

INVITATION FOR QUOTATION

TEQIP-III/2018/ucek/Shopping/4 15426-29

8
07-Feb-2019

To,

Sub: Invitation for Quotations for supply of Goods

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

Sr. No	Brief Description	Quantity	Delivery Period(In days)	Place of Delivery	Installation Requirement (if any)
1	10 MHz Synthesized Function Generator	10	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
2	16-QAM Transmitter & Receiver Training System	2	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
3	4-Channel TDM-PCM Transmitter & Receiver	2	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab.

4	AM / FM Function Pulse Generators	1	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
5	Antenna Training System	1	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab.
6	ASK, FSK, BPSK, DBPSK Modulator & Demodulator	2	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
7	C. R.O. 60 Mhz dual channel	1	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
8	Delta, Adaptive Delta, Sigma Delta Modulator & Demodulator	2	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
9	Digital Electronics Trainer	3	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
10	Digital Multimeter	2	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
11	DSB/SSB AM Receiver	3	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab

12	DSB/SSB AM Transmitter	3	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
13	DSP Starter Kits	2	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
14	ECG cum Heart rate Monitor	1	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
15	Electro-encephalograph	2	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
16	Electro-myograph	1	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
17	Electronics Lab trainer kits	2	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
18	Frequency Modulation /Demodulation	2	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
19	Microwave Test Bench	1	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab.

20	MSK Modulator/ Demodulator	2	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab
21	Optical Fibre Trainer	1	60	Electronics deptt. RTU kota	Yes at the place of end user, testing and installation in relevant lab
22	PAM, PPM, PWM and Line Coding Techniques	2	60	Electronics deptt. RTU KOTA	Yes at place of end user, testing and installation in relevant lab.
23	QPSK, OQPSK, DQPSK Modulator & Demodulator	2	60	Electronics deptt. RTU kota	Yes at the place of end user, testing and installation in relevant lab
24	Sampling & Reconstruction Trainer	2	60	Electronics deptt. RTU kota	Yes at the place of end user, testing and installation in relevant lab
25	Transmission Line Trainer	1	60	Electronics deptt. RTU kota	Yes at the place of end user, testing and installation in relevant lab
26	Understanding Line Coding Techniques	2	60	Electronics deptt. RTU kota	Yes at the place of end user, testing and installation in relevant lab

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement**

Programme[TEQIP]-Phase III Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.

3. Quotation,

3.1 The contract shall be for the full quantity as described above.

3.2 Corrections, if any, shall be made by crossing out, initialing, dating and re writing.

3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit price.

3.4 Applicable taxes shall be quoted separately for all items.

3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.

3.6 The Prices should be quoted in Indian Rupees only.

4. Each bidder shall submit only one quotation.

5. Quotation shall remain valid for a period not less than **55** days after the last date of quotation submission.

6. Evaluation of Quotations,

The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

6.1 are properly signed ; and

6.2 confirm to the terms and conditions, and specifications.

7. The Quotations would be evaluated for all items together.

8. Award of contract:

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

9. Payment shall be made in Indian Rupees as follows:

Delivery and Installation - 90% of total cost

Satisfactory Acceptance - 10% of total cost

10. All supplied items are under warranty of 12 months from the date of successful acceptance of items.

11. You are requested to provide your offer latest by 16:00 hours on 23-Feb-2019.

12. Detailed specifications of the items are at Annexure I.

13. Training Clause (if any) **Full hands-on training by company technical representative for Faculties and TA in presence of students.**

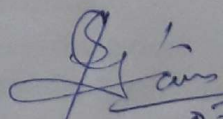
14. Testing/Installation Clause (if any) **Yes, have to be completed by the vendor.**

15. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.

16. Sealed quotation to be submitted/ delivered at the address mentioned below, *in instructions*

17. We look forward to receiving your quotation and thank you for your interest in this project.




07/02/19
(Authorized Signatory)
Dr. Faculty Affairs
Name of the Institution
Rajasthan Technical University
ROTA (M.) 240101A

Annexure I

Sr. No	Item Name	Specifications
1	10 MHz Synthesized Function Generator	<p>10 MHz Synthesized Function Generator DDS (Direct Digital Synthesis) Technique Operating Modes : Sine, Square, Triangle, Ramp, Pulse, Cardiac, Sinc, Noise, Exponential Rise, Exponential Fall, Blackman, Voice Negative Ramp, TTL, Sine Vertical, nate Attenuation, nate Amplification, Round PM, Absolute Sine</p> <p>Frequency range (Sine Wave) : 1mHz – 10MHz Frequency range (other waveforms) : 1mHz – 3MHz (Others) Frequency Resolution : 1mHz Frequency Display Accuracy : $\pm 0.2\%$ Sine wave Distortion : $<0.5\%$(20Hz-499Hz), $<0.3\%$(500Hz-20KHz) Rise/Fall Time : =20ns TFT Color LCD Display Jitter : 5nS (Square) & 10nS (Ramp & Pulse) Triangle Non-Linearity : =1% (typical) Pulse Duty Cycle : 5% -95% Digitally Controlled Output : 20Vpp O.C., 10Vpp into 50W Output Impedance : 50Ω Amplitude Readout : + 5% \pm 1 digit Attenuation : 20dB/40dB Fixed & 20dB Variable (60dB Max.) Level Flatness : 0.5dB (3MHz) DC Offset : $\pm 5V$ adjustment Internal Sweep : 1ms-100s Internal Modulation : FM, AM, PWM, BURST/ASK & FSK Modulation 16 Bit Pattern Generator output Frequency Counter : 50MHz (External) Sensitivity : 0.5Vrms Input Impedance : 1MΩ Max. Input Voltage : 200V (DC + AC Peak) Mains Supply : 230V AC $\pm 10\%$, 50Hz Power Consumption : 20VA (approximately) Included Accessories : BNC to BNC cable & Power cord - 1 no. (each)</p>
2	16-QAM Transmitter & Receiver Training System	<p>16-QAM Transmitter & Receiver Training System Technical Specification Encoding : 4 bits encoding with Symbol Mapper Modulation : 16-QAM Modulation with I & Q Channel Constellation (Vector / XY) View User able step variable clock frequency User able 8 / 16 / 32 / 64 bit Data Digitally Synthesized Sine & Cosine Wave of Maximum 19.2KHz. External Trigger Out On board Digitally Synthesized Sine and Cosine wave Generator with Variable Step Frequencies On board Clock Generator with Step Variable Frequencies (150Hz,300Hz, 600Hz, 1.2 KHz, 2.4 KHz, 4.8 KHz and 9.6 KHz and 19.2 KHz). On board Data generator with Step Variable data length (8, 16, 32,64bits) Encoding Technique (4 bits</p>

		<p>encoding with Symbol Mapper, Gray to Binary Encoder) Modulation Technique (16QAM Modulation with I & Q Channel) Numerical Control Oscillator (on board NCO for demodulator) Decoding Techniques (4 bits decoding with Symbol Demapper, Binary to Gray Decoder) Power Supply : 110-220 V $\pm 10\%$, 50 / 60 Hz Power Consumption : 2.5 VA approximately Operating Conditions : 0-40 C, 80% RH Simulation and Learning Software for Digital Communication.</p>
3	4-Channel TDM-PCM Transmitter & Receiver	<p>4-Channel TDM-PCM Transmitter & Receiver Technical Specification Modulator and Demodulator on same board On-board four DDS Signal Generator for standard and Arbitrary signals able Sampling frequencies On board four 2nd order Butterworth Low Pass filter SMD LED indicators Compact and Light Weight Can be issued just like a book for hands-on learning Modulation & Demodulation Techniques : Two channel TDM-PCM Four channel TDM-PCM Internal Signal Generator : Four dedicated Direct Digital Synthesizer Generators for each channel Types of Signal : Sine, Triangle, Arbitrary signal Frequency : 500Hz, 1KHz, 1.5KHz, 2KHz, 3KHz SMD LED Indicators : 54 nos for DDS signal ion DDS signal frequency ion Sampling ion Technique ion Interconnect path Crystal Frequency : 8MHz Sampling Frequencies : 8KHz, 16KHz, 32KHz TDM techniques based on : Bell lab system ion Mode : Push switches Number of Test Points :40 nos(Gold plated). Low Pass Filter : 4nos. Cut-off frequency-5KHz Power Supply : 110V - 260V AC, 50/60Hz Operating Conditions : 0-40 C, 85% RH Included accessory : 2mm Patch cord - 2nos Learning Software for Digital Communication. Experiment Performed Study and analysis of 2 channel & 4 channel Time Division Multiplexing Study and analysis of Sample & Hold output at different channel by varying the Sampling as well as Signal frequency. Study and analysis of Parallel to Serial conversion by varying the line speed clock at the different channel. Study and analysis of single bit PCM output at different line speed clock at the different channels. Study and analysis of single bit multiplexed PCM output at Modulator side. Study and analysis of single bit demultiplexed PCM output at Demodulator side. Study and analysis of Pulse Code Demodulation at the different channel. Study and analysis of Serial to Parallel</p>

		conversion at the Demodulator. Analyze the final demodulated output with Second order Low Pass Butterworth filter . • Simulation and Learning Software for Digital Communication.
4	AM / FM Function Pulse Generators	10 MHz AM / FM Function-Pulse Generators with 40MHz Frequency Counter • 1 Hz - 10 MHz (Sine) • Sine, Square, Triangle, Ramp, Pulse and TTL outputs • 20 Vpp output and DC Offset • 40 MHz Frequency Counter • Rise time & Fall time =50 ns • 20 × 4 character LCD • TTL output • 50 ? Output Impedance • Various types of modulations • 20 dB/ 40 dB (fixed) & 20 dB variable attenuation Frequency Range & Menu ion : Microcontroller based Sine Wave Distortion : 1 % (typical) Pulse Duty Cycle : 15 % to 85 % var. (min width 200 ns) External Modulation : AM Std, AM Bal, FM, PWM Modulation Freq. Range : DC to 20 KHz
5	Antenna Training System	Antenna Training System Technical specifications Self Contained Simple and Student Friendly platform Hands on set-up for measuring and plotting radiation Patterns of 20 different Antennas On board RF & Tone Generators Antenna Matching Stub Characteristics and SWR Measurement Transmitting and Receiving levels observed On Built- in Meters Functional Block indicated On-board Mimics Fully Documented Operating Manual and Polar Charts “Antenna kit” for fabricating Special Antenna Waveforms : Sine RF Generator : 750 MHz approximately (output adjustable) Tone Generator : 1 KHz approximately (output adjustable) Directional Coupler : Forward & Reverse (able) Matching Stub : Slider type Antenna Rotation : 0-360 deg. Resolution 1 deg. Receiving Antenna : Folded dipole with reflector Detector Display : Level adjustable meter Interconnections : 2 mm Banana sockets Power Supply : 230 V, ±10% 50/60 Hz Power Consumption : 3 VA approximately Operating Conditions : 0-40 C, 80% RH Experiment Performed Polar plots & polarization Wave modulation & demodulation Antenna gain, Antenna beam width study Element current, Front-back ratio study Antenna matching Antenna radiation with distance List of Antennas: • Transmitting Antennas • Dipole l/2 • Folded Dipole l/2 • Dipole l/4 • Yagi UDA Folded Dipole (3 E)

		<ul style="list-style-type: none"> • Yagi UDA Folded Dipole (5 E) • Yagi UDA Dipole (7 E) • Yagi UDA Dipole (5 E) • Horizontal End Fed Hertz Antenna • Horizontal End Fed Zeppelin Antenna • Ground Plane Antenna • Ground Plane with Reflector & Director • Slot Antenna 1/2 <li style="padding-left: 40px;">• Loop Antenna • Helix Antenna • 1/2 Phase Array <li style="padding-left: 80px;">• 1/4 Phase Array • Combined Collinear Array • Log Periodic Antenna • Rhombus Antenna • Cut Paraboloid Reflector Antenna • 3l/2 Dipole Antenna • Broadside Array
6	ASK, FSK, BPSK, DBPSK Modulator & Demodulator	<p>ASK, FSK, BPSK, DBPSK Modulator & Demodulator Training system for understanding the of ASK, FSK, BPSK, DBPSK Modulation & Demodulation. On board provision should be for internal data generation up to 64 bits with variable frequency . Specifications:</p> <ul style="list-style-type: none"> • Modulation & Demodulation Techniques: ASK, FSK, BPSK and DBPSK • Internal Data Generator : Digital Data • Data Pattern : 8-Bit , 16-Bit , 32-Bit , 64-Bit • Frequency : 2KHz, 4KHz, 8KHz, 16KHz • Internal Carrier Generator : Direct Digital Synthesized • Carrier Signal : Sine, Cosine • SMD LED Indicators : For Digital Data ion,Data frequency ion, Technique ion • Test Points: Should be gold plated for good ohmic contact &More than 40 nos. for waveform observation • Crystal Frequency : 8MHz • ion Mode : Push switches • Simulation and Learning Software for Digital Communication.
7	C. R.O. 60 Mhz dual chhanel	<p>C. R.O. 60 Mhz dual chhanel Operating Modes : CH I, CH II, CH I & II nate or chopped (0.5 MHz approximately) Addition or difference CH II \pmCH I (With invert switch for CH I) X-Y mode Both Channels :</p> <p>Bandwidth : DC - 60 MHz (-3 dB) Rise time : 6 ns approximately</p> <p>Deflection coefficients : Microcontroller based 12 calibrated steps 5 mV to 20 V/div., (1-2-5 sequence) with variable control to 50 V/div. Display on LCD. Accuracy : \pm3% (in Calibrated Position) Input Impedance : 1 MΩ 25 pF approximately Input : BNC connector Input coupling : DC-AC-GND Maximum Input voltage : 400 V (DC + Peak AC) Timebase Time coefficients : Microcontroller based 23 Calibrated steps, 0.05 is /div. to 1s /div. (1-2-5 sequence) with variable to 2.5 s/div. With magnifier X10 to 5 ns/div. Display on LCD Accuracy : \pm3% (in Calibrated Position) Sawtooth : 5 Vpp approximately Hold-Off : Variable Control for stable triggering</p>

		<p>Sweep Delay : Digitally controlled Modes : Normal, Search, Delay Ranges : 0.1 μs - 100 ns with Variable 10:1 to 1s, LED indication for ranges Trigger System : Auto or Level LED indication for stable triggering. Trigger Bandwidth : 80 MHz Source : CH I, CH II, nate, External Slope : Positive or Negative Coupling : AC, DC, HF, Line Sensitivity : 0.5 Div Horizontal Deflection (X) Input via CHII Bandwidth : DC -3 MHz (-3 dB) Input : via CH 2 (see Y Deflection Spec) Input coupling : DC-AC-GND Maximum Input voltage : 400 V (DC + Peak AC) X-Y phase shift : < 3° upto 100 KHz Component Tester (Built - in single touch) Test Voltage : Maximum 8.6 Vrms (Open circuited) Test Current : Maximum 8 mArms (Short circuited) Test Frequency : 50 Hz, Test circuit grounded to chassis. Continuity Tester : With beeper General Information Cathode Ray Tube : 140 mm rectangular tube with internal graticule Accelerating potential : 12 KV approximately Display : 8×10 cm Trace rotation : Adjustable on front panel Calibrator : Square Wave Generator 1 KHz approximately 0.2 Vpp for Prob compensation Z Modulation : Positive TTL level Stabilized Power Supply : All operating voltages including EHT</p>
8	<p>Delta, Adaptive Delta, Sigma Delta Modulator & Demodulator</p>	<p>Delta, Adaptive Delta, Sigma Delta Modulator & Demodulator Training system for understanding the of Delta , Adaptive Delta & Sigma Delta Modulation & Demodulation. On board provision should be for generation of DDS signal generation (Sine, Square, Triangle & Arbitrary) with variable frequency along with variable sampling frequency. Also this training system should be of study for effect of channel (channel as a attenuator, as a low pass, as a noise) between transmitter and receiver and analyze its effects</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Modulation Technique : Delta Modulation and Demodulation. Adaptive Delta Modulation and Demodulation • Delta Sigma First Order Modulation and Demodulation • Delta Sigma Second Order Modulation and Demodulation • Crystal Frequency: 8MHz • DDS Signal Generator: Sine, Square, Triangle, arbitrary signal . • Input Signal Frequency: 500Hz, 1KHz, 1.5KHz, 2KHz, 3KHz • Sampling Frequency: 16KHz, 32KHz, 64KHz, 128KHz , 256KHz • Noise Gain: Variable • Integrator(step size):1,3,5 • Low Pass Filter: Cut-off frequency

		<p>5KHz • Test Points: Should be gold plated for good ohmic contact & More than 40 nos. for waveform observation • Channel Effect : Channel as a low-pass Channel as a attenuator Channel as a noise • Simulation and Learning Software for Digital Communication.</p>
9	Digital Electronics Trainer	<p>Technical Specification • Self contained & easy to operate • Functional blocks indicated on board mimic • Solderless breadboard • On board DC Power Supplies • On board Pulse Generator with TTL/CMOS mode • Pulser switches and 16 bit Data switches • Bicolor 16 bit LED display • BCD to Seven segment display and Logic probe • CMOS/TTL output • Simulation Software Should help for understanding of Basic Electronics like Operation of Flip Flop, Logic Gate etc. , It also help to understand adder , subtractor , multiplexer and demultiplexer circuit. • Size of Breadboard : 172.5 mm x 128.5 mm • Tie Points on Breadboard : 1685 nos (solderless) • DC Power Supplies : +5V, 1A; -5V, 500 mA (fixed) +3V to +15V, 500 mA (variable) -3V to -15V, 500 mA (variable) • Pulser Generator : 1Hz to 1MHz in 6 steps (Variable in between the steps) • Amplitude : +3V to +15V (CMOS), 5V (TTL) • Duty Cycle : 50 %, TTL/CMOS output • Pulser Switches : 2 nos (Push to 'On') • Data Switches : 16 nos (Toggle switches) (TTL/CMOS output) • Bicolor LED Display : 16 nos (TTL/CMOS input) • BCD to 7 Segment Display : 2 nos • Logic Probe : Logic level indicator (H/L) for TTL/CMOS mode (7 segment display) • Mains Supply : 110-220V ± 10%, 50/60Hz • Included Accessories • Breadboards (solderless) : 2 nos • Connecting wires : 20 nos • 2mm to 1mm Patch cords : 16 nos • 2mm to 2mm Patch cords : 16 nos • Mains cord : 1 no</p>
10	Digital Multimeter	<p>Real 5 ½ digits readings resolution Up to 123 rdgs/s of measurement speed True-RMS AC Voltage Current measuring Quickly Save or Recall the 10 groups of Preset Configuration Preset 10 groups of Standard Sensor Configuration, built-in Thermocouple compensate in Cold Terminal Clone or backup all the configurations within instrument into other Standard configuration interface: USB Device, USB Host, LAN, RS-232,, and</p>

		<p>support U-disc storage and Web remote control 256× 64 LCD Support double display, Chinese and English menu Push-help makes information acquire more easier File management DC Voltage: 200 mV ~ 1000 V DC Current: 200 μA ~ 10 A AC Voltage: True-RMS, 200 mV ~ 750 V AC Current: True-RMS, 20 mA ~ 10 A 2-Wire, 4-Wire Resistance: 200 O ~ 100 MO Capacitance Measurement: 2 nF ~ 10000 μF Continuity Test: Range is fixed at 2 kO Diode Test: Range is fixed at 2.0 V Frequency Measurement: 20 Hz ~ 1 MHz Period Measurement: 1 μs ~ 0.05 s Random Sensor Measurement: Support for 6 types of sensor: DCV, DCI, Freq, 2WR, 4WR and TC Math Function : Max, Min, Average, Standard Deviation, Pass/Fail, dBm, dB, Relative Measurement and Vertical chart</p>
11	DSB/SSB AM Receiver	<p>DSB/SSB AM Receiver Technical Specification A self contained Functional blocks with self explanatory waveforms and technical details indicated on board On board Tuner provided for tuning the transmitting station LED indication for signal flow and ion More than 30 nos. gold plated test points for waveform observation and analysis 8 Switched faults for troubleshooting at different functional blocks Telescopic antenna for reception of AM signal On board audio jack provided for Earphone connection On board Speaker provided for audio communication Construction : Superhetrodyne Frequency Range : 980 KHz to 2060 KHz Intermediate Frequency : 455 KHz Input Circuits : 1) RF Amplifier 2) Mixer 3) Local Oscillator 4) Beat Frequency Oscillator 5) IF Amplifier 1 6) IF Amplifier 2 Tuning : With variable capacitor (ganged) Dial marking on board Receiving media : Telescopic antenna / Cable Detectors: 1) Diode detector (for DSB) 2) Product detector (for SSB) Audio Output : Amplifier with speaker Automatic Gain Control : Switchable Switched Faults : 8 nos. Interconnections : 2 mm Banana sockets Test points : 30 nos. Power Supply : 110-220 V AC ±10%, 50/60Hz Power Consumption : 3 VA approximately Operating Conditions : 0-40 C, 80% RH Included Accessories : Patch cord 16" : 2 nos. DSB AM reception and demodulation using Diode detector Automatic Gain Control circuit SSB AM reception and demodulation using Product detector Tuned RF Amplifier, Mixer, IF Amplifiers for AM reception</p>

		ivity, Sensitivity and Fidelity of receiver Simulation and learning software for Analog Communication .
12	DSB/SSB AM Transmitter	<p>DSB/SSB AM Transmitter Technical Specifications A self contained Functional blocks with self explanatory waveforms and technical details indicated on board Oscillator controlled carrier frequency LED indication for signal flow and ion More than 25 nos. gold plated test points for waveform observation and analysis 8 Switched faults for troubleshooting at different functional blocks Telescopic antenna for transmission of AM signal On board audio jacks provided for Microphone and Earphone connection On board Speaker provided for audio communication Online Product Tutorial Audio Oscillator : With adjustable Amplitude & Frequency (300 Hz - 3.4 KHz) Audio Output : Amplifier with speaker Modulators : Balanced Modulator with Band pass Filter (1 MHz) - 2 nos. Balanced Modulator : 1 No. (455 KHz) Ceramic Bandpass Filter : 1 No. (455 KHz) Carrier Frequency : 1 MHz (Oscillator controlled) Transmitter Amplifier Output : (Gain adjustable) DSB (1 MHz), SSB (1.445 MHz) connected to Antenna/cable Switched Faults : 8 nos. Interconnections : 2mm Banana socket Test Points : 27 nos Power Supply : 110-220 V AC $\pm 10\%$, 50/60Hz Power Consumption : 4 VA approximately Operating Conditions : 0-40 C, 80% RH Included Accessories : Patch Cord 16" : 2 nos. Mains Cord, Power Supply, Microphone, Earphone:1 no. Study of Balance modulator and Band pass filter for DSB AM generation Study and calculation of Modulation index using trapezoidal method Study of Balance modulator and Ceramic band pass filter for SSB AM generation Study of tuned Amplifier for AM transmission Simulation and learning software for Analog Communication .</p>
13	DSP Starter Kits	<p>DSP Starter Kits :TMS320C6748 DSP Development Kit(LCDK) TMS320C6713 DSK : TMS320C6713 DSK development board Other hardware : External 5 V DC power supply Software, DSP Lab 2.0 Smart Manual IEEE 1284 compliant male-to-female cable Hardware Lock CD : Code Composer Studio DSK tools, DSP Lab 2.0 Other Accessories : Audio cables, Head Phone, Microphone, Installation Manual, Experiments Workbook MATLAB 7.0.4 (Trial version for 30 days) Technical reference guide for TMS320C6713 The C6713 DSK has a TMS320C6713 DSP onboard that allows full-</p>

		<p>speed verification of code with Code Composer Studio. The C6713 DSK provides : A USB Interface SDRAM and ROM An analog interface circuit for Data conversion (AIC) An I/O port Embedded JTAG emulation support Code Composer Features Include : IDE Debug IDE Advanced watch windows Integrated editor File I/O, Prod Points, and graphical algorithm scope Prods Advanced graphical signal analysis Interactive profiling Automated testing and customization via scripting Visual project management system</p>
14	ECG cum Heart rate Monitor	<p>ECG cum Heart rate Monitor 16x2 LCD display of heartbeats per minute On board both visible (LED) and audible (buzzer) heartbeat event indicator Separate test-points to observe ECG waveform after each block (in simulation mode (SM) pre-amplifier and filter are not in the function because data coming from the simulator is already filtered and amplified data, while in real time mode all the blocks will be in the function) In built Data Acquisition module with USB interface for Real time analysis On board one minute indicator Measuring Range : 30-300 heartbeats per minute Accuracy : ± 2 heartbeats/ minute Heart-rate Display : 16x2 LCD Display Tachycardia limit Range : 0-255 heartbeats per minute Bradycardia limit Range : 0-255 heartbeats per minute ECG Acquisition module : Real time ECG acquisition with 200 samples/ sec 8-bit A/D Converter with USB interface Electrodes : Surface or clamp (Ag-AgCl) electrodes Power supply : 110V - 260V AC, 50/60Hz Test Point : 7 nos. (Gold Plated) Included Accessories : ECG electrode Gel, 5 Pin din to 3 Banana Cable (2mm), USB Cable (male to male), Power Supply, Learning Material (CD) - 1 no. ECG Electrodes (Clamp type) - 5 nos</p>
15	Electro-encephalograph	<p>Electro-encephalograph Specially designed for educational purpose Provides amplified simulated EEG output of different brain configurations Separate test-points to observe waveforms after each block On board Variable gain control facility EEG Simulator also explains the significance of frequency ranges of Delta, Theta, Alpha and Beta generated on scalp EEG Amplifier No. of Channel : Single Gain Control : Variable CMRR : Better than 80 dB EEG Simulator Output: Standard EEG signal output with Alpha, Beta, Delta, and theta wave generator Test Point : 12 nos. Power supply : 110V - 260V AC, 50/60Hz Operating Condition : 0-40 C,</p>

		<p>85% RH Included Accessories : 5 Pin Din to 3 Pin Banana probe, Power Supply, - 1 Electro-myograph Separate test-points to observe waveforms after each block Provides amplified real time EMG output Inbuilt EMG Simulator Provides information about 10 simulated EMG outputs Visible LED indication for all the simulated EMG outputs CMRR : >100 dB Filter (Band Pass) : 1 Hz – 10 KHz Notch Filter : 50Hz Simulated EMG Indication : Visible LED Electrodes : Surface Electrodes (Ag-AgCl) Power supply : 110V - 260V AC, 50/60Hz Test Point : 6 nos. Operating Condition : 0-40 C, 85% RH Included Accessories : Power Supply 3 nos. BTN to 5 Pin DIN Cable, Disposable Electrodes - 50 nos</p>
16	Electro-myograph	<p>Electro-myograph Separate test-points to observe waveforms after each block Provides amplified real time EMG output Inbuilt EMG Simulator Provides information about 10 simulated EMG outputs Visible LED indication for all the simulated EMG outputs CMRR : >100 dB Filter (Band Pass) : 1 Hz – 10 KHz Notch Filter : 50Hz Simulated EMG Indication : Visible LED Electrodes : Surface Electrodes (Ag-AgCl) Power supply : 110V - 260V AC, 50/60Hz Test Point : 6 nos. Operating Condition : 0-40 C, 85% RH Included Accessories : Power Supply 3 nos. BTN to 5 Pin DIN Cable, Disposable Electrodes - 50 nos</p>
17	Electronics Lab trainer kits	<p>Technical Specification • Self contained and easy to operate • Functional blocks indicated on board mimic • On board DC and AC Power Supplies • On board Function Generator • On board Continuity Tester • On board Toggle switches and Potentiometers • Solderless breadboard • On board Voltage/Current/Frequency measurement • PC Interface • Simulation Software Should help for understanding of Basic Electronics like Operation of Diode , Transistor etc. , It also help to understand amplifier , rectifier circuit. • Size of Breadboard : 172.5 mm x 128.5mm • Tie Points on Breadboard : 1685 nos (solderless) • DC Power Supplies : +5V, 1A(fixed) +12V, 500 mA(fixed) -12V, 500 mA (fixed) +12V, 500 mA (variable) -12V, 500 mA (variable) • AC Supply : 9V-0V-9V, 500mA • Function Generator : Sine, Square, and Triangular functions • Frequency range:1Hz to 100KHz In 5 steps (variable in between the steps) •</p>

		<p>Voltage/Current/Frequency : Voltage range: +12V to -12V (DC) • Measurement Current range: 0 to 500mA (DC) • Frequency range: DC to 100KHz (all with respect to ground) • PC Interface : Acquisition from two analog input channels (max. input 1V) • Continuity Tester : For testing the continuity (provided with beeper sound) • Mains Supply : 110-220V ±10%, 50/60Hz • Included Accessories : Breadboards (Solderless) : 2 nos Connecting wires : 20 nos 2mm to 1mm patch cords : 8 nos 2mm to 2mm patch cords : 8 nos Mains cord : 1 no Interface cable (microphone pin) : 1 no Application module compatible with this trainer kit Diode Characteristics (Si,Zener,LED) Transistor Characteristics Common Base-NPN Transistor Characteristics Common Base-PNP Transistor Characteristics Common Emitter-NPN Transistor Characteristics Common Emitter-PNP Transistor Characteristics Common Collector-NPN Transistor Characteristics Common Collector-PNP FET Characteristics Rectifier Circuits Wheatstone Bridge Maxwell's Capacitance Bridge De Sauty's Bridge Schearing Bridge Darlington Pair Common Emitter Amplifier Common Collector Amplifier Common Base Amplifier RC Coupled amplifier Cascade Amplifier DC Amplifier Class A Amplifier Class B Push Pull Emitter Follower Class C Tuned Amplifier Transformer Coupled Amplifier PLL Frequency Demodulator using IC LM565 FET Amplifier Voltage Controlled Oscillator Multivibrators (Astable/Monostable) F-V and V-F Converter (using IC LM331) V-I and I-V Converter</p>
18	Frequency Modulation /Demodulation	<p>Frequency Modulation /Demodulation Technical Specifications A self contained Functional blocks with self explanatory waveforms and technical details indicated on board On board Audio Oscillator, Frequency modulators/demodulators, Mixer/Amplifier, Amplitude limiter & Filter circuits Effect of noise on the detection of FM signal can be investigated LED indication for signal flow and ion More than 35 nos. Test points for waveform observation and analysis 12 Switched faults for troubleshooting at different functional blocks Online Product Tutorial Audio Oscillator : Sine wave (10Vpp adjustable) Frequency (300 Hz - 3.4 KHz) FM Modulators : 3 nos. Reactance Modulator : Carrier Frequency - 455 KHz (± 3KHz) Varactor Modulator : Carrier Frequency - 455</p>

		<p>KHz (± 2KHz) VCO Based Modulator : Carrier Frequency - (IC XR2206 based) Mixer / Amplifier : Allows FM input signal to be amplitude modulated by a noise input prior to demodulation, with gain adjustment. FM Demodulator : 6 types. Detuned Resonant Detector Quadrature Detector Foster-Seeley Detector Ratio Detector Phase-Locked Loop Detector (IC HEF4046 based) Phase-Locked Loop Detector (IC LM565 based) Low Pass Filter : 3.4 KHz Cut off Frequency Amplifier (with adjustable gain) Amplitude Limiter : 1 no. Switched Faults : 12 nos. Test Points : 40 nos Power Supply : 230 V $\pm 10\%$, 50 / 60 Hz Power Consumption : 3 VA approximately Operating Conditions : 0-40 C, 80% RH Included Accessories Patch cord 16" : 2 nos. Mains cord : 1 no. Power Supply : 1 no Frequency Modulation using Reactance Modulator Frequency Modulation using Varactor Modulator Operation of Quadrature Detector Operation of Detuned Resonance Detector Operation of Foster - Seeley Detector Operation of Ratio Detector Operation of Phase-Locked Loop Detector (IC4046 based) Frequency Modulation using VCO based Frequency Modulator (IC XR2206 based) Phase-Locked Loop detector (IC LM565 based) as a Frequency Demodulator Frequency deviation and modulation index using VCO based Frequency Modulator (IC XR2206 based) Simulation and learning software for Analog Communication .</p>
19	Microwave Test Bench	<p>Microwave Test Bench Klystron power supply Beam supply : Voltage 240-420 VDC variable Current: 50 mA Regulation : 0.5 % for 10 % I/P variation. Ripple: < 5 mV rms on load. Repeller supply : - 18V to -270 V DC Variable on load. Regulation : 0.25 for 10 % input variation. Filament supply : 6.3 VDC (adjustable on rear panel) Overload Trip : 65 mA. Modulation : AM(square)FM (sawtooth) Frequency range : 500-2000 Hz ,50-150 Hz Amplitude : 0-110 Vpp ,0-60 Vpp. External : Through external modulating signal Display : Digital display for 1) Beam voltage 2) Beam current 3) Repeller voltage. Modulation or : CW/AM/FM/EXT. 3 ½ Digit panel meter : 2V Meter or : Beam voltage/current/repeller. Connector : a) 8-pin octal socket b) BNC for external Mod. Power</p>

		<p>Supply : 220 V AC \pm10%,50 Hz. Audio Input : Mic Jack for audio communication VSWR Meter Display : 16 x 2 Characters LCD Sensitivity : 0.1 mV for 200 ohms input impedance Noise Level : Less than 0.02 mV Range : 0 - 60 dB in 10 dB steps Input : Un-biased low and high impedance biased crystal (200 ohms and 200 K)Display : SWR 1 - 9dB 0 - 10 Modes : Normal Audio PC-Interface Gain Control : Adjusts the reference level, variable range 0 -10 dB (approx) Input Connector : BNC (F) Input Frequency : 1000 Hz \pm 10% Power Supply : 220 V\pm 10%, 50Hz Klystron Based Bench (X Band) Consists of Following :- Solid State Klystron : 1 Power Supply digital : 1 Klystron Mount with : 1 Klystron tube 2K25/2K27 : 1 Isolator : 1 Frequency Meter Digital : 1 With LCD Display Variable Attenuator : 1 Slotted Section : 1 Tunable Probe : 1 Detector Mount : 1 Movable Short : 1 Fixed Short : 1 Matched Termination : 1 Digital VSWR Meter with : 1 Back lit LCD display Wave Guide Stand : 4 S.S. Tuner : 1 Accessories: Cooling Fan : 1 BNC cable : 2 Microphone : 1 Experiment Manual : 1 Wall chart with pictures : 1 & Formulas of Microwave</p>
20	MSK Modulator/ Demodulator	<p>MSK Modulator/ Demodulator Self contained and easy to use Functional blocks indicated on board mimic On board Data Generator On board Carrier Generator On board Clock Generators MSK Modulator MSK Demodulator Data Source Data rate : 16 Kbps Word Length : 15 bits Data Format : NRZ (Non Return to Zero) Clock Source : 16 KHz, 8 KHz Carrier Generators : 32 KHz (Sinusoidal) Pulse Shaping Waveform : 4 KHz Interconnections : 2 mm socket (Gold plated) Test Points : 36 (Gold plated) Power Supply : 110V - 260V AC, 50/60Hz Operating Conditions : 0-40 C, 85% RH Included Accessories : Patch cord 16" : 20 nos Main cord : 1 no. Learning material (CD) : 1 no. Simulation and Learning</p>

		Software for Digital Communication.
21	Optical Fibre Trainer	<p>Optical Fibre Trainer Technical Specification :- Simplex Analog and Digital Transreceiver 660 nm channel with Transmitter & Receiver AM-FM-PWM modulation / demodulation On board Function Generator On board Clock & Data Generator On board Bit Error Counter Crystal controlled Clock Functional blocks indicated on-board mimic Input-output & test points provided on board On board voice link Built in DC Power Supply Numerical Aperture measurement jig and mandrel for bending loss measurement Switched faults on Transmitter & Receiver</p> <p>Transmitter : 1 no., Fiber Optic LED having peak wavelength of emission 660 nm Receiver : 1 no., Fiber Optic Photodetector</p> <p>Modulation Techniques : 1. AM 2. FM 3. PWM Drivers : 1 no. with Analog & Digital modes Clock : Crystal controlled Clock 4.096 MHz PLL Detector : 1 no. AC Amplifier : 1 no. Comparator : 1 no. Filters : 1 no. 4th order Butterworth, 3.4 KHz cut-off frequency Analog Band Width : 350 KHz Digital Band Width : 2.5 MHz Function Generator : 1 KHz Sine wave (Amplitude adjustable) 1 KHz Square wave (TTL) Clock Generator : 64 KHz/128 KHz/256 KHz (TTL) Data Generator : 15 Bit Noise Generator : Variable level Bit Error Counter : 4 digits, 7 segment display Voice Link : F. O. voice link using microphone & speaker (built in) Switched Faults : 4 in Transmitter & 4 in Receiver Fiber Optic Cable : Connector type Standard SMA Cable Type : Step indexed multimode PMMA plastic cable Core Refractive Index : 1.492 Clad Refractive Index : 1.406 Numerical Aperture : Better than 0.5 Acceptance Angle : Better than 60 deg. Fiber Diameter : 1000 microns Outer Diameter : 2.2 mm Fiber Length : 0.5 m & 1 m Test Points : 34 nos Inter connections : 2 mm sockets Operating conditions : 0-40 C, 80% RH Power Supply : 110-220 V, $\pm 10\%$, 50/60 Hz Power Consumption : 3 VA approximately Included Accessories : NA Measurement jig, Mandrel, Fiber cables, Microphone, Headphone, Set of Patch cords 10 MHz AM / FM Function-Pulse Generators with 40MHz Frequency Counter • 1 Hz - 10 MHz (Sine) • Sine, Square, Triangle, Ramp, Pulse and TTL outputs • 20 Vpp output and DC Offset • 40 MHz Frequency Counter • Rise time & Fall time =50 ns • 20 \times 4 character LCD • TTL output • 50 Ω Output Impedance</p>

		<ul style="list-style-type: none"> • Various types of modulations • 20 dB/ 40 dB (fixed) & 20 dB variable attenuation Frequency Range & Menu ion : Microcontroller based Sine Wave Distortion : 1 % (typical) Pulse Duty Cycle : 15 % to 85 % var. (min width 200 ns) External Modulation : AM Std, AM Bal, FM, PWM Modulation Freq. Range : DC to 20 KHz Technical Specification • Self contained & easy to operate • Functional blocks indicated on board mimic • Solderless breadboard • On board DC Power Supplies • On board Pulse Generator with TTL/CMOS mode • Pulser switches and 16 bit Data switches • Bicolor 16 bit LED display • BCD to Seven segment display and Logic probe • CMOS/TTL output • Simulation Software Should help for understanding of Basic Electronics like Operation of Flip Flop, Logic Gate etc. , It also help to understand adder , subtractor , multiplexer and demultiplexer circuit. • Size of Breadboard : 172.5 mm x 128.5 mm • Tie Points on Breadboard : 1685 nos (solderless) • DC Power Supplies : +5V, 1A; -5V, 500 mA (fixed) +3V to +15V, 500 mA (variable) -3V to -15V, 500 mA (variable) • Pulser Generator : 1Hz to 1MHz in 6 steps (Variable in between the steps) • Amplitude : +3V to +15V (CMOS), 5V (TTL) • Duty Cycle : 50 %, TTL/CMOS output • Pulser Switches : 2 nos (Push to 'On') • Data Switches : 16 nos (Toggle switches) (TTL/CMOS output) • Bicolor LED Display : 16 nos (TTL/CMOS input) • BCD to 7 Segment Display : 2 nos • Logic Probe : Logic level indicator (H/L) for TTL/CMOS mode (7 segment display) • Mains Supply : 110-220V ± 10%, 50/60Hz • Included Accessories • Breadboards (solderless) : 2 nos • Connecting wires : 20 nos • 2mm to 1mm Patch cords : 16 nos • 2mm to 2mm Patch cords : 16 nos • Mains cord : 1 no
22	PAM, PPM, PWM and Line Coding Techniques	PAM, PPM, PWM and Line Coding Techniques Training system for understanding the Pulse Amplitude Modulation and Demodulation, Pulse Width Modulation and Demodulation and Pulse Position Modulation and Demodulation. On board provision should be for generation of data pattern up to 8,16 and 32 bit and signal generation (Sine,Square& Arbitrary) with variable frequency along with variable sampling frequency. Also this training system

		<p>should be of study for different types of line coding i.e. of NRZ Unipolar Coding, NRZ Polar Coding, NRZ Bipolar Coding, RZ Polar Coding, Manchester Coding and analyze all types of Line Coding outputs simultaneously and Observe differences. Specifications:</p> <ul style="list-style-type: none"> • Modulation Technique : Pulse Amplitude Modulation and Demodulation Pulse Width Modulation and Demodulation Pulse Position Modulation and Demodulation • Line Coding Techniques • Crystal Frequency: 20MHz • DDS Signal Generator: Sine, Square, Triangle, arbitrary signal • Input Signal Frequency: 305Hz, 609.80Hz, 1.25KHz, 2.5KHz • Sampling Frequency: 1.25KHz, 2.50KHz, 5KHz, 9.80KHz, 19.53KHz, 39.06KHz, 78.13KHz • Ramp Frequency: 1.25KHz, 2.50KHz, 5KHz, 9.80KHz, 19.53KHz, 39.06KHz, 78.13KHz • Low Pass Filter: Cut-off frequency 5KHz • Should be gold plated for good ohmic contact & More than 30 nos. for waveform observation. • Simulation and Learning Software for Digital Communication.
23	QPSK, OQPSK, DQPSK Modulator & Demodulator	<p>QPSK, OQPSK, DQPSK Modulator & Demodulator Training system for understanding the of QPSK, OQPSK, DQPSK Modulation & Demodulation. On board provision should be for internal data generation up to 64 bits with variable frequency. Specifications:</p> <ul style="list-style-type: none"> • Modulation & Demodulation Techniques: QPSK, OQPSK and DQPSK • Internal Data Generator : Digital Data • Data Pattern : 8-Bit , 16-Bit , 32-Bit , 64-Bit • Frequency : 2KHz, 4KHz, 8KHz, 16KHz • Internal Carrier Generator : Direct Digital Synthesized • Carrier Signal : Sine, Cosine • SMD LED Indicators : For Digital Data ion,Data frequency ion, Technique ion • Test Points: Should be gold plated for good ohmic contact & More than 50 nos. for waveform observation • Crystal Frequency : 8MHz • ion Mode : Push switches • Simulation and Learning Software for Digital Communication.
24	Sampling & Reconstruction Trainer	<p>Sampling & Reconstruction Trainer Technical Specification</p> <p>Crystal controlled pulse generator Demonstrates sampling and reconstruction as per nyquist criterion On-board synchronized analog signal generator Six switch able sampling frequencies Sampling pulse duty-cycle able Internal/ External sampling signal able Separate sample and sample/hold outputs available On-</p>

		<p>board second order and fourth order low-pass filters Audio Input and Output links to show the transmission and reception of real time signal (audio signal) Crystal Frequency : 8 MHz Sampling Frequency : 20, 50, 80,100, 200 &400 KHz (switch able) On-board Generator : Synchronized 1 KHz sine wave (5 V) pp Duty cycle : 0 - 90% in Decade steps (Switch able) Low -Pass Filters : Butterworth 2 & 4 order Cut-off frequency : 3.4 KHz each Test Point : 50 nos (Gold plated) Interconnections : 2 mm sockets (Gold plated) Power Consumption : 3 VA (approximately) Learning material : CD (Theory, procedure, reference results, etc. Power Supply : 12VDC Operating Conditions : 0-40 C, 85% RH Included Accessories : 2mm Patch cord 16"(Red) : 2 nos. 2mm Patch cord 16"(Black) : 4 nos. 2mm Patch cord 16"(Blue) : 6 nos. Microphone : 1 no. Power Supply : 1 no. DIN Cable for DC Supply : 1 no. Mains cord : 1 no. Learning material (CD) : 1 no. Learning Software for Analog Communication. Study of Sampling and Reconstruction techniques Study nyquist criteria for Sampling and Reconstructing signal Study effect of Sample amplifier and Sample and Hold amplifier on reconstructed signal Study effect of Sample /Hold Circuitry on reconstructed waveform Study and compare responses of 2nd order and 4th order LPFs Simulation and learning software for Analog Communication .</p>
25	Transmission Line Trainer	<p>Transmission Line Trainer Technical specifications Self contained easy to operate trainer On board line, terminating resistances and test generators Functional blocks indicated on board mimic Built in Power Supply Exhaustive learning material Transmission Line : Coaxial cable 100m (25 m x 4) Impedance matching : 0 - 100 Ohms. 2 nos. resistances Test Generators : Sine Wave 40 KHz - 400 KHz (Low Range) Square Wave 400 KHz - 4MHz (High Range) Interconnections : 2 mm Banana sockets Test Points : 10 (Gold plated) Power Supply : 230 V \pm10%, 50/60 Hz Power Consumption : 3 VA approximately Included Accessories : BNC to BNC Cable : 1 no. BNC to Test Prod Cable : 1 no. Patch Cord 16" : 14 nos. Mains cord : 1 no. Measuring the characteristics of a line Measuring the attenuation of a line Measuring the Input Impedance of the Line Frequency characteristic of the line Study of Stationary Waves Line under Pulsed condition Signal Phase shift along the line Fault</p>

		localization within the line Simulation and learning software for Analog Communication .
26	Understanding Line Coding Techniques	<p>Understanding Line Coding Techniques Specifications:</p> <ul style="list-style-type: none"> • Line Coding Techniques • Crystal Frequency: 20MHz • DDS Signal Generator: Sine, Square, Triangle, arbitrary signal • Input Signal Frequency: 305Hz, 609.80Hz, 1.25KHz, 2.5KHz • Sampling Frequency: 1.25KHz, 2.50KHz, 5KHz, 9.80KHz, 19.53KHz, 39.06KHz, 78.13KHz • Ramp Frequency: 1.25KHz, 2.50KHz, 5KHz, 9.80KHz, 19.53KHz, 39.06KHz, 78.13KHz • Low Pass Filter: Cut-off frequency 5KHz <p>Should be gold plated for good ohmic contact & More than 30 nos. for waveform observation.</p> <ul style="list-style-type: none"> • Simulation and Learning Software for Digital Communication.

FORMAT FOR QUOTATION SUBMISSION

(In letterhead of the supplier with seal)

Date: _____

To:

Sl. No.	Description of goods (with full Specifications)	Qty.	Unit	Quoted Unit rate in Rs. (Including Ex Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
Total Cost							

Gross Total Cost (A+B): Rs. _____

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. _____ (Amount in figures) (Rupees _____ amount in words) within the period specified in the Invitation for Quotations.

We confirm that the normal commercial warranty/ guarantee of _____ months shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the Invitation Letter.

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

Signature of Supplier

Name: _____

Address: _____

Contact No: _____



DEAN FACULTY AFFAIRS (IPD, UD TEQIP-III, RTU KOTA)

UNIVERSITY DEPARTMENTS

RAJASTHAN TECHNICAL UNIVERSITY

RAWATBHATA ROAD, KOTA-324010 (RAJASTHAN)

(email id: teqiprtu@gmail.com)

Instructions for bidders for each procurement package under UD TEQIP-III

1. The packages are uploaded and the detail & specifications are provided for individual package as per the TEQIP-III norms.
2. The interested vendors are requested to check the website regularly for update/ modification/or any change in the terms and conditions or any other requirement.
3. Envelope containing the quotations should be properly sealed and shall bear the following details:
TEQIP-III Project, and PMSS Item code, on the front side of envelope as given:-
IB No. RTU/UD/TEQIP-III/2019
4. In the event of the specified date for submission of quotations being declared a holiday, the quotations will be received up to 5:00 P.M on the next working day.
5. Any quotations received after the deadline for submission of quotations prescribed, will not be considered.
6. No credit will be given to earlier deliveries and quotations offering delivery beyond the stipulated delivery period will be treated as non-responsive.
7. The supplier shall seal the original copy of the quotations in envelopes, duly marking the envelopes with the address as mentioned below:
DEAN FACULTY AFFAIRS (IPD, UD TEQIP-III, RTU KOTA)
UNIVERSITY DEPARTMENTS
RAJASTHAN TECHNICAL UNIVERSITY
RAWATBHATA ROAD, KOTA-324010 (RAJASTHAN)
8. Supplier must provide the contact details such as Contact Person, Complete address, Tel. No. / Mobile No. E-Mail ID, TAN No., TAX No, PAN No., GST No. ...etc.
9. All the taxes, levies, duties, AMC's and various overhead charges if any, shall be mentioned while submitting the offer.
10. Completion Certificates of past supplies, Warranty/ Defect Liability, Drawings, Dispute Resolution, Arbitration, Force Majeure, Historical data in relation to the tender like annual reports, turn over detail etc can be submitted with the quotations, as a supporting document.
11. The Prices Ex. RTU Kota should be quoted in Indian Rupees only.

12. Penalty for late delivery will be levied as per the RTU/TEQIP-III norms & conditions.
13. Award of contract notwithstanding the above mentioned conditions, UD TEQIP-III reserves the right to accept or reject any quotations/ package(s) to cancel the procurement packages and reject all quotations at any time prior to the award of contract.
14. Venue for Opening of quotations is Dean Faculty Affairs & Institute Project Director (IPD UD TEQIP-III), University Departments, Rajasthan Technical University, Kota – 324010,