwarding, installation, insurance and stocking charges etc. The taxes applicable per unit may be entered in the appropriate columns of BoQ.
11. If artificially low rates are quoted in the tender, this institution will not consider any subsequent claim for compensation. The Bidders are advised to satisfy themselves that the rates quoted are only for the readily available Equipment/ Machineries/ Laboratory Articles, for which the tenders have been invited.
12. No representation for upward revision of rates will be allowed. Ex-Godown rates offered by the firm are not acceptable and such tenders will be summarily rejected. The rates quoted should be "FOR destination" basis, the destination being the Women's Polytechnic College, Puducherry.
13. The rates quoted should be in Indian currency only for the units specified against the Equipment/ Machineries/ Laboratory Articles and payment will be made in Indian currency only.
14. Government of India, DGS&D and Government of Puducherry rate contracts are to be compared with lowest price offered by the supplier through tender.

15. Installation and demonstration of Equipment/ Machineries/ Laboratory Articles should be done by the successful bidder at Institution premises at free of cost. Technical Reference and User Manuals are to be supplied for the Equipment/ Machineries/ Laboratory Articles on free of cost.
16. The Equipment/ Machineries/ Laboratory Articles supplied shall be guaranteed for satisfactory working performance for a period of at least 12 months from the date of supply/ commissioning. Any defects noticed during this period shall be rectified at free of cost to the complete satisfaction of the Institution. If the damage is more and the Equipment/ Machineries/ Laboratory Articles is not functioning properly at the time of installation, then the entire Equipment/ Machineries/ Laboratory Articles must be replaced with a new one.
17. The requirements of Equipment/ Machineries/ Laboratory Articles found in this Tender Schedule are only approximate. The bidder should undertake to supply those requirements in excess or lesser to those specified in the schedule, as per the actual requirement of the Institution.
18. The order will be placed with the successful bidders for the supply of Equipment/ Machineries/ Laboratory Articles. The supply should be made at the supplier's own risk. In case of damages and breakages, if found in transit, the Equipment/ Machineries/ Laboratory Articles, thereof should be replaced.
19. Acceptance of the tender will rest with the Principal, Women's Polytechnic College, Puducherry, who does not bind herself to accept the lowest tender and reserves to herself the authority to reject any or all the tenders received without assigning any reasons. The Principal has the power to accept the Equipment/ Machineries/ Laboratory Articles of higher cost, if they are of reputed make and are as per the specifications. The decision of the Principal, Women's Polytechnic College, Puducherry in all matters relating to this Tender Schedule shall be final and conclusive. In case of any dispute, Puducherry shall be the place of jurisdiction.
20. The tender shall be submitted only if the bidder is agreeable to all the Terms and Conditions of this Tender Schedule, which includes the Description and Specifications of the Equipment/ Machineries/ Laboratory Articles mentioned therein. Irrespective of the Terms and Conditions that may have been specified by the bidder, only the Terms and Conditions

specified in this Tender Document will be binding on the Bidder and the Tendering Authority.

21. The Technical Bid Cover, is to be submitted to “The Principal, Women’s Polytechnic College, Puducherry”, with the following documents:

- a. Annexure-I, as per the format enclosed.
- b. **Demand drafts towards tender fee ₹525/-and E.M.D. amount of ₹10,300/- (Rupees Ten thousand and three hundred only), drawn in favour of the Principal, Women’s Polytechnic College, Puducherry.**
- c. Declaration as given in the next para 22.
- d. Technical details of Equipment/ Machineries/ Laboratory Articles with Make and Model No., supported by pamphlets and catalogues etc.

It is mandatory for the Bidder to upload the scanned copies of the above documents.

22. The bidders shall furnish a declaration as given below in token of acceptance of all the Terms and Conditions of this tender. Otherwise, the tender will be rejected.

DECLARATION

“I/We[Name of the firm / proprietor], the undersigned hereby solemnly declare that the Terms and Conditions of Tender Schedule-IV: Supply of Equipment/ Machineries/ Laboratory Articles for Department of Electrical and Electronics Engineering of Women’s Polytechnic College, Puducherry, under Centrally Sponsored Scheme of MHRD - Up-gradation of Existing Polytechnics are accepted and that in the event of selection of my / our rates, the Equipment/ Machineries/ Laboratory Articles will be supplied within the stipulated period.”

**SIGNATURE OF THE BIDDER
(AUTHORIZED SIGNATORY)**

23. The Financial Bid shall contain the Tender offer form (BoQ). This bid shall contain only the price list. Any discrepancy in this regard will cause the rejection of the price list.

24. If the bidder is not willing to quote for any item, the appropriate columns shall be left blank. Financial Bid (Bill of quantities –BoQ) of the qualified bidders will be opened on the prescribed date. The qualified bidders in Technical bid will be informed through e-mail.

25. The rates quoted should be only as per the unit printed in the schedule and should be valid for a period of one year from the date of opening of the tender.
26. The bid validity period is 180 days and the successful bidder must supply the materials within a period of 30 days from the date of the supply order.
27. In case any Equipment/ Machineries/ Laboratory Articles present in the list are found to be covered under DGS&D rate contract or in the quoting of the Government of India/ Government of India Undertaking firms, such Equipment/ Machineries/ Laboratory Articles will not be considered through this tender.
28. Copies of any document submitted along with tender including Xerox copies, should be clear and legible. If the required certificates are in a language other than English, attested copy of English version should be furnished for verification and record.
29. Entry to participate in the Tender Opening Committee Meeting is restricted only to bonafide bidders or one of their Authorized Representatives. The bidders or their Authorized Representative who are present shall produce the authorization letter and sign in the Attendance register evidencing their presence during the opening of the tenders.
30. The bidder or their Authorized Representative who are present shall not bring mobile phones to the venue of tender opening.
31. In the event of tender opening date, being declared as a holiday for the office of the tendering authority, the due date for submission of tender and opening of tender will be the next working day at the same time.
32. The bidder shall bear all costs associated with the preparation and submission of tender and this institution will in no case be responsible or liable for these costs, regardless of the outcome of the tendering process.
33. Specification and requirements of Equipment/ Machineries/ Laboratory Articles is available in **Annexure-II**. The quantity of stores (Equipment/ Machineries/ Laboratory Articles) indicated in the schedule is only tentative and approximate. This institution has the right to increase or decrease the quantity required of any Equipment/ Machineries/ Laboratory Articles.

34. The Principal, Women's Polytechnic College, Puducherry is vested with powers to cancel or revoke the Supply order without assigning any reason therefor, if the Supplier fails to effect the supply in conformity with the terms and conditions mentioned in this tender schedule and supply order.
35. The Equipment/ Machineries/ Laboratory Articles should be delivered to Women's Polytechnic College, Puducherry on receipt of supply order or as per the delivery schedule in the supply order. The Bidder/ Supplier shall take back rejected Equipment/ Machineries/ Laboratory Articles within 7 days from the date of communication. If the Bidder/ Supplier fail to remove the rejected stores within the specified period, the same will be disposed off by the Principal, Women's Polytechnic College, Puducherry.
36. The bidder shall submit the bill of cost in triplicate along with an advanced stamped receipt immediately after execution of the supply order for arranging payment. The payment will be made on receipt of said Equipment/ Machineries/ Laboratory Articles at site, in good condition subject to fulfillment of all other terms and conditions.
37. Payment shall be made only after executing the supply order to the entire satisfaction of the Institution. No advance payment will be made under any circumstances.
38. The Bidder shall mention the Address for Communication with Landline/ Mobile Phone number and E-mail I.D. for informing the status of Technical bid.

**G. RANI
PRINCIPAL**

**ANNEXURE-I
TECHNICAL BID**

From

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.....,
.....,
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Phone No.:.....
Mobile Phone No.:.....
E-mail I.D.:.....

To

The Principal,
Women's Polytechnic College,
Lawspet, Puducherry – 605 008.

Sir,

Sub: Technical Bid for the "**Tender Schedule-IV: Supply of Equipment/ Machineries/ Laboratory Articles for Department of Electrical and Electronics Engineering of Women's Polytechnic College, Puducherry, under Centrally Sponsored Scheme of MHRD - Up-gradation of Existing Polytechnics**" – Submitted – Reg.

I/ We submit herewith the Technical Bid through on-line for the "**Tender Schedule-IV: Supply of Equipment/ Machineries/ Laboratory Articles for Department of Electrical and Electronics Engineering of Women's Polytechnic College, Puducherry, under Centrally Sponsored Scheme of MHRD - Up-gradation of Existing Polytechnics**" with the following documents for consideration.

1. Scanned Copy of D.D. towards tender fee for ₹525/-.
2. Scanned Copy of D.D. towards E.M.D. amount of ₹10,300/-.
3. Declaration of the Bidder.
4. Scanned copies of Catalogues/ Technical pamphlets of items to be supplied with make and model details.

Yours faithfully,

(AUTHORIZED SIGNATORY)

Encl. as above.

[N. B. The Bidder should submit the copy of the Technical Bid as per Annexure-I and copies of proof for payment of tender fee and E.M.D. amount etc. to the Principal, Women's Polytechnic College, Puducherry before 26-4-2017@12.00 noon]

ANNEXURE-II

Tender Schedule-IV: Supply of Equipment/ Machineries/ Laboratory Articles for Department of Electrical and Electronics Engineering of Women's Polytechnic College, Puducherry, under Centrally Sponsored Scheme of MHRD - Up-gradation of Existing Polytechnics

SL. No.	ITEM WITH SPECIFICATION	QUANTITY
1	THREE PHASE CAPACITOR BANK: Input voltage: 440V, Current Rating 10A Maximum, with selector switches for varying the current rating with fuse protection and enclosed by a powder coated metal cabinet.	1 No.
2	THREE PHASE LOADING RHEOSTAT: 5KW, 440V, Three Phase Loading Rheostat with rotary switches for varying the load with fuse protection and enclosed in a powder coated metal cabinet.	2 Nos.
3	THREE PHASE WATTMETER: 5/10A, 250/500V (or) 300/600V, Three Phase, 3wire double element Portable MECO Make Wattmeter.	2 Nos.
4	THREE PHASE POWER FACTOR METER: 5/10A, 250/500V (or) 300V/600V, Three Phase, 3wire double element Portable MECO Make Wattmeter.	2 Nos.
5	SYNCHRONOUS SCOPE: Electro-mechanical Type, with a moving pointer suitable for synchronizing two three phase 3KVA alternators.	2 Nos.
6	PHASE SEQUENCE METER: Electro-mechanical Type, operating voltage 500V, Three phase, 50Hz.	1 No.
7	LOAD CELL TRAINER KIT: Load sensor capacity: 5Kg, Signal conditioner output: 2V, Output display: 3½ digit 7 segment LED display, with weights of different values and the entire kit enclosed in a cabinet. The input supply should be 230V, 50Hz, single phase AC supply with ON/OFF Switch.	1 No.
8	DISPLACEMENT MEASUREMENT TRAINER KIT USING LVDT - LVDT TRAINER KIT: LVDT Sensor: 0 - 20mm, Micrometer Range: ± 10 mm, Output voltage: 0-2V, Output display: 3½ digit 7 segment LED display and the entire kit enclosed in a cabinet. The input supply should be 230V, 50Hz, single phase AC supply with ON/OFF Switch.	1 No.
9	THREE PHASE SQUIRREL CAGE INDUCTION MOTOR: 5HP, 415/440V, 50Hz, 4pole, 1440rpm Three Phase Squirrel Cage Induction Motor (CG/Siemens/Kirloskar Make) mounted on a suitable frame with brake drum and belt arrangement, spring balance and all the windings terminated by banana connectors with markings and provided with Digital Speed Sensor and LCD Speed indicator. The motor should be supplied alongwith following meters. (a) LPF Wattmeter Single phase single element 500V/5A - 2 Nos. (b) UPF Wattmeter Single phase single element 75V/10A - 2 Nos.	1 No.
10	WINDING MACHINE: Suitable for winding Secondary and primary coil of transformer along with Winding coils 1 kg each in 25, 36,37 & 38 SWG and Readymade bobbins (EI60/21) Type 12.	1 No.

11	POLE CHANGING MOTOR: 3HP, 3Phase, 440V, 50Hz Squirrel Cage Induction Motor capable of rotating at two speeds by varying the poles.	1 No.
12	<u>ELECTRONICS CIRCUITS EXPERIMENTAL KITS COMPRISING THE FOLLOWING:</u> A) RC COUPLED AMPLIFIER KIT – 1 No.: The Kit should be suitable to study the frequency response characteristics of coupled amplifier and should contain a built-in DC Variable Power supply, two stage transistor amplifier circuit provided with RC component used for coupling, input and output connectors provided for terminations, the circuit diagram printed on the PCB and housed in a cabinet. Sufficient patching connectors and detailed experimental manual should be provided. The input should be 230V, 50Hz, ac supply. B) RC PHASE SHIFT OSCILLATORS KIT– 1 No.: The Kit should be suitable to plot the output waveform of RC Phase Shift Oscillator and to find its frequency of oscillation by varying R and by varying C. It should contain a built-in DC Variable Power supply for biasing, and to generate different frequencies by varying both R and C. Input and output connectors provided for terminations, the circuit diagram printed on the PCB and housed in a cabinet. Sufficient patching connectors and detailed experimental manual should be provided. The input should be 230V, 50Hz, ac supply. C) JFET CHARACTERISTICS KIT– 1 No.: The Kit should be suitable to plot the drain characteristics of JFET. It should contain Two built in DC Variable Power supply, the terminals of FET are terminated at connectors, the circuit diagram printed on the PCB and housed in a cabinet. Sufficient patching connectors and detailed experimental manual should be provided. The input should be 230V, 50Hz, ac supply. Necessary table top Voltmeters and ammeters (Meco/Oxford make) may be provided along with the kit. D) COMMON SOURCE AMPLIFIER KIT– 1 No.: The Kit should be suitable to plot the frequency response of FET. It should contain a suitable built in variable regulated Power supply, the terminals of FET are terminated at connectors, the circuit diagram printed on the PCB and housed in a cabinet. Sufficient patching connectors and detailed experimental manual should be provided. The input should be 230V, 50Hz, ac supply. Necessary table top Voltmeters and ammeters (Meco/Oxford make) required for conducting the experiment may be provided along with the kit. E) DIAC & TRIAC CHARACTERISTICS KIT– 1 No.: The Kit should be suitable to plot the VI Characteristics of TRIAC & DIAC. The set up should be either incorporated in a single kit or in a separate kit and should contain builtin variable regulated Power supplies, the terminals of device terminated at connectors, the circuit diagram printed on the PCB and housed in a cabinet. Sufficient patching connectors and detailed experimental manual should be provided. The input should be 230V, 50Hz, ac supply. Necessary table top Voltmeters and ammeters may be provided along with the kit.	1 set

	<u>F)</u> LDR, PHOTO DIODE AND PHOTO TRANSISTOR CHARACTERISTICS KIT– 1 No.: The Kit should be suitable to plot the Characteristics OF LDR, PHOTO DIODE & PHOTO TRANSISTOR. The set up should be either incorporated in a single kit or in a separate kit and should contain builtin variable regulated Power supplies, the terminals of device terminated at connectors, the circuit diagram printed on the PCB and housed in a cabinet. Necessary light source should be provided with a provision to adjust the distance between the sensors and the light source. Sufficient patching connectors and detailed experimental manual should be provided. The input should be 230V, 50Hz, ac supply. Necessary table top Voltmeters and ammeters may be provided along with the kit. <u>G)</u> SCR CHARACTERISTICS KIT– 1 No.: The Kit should be suitable to plot the Characteristics of SCR. The set up should contain builtin variable regulated Power supplies, the terminals of device terminated at connectors, the circuit diagram printed on the PCB and housed in a cabinet. Sufficient patching connectors and detailed experimental manual should be provided. The input should be 230V, 50Hz, ac supply. Necessary table top Voltmeters and ammeters may be provided along with the kit. <u>H)</u> ASTABLE AND MONOSTABLE MULTIVIBRATOR KIT USING TRANSISTOR– 1 No.: The Kit should be suitable to plot the output waveform of the multi-vibrators. The set up should be either incorporated in a single kit or in a separate kit and should contain builtin Powersupplies, the circuit diagram printed on the PCB and housed in a cabinet. Sufficient patching connectors and detailed experimental manual should be provided. The input should be 230V, 50Hz, ac supply. <u>I)</u> INPUT AND OUTPUT CHARACTERISICS OF TRANSISTOR KIT– 1 No.: The Kit should be suitable to plot the input and outputcharacteristics of Common Emitter, Common Collector & Common Base configurations. The set up should be either incorporated in a single kit or in a separate kit and should contain built in variable Power supplies, the circuit diagram printed on the PCB and housed in a cabinet. Sufficient patching connectors and detailed experimental manual should be provided. The input should be 230V, 50Hz, ac supply. Necessary table top Voltmeters and ammeters may be provided along with the kit. <u>J)</u> CLIPPER & CLAMPER KIT USING DIODE– 1 No.: The Kit should be suitable to plot the output wave form of positive and biased Clipper and diode clamper. The set up should be either incorporated in a single kit or in a separate kit and should contain built in variable Power supplies, fixed sine wave generator provided with variable amplitude facilities, the circuit diagram printed on the PCB and housed in a cabinet. Sufficient patching connectors and detailed experimental manual should be provided. The input should be 230V, 50Hz, ac supply. Necessary table top Voltmeters and ammeters may be provided along with the kit.	
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13	<u>PROGRAMMABLE LOGIC CONTROLLER (PLC) WITH PLC BASED 3 STAGE LIFT OPERATION KIT:</u> The trainer should consist of Demonstration panel, ladder software to study the concept and programming of Programmable Logic Controller. The Demonstration Panel should consists of switches and LED's to demonstrate input, output functions etc., <u>Specification of PLC Trainer:</u> PLC should be Allen Bradley Make; Built in power supply +24V and +5V with 6 digital inputs for input interface and 4 digital outputs for output interface, External Relay based outputs, Short circuit protection to protect the PLC; Demonstration panel with 6 SPST switches and LEDs for simulating digital inputs, 4 LEDs with fuse protection to simulate digital outputs, buzzer output, proper termination of inputs, outputs and power supplies, PLC programming software should be windows 7/8 based, should be completed in all respect and supplied with instruction manual, sufficient number of patch chords and required accessories. <u>Specifications of 3 stage Lift Control Interfacing Module:</u> The kit should be 3 floor (Ground + 2 floors) plastic mode with floor request switches and floor sensing switches. The cabin should be controlled by stepper motor with forward and reverse control. The Kit be complete in all respect with instruction manual and required accessories.	1 No.
14	<u>PROGRAMMABLE LOGIC CONTROLLER (PLC) WITH PLC BASED CONVEYOR INTERFACING CONTROL FOR COUNTING THE OBJECTS MOVING IN THE CONVEYOR :</u> The trainer should consist of Demonstration panel, ladder software to study the concept and programming of Programmable Logic Controller. The Demonstration Panel should consists of switches and LED's to demonstrate input, output functions etc., <u>Specification of PLC Trainer:</u> PLC should be Allen Bradley Make; Built in power supply +24V and +5V with 6 digital inputs for input interface and 4 digital outputs for output interface, External Relay based outputs, Short circuit protection to protect the PLC; Demonstration panel with 6 SPST switches and LEDs for simulating digital inputs, 4 LEDs with fuse protection to simulate digital outputs, buzzer output, proper termination of inputs, outputs and power supplies, PLC programming software should be windows 7/8 based, should be completed in all respect and supplied with instruction manual, sufficient number of patch chords and required accessories. <u>Specifications of Conveyor interfacing control for counting the objects:</u> The input for the kit should be 230V AC with 1 No of proximity sensor, 1 No of AC servomotor with input and output terminals. The Kit shall be complete in all respect for counting the objects in the conveyor belt with instruction manual and required accessories.	1 No.
15	<u>PROGRAMMABLE LOGIC CONTROLLER (PLC) WITH PLC BASED sequential operation of solenoid valve and motor for tank filling</u>	1 No.

	<u>operation:</u> The trainer should consist of Demonstration panel, ladder software to study the concept and programming of Programmable Logic Controller. The Demonstration Panel should consist of switches and LED's to demonstrate input, output functions etc. <u>Specification of PLC Trainer :</u> PLC should be Allen Bradley Make; Built in power supply +24V and +5V with 6 digital inputs for input interface and 4 digital outputs for output interface, External Relay based outputs, Short circuit protection to protect the PLC; Demonstration panel with 6 SPST switches and LEDs for simulating digital inputs, 4 LEDs with fuse protection to simulate digital outputs, buzzer output, proper termination of inputs, outputs and power supplies, PLC programming software should be windows 7/8 based, should be completed in all respect and supplied with instruction manual, sufficient number of patch chords and required accessories. <u>Specifications of solenoid valve and motor operation:</u> The kit should be have necessary solenoid valve with pipe and tank arrangement. The Kit shall be complete in all respect with instruction manual and required accessories.	
16	<u>DC REGULATED DUAL POWER SUPPLY (0-32V, 0-2A):</u> Should be Compact and rugged, with dual outputs of 0-32V 0-2A; DC output on/off on each main output; voltage and current preset facility for safety reasons; <u>Specifications:</u> Constant voltage mode: Line regulation $\leq 0.01\% \pm 3\text{mV}$ for 10% change in line; load regulation $\leq 0.01\% \pm 3\text{mV}$ for load change from zero to full load; ripple and noise $\leq 1\text{mVrms}$ max with CV mode indication. Constant Current mode: Line regulation $\leq 0.1\% \pm 2\text{mA}$ for 10% change in line; load regulation $\leq 0.1\% \pm 4\text{mA}$ for load change in output voltage from zero to max output voltage; ripple and noise $\leq 2\text{mArms}$ max with CC mode indication. with automatic overload and short circuit protection; single meter to read voltage/ current of each output with a selector switch; operating on ac mains.	10 Nos.

17	<u>HIGH VOLTAGE POWER SUPPLY</u> Specification: Output Voltage: 15-300V dc and Current: 3A; 3 digit DPM metering to indicate voltage and current with line regulation of $\pm 0.1\%$ and load regulation of $\pm 0.1\%$; Ripple and noise: 0.05% rms; Operating voltage 230V ac $\pm 10\%$, 50Hz single phase, with output protected against short circuit.	1 No.
18	<u>MULTIMETER:</u> Features:-Large LCD Display for clear reading, Auto Power off. Specification:DC Voltage : 400mV/4V/40V/400V/1000V ($\pm 0.5\%$); AC Voltage:400mV/4V/40V/400V/750V($\pm 0.5\%$); DC Current:400 μ A/4000 μ A/40mA/400mA/10A ($\pm 1.0\%$); AC Current : 400 μ A/4000 μ A/40mA/400mA/10A ($\pm 1.0\%$); Resistance : 400 Ω /4K Ω /40K Ω /400K Ω /4M Ω /40M Ω ($\pm 1.0\%$); Capacitance:4nF/40nF/400nF/4 μ F/40 μ F/200 μ F ($\pm 2.5\%$); Frequency:100/1000/10k/100k/1M/30MHz ($\pm 0.5\%$); Temperature:-40°C to 1000°C $\pm(0.8\%+4)$; Other Functions: Diode Test, Transistor Test, Continuity Buzzer, Low Battery Indication, Data Hold, Auto Power Off, Function Protection, Relative Value Measurement, Shock Proof Protection, Frequency/Duty Cycle measuring -0.1 -99.9%. Input Impedance:10M, AC Frequency Response: 40-400Hz: Operating Way : Auto Range; Max. Display: 3999, Power: 9V Battery.	5 Nos.