

**BID REFERENCE.GPK/Up-Gradation/Institute specific/ M&E/2015-II**

**-GENERAL INSTRUCTIONS & BID DOCUMENT**

**FOR**

**PROCUREMENT OF MACHINERIES & EQUIPMENTS ITEMS  
FOR ELECTRONICS & COMMUNICATION  
ENGG.COMPUTER ENGG.MECHANICAL  
ENGG.INSTRUMENTATION ENGG.UNDER THE SCHEME OF  
UPGRADATION OF EXISTING POLYTECHNICS**

**DUE ON**

**28<sup>th</sup> November,2015**

**PRINCIPAL,  
GOVERNMENT POLYTECHNIC KANGRA  
DISTRICT-KANGRA  
HIMACHAL PRADESH.**

OFFICE OF THE PRINCIPAL,  
GOVERNMENT POLYTECHNIC KANGRA,  
DISTRICT-KANGRA,HIMACHAL PRADESH  
( An ISO 9001:2008 Certified Institution)

Telephones: 01892-265025.

Fax: 01892-265025

**NATIONAL COMPETITIVE BIDDING FOR THE SUPPLY OF GOODS**

BID REFERENCE : GPK/Up-Gradation/institute Specific /2015-II

DATE OF COMMENCEMENT OF  
SALE OF BIDDING DOCUMENT : 2<sup>nd</sup> November, 2015.

LAST DATE FOR SALE OF  
BIDDING DOCUMENT : 27 November, 2015 at 5.00 PM

LAST DATE AND TIME FOR  
RECEIPT OF BIDS : 28<sup>th</sup> November, 2015 at 1:30 PM

TIME AND DATE OF OPENING  
OF BIDS : 28<sup>th</sup> November, 2015 at 3:00 PM

PLACE OF OPENING OF BIDS : Principal, Govt. Polytechnic,  
Kangra , Distt. Kangra  
Pin-176001.

ADDRESS FOR COMMUNICATION : Principal, Govt. Polytechnic,  
Kangra, Distt. Kangra  
Pin-176001

**NATIONAL COMPETITIVE BIDDING FOR THE SUPPLY OF MACHINARIES & EQUIPMENTS**  
**SECTION LINVITATION FOR BIDS (IFB)**

IFB No. : **GPk//Up-Gradation/ InstituteSpecific/M&E/2015-II**

1. The Government Polytechnics have received grant in aid through State Government of Himachal Pradesh from , Govt of India ,MHRD, Deptt of Higher Education under the Scheme of up- gradation of existing Polytechnics.
2. Principal, Government polytechnic, Kangra now invites sealed bids from eligible bidders for supply of items for different disciplines/ branches as per schedules A,B,C,D listed below:-

**SCHDEULE -A**

**Electronics & Communication Engg.**

S.N	Name of Store/Equipment	Approx. Quantity
1	2	3
1.	<b>FET Amplifier Characteristics trainer board</b>	04 Nos.
2	<b>TelephoneTrainer kit.</b>	02 Nos.
3	<b>PSK Modulation /Demodulation kit</b>	02 Nos.
4	<b>Fax Machine</b>	02 Nos.
5	<b>CORDLESS PHONE</b>	02 No.
6	<b>HAMMING CODE TRAINER</b>	02 No.
7	<b>Three terminal voltage regulator trainer board</b>	05 No.
8	<b>Network trainer for T and Pi sections</b>	05 No.
9	<b>Filter experimental kit for Prototype &amp;M-derived filters:</b>	05 No.
10	<b>Transistor biasing trainer board</b>	04 No.

11	<b>Spice Simulator</b>	01 No.

**SCHDEULE -B**  
**Computer Engg. Deptt.**

S.N	Name of Store/Equipment	Approx. Quantity
1	2	3
1.	SMPS Trainer:	01 No.
2	Keyboard Trainer	01 No.
3	Mouse Trainer	01 No.
4	Oracle 11g release 2 or higher licensed academic version 20 users with training latest compatible with window 7, 8 ,10 or latest version	01 No.
5	Antivirus Total Security	10 No.
6	Adobe Creative Master Suite 6.0 or higher master collection academic version 20 users with training.	1 No.
7	ICs Trainer i.e. Digital Logic Trainer (TTL) /Logic Trainer Board (Based on 74 Series with Built in Power Supply and 1 meter	05 No.
8	8 Bit Digital Multiplexer	05 No.
9	8 Bit 1:8 Line De-multiplexer using IC 74138 Trainer	05 No.
10	Trainer to study of RS, D & J-K , T and Mater Slave J-K Flip Flop	05 No.
11	Study of various module counters trainer with power supply	05 No.
12	Binary Adder &Subtractor Demonstrator Trainer with Built in Power Supply	05 No.
13	Study of OR, AND, NAND Gates (using NAND Gates to make OR, NOR, NOT, AND & EX-OR Gates) Trainer with Built in Power Supply	05 No.

**SCHDEULE -C**  
**Mechanical Engg. Deptt.**

S.N.	Name of Store/Equipment	Approx. Quantity
1	2	3
1.	Pneumatic Comparator:	1 No.
2.	Reed Type Mechanical Comparator	1 No.
3.	Sine Table	2 No.
4.	Sine Center:	2 No.
5.	Vaccum Cleaner:	2 No.
6.	Water Cooler:	1 No.
7.	Domestic Refrigerator :	1 No.
8.	Izod Impact testing Machine with Digital Control:	1 No.
9.	Computerized metallurgical microscope with color printer	01 No.
10.	Optical Pyrometer	2 No.
11.	Solex and AmalCarburettors	2 Each
12.	Nozzle cleaning, testing and adjustment apparatus	01 No.
13.	Working model of MPFI system:	01 No.
14.	Apparatus to verify Bernoulli's Theorem	01 No.
15.	Charts for Diff. Mechanical Engg.Labs.:	60 No.
	<b>Work shop of Mech. Engg. Deptt.</b>	
16.	DOL Starter:	1 No.
17.	3 Phase Motor :	1 No.
18.	1 Phase Motor:	1 No.
19.	Battery 12 Volts :	1 No.
20.	Rheostat :	2 No.
21.	Crucibles :	2 No.
22.	Oil Fired Tilting Furnace with accessories:	1 No.
23.	Portable Arc Welding Set.:	1 No.
24.	Power Cutter (Cutting Wheel 12"):	1 No.

25.	Hand Drilling Machine:	2 No.
26.	Hammer Action Hand Drilling Machine:	1 No.
27.	Buffing Machine with 3 Phase Motor:	1 No.
28.	Charts for Diff. Mechanical Workshops.	60 No.

## **SCHDEULE -D**

### **Instrumentation Engg. Deptt.**

S.N.	Name of Store/Equipment	Approx. Quantity
1	2	3
1.	COMMUNICATION TRAINER(DIGITAL)	01 No.
2.	8086 MICROPROCESSOR TRAINER KIT WITH MODULES	5No
3.	Embedded System Trainer	3No
4.	Operational Amplifier Trainer	4No
5.	Strain gauge with measurement of Pressure using Bourdon tub	2No
6.	Temperature Sensing Transducer Trainer	1No
7.	Displacement sensing Transducer Trainer	1No
8.	Trainer for Determining Characteristics of photodiode/photocell/LDR/Photo transistor:	1No
9.	Semiconductor and power Semiconductor Devices Characteristic Experiments Trainer	2No
10.	Power Semiconductor Application Trainer	2No
11.	Process Control HYDRAULIC TRAINER	1No
12.	PROCESS CONTROL TRAINER	1No
13.	PNEUMATIC TRAINER	1No
14.	DATA ACQUISITION TRAINER	2No
15.	DSP Trainer	2No
16.	Humidity meter	5No
17.	Stroboscope	5 No
18.	Flame photometer	2No
19.	Filter photometer	3No
20.	Analog three phase energy meter	1No
21.	Frequency meter Resonance	2No
22.	Flow meter target and turbine Model	2No
23.	Moisture meter dry and wet bulb	3No
24.	Open and close loop control experimental kit for the control of 1 <sup>st</sup> order & 2 <sup>nd</sup> order systems for temp., flow & level along with various test inputs	4No
25.	Optical power meter	1No
26.	Fiber optics Light Source	1No
27.	Dial indicator for Pressure	3No
28.	Analytical balance	1No
29.	SPEED TRAINER	1No
30.	Sampling and reconstruction trainer	1No



31.	Pam TDM trainer	1No
32.	TDMPCM transmitter trainer	1No
33.	Pam-ppm-pwm modulation and demodulation trainer	1No
34.	Delta/ sigma delta & adaptive delta modulation/ demodulation kit	1No
35.	Frequency modulation and demodulation trainer	1No
36.	AM trainer kit	1No
37.	Refrigerator of 200 liter.	1No

3. Interested eligible Bidders may obtain further information and inspect the bidding documents at **Principal, Government Polytechnic, Kangra, Himachal Pradesh.**
4. A complete set of bidding documents may be purchased by any interested eligible bidder on the submission of a written application to the above office and upon payment of a non-refundable fee as indicated below in the form of a Demand Draft in favour of **Principal, Government Polytechnic, Kangra, H.P.** , payable at **Kangra, Distt. Kangra (H.P.).** The Bid document can also be downloaded from the Institute's official web site [www.gpkangra.com](http://www.gpkangra.com). The downloaded document must be sent alongwith Bid Document fee of Rs 1000/ (Non-refundable) in the shape of Demand draft payable in favour of **Principal, Government Polytechnic, Kangra, H.P.** , payable at **Kangra, Distt. Kangra (H.P.)**
5. The provisions in the Instructions to Bidders and in the General Conditions of contract are based on the provisions of the Govt.of India and the State Govt. procurement rules HPFR 2009.
6. The bidding document may be obtained from the office of the Principal Govt. Polytechnic Kangra during office hours namely, from 10.00 hrs to 17.00 hrs, on all working days either in person or by post.
  - (a) Price of bidding document (non-refundable) : **Rs. 1000/-**
  - (b) Postal charges, inland : **Rs. 100/-**
  - (c) Date of commencement of sale of bidding document : **2<sup>nd</sup> November, 2015**
  - (d) Last date for sale of bidding document : **27<sup>th</sup> November, 2015 5.00 P.M.**
  - (e) Last date and time for receipt of bids : **28<sup>th</sup> November, 2015 1.30 PM**
  - (f) Time and date of opening of bids : **28<sup>th</sup> November, 2015, 3.00 PM**
  - (h) Place of opening of bids : **Principal, Govt. Polytechnic,**

- (i) Address for communication
- : Kangra, Distt-Kangra,H.P.  
: Pin No. 176001.  
: Principal, Govt. Polytechnic,  
Kangra, Distt-Kangra,H.P.  
Himachal Pradesh, 176001.  
Phone: 01892- 265025.**

7. All bids must be accompanied by a bid security as specified in the bid document and must be delivered to the above office at the date and time indicated above.
8. Bids will be opened in the presence of Bidders' representatives who choose to attend on the specified date and time.
- 9 In the event of the date specified for bid receipt and opening being declared as a closed holiday for purchaser's office, the due date for submission of bids and opening of bids will be the following working day at the appointed times.

**SECTION II: INSTRUCTIONS TO BIDDERS**  
**TABLE OF CLAUSES**

<b><u>Clause No.</u></b>	<b><u>Topic Number</u></b>	<b><u>Page No.</u></b>	<b><u>Clause</u></b>	<b><u>Topic Number</u></b>	<b><u>Page</u></b>
	<b>A. Introduction</b>			<b>D. Submission of Bids</b>	
1.	Source of Funds	11	18.	Sealing and Marking of Bids	17
2.	Eligible Bidders	11	19.	Deadline for Submission of Bids	17
3.	Eligible Goods and Services	11	20.	Late Bids	17
4.	Cost of Bidding	11	21.	Modification and withdrawal of Bids	17
	<b>B. Bidding Documents</b>			<b>E. Opening and Evaluation of Bids</b>	
5.	Contents of Bidding Documents	12	22.	Opening of Bids by the Purchaser	18
6.	Clarification of Bidding Documents	12	23.	Clarification of Bids	18
7.	Amendment of Bidding Documents	12	24.	Preliminary Examination	18
	<b>C. Preparation of Bids</b>		25.	Evaluation and comparison of Bids	19
8.	Language of Bid	13	26.	Contacting the Purchaser	19
9.	Documents Comprising the Bid	13		<b>F. Award of Contract</b>	
10.	Bid Form	13	27.	Postqualification	20
11.	Bid Prices	13	28.	Award Criteria	20
12.	Bid Currencies	14	29.	Purchaser's Right to Vary Quantities at Time of Award	20
13.	Documents Establishing Bidder's Eligibility and Qualifications	14	30.	Purchaser's Right to Accept Any Bid and to Reject Any or All Bids	20
14.	Documents Establishing Goods Eligibility and Conformity to Bid Documents	14	31.	Notification of Award	20
15.	Bid Security	15	32.	Signing of Contract	21
16.	Period of Validity of Bids	16	33.	Performance Security	21
17.	Format and Signing of Bid	16	34.	Corrupt or Fraudulent Practices	21

## **A. Introduction**

### **1. Source of Funds**

- 1.1 The Government Polytechnic, Kangra as mentioned in the Bid have received grant- in- aid from MHRD, Govt Of India, for up- gradation of existing polytechnics.

### **2. Eligible Bidders**

- 2.1 This Invitation for Bids is open to all suppliers from eligible source countries as defined in *Guidelines: Procurement under up gradation of existing polytechnics*.
- 2.2 Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation of Bids.
- 2.3 Government-owned enterprises in the Purchaser's country may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Purchaser.
- 2.4 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Bank in accordance with ITB Clause 36.1.

### **3. Eligible Goods and Services**

- 3.1 All goods and ancillary services to be supplied under the Contract shall have their origin in eligible source countries, for Procurement and all expenditures made under the Contract will be limited to such goods and services.
- 3.2 For purposes of this clause, "origin" means the place where the goods are mined, grown, or produced or from which the ancillary services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembling of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.
- 3.3 The origin of goods and services is distinct from the nationality of the Bidder.

### **4. Cost of Bidding**

- 4.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and **Principal, of concerned Govt. Polytechnic**, Kangra, hereinafter referred to as "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

## **B. The Bidding Documents**

### **5. Content of Bidding Documents**

- 5.1 The goods required, bidding procedures and contract terms are prescribed in the bidding documents. In addition to the Invitation for Bids, the bidding documents include:
- (a) Instruction to Bidders (ITB) ;
  - (b) General Conditions of Contract (GCC) ;
  - I Special Conditions of Contract (SCC) ;
  - (d) Schedule of Requirements;
  - (e) Technical Specifications;
  - (f) Qualification Criteria;
  - (g) Bid Form and Price Schedules;
  - (h) Bid Security Form;
  - (i) Contract Form;
  - (j) Performance Security Form;
  - (k) Performance Statement;
  - (l) Manufacturer's Authorization Form;
  - (m) Capability Statement Form; and
  - (n) Service Support Details Form
- 5.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in rejection of its bid.

### **6. Clarification of Bidding Documents**

- 6.1 A prospective Bidder requiring any clarification of the bidding documents may notify the Purchaser in writing or by telex or cable or fax at the Purchaser's mailing address indicated in the Invitation for Bids. The Purchaser will respond in writing to any request for clarification of the bidding documents which it receives no later than 15 days prior to the deadline for submission of bids prescribed by the Purchaser. Written copies of the Purchaser's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all prospective bidders which have received the bidding documents.

### **7. Amendment of Bidding Documents**

- 7.1 At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment.
- 7.2 All prospective bidders who have received the bidding documents will be notified of the amendment in writing or by fax or by cable or by fax, and will be binding on them.
- 7.3 In order to allow prospective bidders reasonable time in which to take the amendment into account in preparing their bids, the Purchaser, at its discretion, may extend the deadline for the submission of bids.

## **C. Preparation of Bids**

### **8. Language of Bid**

- 8.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser shall be written in English language. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the English language in which case, for purposes of interpretation of the Bid, the translation shall govern.

### **9. Documents Constituting the Bid**

- 9.1 The bid prepared by the Bidder shall comprise the following components:
- (a) A Bid Form and a Price Schedule completed in accordance with ITB Clauses 10, 11 and 12;
  - (b) Documentary evidence established in accordance with ITB Clause 13 that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted;
  - (c) documentary evidence established in accordance with ITB Clause 14 that the goods and ancillary services to be supplied by the Bidder are eligible goods and services and conform to the bidding documents; and
  - (d) Bid security furnished in accordance with ITB Clause 15.

### **10. Bid Form**

- 10.1 The Bidder shall complete the Bid Form and the appropriate Price Schedule furnished in the bidding documents, indicating the goods to be supplied, a brief description of the goods, and their country of origin, quantity and prices.

### **11. Bid Prices**

- 11.1 The Bidder shall indicate on the Price Schedule the unit prices and total bid prices of the goods it proposes to supply under the Contract.
- 11.2 Prices indicated on the Price Schedule shall be entered separately in the following manner:
- (i) the price of the goods, quoted (ex-works, ex-factory, ex-showroom, ex-warehouse, or off-the-shelf, as applicable), including all duties and sales and other taxes already paid or payable:
    - a. on components and raw material used in the manufacture or assembly of goods quoted ex-works or ex-factory; or
    - b. on the previously imported goods of foreign origin quoted ex-showroom, ex-warehouse or off-the-shelf.
  - (ii) any Indian duties, sales and other taxes which will be payable on the goods if this Contract is awarded;
  - (iii) the price for inland transportation, insurance and other local costs incidental to delivery of the goods to their final destination;
  - (iv) the price of other incidental services listed in Clause 8 of the Special Conditions of Contract including the price of annual maintenance services for 3 years after expiry of warranty as indicated in Clause 8 of the Special Conditions of Contract.
- 11.3 The Bidder's separation of the price components in accordance with ITB Clause 11.2 above will be solely for the purpose of facilitating the comparison of bids by the Purchaser and will not in any way limit the Purchaser's right to contract on any of the terms offered.

- 11.4 Fixed Price. Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected, pursuant to ITB Clause 24.

## **12. Bid Currencies**

- 12.1 Prices shall be quoted in Indian Rupees:

## **13. Documents Establishing Bidder's Eligibility and Qualifications**

- 13.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the Contract if its bid is accepted.

- 13.2 The documentary evidence of the Bidder's eligibility to bid shall establish to the Purchaser's satisfaction that the Bidder, at the time of submission of its bid, is from an eligible country as defined under ITB Clause 2.

- 13.3.1 The documentary evidence of the Bidder's qualifications to perform the Contract if its bid is accepted, shall establish to the Purchaser's satisfaction:

- (a) that, in the case of a Bidder offering to supply goods under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized (as per authorization form in Section XII) by the goods' Manufacturer or producer to supply the goods in India.

*(The item or items for which manufacturer's authorization is required should be specified).*

*[Note: Supplies for any particular item in each schedule of the bid should be from one manufacturer only. Bids from agents offering supplies from different manufacturers for the same item of the schedule in the bid will be treated as non-responsive.]*

- (b) that the Bidder has the financial, technical, and production capability necessary to perform the Contract and meets the criteria outlined in the Qualification requirements specified in Section VI-A. To this end, all bids submitted shall include the following information:

- (i) The legal status, place of registration and principal place of business of the company or firm or partnership, etc.;
- (ii) Details of experience and past performance of the bidder on equipment offered and on those of similar nature within the past three years and details of current contracts in hand and other commitments (suggested proforma given in Section XI);

## **14. Documents Establishing Goods' Eligibility and Conformity to Bidding Documents**

- 14.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding documents of all goods and services which the Bidder proposes to supply under the contract.

- 14.2 The documentary evidence of the goods and services eligibility shall consist of a statement in the Price Schedule on the country of origin of the goods and services offered which shall be confirmed by a certificate of origin at the time of shipment.

- 14.3 The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings and data, and shall consist of :
- (a) a detailed description of the essential technical and performance characteristics of the goods ;
  - (b) a list giving full particulars, including available sources and current prices, of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period of six years, following commencement of the use of the goods by the Purchaser;
  - I an item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications;
  - (d) a confirmation that, if the Bidder offers system and/or other software manufactured by another company, such software operates effectively on the system offered by the Bidder; and the Bidder is willing to accept responsibility for its successful operations; and
  - (e) a confirmation that the Bidder is either the owner of the intellectual Property Rights in the hardware and the software items offered, or that it has proper authorization and/or license from the owner to offer them. Willful misrepresentation of these facts will lead to the cancellation of the contract without prejudice of other remedies that the Purchaser and/or the World Bank may take.
- 14.4 For purposes of the commentary to be furnished pursuant to ITB Clause 14.3I above, the Bidder shall note that standards for workmanship, material and equipment, and references to brand names or catalogue numbers designated by the Purchaser in its Technical Specifications are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalogue numbers in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

## **15. Bid Security**

- 15.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, a bid security in the amount as specified in Section-V – Schedule of Requirements.
- 15.2 The bid security is required to protect the Purchaser against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to ITB Clause 15.7.
- 15.3 The bid security shall be denominated in Indian Rupees and shall:
- (a) at the bidder's option, be in the form of either a certified check, letter of credit, a demand draft, or a bank guarantee from a nationalized/scheduled bank located in India or by a reputable banking institution selected by the bidder and located abroad in any eligible country;
  - (b) be substantially in accordance with one of the form of bid security included in Section VIII or other form approved by the Purchaser prior to bid submission;
  - (c) be payable promptly upon written demand by the Purchaser in case any of the conditions listed in ITB Clause 15.7 are invoked;
  - (d) be submitted in its original form; copies will not be accepted; and



- (e) remain valid for a period of 45 days beyond the original validity period of bids, or beyond any period of extension subsequently requested under ITB Clause 16.2.

15.4 Any bid not secured in accordance with ITB Clauses 15.1 and 15.3 above will be rejected by the Purchaser as non-responsive, pursuant to ITB Clause 24.

15.5 Unsuccessful bidder's bid security will be discharged/returned as promptly as possible but not later than 30 days after the expiration of the period of bid validity prescribed by the Purchaser, pursuant to ITB Clause 16.

15.6 The successful Bidder's bid security will be discharged upon the Bidder signing the Contract, pursuant to ITB Clause 34, and furnishing the performance security, pursuant to ITB Clause 35.

15.7 The bid security may be forfeited:

- (a) if a Bidder (i) withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form; or (ii) does not accept the correction of errors pursuant to ITB Clause 24.2; or
- (b) in case of a successful Bidder, if the Bidder fails:
  - (i) to sign the Contract in accordance with ITB Clause 34; or
  - (ii) to furnish performance security in accordance with ITB Clause 35.

## **16. Period of Validity of Bids**

16.1 Bids shall remain valid for 120 **days** after the date of bid opening prescribed by the Purchaser, pursuant to ITB Clause 19. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.

16.2 In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing (or by cable or telex or fax). The bid security provided under ITB Clause 15 shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid.

## **17. Format and Signing of Bid**

17.1 The Bidder shall prepare two copies of the bid, clearly marking each "Original Bid" and "Copy Bid", as appropriate. In the event of any discrepancy between them, the original shall govern.

17.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the Contract. The latter authorization shall be indicated by written power-of-attorney accompanying the bid. All pages of the bid, except for un-amended printed literature, shall be initialed by the person or persons signing the bid.

17.3 Any interlineations, erasures or overwriting shall be valid only if they are initialed by the persons or persons signing the bid.

17.4 The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.

## **D. Submission of Bids**

### **18. Sealing and Marking of Bids**

18.1 The Bidders shall seal the original and each copy of the bid in separate inner envelopes, duly marking the envelopes as “original” and “copy”. He shall then place all the inner envelopes in an outer envelope.

#### **18.2 The inner and outer envelopes shall:**

(a) be addressed to the Purchaser at the following address: **Principal, Govt. Polytechnic, Kangra, Distt-Kangra, H.P. Pin. No. 176001**

(b) bear the Project Name, the Invitation for Bids(IFB) title and number, and a statement “Do not open before **3.00 PM. Hrs on 28<sup>th</sup>November , 2015** ”

18.3 The inner envelopes shall also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared “late”.

18.4 If the outer envelope is not sealed and marked as required by ITB Clause 18.2, the Purchaser will assume no responsibility for the bid’s misplacement or premature opening.

18.5 Telex, cable or facsimile bids will be rejected.

### **19. Deadline for Submission of Bids**

19.1 Bids must be received by the Purchaser at the address specified under ITB Clause 18.2 (a) no later than the time and date specified in the Invitation for Bids (Section I). In the event of the specified date for the submission of Bids being declared a holiday for the Purchaser, the Bids will be received upto the appointed time on the next working day.

19.2 The Purchaser may, at its discretion, extend this deadline for submission of bids by amending the bid documents in accordance with ITB Clause 7, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

### **20. Late Bids**

20.1 Any bid received by the Purchaser after the deadline for submission of bids prescribed by the Purchaser, pursuant to ITB Clause 19, will be rejected and/or returned unopened to the Bidder.

### **21. Modification and Withdrawal of Bids**

21.1 The Bidder may modify or withdraw its bid after the bid’s submission, provided that written notice of the modification or withdrawal is received by the Purchaser prior to the deadline prescribed for submission of bids.

21.2 The Bidder’s modification or withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the provisions of ITB Clause 18. A withdrawal notice may also be sent by telex or cable or fax but followed by a signed confirmation copy, post marked not later than the deadline for submission of bids.

- 21.3 No bid may be modified subsequent to the deadline for submission of bids.
- 21.4 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the bid form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security, pursuant to ITB Clause 15.7.

### **E. Bid Opening and Evaluation of Bids**

#### **22. Opening of Bids by the Purchaser**

- 22.1 The Purchaser will open all bids, in the presence of Bidders' representatives who choose to attend, at 3.00 PM hours on **28<sup>th</sup> November , 2015** and in the following location:

**Principal, Govt. Polytechnic,  
Kangra, District-Kangra,  
H.P. Pin. 176001.**

The Bidders' representatives who are present shall sign a register evidencing their attendance. In the event of the specified date of Bid opening being declared a holiday for the Purchaser, the Bids shall be opened at the appointed time and location on the next working day.

- 22.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the Purchaser, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder pursuant to ITB Clause 20.
- 22.3 Bids (and modifications sent pursuant to ITB Clause 21.2) that are not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances.
- 22.4 The Purchaser will prepare minutes of the bid opening.

#### **23. Clarification of Bids**

- 23.1 During evaluation of bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in prices or substance of the bid shall be sought, offered or permitted.

#### **24. Preliminary Examination**

- 24.1 The Purchaser will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order. Bids from Agents, without proper authorization from the manufacturer as per Section XII, shall be treated as non-responsive.
- 24.1.1 Where the bidder has quoted for more than one schedule, if the bid security furnished is inadequate for all the schedules, the purchaser shall take the price bid into account only to the extent the bid is secured. For this purpose, the extent to which the bid is secured shall be determined by evaluating the requirement of bid security to be furnished for the schedules included in his bid (offer) in the serial order of the Schedule of Requirements of the Bidding Document.
- 24.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the supplier does not accept the correction of errors, its bid will be rejected and its bid security may be forfeited.
- 24.3 The Purchaser may waive any minor informality or non-conformity or irregularity in a bid which does not constitute a material deviation, provided such a waiver does not prejudice or affect the relative ranking of any Bidder.
- 24.4 Prior to the detailed evaluation, pursuant to ITB Clause 26, the Purchaser will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Deviations from or objections or reservations to critical provisions such as those concerning Performance Security (GCC Clause 7). Warranty (GCC Clause 15), Force Majeure (GCC Clause 25), Limitation of liability (GCC Clause 29), Applicable law (GCC

Clause 31), and Taxes & Duties (GCC Clause 33) will be deemed to be a material deviation. The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

- 24.5 If a bid is not substantially responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

## **25. Evaluation and Comparison of Bids**

- 25.1 The Purchaser will evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 24.

- 25.2 The Purchaser's evaluation of a bid will exclude and not take into account:

- (a) in the case of goods manufactured in India or goods of foreign origin already located in India, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;
- (b) any allowance for price adjustment during the period of execution of the Contract, if provided in the bid.

- 25.3 The Purchaser's evaluation of a bid will take into account, in addition to the bid price (Ex-factory/ex-warehouse/off-the-shelf price of the goods offered from within India, such price to include all costs as well as duties and taxes paid or payable on components and raw material incorporated or to be incorporated in the goods, and Excise duty on the finished goods, if payable) and price of incidental services [the cost of 3 years annual maintenance service after expiry of warranty period included in incidental services should be discounted as stated in ITB 26.5(e)], the following factors, in the manner and to the extent indicated in ITB Clause 26.5 and in the Technical Specifications:

- (a) cost of inland transportation, insurance and other costs within India incidental to the delivery of the goods to their final destination;
- (b) delivery schedule offered in the bid;
- (c) deviations in payment schedule from that specified in the Special Conditions of Contract;
- (d) the cost of components, mandatory spare parts and service;
- (e) the availability in India of spare parts and after-sales services for the goods / equipment offered in the bid;
- (f) the projected operating and maintenance costs during the life of the equipment; and
- (g) the performance and productivity of the equipment offered.

- 25.4 Pursuant to ITB Clause 26.4, one or more of the following evaluation methods will be applied:

- (a) *Inland Transportation, Insurance and Incidentals:*
  - (i) Inland transportation, insurance and other incidentals for delivery of goods to the final destination as stated in ITB Clause 11.2 (iii).  
The above costs will be added to the bid price.
- (b) *Delivery Schedule:*
  - (i) The Purchaser requires that the goods under the Invitation for Bids shall be delivered at the time specified in the Schedule of Requirements. The estimated time of arrival of the goods at the project site should be calculated for each bid after allowing for reasonable transportation time. Treating the date as per schedule of requirements as the base, a delivery "adjustment" will be calculated for other bids at 2% of the ex-factory price including excise duty for each month of delay beyond the base and this will be added to the bid price for evaluation. No credit will be given to earlier deliveries and bids offering delivery beyond one months of stipulated delivery period will be treated as non-responsive.
- (c) *Deviation in Payment Schedule:*

The Special Conditions of Contract stipulate the payment schedule offered by the Purchaser. If a bid deviates from the schedule and if such deviation is considered acceptable to the Purchaser, the bid will be evaluated by calculating interest earned for any earlier payments involved in the terms outlined in the bid as compared to those stipulated in this invitation, at a rate of 8% per annum.
- (d) *Spare Parts and After Sales Service Facilities in India:*

The cost to the Purchaser of establishing the minimum service facilities and parts inventories, as outlined elsewhere in the bidding documents, if quoted separately, shall be added to the bid price.

**26. Contacting the Purchaser**

- 28.1 Subject to ITB Clause 23, no Bidder shall contact the Purchaser on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded. If the bidder wishes to bring additional information to the notice of the purchaser, it should do so in writing.
- 28.2 Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison or contract award may result in rejection of the Bidder's bid.

## **F. Award of Contract**

**27. Post qualification**

- 27.1 In the absence of prequalification, the Purchaser will determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated responsive bid meets the criteria specified in ITB Clause 13.3 (b) and is qualified to perform the contract satisfactorily.
- 27.2 The determination will take into account the Bidder's financial, technical and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 13, as well as such other information as the Purchaser deems necessary and appropriate.
- 27.3 An affirmative determination will be a prerequisite for award of the Contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Purchaser will proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform the contract satisfactorily.

**28. Award Criteria**

- 28.1 Subject to ITB Clause 32, the Purchaser will award the Contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined as the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

**29. Purchaser's right to vary Quantities at Time of Award**

- 29.1 The Purchaser reserves the right at the time of Contract award to increase or decrease the quantity of goods and services originally specified in the Schedule of Requirements (rounded off to the next whole number) without any change in unit price or other terms and conditions.

**30. Purchaser's Right to Accept Any Bid and to Reject Any or All Bids**

- 30.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to the affected Bidder or bidders.

**31. Notification of Award**

- 31.1 Prior to the expiration of the period of bid validity, the Purchaser will notify the successful bidder in writing by registered letter or by cable or telex or fax, to be confirmed in writing by registered letter, that its bid has been accepted.

- 31.2 The notification of award will constitute the formation of the Contract.
- 31.3 Upon the successful Bidder's furnishing of performance security pursuant to ITB Clause 35, the Purchaser will promptly notify the name of the winning Bidder to each unsuccessful Bidder and will discharge its bid security, pursuant to ITB Clause 15.
- 31.4 If, after notification of award, a Bidder wishes to ascertain the grounds on which its bid was not selected, it should address its request to the Purchaser. The Purchaser will promptly respond in writing to the unsuccessful Bidder.

## **32. Signing of Contract**

- 34.1 At the same time as the Purchaser notifies the successful bidder that its bid has been accepted, the Purchaser will send the bidder the Contract Form provided in the bidding documents, incorporating all agreements between the parties.
- 34.2 Within 21 days of receipt of the Contract Form, the successful bidder shall sign and date the Contract and return it to the Purchaser.

## **33. Performance Security**

- 35.1 Within 21 days of the receipt of notification of award from the Purchaser, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, in the Performance Security Form provided in the bidding documents or in another form acceptable to the Purchaser.
- 35.2 Failure of the successful bidder to comply with the requirement of ITB Clause 34.2 or ITB Clause 35.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Purchaser may make the award to the next lowest evaluated bidder or call for new bids.

## **34. Corrupt or Fraudulent Practices**

- 34.1 The Bank requires that Borrowers (including beneficiaries of Bank loans), as well as Bidders, Suppliers, Contractors, and Consultants under Bank-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy, the Bank:
- (a) defines, for the purposes of this provision, the terms set forth below as follows:
    - (i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
    - (ii) "fraudulent practice" means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
    - (iii) "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of the borrower, designed to establish bid prices at artificial, non competitive levels; and
    - (iv) "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;

- (b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question;
- (c) will cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of the loan engaged in corrupt, fraudulent, collusive or coercive practices during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to the Bank to remedy the situation;
- (d) will sanction a firm or individual, including declaring them ineligible, either indefinitely or for a stated period of time, to be awarded a Bank-financed contract if it at any time determines that they have, directly or through an agent, engaged, in corrupt, fraudulent, collusive or coercive practices in competing for, or in executing, a Bank-financed contract; and
- (e) will have the right to require that a provision be included in Bidding Documents and in contracts financed by a Bank loan, requiring Bidders, Suppliers, Contractors and Consultants to permit the Bank to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by the Bank.

34.2 Furthermore, Bidders shall be aware of the provision stated in sub-clause 24.1 of the General Conditions of Contract.

**SECTION III: GENERAL CONDITIONS OF CONTRACT**  
**TABLE OF CLAUSES**

Clause Number	Topic	Page Number
1.	Definitions	24
2.	Application	24
3.	Country of Origin	24
4.	Standards	25
5.	Use of Contract Documents and Information	25
6.	Patent Rights	25
7.	Performance Security	25
8.	Inspection and Tests	26
9.	Packing	26
10.	Delivery and Documents	26
11.	Insurance	26
12.	Transportation	26
13.	Incidental Services	27
14.	Spare Parts	27
15.	Warranty	27
16.	Payment	28
17.	Prices	28
18.	Change Orders	28
19.	Contract Amendments	28
20.	Assignment	29
21.	Subcontracts	29
22.	Delays in Supplier's Performance	29
23.	Liquidated Damages	29
24.	Termination for Default	29
25.	Force Majeure	30
26.	Termination for Insolvency	30
27.	Termination for Convenience	30
28.	Resolution of Disputes	30
29.	Limitation of Liability	31
30.	Governing Language	31
31.	Applicable Law	31
32.	Notices	31



33.	Taxes and Duties	31
34.	Fraud and Corruption	31

## **General Conditions of Contract**

### **1. Definitions**

1.1 In this Contract, the following terms shall be interpreted as indicated:

- (a) “The Contract” means the agreement entered into between the Purchaser and the Supplier, as recorded in the Contract Form signed by the parties, including all the attachments and appendices thereto and all documents incorporated by reference therein;
- (b) “The Contract Price” means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations;
- (c) “The Goods” means all the equipment, machinery, and/or other materials which the Supplier is required to supply to the Purchaser under the Contract;
- (d) “Services” means services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training and other obligations of the Supplier covered under the Contract;
- (e) “GCC” means the General Conditions of Contract contained in this section.
- (f) “SCC” means the Special Conditions of Contract.
- (g) “The Purchaser” means the organization purchasing the Goods, as named in SCC.
- (h) “The Purchaser’s country” is the country named in SCC.
- (i) “The Supplier” means the individual or firm supplying the Goods and Services under this Contract.
- (k) “The Project Site”, where applicable, means the place or places named in SCC.
- (l) “Day” means calendar day.

### **2. Application**

2.1 These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.

### **3. Country of Origin**

3.1 All Goods and Services supplied under the Contract shall have their origin in the member countries and territories eligible under the rules of up gradation of existing polytechnic scheme as further elaborated in SCC.

3.2 For purposes of this Clause “origin” means the place where the Goods are mined, grown or produced, or from which the Services are supplied. Goods are produced when, through manufacturing, processing

or substantial and major assembling of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.

3.3 The origin of Goods and Services is distinct from the nationality of the Supplier.

#### **4. Standards**

4.1 The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin and such standards shall be the latest issued by the concerned institution.

#### **5. Use of Contract Documents and Information; Inspection & Audit by the Bank**

5.1 The Supplier shall not, without the Purchaser's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

5.2 The Supplier shall not, without the Purchaser's prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.

5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Purchaser and shall be returned (in all copies) to the Purchaser on completion of the Supplier's performance under the Contract if so required by the Purchaser.

#### **6. Patent Rights**

6.1 The Supplier shall indemnify the Purchaser against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of the Goods or any part thereof in India.

#### **7. Performance Security**

7.1 Within 21 days of receipt of the notification of contract award, the Supplier shall furnish performance security in the amount specified in SCC.

7.2 The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

7.3 The Performance Security shall be denominated in Indian Rupees and shall be in one of the following forms:

(a) A Bank guarantee or irrevocable Letter of Credit, issued by a nationalized/scheduled bank located in India or a bank located abroad acceptable to the Purchaser, in the form provided in the bidding documents or another form acceptable to the Purchaser; or

(b) A cashier's check, certified check, or demand draft.

7.4 The performance security will be discharged by the Purchaser and returned to the Supplier not later than 30 days following the date of completion of the Supplier's performance obligations, including any warranty obligations under the contract and upon the supplier submitting a bank guarantee for a value as specified in

Clause 11 of S.C.C. for annual maintenance service after the warranty period, three months prior to the expiry of the validity period of the performance guarantee.

7.5 Failure to submit the bank guarantee for annual maintenance service in the period specified above will constitute sufficient ground for forfeiture of the performance guarantee.

## **8. Inspections and Tests**

8.1 The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Purchaser. SCC and the Technical Specifications shall specify what inspections and tests the Purchaser requires and where they are to be conducted. The Purchaser shall notify the Supplier in writing in a timely manner of the identity of any representatives retained for these purposes.

8.2 The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery and/or at the Goods final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data – shall be furnished to the inspectors at no charge to the Purchaser.

8.3 Should any inspected or tested Goods fail to conform to the specifications, the Purchaser may reject the goods and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Purchaser.

8.4 The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival at Project Site shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Purchaser or its representative prior to the Goods shipment.

8.5 Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.

## **9. Packing**

9.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

9.2 The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract including additional requirements, if any, specified in SCC and in any subsequent instructions ordered by the Purchaser.

## **10. Delivery and Documents**

10.1 Delivery of the Goods shall be made by the Supplier in accordance with the terms specified by the Purchaser in the Notification of Award. The details of shipping and/or other documents to be furnished by the supplier are specified in SCC.

## **11. Insurance**

1.1 The Goods supplied under the Contract shall be fully insured in Indian Rupees against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in SCC.

## **12. Transportation**

12.1 Deleted.

12.2 Deleted.

12.3 Where the Supplier is required under the Contract to transport the Goods to a specified place of destination within India defined as Project site, transport to such place of destination in India including insurance, as shall be specified in the Contract , shall be arranged by the Supplier, and the related cost shall be included in the Contract Price.

12.4 Deleted

## **13. Incidental Services**

13.1 The supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:

- (a) performance or supervision of the on-site assembly and/or start-up of the supplied Goods;
- (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
- (c) furnishing of detailed operations and maintenance manual for each appropriate unit of supplied Goods;
- (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
- (e) training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance and/or repair of the supplied Goods.

13.2 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

## **14. Spare Parts**

14.1 As specified in the SCC, the Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

- (a) such spare parts as the Purchaser may elect to purchase from the Supplier, providing that this election shall not relieve the Supplier of any warranty obligations under the Contract; and
- (b) In the event of termination of production of the spare parts:
  - (i) advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and
  - (ii) following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested.

## **15. Warranty**

15.1 The Supplier warrants that the Goods supplied under this Contract are new, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect arising from design, materials or workmanship (except when the design and/or material is required by the Purchaser's Specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.

15.2 This warranty shall remain valid for **36 months** after the Goods or any portion thereof as the case may be, have been delivered, commissioned and accepted at the final destination indicated in the Contract, or for

**39 months** after the date of receipt of goods whichever period concludes earlier, unless specified otherwise in the SCC.

15.3 The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty.

15.4 Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without cost to the Purchaser other than, where applicable, the cost of inland delivery of the repaired or replaced Goods or parts from ex-works or ex-factory or ex-showroom to the final destination.

15.5 If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

## **16. Payment**

16.1 The method and conditions of payment to be made to the Supplier under this Contract shall be specified in the SCC.

16.2 The Supplier's request(s) for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and the Services performed, and by documents, submitted pursuant to GCC Clause 10, and upon fulfillment of other obligations stipulated in the contract.

16.3 Payments shall be made promptly by the Purchaser but in no case later than sixty (60) days after submission of the invoice or claim by the Supplier.

16.4 Payment shall be made in Indian Rupees.

## **17. Prices**

17.1 Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in SCC or in the Purchaser's request for bid validity extension, as the case may be.

## **18. Change Orders**

18.1 The Purchaser may at any time, by written order given to the Supplier pursuant to GCC Clause 31, make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) the method of shipping or packing;
- (c) the place of delivery; and/or
- (d) the Services to be provided by the Supplier.

18.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Purchaser's change order.

## **19. Contract Amendments**

- 19.1 Subject to GCC Clause 18, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

## **20. Assignment**

- 20.1 The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent.

## **21. Subcontracts**

- 21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in his original bid or later, shall not relieve the Supplier from any liability or obligation under the Contract.
- 21.2 Subcontracts must comply with the provisions of GCC Clause 3.

## **22. Delays in the Supplier's Performance**

- 22.1 Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser in the Schedule of Requirements.
- 22.2 If at any time during performance of the Contract, the Supplier or its sub-contractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may, at its discretion, extend the Supplier's time for performance with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of the Contract.
- 22.3 Except as provided under GCC Clause 25, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of liquidated damages.

## **23. Liquidated Damages**

- 23.1 Subject to GCC Clause 25, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the Percentage specified in SCC. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause 24.

## **24. Termination for Default**

- 24.1 The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part:
- (a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 22; or
  - (b) if the Supplier fails to perform any other obligation(s) under the Contract.
  - (c) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 34, in competing for or in executing the Contract
- 24.2 In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for

such similar Goods or Services. However, the Supplier shall continue the performance of the Contract to the extent not terminated.

## **25. Force Majeure**

- 25.1 Notwithstanding the provisions of GCC Clauses 22, 23, 24, the Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 25.2 For purposes of this Clause, “Force Majeure” means an event beyond the control of the Supplier and not involving the Supplier’s fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- 25.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

## **26. Termination for Insolvency**

- 26.1 The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Purchaser.

## **27. Termination for Convenience**

- 27.1 The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser’s convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- 27.2 The Goods that are complete and ready for shipment within 30 days after the Supplier’s receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
- (a) to have any portion completed and delivered at the Contract terms and prices; and/or
  - (b) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and for materials and parts previously procured by the Supplier.

## **28. Settlement of Disputes**

- 28.1 If any dispute or difference of any kind whatsoever shall arise between the Purchaser and the Supplier in connection with or arising out of the Contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation..
- 28.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.
- 28.2.1 Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.

- 28.2.2 Arbitration proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.



- 28.3 Notwithstanding any reference to arbitration herein,
- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
  - (b) the Purchaser shall pay the Supplier any monies due the Supplier.

## **29. Limitation of Liability**

- 29.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6,
- (a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser; and
  - (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

## **30. Governing Language**

- 30.1 The contract shall be written in English language. Subject to GCC Clause 30, English language version of the Contract shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

## **31. Applicable Law**

- 31.1 The Contract shall be interpreted in accordance with the laws of the Govt of India/State Govt.

## **32. Notices**

- 32.1 Any notice given by one party to the other pursuant to this Contract shall be sent to other party in writing or by cable, telex or facsimile and confirmed in writing to the other Party's address specified in SCC.
- 32.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

## **33. Taxes and Duties**

- 33.1 Deleted.
- 33.2 Suppliers shall be entirely responsible for all taxes, duties, license fees, octroi, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser.

## **34. Fraud and Corruption**

- 34.1 The Bank requires that Borrowers (including beneficiaries of Bank loans), as well as Bidders, Suppliers, Contractors, and Consultants under Bank-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy, the Bank:
- (a) defines, for the purposes of this provision, the terms set forth below as follows:

- (i) “corrupt practice” means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
  - (ii) “fraudulent practice” means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
  - (iii) “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of the borrower, designed to establish bid prices at artificial, non competitive levels; and
  - (iv) “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;
- (b) will cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of the loan engaged in corrupt, fraudulent, collusive or coercive practices during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to the Bank to remedy the situation;
  - (c) will sanction a firm or individual, including declaring them ineligible, either indefinitely or for a stated period of time, to be awarded a Bank-financed contract if it at any time determines that they have, directly or through an agent, engaged, in corrupt, fraudulent, collusive or coercive practices in competing for, or in executing, a Bank-financed contract;
  - (d) will have the right to require that Suppliers to permit the Bank to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by the Bank.

## Section IV

### Special Conditions of Contract

The clauses in this Section IV are intended to assist the Purchaser in providing contract-specific information in relation to corresponding clauses in the general Conditions of Contract.

The provisions of Section IV complement the General Conditions of Contract included in Section III, specifying contractual requirements linked to the special circumstances of the Purchaser, the Purchaser's country and the Computer Systems /Equipment being purchased. In preparing Section IV, supplementary information and amendments to provisions of Section III, as necessitated by the circumstances of the specific procurement, must be incorporated.

Instructions for completing the Special Conditions of Contract are provided in the notes in italics in the text for the relevant SCC. The provisions furnished are samples that are illustrative of the provisions that the Purchaser should draft specifically for each procurement. Care should be taken not to introduce contradictions between the SCC and the GCC, and proper correspondence between referenced requirements in the Technical Specifications and the Schedule of Requirements should be verified.

This SBD is written so that it constitutes a single contract encompassing the complete project life-cycle, including:

- (a) Installation and Acceptance of the Computer Systems/Equipment;
- (b) The Warranty period, following Acceptance and during which the Computer Systems/Equipment are in operation; and
- (c) The Maintenance Period, which includes annual maintenance cost components of the Contract

Maintenance Contracts must be finalized separately from this Contract. However, the requirements for the quotation of annual maintenance costs must be retained in the Technical Specifications, and in the evaluation of bids – to ensure that Bidders' capabilities and bid costs are evaluated over the entire project life-cycle.

**SECTION IV: SPECIAL CONDITIONS OF CONTRACT**  
**TABLE OF CLAUSES**

<b><u>Item No.</u></b>	<b><u>Topic</u></b>	<b><u>Page Number</u></b>
1.	Definitions (GCC Clause 1)	35
2.	Country of Origin (GCC Clause 3)	35
3.	Performance Security (GCC Clause 7)	35
4.	Inspection and Tests (GCC Clause 8)	35
5.	Packing (GCC Clause 9)	37
6.	Delivery and Documents (GCC Clause 10)	37
7.	Insurance (GCC Clause 11)	38
8.	Incidental Services (GCC Clause 13)	38
9.	Spare Parts (GCC Clause 14)	38
10.	Warranty (GCC Clause 15)	38
11.	Payment (GCC Clause 16)	39
12.	Prices (GCC Clause 17)	39
13.	Sub-contracts (GCC Clause 21)	39
14.	Liquidated Damages (GCC Clause 23)	40
15.	Settlement of Disputes (GCC Clause 28)	40
16.	Notices (GCC Clause 32)	40
17.	Right to use defective equipment	40
18.	Supplier Integrity	40
19.	Supplier's Obligations	41
20.	Patent Rights	41
21.	Site preparation and Installation	41
22.	Hardware Installation	41
23.	Hardware Maintenance	41
24.	Training	41
25.	Technical Documentation	42

## **Special Conditions of Contract**

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract. The corresponding clause number of the General Conditions is indicated in parentheses.

### **1. Definitions (GCC Clause 1)**

- (a) The Purchaser is: **Principal, Government Polytechnic,  
Kangra, District-Kangra,,**

**H.P. Pin 176001.**

- (b) The Supplier is .....

### **2. Country of Origin (GCC Clause 3)**

All countries and territories as indicated in Section XIII of the bidding documents, “Eligibility for the Provisions of Goods, Works, and Services in Bank-Financed Procurement”.

### **3. Performance Security (GCC Clause 7)**

- 3.1 Within 21 days after the Supplier’s receipt of Notification of Award, the Supplier shall furnish Performance Security to the Purchaser for an amount of 5% of the contract value excluding annual maintenance cost, valid upto 60 days after the date of completion of performance obligations including warranty obligations.

In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/replaced material shall be extended to a further period of 36 months and the Performance Bank Guarantee for proportionate value shall be extended 60 days over and above the extended warranty period.

- 3.2 Substitute Clause 7.3 (b) of the GCC by the following:

A cashier’s cheque or banker’s certified cheque or crossed demand draft or pay order drawn in favour of the Purchaser.

- 3.3 Substitute Clause 7.4 of the GCC of the following:

The Performance Security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier’s performance obligations, including the warranty obligation, under the contract and following receipt of a performance guarantee for 5% of the contract value excluding annual maintenance costs towards guarantee for the annual maintenance as stated in Clause 10 of SCC.

- 3.4 Add as Clause 7.6 to the GCC the following:

In the event of any contract amendment, the Supplier shall, within 21 days of receipt of such amendment, furnish the amendment to the Performance Security, rendering the same valid for the duration of the Contract, as amended for 60 days after the completion of performance obligations including warranty obligations.

### **4. Inspection and Tests (GCC Clause 8)**

- GCC 8.1 Inspection and tests prior to shipment of Goods and at final acceptance are as follows:

- 1) The inspection of the Goods shall be carried out to check whether the Goods are in conformity with the technical specifications attached to the contract and shall be in line with the inspection/test procedures laid down in the Technical Specifications and the General Conditions of contract. Following broad test procedure will generally be followed for inspection and testing of machine. The supplier will dispatch the goods to the ultimate consignee after internal inspection testing along with the supplier's inspection report and manufacturer's warranty certificate. The purchaser will test the equipment after completion of the installation and commissioning at the site of the installation. For site preparation, as stated in Clause 21 of S.C.C. the supplier should furnish all details to the purchaser sufficiently in advance so as to get the works completed before receipt of the equipment. Complete hardware and software as specified in Section V should be supplied, installed and commissioned properly by the supplier prior to commencement of performance tests.
- 2) The acceptance test will be conducted by the purchaser or any other person nominated by the purchaser, at its option. The acceptance will involve trouble-free operation. There shall not be any additional charges for carrying out acceptance tests.
- 3) In the event of the hardware and software failing to pass the acceptance test, a period not exceeding two weeks will be given to rectify the defects and clear the acceptance test, failing which the purchaser reserves the rights to get the equipment replaced by the supplier at no extra cost to the purchaser.

**Add the following new GCC Clauses:**

**GCC 8.6 Manuals and Drawings**

- 8.6.1 Before the goods and equipment are taken over by the Purchaser, the Supplier shall supply operation and maintenance manuals together with drawings of the goods and equipment. These shall be in such detail as will enable the Purchaser to operate, maintain, adjust and repair all parts of the equipment as stated in the specifications.
- 8.6.2 The manuals and drawings shall be in the ruling language (English) and in such form and numbers as stated in the contract.
- 8.6.3 Unless and otherwise agreed, the goods and equipment shall not be considered to be completed for the purpose of taking over until such manuals and drawings have been supplied to the Purchaser.

## **GCC 8.7 For the System & Other Software the following will apply :**

The Supplier shall provide complete and legal documentation of hardware, all sub-systems, operating systems, compiler, system software and the other software. The Supplier shall also provide licensed software for all software products, whether developed by it or acquired from others. The supplier shall also indemnify the purchaser against any levies/penalties on account of any default in this regard.

## **GCC 8.8 Acceptance Certificates :**

- 8.8.1 On successful completion of acceptability test, receipt of deliverables etc., and after the purchaser is satisfied with the working of the system, the acceptance certificate signed by the supplier and the representative of the purchaser will be issued. The date on which such certificate is signed shall be deemed to be the date of successful commissioning of the systems.
- 8.8.2 The training as per clause 24 of Special Conditions of Contract shall be conducted on the dates mutually agreed upon and within two months from the date of acceptance of supply.

## **9 Packing (GCC Clause 9)**

Add as Clause 9.3 of the GCC the following:

Packing Instructions : The Supplier will be required to make separate packages for each Consignee. Each package will be marked on three sides with proper paint/indelible ink, the following:

i) Project ii) Contract No. iii) Country of Origin of Goods iv) Supplier's Name, and v) Packing list reference number.

## **6. Delivery and Documents (GCC Clause 10)**

Upon delivery of the Goods, the supplier shall notify the purchaser and the insurance company by cable/telex/fax the full details of the shipment including contract number, railway receipt number and date, description of goods, quantity, name of the consignee etc. The supplier shall mail the following documents to the purchaser with a copy to the insurance company:

- (i) **3 copies** of the Supplier invoice showing Goods description, quantity, unit price, total amount;
- (ii) Railway receipt/acknowledgment of receipt of goods from the consignee(s);
- (iii) **3 copies** of packing list identifying the contents of each package.
- (iv) Insurance Certificate ;
- (v) Manufacturer's/Supplier's warranty certificate;
- (vi) Inspection Certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and
- (vii) Certificate of Origin.

The above documents shall be received by the Purchaser before arrival of the Goods (except where the Goods have been delivered directly to the Consignee with all documents) and, if not received, the Supplier will be responsible for any consequent expenses.

7. **Insurance (GCC Clause 11)**

For delivery of goods at site, the insurance shall be obtained by the Supplier in an amount equal to 110% of the value of the goods from “warehouse to warehouse (final destinations)” on “All Risks” basis including War Risks and Strikes.

8. **Incidental Services(GCC Clause 13)**

8.1 The following services shall be furnished and the cost shall be included in the contract price:

- a. Performance of the on-site assembly, commissioning and start-up of the equipment.
- b. Furnishing the detailed operation and maintenance manuals for each items of supply at each location.
- c. Training of the Purchaser’s personnel at the Supplier’s office or other facility, in the installation and operation of the computer hardware, utilities and all contracted software, as specified in the Clause 24 of S.C.C.
- d. Maintenance and repair of the equipment at each location during the warranty period including supply of all spares. This shall not relieve the supplier of any warranty obligations under this contract.
- e. Deleted.
- f. Deleted.

9. **Spare Parts (GCC Clause 14)**

GCC 14.1 Supplier shall carry sufficient inventories to assure ex-stock supply of consumables and spares. Suppliers in India. Supplier shall ensure the availability of after sales service for a period of at least six years including the warranty period.

10. **Warranty(GCC Clause 15)**

10.1 GCC 15.2 In partial modification of the provisions, the warranty period shall be 36 months from the date of acceptance of the Goods or 39 months from the date of shipment, whichever occurs earlier. The supplier shall, in addition, comply with the performance guarantees specified under the Contract. If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall, make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests in accordance with SCC4.

Substitute Clause 15.4 of the GCC by the following:

“Upon receipt of such notice, the Supplier, within the period specified in SCC, repair or replace the defective goods or parts thereof, free of cost at the ultimate destination. The Supplier shall take over the replaced parts/goods at the time of their replacement. No claim whatsoever shall lie on the Purchaser for the replaced parts/goods thereafter.

In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/replaced material shall be extended to a further period of 36 months.”



- 10.2 The period for correction of defects in the warranty period specified in 15.4 and 15.5 of GCC is 2 weeks from the date and time of intimation to quarter concerned. However, reporting has to be with in one week.
- 10.3 Deleted.
- 10.4 Deleted .
- 10.5 Maintenance service
- 1) Free maintenance services shall be provided by the Supplier during the period of warranty. After warranty period, for next three years, annual maintenance and repairs of the entire system including supply of spares etc. will be done by the Supplier. The annual maintenance and repair cost (after warranty period) shall be paid in equal quarterly installments at the end of each quarter from the date of completion of the warranty subject to satisfactory services rendered as specified in the bid document and the resultant contract as per the rates quoted in the price schedule.
  - 2) The maximum response time for maintenance complaint from any of the destinations specified in the Schedule of Requirements (i.e. time required for supplier's maintenance engineer to report at the installation after a request call/telegram is made or letter is written) shall not exceed 24 hours.
  - 3) It is expected that the average downtime of the item (system) will be less than half the maximum downtime (i.e. defined as number of days for which an item of equipment is not usable because of inability of the supplier to repair it) as mentioned in the form of technical details. In case an item is not usable beyond the stipulated maximum downtime the supplier will be required to arrange for an immediate replacement of the same till it is repaired. Failure to arrange for the immediate repair/replacement will be liable for a penalty of Rs. 100 per day per item. The amount of penalty will be recovered from the Performance Security guarantee during warranty period. During annual maintenance contract period, the penalty of Rs. 100 per item per day will be recovered from the amount of annual maintenance charges.
  - 4) The Purchaser reserves the right to terminate maintenance and repairs contract, after warranty period, at any time without assigning any reasons and the Supplier cannot claim any compensation in this respect.

## **11.Payment (GCC Clause 16)**

Payment for Goods and Services shall be made in Indian Rupees as follows:

100% payments will be made within a month after satisfactory testing of Machinery and Equipments and training (if required) by the supplier and the authenticated by the concerned officer Incharge /committee of the Institute.

## **12. Prices (GCC Clause 17)**

Substitute Clause 17.1 of the GCC with the following:

- 12.1 Prices payable to the Supplier as stated in the Contract shall be fixed during the performance of the contract.

## **13. Sub-contracts (GCC Clause 21)**

Add at the end of GCC sub-clause 21.1 the following

Sub-contract shall be only for bought-out items and sub-assemblies

14. **Liquidated Damages (GCC Clause 23)**

14.1 For delays :

GCC Clause 23.1 -- The applicable rate is 0.5% per week and the maximum deduction is 10% of the contract price.

15. **Settlement of Disputes (Clause 28)**

The dispute settlement mechanism to be applied pursuant to GCC Clause 28.2.2 shall be as follows:

- (a) All dispute shall be jurisdiction of Ld court at **Kangra, District-Kangra, H.P.** or as per convenience of purchaser and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.
- (b) The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral court. However, the expenses incurred by each party in connection with the preparation, presentation etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.

16. **Notices (Clause 32)**

For the purpose of all notices, the following shall be the address of the Purchaser and Supplier.

Purchaser: **Principal, Government Polytechnic,  
Kangra, District-Kangra, H.P.  
Pin -176001.**

Supplier: (To be filled in at the time of Contract signature)

.....  
.....  
.....  
.....

17. **Right to use defective equipment:**

If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the equipment proves to be unsatisfactory, the Purchase shall have the right to continue to operate or use such equipment until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation.

18. **Supplier Integrity:**

The supplier is responsible for and obliged to conduct all contracted activities in accordance with the Contract using state-of-the-art methods and economic principles and exercising all means available to achieve the performance specified in the Contract.

## 19. **Supplier's Obligations:**

The Supplier is obliged to work closely with the Purchaser's staff, act within its own authority and abide by directives issued by the Purchaser and implementation activities.

The Supplier will abide by the job safety measures prevalent in India and will free the Purchaser from all demands or responsibilities arising from accidents or loss of life the cause of which is the Supplier's negligence. The Supplier will pay all indemnities arising from such incidents and will not hold the Purchaser responsible or obligated.

The Supplier is responsible for managing the activities of its personnel or sub-contracted personnel and will hold itself responsible for any misdemeanors.

The Supplier will treat as confidential all data and information about the Purchaser, obtained in the execution of his responsibilities, in strict confidence and will not reveal such information to any other party without the prior written approval of the Purchaser.

## 20. **Patent Rights:**

In the event of any claim asserted by a third party of infringement of copyright, patent, trademark or industrial design rights arising from the use of the Goods or any part thereof in the Purchaser's country, the supplier shall act expeditiously to extinguish such claim. If the supplier fails to comply and the Purchaser is required to pay compensation to a third party resulting from such infringement, the supplier shall be responsible for the compensation including all expenses, court costs and lawyer fees. The Purchaser will give notice to the supplier of such claim, if it is made, without delay.

## 21. **Site Preparation and Installation:**

The Purchaser is solely responsible for the construction of the hardware sites in compliance with the technical and environmental specifications defined by the Supplier. The Purchaser will designate the installation sites before the scheduled installation date to allow the Supplier to perform a site inspection to verify the appropriateness of the sites before the installation of the hardware.

## 22. **Hardware Installation:**

The Supplier is responsible for all unpacking, assemblies, wiring, installations, cabling between hardware units and connecting to power supplies. The Supplier will test all hardware operations and accomplish all adjustments necessary for successful and continuous operation of the hardware at all installation sites.

## 23. **Hardware Maintenance:**

The Supplier will accomplish preventive and breakdown maintenance activities to ensure that all hardware execute without defect or interruption for at least 99% uptime for 24 hours a day, 7 days a week of operation of the machine worked on a quarterly basis.

If any critical component of the entire configuration is out of service for more than one days, the Supplier shall either immediately replace the defective unit or repair it within 48 Hours at his own cost.

The Supplier will respond to a site visit and commence repair work on the equipment within 24 hours of being notified of equipment malfunction.

## 24. **Training:**

For each hardware and software component installed, the Supplier is required to train the designated Purchaser's technical and end-user personnel to enable them to effectively operate the total system. The training schedule will be agreed to by both parties during the performance of the

Contract. The training is to be provided free of cost after successful installation and commissioning of the Machinery & Equipments.

25. **Technical Documentation:**

The Technical Documentation involving detailed instruction for operation and maintenance of Machinery & Equipments must be supplied. The language of the documentation should be English. A complete schematic diagram of the installation should also be provided.

## **SECTION V: SCHEDULE OF REQUIREMENTS**

(To be inserted in the Bidding Documents by the Purchaser, as applicable. The Schedule should cover, at a minimum, the required items, quantities, services, delivery period(s) and bid security.)

1. All bids must be accompanied with an earnest money(**bid security @ 2% of the cost of the equipment inclusive of VAT**) in the shape of Accounts Payees Bank Draft or duly pledged Fixed Deposit Receipts in the favour of **Principal, Govt. Polytechnic, Kangra ,Distt. Kangra,,H.P.**
2. The tenders not accompanied by Earnest Money or incomplete in any respect will be rejected out rightly
3. Performance security **@ 5%** of the value of the contract of successful contractor/supplier has to be furnished on the award of the contract in the form of an Account Payees Demand Draft or duly pledged Fixed Deposit Receipts drawn in favor of **Principal, Govt. Polytechnic Kangra, Distt-Kangra, H.P.-176001.**
4. Performance security shall remain valid for a period of **One year from** the date of completion of contract including warranty/guarantee period.
5. The Quantities of machinery & equipments is tentative and may vary at the time of supply order.
6. The Successful bidder has to supply the goods within the prescribed period as per the Supply Order.

(To be inserted in the Bidding Documents by the Purchaser, as applicable. The Schedule should cover, at a minimum, the required items, quantities, services, delivery period(s) and bid security.)

## SECTION VI: TECHNICAL SPECIFICATIONS

### Schedule-A

**Name of Department: Electronics and Communication Engg.**

S. No	Name of Store/Equipment with Specification	Approx. Quantity	Remarks
1.	<b>FET Amplifier Characteristics trainer board:</b> Trainer board to study the characteristics of FET and to evaluate : i) AC drain resistance, ii) Trans-conductance and iii) Amplification factor Trainer board should be of high quality material fixed either on wooden or plastic cabinet and should contain: i) Field Effect Transistor ii) In built appropriate DC power supplies. iii) Digital voltmeter, 200mV to 200V iv) Digital current meter, 2ma to 500mA Set of patch cords and operating manual are also to be provided.	04	
2.	<b>Telephone Trainer kit.</b> Telephone trainer kit should provide hands on experience on basic telephony concepts. It should have complete section wise circuit printed on the PCB, test points & LEDs for indication. It should contain: i) One DOT line connection port. ii) Speech path fully Non blocking. iii) Hand set with RJ 45 handset connector iv) Dialler with DTMF and pulse dialling tone & dialling indication v) Control: ringer volume control vi) Input power: from internal power supply vii) Test points are to be provided to observe various signals/voltages to understand the working of telephone. Operating manual is to be provided.	02	
3.	<b>PSK Modulation /Demodulation kit:</b> Trainer board to study phase shift keying modulation & demodulation techniques. It should have: i) Data Simulator : On board 8 bit variable NRZ-L pattern ii) Crystal Oscillator : 33 MHz iii) Data clock: 256 KHz iv) Data format: NRZ(L) v) On board carrier sine: 1MHz ( 0°), 1MHz (180°) vi) Carrier modulation: ASK,PSK,FSK v) Carrier demodulation: ASK,FSK,PSK vi) Intermediate signal: During demodulation vii) Test points: At every input and output stage. Sufficient number of patch cords and operating manual are to be provided.	02	

4.	<b>Fax Machine:</b> Trainer should consist of : <ul style="list-style-type: none"> <li>i) Completely self contained stand-alone unit.</li> <li>ii) Test points should be provided at various stages in the circuit to observe the voltages/waveforms.</li> <li>iii) Should be housed in cabinet with design layout on transparent acrylic sheet.</li> <li>iv) To be supported by a comprehensive instruction manual with theory &amp; operation details.</li> <li>v) It should have facility for immediate status, error report &amp; take copies of document.</li> <li>vi) Operating power : AC 230 V, 50 Hz</li> </ul>	02	
5.	<b>CORDLESS PHONE:</b> Consisting of: <ul style="list-style-type: none"> <li>i) Base station with one DOT line connection port &amp; mobile handset.</li> <li>ii) Wireless range: 100Meter</li> <li>iii) Standby Time: Minimum 250hrs</li> <li>iv) Base Unit Power Source: AC Adapter</li> <li>v) Talk time: 5 hrs</li> <li>vi) Speaker phone: Yes</li> </ul>	02	
6.	<b>HAMMING CODE TRAINER:</b> Trainer should have: <ul style="list-style-type: none"> <li>i) Having 5 bit (data) bits, 4 check bits and error bit adder (with error switches).</li> <li>ii) Transmission and receiver section &amp; interface.</li> <li>iii) Receiver section should have facility to demonstrate error detection and correction of error.</li> </ul>	02	
7.	<b>Three terminal voltage regulator trainer board:</b> Should have: <ul style="list-style-type: none"> <li>i) 78XX &amp; 79XX IC regulators.</li> <li>ii) Provision to study the effect of capacitors at the input &amp; output of the regulator.</li> <li>iii) Provision to measure the load regulation.</li> <li>iv) Board should have appropriate DC ammeter &amp; DC voltmeter to measure DC output current &amp; voltages.</li> <li>v) Unit should operate on 230V 50Hz power supply.</li> </ul>	05	
8.	<b>Network trainer for T and Pi sections:</b> It should consist of : <ul style="list-style-type: none"> <li>i) Symmetrical &amp; Asymmetrical T &amp; Pi section.</li> <li>ii) Should have facility to measure characteristics impedance of Symmetrical T &amp; Pi section along with on board test points.</li> <li>iii) Should have facility to measure Image</li> </ul>	05	

	<p>impedance of Asymmetrical T &amp; Pi section along with on board test points.</p> <p>iv) Adequate no. of path cords and instructional manual.</p>		
9.	<p><b>Filter experimental kit for Prototype &amp; M-derived filters:</b></p> <p>It should consist of :</p> <p>i) Different types of passive filters such as prototype low pass, high pass, band pass, M-derived low pass &amp; M-derived high pass filter.</p> <p>ii) Should have facility to measure impedance &amp; attenuation characteristics.</p> <p>iii) Adequate no. of patch cords &amp; instructional manual.</p>	05	
10.	<p><b>Transistor biasing trainer board:</b></p> <p>It should consist of:</p> <p>i) Fixed biased circuit</p> <p>ii) Collector to base bias circuit</p> <p>iii) Potential divider bias circuit</p> <p>iv) On board +12 V dc power supply &amp; 1 KHz Sine wave signal generator having to 0 to 3 Volts output.</p> <p>v) On board DC ammeter &amp; DC voltmeter of appropriate ranges for measuring <math>I_C</math> &amp; <math>V_{CE}</math>.</p> <p>vi) All these circuits should have provision to select the Q-point at different values.</p> <p>vii) Suitable number of patch cords &amp; instructional manual.</p>	04	
11.	<p><b>Spice Simulator:</b></p> <p>Spice based Electronic circuit simulator having Windows 7, 8, 10, compatibility with OS window 7, 8, 10 etc.</p>	01	



**SCHDEULE -B**  
**Computer Engg. Deptt.**

S. No	Name of Store/Equipment with Specification	Approx. Quantity	Remarks
1.	<b>SMPS Trainer:</b> Specification:-Power Supply 230 Watt AC 50 Hz, Regulation Range: 170 to 260 V AC, Output Voltage :+5V/10A, -5V/500mA, +12V/2A,-12V/500mA,TL 494 or latest PWM Regulator, Output Points 6 Pairs of leads, cooling fan along with compatible connector cable to connect to PC system should be provided, trainer should have test point facilities, operating manual covering list of experiments should be provided.	1 No.	
2.	<b>Keyboard Trainer :Specification:-</b> (Keys:104 Keys TBSE Gold, Key Type:Spring force type, Signal: Clock,Data, Keycode scanning & searching facilities, I/P cables 5 pin DIN,Accessories,trainer should have test point facilities along with debugging kit, operating manual covering list of experiments should be provided.)	1 No.	
3.	<b>Mouse Trainer:</b> Specification:- (Type :Logitech 3button scroll,fault swith:2 Nos. :I/P cable: 9 pin FRC,Signal :Data,Clock,Trainer should have test point facilities,operatingmanual list of experiments should be provided.	1 No.	
4.	Oracle 11g release 2 or higher licensed academic version 20 users with training latest compatible with window7, 8,10 or latest version	1 No.	
5.	Antivirus Total Security	10 No.	
6.	<b>Adobe Creative Master Suite</b> 6.0 or higher master collection. Academic version 20 user with training.	1 No.	
7.	<b>ICs Trainer i.e. Digital Logic Trainer (TTL) /Logic Trainer Board (Based on 74 Series with Built in Power Supply and 1 meter:</b> O/P DC Voltage: Fixed 5V and $\pm 15\text{ V} \pm 1\%$ O/P current; 1 Amp. Variable clock freq.: 1 Hz to 1 MHz Logic Input: 16 switches for High /Low Output Indicators: bright Red LEDs Seven Segment display: Common Anode type Red LED Voltmeter: 0-20 Volt Bread Board Set 1 & 2: Two, Half main & one full main strip. BCD input: 3 Seven Segment Display Decoder: 1 seven segment display Input Voltage: 230 V /50Hz AC Mains. IC's Provided: 7400, 7402, 7404, 7408, 7413, 7432, 7450, 7460, 7470, 7472, 7473, 7483, 7486, 7490, 7492, 7493, 7495, 74126, 74151, 74154 DAC0808, ADC0808. Trainer should provide all operating instruction manual giving detail of object, theory, design procedures etc.	05 No.	

8.	<b>8 Bit Digital Multiplexer:</b> With 8 inputs & one multiplexed output using IC 74151 Trainer. Operating manual & patch cord should be provided.	05 No.	
9.	<b>8 Bit 1:8 Line De-multiplexer using IC 74138 Trainer:</b> Study of 8 Bit 1:8 Line De-multiplexer using IC 74138, Trainer should provide all operating instruction manual giving detail of object, theory, design procedures etc. Operating manual & patch cord should be provided.	05 No.	
10.	<b>Trainer to study of RS, D &amp; J-K , T and Mater Slave J-K Flip Flop:</b> With built in power supply +5V D.C at 100 mA Power Supply Four, 2 input NAND gates, Four, 3 input NAND gates, One inverter (NOT gate), Four LED's with driver circuit to observe the o/p of flip-flop. A pulsar to provide the pulses for triggering. Input Voltage: 230 V /50Hz AC Mains. Fuse, Jewel Light, patch cords & adequate no. of other electronics Components. Trainer should provide all operating instruction manual giving detail of object, theory , design procedures etc.	05 No.	
11.	Study of various module counters trainer with power supply <ul style="list-style-type: none"> <li>• To construct and study fix modulo four bit binary ripple counter in count up and countdown modes .</li> <li>• Four stages ring counter.</li> <li>• Variable modulo counters</li> <li>• Trainer should provide all operating instruction manual giving detail of object.</li> </ul>	05 No.	
12.	<b>Binary Adder &amp;Subtractor Demonstrator Trainer with Built in Power Supply:</b> Five Stages of I. C flip flops Clock circuit generating negative clock pulses. Band switch for presetting a particular bit. Five toggle switches for isolating or combining the five flip flops Slide Switches for add/sub, resetting the flip flops to 00000. 5 LED indicators representing a 5 bit binary. Input Voltage: 230 V /50Hz AC Mains. Fuse, Jewel Light, patch cords & adequate no. of other electronics Components. Trainer should provide all operating instruction manual giving detail of object, theory , design procedures etc.	05 No.	
13.	<b>Study of OR, AND, NAND Gates (using NAND Gates to make OR, NOR, NOT, AND &amp; EX-OR Gates) Trainer with Built in Power Supply:</b> +5V D.C. at 100 mA Power Supply 4 Input NAND	05 No.	

	<p>Gates 2 input NAND and OR Gate. Switches for logic selection, LED for visual indication of status.</p> <p>Input Voltage: 230 V /50Hz AC Mains. Fuse, Jewel Light, patch cords &amp; electronics Components.</p> <p>Trainer should provide all operating instruction manual giving detail of object, theory, design procedures etc.</p>		
--	---	--	--

**SCHDEULE -C**  
**Mechanical Engg. Deptt.**

S. No	Name of Store/Equipment with Specification	Approx. Quantity	Remarks
1.	<b>Pneumatic Comparator:</b> Pressure Range: (-0.98 to 20) bar	1 No.	
2.	<b>Reed Type Mechanical Comparator</b>	1 No.	
3.	<b>Sine Table:</b> size-150L X 100W X 155H Accuracy-0.005mm Hardened and tempered to 58-60 RC	2 No.	
4.	<b>Sine Center:</b> 300 mm size	2 No.	
5.	<b>Vaccum Cleaner:</b> Power suply 230volts, 50HZ,Input power 1800 watts	2 No.	
6.	<b>Water Cooler:</b> Capacity:-40 Lts.Power Supply:-220V,Single phase &50Hz	1 No.	
7.	<b>Domestic Refrigerator :</b> 190 Lts.Power Supply:-220V,Single phase &50Hz,five star rating	1 No.	
8.	<b>Izod Impact testing Machine with Digital Control:</b>  Impact Method (Charpy& IZOD) Impact energy (Charpy):-7.5J, 15J, 25J, 50J Impact energy(IZOD):-5.5J, 11J, 22J Energy Accuracy (Charpy& IZOD) :-0.5 % Impact speed (mm/S)(Charpy):- 2.9; 3.8 Impact speed (mm/S)(IZOD):-3.5 Pendulum moment (Charpy):- Pd7.5 = 4.0192 Nm Pd15 = 8.0385 Nm Pd25 = 13.397 Nm Pd50 = 26.795 Nm Pendulum moment (IZOD):- Pd5.5 = 2.94744Nm Pd11 = 5.8949Nm Pd22 = 11.7898Nm Reading resolution (Charpy& IZOD) :-0.001J Raising angle (Charpy& IZOD) :-150° Impact center distance (mm) (Charpy):- 395 Impact center distance (mm) (IZOD):-335 Power supply 1 Phase, 220V, 50Hz/60Hz	1 No.	
9.	<b>Computerized metallurgical microscope with color printer</b> Magnification 30X TO 1500X with binocular head inclining at 45 degree.both side coaxial focusing knobs,quadruple	1 No.	

	<p>revolving nosepiece with accurate centering and positive click stop, large coaxial mech.Stage for X-Y movement of specimen ,bright field 6v-20W halogen lamp with field diaphragm ,filter slot and bulb centering mechanism with red green and blue filters.Objective:10X,45X,100X Eyepiece:5X,10X,15X(paired)with suitable digital camera attachment for taking photos of microstructure with dust cover and wooden box with lock and key</p>		
<b>10.</b>	<p><b>Optical Pyrometer</b></p> <p>Range (1200°C - 1900°C) Accuracy: <math>\pm 0.5\%</math> Range Repeatability: 3°C (All Ranges) Effective Wavelength: 0.655 <math>\mu\text{m}</math> Emissivity Setting Range: 0.01 -1.0 ( Increments 0.01 ) Display Output: LCD 3.5" x 0.75" Power Supply: Self Contained Ni-Cad Battery, 8 Hours Continuous Operation AC 220V, 50Hz</p>	2 No.	
<b>11.</b>	<b>Solex and Amal Carburettors</b>	2 Each	
<b>12.</b>	<p><b>Nozzle cleaning, testing and adjustment apparatus:</b></p> <p>Fuel Tank Capacity: 2000 ml Cylinder Capacity: 125 ml Rotational speed range:0~7500 r/min Injection times: 0~9900tims step 100ms PWM pulse width:0~20.0 ms step 0.1 ms System pressure: 0~0.6Mpa adjustable Timing: 0~20min adjustable Ultrasonic cleaning power:70W Ultrasonic cleaning Frequency:28 KHZ<math>\pm</math>0.5 KHZ</p>	1 No.	
<b>13.</b>	<p><b>Working model of MPFI system:</b></p> <p>Demonstration working model of MPFI system fitted with all types of sensors.</p>	1 No.	
<b>14.</b>	<p><b>Apparatus to verify Bernoulli's Theorem</b></p> <p>Test Section :- Material Acrylic, Size 01-1.5 Inch. dia Inlet Tank Capacity 20 Ltrs. Supply Tank Capacity 85 Ltrs. Measuring Tank :- Capacity 40 Ltrs. fitted with Piezometer Tube &amp; scale Piezometer Tubes :- Material P.U. Tubes (9 Nos.) Pump :- 0.5 HP Piping :- GI / PVC Stop Watch :- Electronic</p>	1 No.	



	Double Acting Cylinder (With Tie Rod)	
	Various Types of Pump (Gear Pump)	
	Centrifugal Pump	
	Francis Turbine	
	Kaplan Turbine	
	Bourdon tube Pressure Gauge	
	Hydraulic Brake system	
	Hydraulic Ram	
	<b>Refrigeration and air conditioning lab</b>	
	Vapour Compression Refrigeration	
	Psychrometric Charts	
	Domestic Refrigerator (Working Principle)	
	Hermetic Sealed Compressor	
	Thermostatic Expansion Valve	
	Charging Of Refrigeration System	
	<b>Constant Pressure Expansion Valve</b>	<b>01 each</b>
	Domestic refrigerator(Block Diagram)	
	Water Cooler( Block Diagram)	
	<b>METROLOGY AND INSTRUMENTATION</b>	
	Mechanical Comparator-I	
	Mechanical Optical Comparator	
	Electro-Mechanical Comparator	
	Pneumatic Comparators	
	Principle of Auto Collimator	
	Angle Dekkor	
	Uses of Sine Bar	
	Differential Comparator	
	Tomlinson Surface Meter	
	Thread Gauges	
	<b>MATERIAL SCIENCE/ SOM LAB</b>	
	IRON CARBON DIAGRAM	
	TTT CURVE DIAGRAM	
	MICROSCOPIC STRUCTURE OF MARTENSITE	

	INDUCTION HEAT TREATMENT FURNACE		
	Pit type Furnance		
	Annealing chart		
	Normalising Chart		
	Helical Spring(Open Coiled,Close Coiled)		
16.	<b>DOL Starter:</b> 3 Phase (Current range 1 to 2.5 Amp. OR 0.75 to 2.5 Amp)	1 No.	
17.	<b>3 Phase Motor :</b> 1H.P., 1440 RPM(6 terminal out)	1 No.	
18.	<b>1 Phase Motor:</b> Capacitor start 0.5 H.P., 1440 RPM	1 No.	
19.	<b>Battery 12 Volts :</b> 60 Amp.Hour(AH) with external cell conector bars	1 No.	
20.	<b>Rheostat :</b> 10 Amps.& 5 ohms.	2 No.	
21.	<b>Crucibles :</b> size 10 No.	2 No.	
22.	<b>Oil Fired Tilting Furnace with accessories:</b> capacity-10Kg(aluminium) ,fuel type-diesel,automatic closing adjustment and tilting facility along with standard accessories , crucible and with operation manual	1 No.	
23.	<b>Portable Arc Welding Set.:</b> Arc current-250A,current range-90-250A,electrode size-2.5 to 5 mm,rated input voltage-230V 50 Hz,air cooled with welding cables length 15 meter each,electrode holder with earthing clamp and operating manual.	1 No.	
24.	<b>Power Cutter (Cutting Wheel 12"):</b> rated power input-2000W,cutting capacity-85X180mm(rectangle),120X120mm(square),138X138mm(L profile),Grinding bore diameter-25.4mm,extra cutting disc set	1 No.	
25.	<b>Hand Drilling Machine:</b> Power Supply:-220V,Single phase &50Hz,12mm capacity,with drill bit set(1 to 12 mm in the step of 1 mm)	2 No.	
26.	<b>Hammer Action Hand Drilling Machine:</b> motor power-800 W,no load speed-0-900rpm,drilling dia-4-26mm(concrete)drilling dia steel-(13mm)	1 No.	
27.	<b>Buffing Machine with 3 Phase Motor:</b> minimum spindle dia-90mm, mop size2*200 mm dia,speed-2800 rpm,motor 415V/3 PHASE/50Hz	1 No.	



<b>28.</b>	<b>Charts for Diff. Mechanical Workshops.:</b> Weather resistant PVC, fitted with plastic rollers at top and bottom, size 100cm X 75cm. Carpentry, Welding, Smithy, Foundry, Machine, Turning Shop. <b>(As per list mentioned below)</b>	<b>60 No.</b>	
	<b>Welding Shop</b>	<b>01 each</b>	
	Weld Symbol		
	Fabrication, Welding Tools & Equipment		
	Spot Welding		
	Seam Welding		
	Types of Welding Torch	<b>01 each</b>	
	Types of Flame		
	MIG Welding		
	OXY-Acetylene Torch		
	Arc Welding Equipments		
	Welding Tools		
	Types of Welded Joints		
	Welding Process		
	Electrode		
	Weld Blow Pipe		
	Defects in Welding		
	Welding Techniques		
	Safety		
	<b>Foundry Shop/Carpentry Shop</b>		
	Hand Tools used for Smithy		
	Forging		
	Tin Smithy Tools & Equipment		
	Foundry Tools		
	Methods of Pipe & Tube Manufacture		
	Melting Points		
	Carpentry Joints		

	Carpentry Tools	
	Types of Gate	
	Types of Core	
	Cupola Furnace	
	Pit Furnace	
	Press tools	
	Casting defects	
	Pattern Making Tool	
	Blacksmithy's Tool	
	<b>Machine/Turning/Fitting</b>	<b>01 each</b>
	Dividing head	
	Milling cutters	
	Tool geometry	
	Quick return Mechanism of shaper	
	Milling machine and its parts	
	Milling operations	
	Hand Tools used for Fitting	
	Extrusion	
	Rolling	
	General Lathe	
	Lathe work holding devices and accessories	
	Operations performed by a Lathe	
	Drilling machine and its parts	
	Operation performed by a Drilling machine	
	Shaping machine and its parts	
	Shaping operations	
	Planing machine and its parts	
	Planing operations	
	Spinning	
	Mechanical press	

	Hydraulic press	
	Fitting Tools	
	Milling Arbor	
	Metric Tap and Drill Bit Size Table	
	Fastener type chart	
	G- Code chart (CNC)	
	Upmilling/Downmilling Operation	

**SCHDEULE -C**  
**Instrumentation Engg. Deptt.**

S. No	Name of Store/Equipment with Specification	Approx. Quantit y	Remark s
1.	<b>COMMUNICATION TRAINER(DIGITAL):</b>  2KHz-128 KHz having 5Vpp amplitude Clock, frequency varies between 1Hz to 30Hz. & amplitude varies from 0 to 2Vpp. On board variable 8 bit data generator. On board carrier sine wave of frequencies 500 KHz, 1 MHz (0 deg.) & 1MHz (180 deg) & amplitude 4Vpp. PCM generation technique. PRBS sequence generation. Error control coding technique using ODD parity, EVEN parity and HAMMING code. LED indication of A/D conversion, Parity coding, error coding & PRBS sequence. Real time operation using fast mode & observation of flow of data & control signal using LED's in slow mode. PCM generation technique. PRBS sequence generation. Error control coding technique using ODD parity, EVEN parity and HAMMING code. LED indication of A/D conversion, Parity coding, error coding & PRBS sequence. Real time operation using fast mode & observation of flow of data & control signal using LED's in slow mode.	1	
2.	<b>8086 MICROPROCESSOR TRAINER KIT WITH MODULES</b> 8086 CPU operating at 8MHz in Max. Mode, PROM 128 KB Using 27256(32K *4) Or using 27512.,RAM 128KB or 64KB,Peripherals should have 8079,8288,8284,8251,8259,8253,8255.Inbuild power supply +5V DC@1300mA,Should provide RS232 Cable, Driver Software(CD) for Windows, User manual and accessories. Modules for Interfacing 1)stepper motor 2) scanner 3) ADC / DAC 4) traffic light 5) temperature controller	5	
3.	<b>Embedded System Trainer:</b> Four 7-Segment LED Display , Experimental board for 40/28/18 pin PIC microcontroller family , In-System Programming (ISP) facility via PicFlash-ISP/PIC-ICD-II/ICD-2 , In-System debugging / programming via PIC-ICD-II/ICD-2 ,On-board RS232 Compatible Serial Interface 4x4 Matrix Keyboard ,Two 16x2 Alphanumeric	3	

	<p>LCD (4-bit interface)  I2C EEPROM (24Cxx) ,Real Time Clock (DS1307) with battery and SRAM ,All port-pins available on 10-pin box header ,User selectable pull-up/pull-down on all ports ,Thirty two LEDs on each port pin for easy logic state monitoring ,Eight High current output port (500mA) for external loads ,One 12V Relay &amp; Buzzer , RC-5 Infrared remote control receiver ,Eight 10-bit A/D converter, two 10-bit D/A converter by PIC16F877A/16F876A ,Temperature sensor with thermostat functions (DS1821) socket on board ,Twenty four Push Button interface – to port pins with Logic 0/1 selection</p> <p>IC's supported should include  PIC16F628 [A] – 18Pin  PIC16F877 [A] - 40 Pin  PIC16F876 [A] – 28Pin</p> <p>Installable Software on CD  Programmers Notepad Free, open source, text editor  PicFlash Software, PicFlash, ISP Programmer software  MPLAB, IDE ,Hi-Tech C Compiler, Limited Freeware Version  Sample programs for Peripherals Power Supply  Input : AC 100 to 240V  Output : DC 12V@ 500mA  Should Provide PIC Flash ISP Programmer, RC5 - IR Remote Handset, Serial connecting cable, Set of Jumpers, 4 X 4 Key Board, 16 X 2 LCD Module and accessories.</p>		
<b>4.</b>	<p><b>Operational Amplifier Trainer:</b> Inverting and Non-inverting Amplifier, Summing, Difference Amplifier, Integrator circuit, Differentiating circuit. Precision rectifier, half wave and full wave, voltage to current /current to voltage convertor, Op-amp characteristics, instrumentation Amplifier, Schmitt trigger, Comparator  Sign changer, offset null, peak detector, clipping circuits, clamping circuits, waveform generator. The trainer should have built in power supply facilities complete with banana tags and operational manual and accessories.</p>	4	
<b>5.</b>	<p><b>Strain gauge with measurement of Pressure using Bourdon tube:</b>  Piezoresistive transducers for pressure measurement(0-15psi) pressure  Sensor (0-15psi) gauge type-Pressure generating hand pump connected  Using T connector to the sensor and Bourdon Pressure gauge for measurement and calibration. Complete set up with operational manual And accessories.</p>	2	
<b>6.</b>	<p><b>Temperature Sensing Transducer Trainer:</b> measurement of temperature using thermistor, thermocouple along with instrumentation amplifier  To amplify Thermocouple signals.</p>	1	

	<p>Build in heat bar/ mini oven driven by power amplifier of sufficient wattage .Temp selection upto 95 degree celcius in five ranges with on/off closed loop control .it should have temp sensors: thermocouple -J with room temperature calibration pot.</p> <p>Thermocouple K with room temp calibration pot Thermistor (100k)</p> <p>PT 100,IC sensor(AD590),Bimetallic switch</p> <p>The trainer should have built in power supply facilities complete with banana tags and operational manual and accessories</p>		
<b>7.</b>	<p><b>Displacement sensing Transducer Trainer:</b> Measurement frequency</p> <p>Of 1 KHz sine wave @2Vpp,Zero span adjustment for calibration of following Transducers: resistive linear transducer 0-20mm,capacitive</p> <p>Linear transducer 0-20mm,capacitive angular transducer 0-90 degree</p> <p>,inductive linear transducer 0-20mm,LVDT Transducers 0-20mm or</p> <p>(-10mm to +10mm).</p> <p>The trainer should have built in power supply facilities complete with banana tags and operational manual and accessories.</p>	1	
<b>8.</b>	<p><b>Trainer for Determining Characteristics of photodiode/photocell/LDR/Photo transistor:</b> Incandescent lamp with variable intensity. It should have light sensors, photodiode with current to voltage converter, photo resistor /LDR with resistance to voltage converter using constant current source,photovoltaiccell,solarcell,opto coupler,laser diode ,infrared led,red led</p> <p>The trainer should have built in power supply facilities complete with banana tags and operational manual and accessories.</p>	1	
<b>9.</b>	<p><b>Semiconductor and power Semiconductor Devices Characteristic</b></p> <p><b>Experiments Trainer:</b> Dc power supply:+/- 12 volt,500mA,unregulated power supply 17volt,750 mA,regulated 13.5 volt/3A,output is provided as 12 volt battery, charging supply, isolated dc supply +12volt,300mA with isolated common, on board inverter Transformer of primary 230 volt and secondary 12- 0-12,3A,on board lamp load of 15 watt,(100watt) 230 volt ac,linevoltage,aux dc power supply, variable up to 200 v dc/0.5A,field on/off control with field failure relays and over current protection circuits,2 pulse transformers of 1:1:1 will be provided, selector switch of 2 pole ,6 way for selecting different types of firing pulses, load resistor of 10 ohm/40 watt, centre tapped3A choke 4mH/16mH,commutation capacitors of 10 microfarad/100 volt ac power capacitor of 4</p>	2	

	microfarad/440volt.the above trainer should be provided with 4mm sufficient banana patch chords and experiment module panel will covering the following characteristic inscribed on it ,housed in ABS plastic cabin ate with protection cover,builtin power supply, with a set of patch card ,operating manual should provide.		
<b>10.</b>	<b>Power Semiconductor Application Trainer::</b> Dc power supply: +/- 12 volt,500mA,unregulated power supply 17volt,750 mA,regulated 13.5 volt/3A,output is provided as 12 volt battery,charging supply, isolated dc supply +12volt,300mA with isolated common, on board inverter Transformer of primary 230 volt and secondary 12- 0- 12,3A,on board lamp load of 15 watt,(100watt) 230 volt ac,linevoltage,aux dc power supply, variable up to 200 v dc/0.5A,field on/off control with field failure relays and overcurrent protection circuits,2 pulse transformers of 1:1:1 will be provided,selector switch of 2 pole ,6 way for selecting different types of firing pulses, load resistor of 10 ohm/40 watt, centre tapped3A choke 4mH/16mH,commutation capacitors of 10 microfarad/100 volt ac power capacitor of 4 microfarad/440volt.the above trainer should be provided with 4mm sufficient banana patch chords and experiment module panel will covering the following applications 1)Triac lamp dimmer2)AC fan regulator3)SCR operated light sensitive switch using LDR4)SCR operated temperature sensitive switch using Thermistor5)UJT relaxation Oscillator6)half and full wave rectifier using SCR 7)timer using SCR and UJT 8)built in lamp load.	2	
<b>11.</b>	<b>Process Control HYDRAULIC TRAINER:</b> The Hydraulic Trainer Kit should be capable of being used to demonstrate the design, construction and application of Hydraulic components and circuits. The kit should be powder coated on mobile Trolley with wheels with Component storage box arrangement Design and function of a Hydraulic System Function of Valves Symbols & Basic Circuit Diagrams on practical applications All Hydraulic connections should be with quick connector, safety clamping and quick plug in locking system.The couplings should be leak proof, which is self-sealing when decoupled and when coupled, should ensure a tight hydraulic connection. During the coupling process only the face of the coupling should be coated with oil. Industrial components shall be used in the kit so that the students get hands on practical training in using Industrial components. Operating Pressure should be kept at 20 bar for safely of the student .Computer interface (Along with portable Computer having Pentium i3 processor,minimum 12' screen size,upto 4GB RAM,upto 500GB satta HDD) panel with serial and parallel port, voltage to current converter, current to voltage converter,±12V/500mA,±5V/300mA regulated Power	1	

	<p>supplies, Thyristor bridge 0-200V/3A, Signal conditioning for Direction Control element like DC valve lever operated Spring Return, AC 230V Solenoid Operated Spring Return, lever Operated Detente and output actuating devices: single/double cylinder within line</p> <p>Flow control valve, flexible hose for connections, main cord for 230Vac Solenoid with stackable connector. Power Generation : Tank 20-25 liters., Gear pump with ball valve, motor 230Vac, 1000-1200 rpm, 0.5/1HP, oil level indicator, 50-60 bar gauge with all necessary arrangements for oil Distribution and manual control, gauges. should Provide User guide, manuals and required accessories for the working and operations of the Trainer.</p>		
<b>12.</b>	<p><b>PROCESS CONTROL TRAINER:</b> Computer interface (Along with portable having Pentium i3 processor, minimum 12' screen size, upto 4GB RAM, upto 500GB satta HDD Computer) panel with serial and parallel port, voltage to current converter, current to voltage converter, <math>\pm 12\text{V}/500\text{mA}</math>, <math>\pm 5\text{V}/300\text{mA}</math> regulated Power supplies, Thyristor bridge 0-200V/3A, Signal conditioning for RTD, Pressure, Flow sensors, Should facilitate Closed loop control for temperature, Computer based (P4/XP) digital PID controller with online Monitoring/data acquisition/PID software, should work on simulator, Process monitoring, PID controller modes, Should Facilitate advance Process control Schemes like Ratio, Cascade, Feedforward, On/Off control, PID controller with Integral/Derivative/Proportional Parameter Operations, Should Facilitate at least Five Industrial Instrumentation Process control Operations. Provide The user manual and required accessories for the working and operations of the trainer.</p>	1	
<b>13.</b>	<p><b>PNEUMATIC TRAINER:</b> The Pneumatic Training Kit shall be capable of being used to demonstrate the design, construction and application of pneumatic components and circuits. Design and function of a pneumatic system consists of portable computer ( with latest configuration) Function and identification of pneumatic components and their symbols</p> <p>Various types of Direct and indirect controls</p> <p>Application and fault findings of pneumatic controls.</p> <p>Computer interface (Along with portable Computer having Pentium i3 processor, minimum 12' screen size, upto 4GB RAM, upto 500GB satta HDD) panel with serial and parallel port, voltage to current converter, current to voltage converter, <math>\pm 12\text{V}/500\text{mA}</math>, <math>\pm 5\text{V}/300\text{mA}</math> regulated Power supplies, Thyristor bridge 0-200V/3A, Signal conditioning for Flow, Pressure regulator Unit with Pressure Gauge (5-10 bar) with manual control for valves, Polyurethane tube for Pneumatic transfer, Air Compressor with Working Pressure (5-7 bar) with 230Vac, 50Hz, 0.5/1HP motor, 10 bar gauge and shutoff valve, control element like Directly</p>	1	



	Actuated valve, lever Actuated Valve, Spring return Valve, Pilot Valve, Hand level Valve, Exhaust valve should be mounted on the Trainer with Actuating Devices like Single /double acting Cylinders and Vacuum Suction Generator. Should Provide The user manual and required accessories for the working and operations of the trainer.		
<b>14.</b>	<b>DATA ACQUISITION TRAINER:</b> Data Acquisition and Control Trainer Should provides features like <ul style="list-style-type: none"> <li>▪ 4-20mA inputs - Digital Input</li> <li>▪ 4-20mA outputs - Digital Output</li> <li>▪ 0-5 Volt inputs - Relay card</li> <li>▪ <math>\pm 5V</math> inputs - Measurement of voltage, <math>\pm 10V</math> inputs - Current, Reactance, diode check &amp; continuity</li> </ul> Software should provide <ol style="list-style-type: none"> <li>Data Acquisition</li> <li>Data Measuring</li> <li>Data Display</li> <li>Data Analysis</li> </ol> The trainer should have built in power supply facilities complete with banana tags and operational manual and accessories.	2	
<b>15.</b>	<b>DATA ACQUISITION TRAINER:</b> Data Acquisition and Control Trainer Should provides features like <ul style="list-style-type: none"> <li>▪ 4-20mA inputs - Digital Input</li> <li>▪ 4-20mA outputs - Digital Output</li> <li>▪ 0-5 Volt inputs - Relay card</li> <li>▪ <math>\pm 5V</math> inputs - Measurement of voltage, <math>\pm 10V</math> inputs - Current, Reactance, diode check &amp; continuity</li> </ul> Software should provide <ol style="list-style-type: none"> <li>Data Acquisition</li> <li>Data Measuring</li> <li>Data Display</li> <li>Data Analysis</li> </ol> The trainer should have built in power supply facilities complete with banana tags and operational manual and accessories.	2	
<b>16.</b>	<b>Humidity meter:</b> Humidity measurement from 5.0% RH to 95.0% RH and fast time response, Data hold and max hold function, display LCD with status indication, Power supply 9V battery with auto power off facilities, Accessories K type Thermocouple, Humidity probe and operating manual should provide.	5	
<b>17.</b>	<b>Stroboscope</b> :portable, speed range 0 – 10000rpm with analog and digital indicator and operating manual and cables	5	
<b>18.</b>	<b>Flame photometer:</b> Should estimate minute quantity of Na,K,Ca,Li Accuracy $\pm 2\%$ FSD Display 2.5 digit LED Minimum sample Volume 3.5 ml Power 230 V $\pm 10\%$ 50 hertz, atomizer, air compressor, pressure gauges for air and pressure, Na & K filter ,gas and air tube ,accessories	2	

	&Instruction Manual to be provided		
<b>19.</b>	<b>Filter photometer:</b> Double beam optics, wavelength range 190-1100 nm, 2 nm spectral bandwidth, LCD Display, %T concentration & K factor measuring modes, power supply 230volt ac 50 hertz ,complete instruction manual and circuit diagram should be supplied with the instrument ,all connecting cables and connectors should be supplied along with the instrument, dual silicon photodiode detector and automatic filter	3	
<b>20.</b>	Analog three phase energy meter	1	
<b>21.</b>	Frequency meter Resonance	2	
<b>22.</b>	Flow meter target and turbine Model	2	
<b>23.</b>	Moisture meter dry and wet bulb	3	
<b>24.</b>	Open and close loop control experimental kit for the control of 1 <sup>st</sup> order & 2 <sup>nd</sup> order systems for temp.,flow& level along with various test inputs	4	
<b>25.</b>	<b>Optical power meter:</b> wavelength 800-1650nm Fc/SC/ST universal 2.5 mm adaptor, measurement range DBM -70 to +10,large LCD display with optical backlight and manuals	1	
<b>26.</b>	<b>Fiber optics Light Source:</b> emitter type FP-LD wavelength 850-1300 nm FC optical connector LCD display with backlight and manual	1	
<b>27.</b>	Dial indicator for Pressure( 0-30 Bar)	3	
<b>28.</b>	<b>Analytical balance</b> Manual AC adapter, RS232 cable capacity:120g, Readability:0.0001 gm , linearity:+- 0.0002gm chromium steel nickel weighting pan, 0.1 mg for precision reading switch units to g,kg,mg,ct,lb,ozetc with glass draft guard for precision weighting result ,LCD display with large numerals , 120g & 0.0001g precision , weighting sensor with suspension system ,240+-10% supply Adaptive weighting speed 3.5 inch diameter circular pan size.	1	
<b>29.</b>	<b>SPEED TRAINER:</b> Power supply 230Vac±10%, 50Hz, 12 VDC motor with speed varying from 0-4000rpm&rotating slotted wheel having8 slots, individual signal conditioning circuit with programmable threshold comparator to V converter with span &zero amplifier. Magnetic pickup, photo refractive, photo interruptive, inductive pickup with envelop detector, stroboscope, hall sensor, set of patch cords ±10%, 50Hz, operating manual should provide	1	
<b>30.</b>	<b>SAMPLING AND RECONSTRUCTION TRAINER:</b> 8MHZ crystal frequency, 2,5,8,10,20,40 KHz selectable sampling frequency,1KHz sine wave(5Vpp) on board generator, LPF(2 <sup>nd</sup> &4 <sup>th</sup> order Butterworth ) 40-50 test points, 2mm sockets for interconnections, 230v±10%,50Hz main supply ,audio inputs & outputs links to show the transmission and reception of real time signal (audio signal). Accessories, cable, Manual, Learning Material should provide.	1	

31.	<b>PAM TDM TRAINER:</b> 8 Mhz crystal Frequency, 4 input Analog Channels, TDM, PAM, 500 Hz, 1KHz,2 KHz and 4 KHz sine wave synchronized analog signal , 4 sampling signal 4KHz/ 8KHz /10KHz/ 20KHz per channel selectable, PLL clock Generation at receiver, 40-50 test points, 2 mm socket interconnections , 230V +-10%, 50Hz main supply, accessories & manual, learning material should provide.	1	
32.	<b>TDM PCM TRANSMITTER TRAINER:</b> 16 MHz crystal frequency , 2Khz, 4 KHz , on board analog signals, synchronized to sampling pulse adjustable amplitude 2 input channels , TDM/PCM, Pseudo random sync code generator sync signal,off-odd-even hamming error check code , 320 Khz / Channel Operating mode, PC-PC communication via RS 232 , 9 pin D type connector port, 300 to 2400 selectable baud rate, 40- 50 test points, 2 mm socket interconnections, 230v+-10% 50Hz mains supply, Accessories and manual should provide.	1	
33.	<b>PAM-PPM-PWM MODULATION AND DEMODULATION TRAINER :</b> PAM, PWM, PPM modulation techniques with 8 KHz, 16 KHz ,32KHz 64Khz,onboard generator(1 Khz& 2KHz with gain adjustment ), LPF, voice link using dynamic mic& speaker voice communication, adjustable gain control AC amplifier, 0-4V DC output, 8 No's Switched faults, 2mm banana sockets inter connections, 20-30 test points, 100-240V , 50Hz main Supply , Accessories manual ,set of patch cords,line cord, microphone,headphone should provide.	1	
34.	<b>DELTA/ SIGMA DELTA &amp; ADAPTIVE DELTA MODULATION/ DEMODULATION KIT :</b> On board sine waves of 250 Hz , 500Hz ,1 KHz & 2KHz , selectable sampling frequencies of 8KHz ,16KHz,32khz,64khz & 128KHz linear delta modulation & demodulation ,Sigma Delta Modulation & de modulation , 2 <sup>nd</sup> & 4 <sup>th</sup> order low pass Butterworth filters, interactive simulator to support the training kit should provide to perform various experiments with manual & accessories should provide.	1	
35.	<b>FREQUENCY MODULATION AND DEMODULATION TRAINER:</b> On board Audio oscillator modulation, detector, amplitude limiter and filter, adjustable amplitude or frequency(300hz-3.4KHz) audio oscillator, 02Nos FM modulator(reactance&varactor ),1no. Mixer amplifier, 450-500 KHz transmitter o/p frequency, PLL, ratio, quadrature FM demodulator, LPF(3.4 KHz cut off),05-10 no. switched faults, 2mm banana sockets, 230V±10%,50Hz, line cord, manual, set of patch cords should provide.	1	

36.	<b>AM TRAINER KIT:</b> On board Audio Oscillator of 100 Hz to 10 KHz frequency, VSO of 400 KHz to 1500 KHz Frequency, Balanced modulator for DSB/SSB AM generator, colpitt's oscillator of 1 MHz Audio Preamplifier, Output amplifier 600 KHz to 1650 KHz, Ceramic filter of 455 KHz, band Pass filter at 455 KHz with 10 KHZ bandwidth .On Board Antenna Should Provide, Manual, accessories should provide. It should also contain Superhetrodyne AM receiver with Automatic gain control of 400 Khz to 1500 KHz RF amplifier 600KHz to 1650 KHz , local oscillator from 500 KHz to 2.1 MHz Frequency , Beat Frequency Oscillator From 400 to 500 KHz , Mixer, envelope detector & product detector should provide , audio amplifier with gain 20 db , on board antenna, Accessories, Manual should provide.	1	
37.	Refrigerator of 200 lts.for the storage of samples to be analysed on Photometer & Flame Photometer	1	

## SECTION VI A

(Referred to in Clause 13.3 (b) of ITB Bid Data Sheet)

### QUALIFICATION REQUIREMENTS

1. (a) The bidder should be a manufacturer who must have manufactured, tested and supplied the equipment (s) similar to the type specified in the '**schedule of requirements**'. The equipments offered for supply must be of the most recent series models incorporating the latest improvements in design. The models of machines should have been released on or after January 2014 and be in satisfactory operation for one year as on date of bid opening. Further, bidder should be in continuous business of manufacturing products similar to that specified in the schedule of requirements during the last three years prior to bid opening.
- (b) Bids of bidders quoting as authorized representative of a manufacturer of items specified in the '**schedule of requirements**', meeting with the above requirement in full, can also be considered provided :
  - (i) the manufacturer furnishes authorization in the prescribed format assuring full guarantee and warranty obligations as per GCC and SCC; and
  - (ii) The bidder firm/ company must provide support services in **Himachal**.

- (iii) **The bidder should have supplied the similar items to the Recognized institutions for last 2 years ( Copies of purchase order to be attached as proof with the bid).**
  - (iv) **The bidder should have annual turn over of Rs 50.00 lakhs since last 2-3 years(Copies of balance sheets to be attached as proof with the bid).**
2. The bidder should furnish the information on all past supplies and satisfactory performance for both (a) and (b) above, in proforma under Section XI.
3. All bids submitted shall also include the following information along with formats under Section XV.
- (i) Copies of original documents defining the constitution or legal status, place of registration and principle place of business of the company or firm or partnership, etc.
  - (ii) The bidder should furnish a brief write-up, backed with adequate data, explaining his available capacity and experience (both technical and commercial) for the manufacture and supply of the required systems and equipment within the specified time of completion after meeting all their current commitments.
  - (iii) The bidder should clearly confirm that all the facilities exist in his factory for inspection and testing and these will be made available to the Purchaser or his representative for inspection.
  - (iv) Details of Service Centres and information on service support facilities that would be provided after the warranty period [in the Service Support Form given in Section XIV].
  - (vi) Reports on financial standing of the Bidder such as profit and loss statements, balance sheets and auditor's report for the past three years, bankers certificates, etc.

## **SECTION VII: BID FORM AND PRICE SCHEDULE**

### **SECTION VII: BID FORM**

TO:

**Principal,  
Government Polytechnic,  
Kangra, District-Kangra,  
Himachal Pradesh, 176001.**

Gentlemen :

Having examined the Bidding Documents including Addenda Nos..... *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver..... *(Description of Goods and Services)* in conformity with the said bidding documents for the sum of ..... *(Total bid amount in words and figures)* or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this bid.

We undertake, if our bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.

If our bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to ..... percent of the Contract Price for the due performance of the Contract, in the form prescribed by the Purchaser.

We agree to abide by this bid for the Bid validity period specified in Clause 16.1 of the Bid Data Sheet and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below :

Amount	Rupees	
Name and address of agent		Purpose of Commission or gratuity

(if none, state "none").

Until a formal contract is prepared and executed, this bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely "Prevention of Corruption Act 1988".

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

We understand that you are not bound to accept the lowest or any bid you may receive.

We clarify/confirm that we comply with the eligibility requirements as per ITB Clause 2 of the bidding documents.

Dated this ..... day of ..... 19 .....

\_\_\_\_\_  
(signature)

\_\_\_\_\_  
(in the capacity of)

Duly authorized to sign Bid for and on behalf of

**PRICE SCHEDULE (use different page for different schedule)**

**Name of Schedule (i.e A,B,C,D etc.)** \_\_\_\_\_

**Branches (i.e Eltx.&Comm.Engg. / Computer Engg./ Mechanical Engg./ Instrumentation Engg.)** \_\_\_\_\_

1.	2.	3.	4.	5.					6.	7.	8.
Sr. No. of item as per Schedule	Item Description	Country of Origin	Quantity & Unit	Price of Each Unit					Unit Price  (a+b+c+d+e)	Total Price  4x6	Sales and Other Taxes payable if contract is awarded
				Ex-factory, Ex- Warehouse, Ex-showroom off the shelf	Excise duty if any	Packing & Forwarding	Inland transportation insurance and other local cost incidental to delivery	Incidental Services as listed in Clause 8 of SCC except for annual maintenance charges which should e quoted separately			
				a.	b.	c.	d.	e.			

Note:-

- In case of discrepancy between unit price and total price the total price, the unit price shall prevail.
- Charges of annual maintenance for 3 years after expiry of warranty period should be quoted separately in annexed price schedule

Place:  
Date:

Total bid price in Rs. ....  
In words .....

Signature of Bidder .....  
Name .....  
Business address .....

**PRICE SCHEDULE FOR ANNUAL MAINTENANCE AND REPAIR COST**  
**AFTER WARRANTY PERIOD**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
Schedule No.	Item Description	Quantity	Annual Maintenance & Repair Cost for each unit per year  Rs./Year	Total Maintenance charges for 3 years in Rupees

Note: In case of discrepancy between unit price and total price, the unit price shall prevail.

Signature of the Bidder: \_\_\_\_\_

Name : \_\_\_\_\_

Business Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Place:

Date:



## **SECTION VIII: BID SECURITY FORM**

## **SECTION VIII: BID SECURITY FORM**

Whereas .....<sup>1</sup> (*hereinafter called "the Bidder"*) has submitted its bid dated ..... (*date of submission of bid*) for the supply of ..... (*name and/or description of the goods*) (hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that WE ..... (*name of bank*) of ..... (name of country), having our registered office at ..... (*address of bank*) (hereinafter called "the Bank"), are bound unto ..... (*name of Purchaser*) (hereinafter called "the Purchaser") in the sum of \_\_\_\_\_ for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this \_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_.

THE CONDITIONS of this obligation are:

1. If the Bidder
  - (a) withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
  - (b) does not accept the correction of errors in accordance with the ITB; or
2. If the Bidder, having been notified of the acceptance of its bid by the Purchaser during the period of bid validity:
  - (a) fails or refuses to execute the Contract Form if required; or
  - (b) fails or refuses to furnish the performance security, in accordance with the Instruction to Bidders;

we undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including forty five (45) days after the period of the bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

.....  
(Signature of the Bank)

---

<sup>1</sup> *Name of Bidder*

## **SECTION IX: CONTRACT FORM**

## **SECTION IX: CONTRACT FORM**

**THIS AGREEMENT** made the .....day of....., 20... Between .....(*Name of purchaser*)of .....(*Country of Purchaser*) (hereinafter called "the Purchaser") of the one part and ..... (*Name of Supplier*) of ..... (*City and Country of Supplier*) (hereinafter called "the Supplier") of the other part :

**WHEREAS** the Purchaser is desirous that certain Goods and ancillary services viz., .....(*Brief Description of Goods and Services*) and has accepted a bid by the Supplier for the supply of those goods and services in the sum of ..... (*Contract Price in Words and Figures*) (hereinafter called "the Contract Price").

### **NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:**

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
  - (a) the Bid Form and the Price Schedule submitted by the Bidder;
  - (b) the Schedule of Requirements;
  - (c) the Technical Specifications;
  - (d) the General Conditions of Contract;
  - (e) the Special Conditions of Contract; and
  - (f) the Purchaser's Notification of Award.
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the goods and services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

Brief particulars of the goods and services which shall be supplied/provided by the Supplier are as under:

SL. NO.	BRIEF DESCRIPTION OF GOODS & SERVICES	QUANTITY TO BE SUPPLIED	UNIT PRICE	Total PRICE	DELIVERY TERMS

**TOTAL VALUE:**

[Type text]

**DELIVERY SCHEDULE:**

**IN WITNESS** whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, Sealed and Delivered by the

said ..... (For the Purchaser)

in the presence of:.....

Signed, Sealed and Delivered by the

said ..... (For the Supplier)

in the presence of:.....

## **SECTION X/1. PERFORMANCE SECURITY FORM**

To: (Name of Purchaser)

**WHEREAS** ..... (Name of Supplier)  
hereinafter called "the Supplier" has undertaken , in pursuance of Contract (Notification of Award)  
No..... dated,..... 20... 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 recognized 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 and without cavil or argument, any sum or sums within the limit of  
..... (Amount of Guarantee) as 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 of.....20.....

Signature and Seal of Guarantors

.....

.....

.....

Date.....20....

Address:.....

.....

.....

## SECTION X/2

FORMAT FOR BANK GUARANTEE AGAINST ANNUAL MAINTENANCE SECURITY FORMS

(To be stamped in accordance with Stamp Act if any, of the Country of the Issuing Bank)

Bank Guarantee No.: ..... Date:.....

To..... (Name of the Purchaser)

Whereas ..... (Name of the Purchaser) hereinafter called "the Supplier" has undertaken, in pursuance of contract No..... dated..... 20... 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 recognized Bank for the sum specified therein as security for compliance with the Supplier's performance obligations under the contract for Annual Maintenance and Repairs of the entire system including cost of spares after warranty period for next five years.

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 Rs. .... (Amount of guarantee in words and figures) being 2.5% of the total cost of equipment and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the contract and without cavil or argument, any sum or sums within the limit of Rs. .... (Amount of guarantee) as 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 ..... day of ..... 20.....

Signature and Seal of Guarantors

.....

.....

Date: ..... 20.....

NOTE:

1. SUPPLIERS SHOULD ENSURE THAT SEAL AND CODE No. OF THE SIGNATORY IS PUT BY THE BANKERS, BEFORE SUBMISSION OF THE BANK GUARANTEES.

[Type text]

## **SECTION XI: PERFORMANCE STATEMENT**

[Type text]



**Section XI**

*Proforma for Performance Statement''(for a Period of last five years)*  
*Instruction to Bidders}*

*(Please See clause 13.3(b) (ii) of*

Bid. No..... Date of Opening ..... Time..... Hours

**Name of Firm : M/S.** .....

Order placed by (full address of Purchaser)	Order No. and date	Description and Quantity of ordered equipment	Value of Order	Date of Completion of Delivery		Remarks, indicating reasons for late delivery, if any	Has the equipment been satisfactory functioning? (Attached a certificate from Purchaser/Consignee)
				As per Contract	Actual		
1.	2.	3.	4.	5.	6.	7.	8.

Signature and seal of Bidder: .....  
.....

## SECTION XII

(Please see Clause 13.3(a) of Instructions to Bidders)

### MANUFACTURERS' AUTHORIZATION FORM

No. dated

To

Dear Sir:

IFB No.

We who are established and reputable manufacturers of *(name and descriptions of goods offered)* having factories at *(address of factory)* do hereby authorize M/s *(Name and address of Agent)* to submit a bid, and sign the contract with you for the goods manufactured by us against the above IFB.

We hereby extend our full guarantee and warranty as per Clause 15 of the General Conditions of Contract and Clause 10 of the Special Conditions of Contract for the goods and services offered for supply by the above firm against this IFB.

Yours faithfully,

(Name)

(Name of manufacturers)

Note: *This letter of authority should be on the letterhead of the manufacturer and should be signed by a person competent and having the power of attorney to legally bind the manufacturer. It should be included by the Bidder in its bid.*

*(The item or items for which this is required should be specified by Purchaser.)*

[Type text]

## **SECTION XV**

### **CAPABILITY STATEMENT (CS)**

1. Name & Address of the Bidder Phone:
2. Classifications
  - (1) Manufacturer
  - (2) Authorized Agent
  - (3) Dealer
  - (4) Others (please specify)
3. Plant:
  - (a) Location
  - (b) Description, Type & size of building
  - (c) Is property on lease or free hold? If on lease indicate date of expiry of lease in such case
4. Type of equipment manufactured and supplied during last 2 years.

Name of equipment	Capacity/ Size	Nos. manufactured	Nos. of orders on hand

5. Types of equipment supplied during last 2 years other than those covered under 4 above.

Name of equipment	Capacity size & model	Name of Manufacturers & country of origin	Total Nos. supplied in India	No. of orders on hand

6. Turnover for similar equipments sold in last two years.

7. Details of testing facilities available

- a) List testing equipment available
- b) Give details of tests which can be carried out on items offered.
- c) Details of the testing organization available

8. Personnel/Organization:

Give Organization chart for following indicating clearly the No. of employees at various levels.

[Type text]

0. Quality assurance
  1. Production
  2. Marketing
  3. Service
  4. Spare parts
  5. Administrative
9. Nearest service centres to each of the destination installations:
- Location \_\_\_\_\_
- Phone No. \_\_\_\_\_
- Year of Establishment \_\_\_\_\_
10. Details of Organization at Service Centre
- a) No. of skilled employees \_\_\_\_\_
  - b) No. of Unskilled employees \_\_\_\_\_
  - c) No. of Engineering employees \_\_\_\_\_
  - d) No. of Administrative employees \_\_\_\_\_
  - e) List of special repair/workshop facilities available \_\_\_\_\_
  - f) The storage space available for spare parts (sq.m.) \_\_\_\_\_
  - g) Value of minimum stock of spares available at all the service centres in respective currency \_\_\_\_\_
  - h) Value of the modes/types by number of equipment serviced by the centre in the last 2 years \_\_\_\_\_
11. Names of two buyers to whom similar equipment was supplied in the past and to whom reference may be made by the Purchaser regarding the bidder's technical and delivery ability.
- 1) \_\_\_\_\_
  - 2) \_\_\_\_\_

12. Technical Details (Clause 14 of ITB)  
*(This is a sample and needs to be changed appropriately for each bid)*

Signature of the Bidder \_\_\_\_\_

Business Address \_\_\_\_\_

[Type text]