



भारतीय सूचना प्रौद्योगिकी संस्थान, इलाहाबाद Indian Institute of Information Technology, Allahabad

An Institute of National Importance by Act of Parliament
Deoghat, Jhalwa, Allahabad-211015 (U.P.) INDIA

Ph.: 0532-2922025, 2922067, Fax : 0532-2430006, Web : www.iiita.ac.in, E-mail : contact@iiita.ac.in

Ref. IIIT-A/FIP/TENDER/26 /2018

Dated- 10/04/2018

NOTICE INVITING TENDER

1. Sealed tenders are invited under **Two Bid Systems** for procurement of “**Purchase of Digital Kits at IIIT-Allahabad**”. The detailed specifications, terms & conditions are given in **Annexure 1 to 6**. Tender document may be downloaded from the Institute website www.iiita.ac.in.”

2. Tenderers are requested to submit the quotation by courier/speed post with complete details of specifications, terms & conditions, warranty/guarantee etc. Quotation should be in two separate sealed envelopes "Technical Bid" and "Commercial Bid" and placed in a single envelope with name of the tender, Tender Ref. Number and closing date subscribed on the top of the envelope addressed to the Faculty In-charge Purchase, IIIT-Allahabad **upto 01/05/2018 at 12:00 noon**. Quotations duly sealed may also be dropped in the tender box placed in the office of the Faculty In-charge Purchase, IIIT-Allahabad. Basic rate, taxes and other charges if applicable etc. must be quoted separately at F.O.R. basis at IIIT-A, Jhalwa, Allahabad. Please note that tender document will not be accepted after the expiry of stipulated date and time for the purpose.


3. **E.M.D.** : The tenders should be accompanied in a form of a **Demand Draft/FDR** or **Bank Guarantee** in favor of **Indian Institute of Information Technology Allahabad** payable at **Allahabad** (Any bid without EMD will not be considered). EMD should be enclosed with the Technical Bid document in a separate envelop.

Amount of EMD would be as below:

Sl. No	Description	EMD Amount (Rupees)	DD No./FDR Date
1.	Purchase of Digital Kits	25,000/=	

4. The Technical Bids will be opened on **01/05/2018 at 3:00PM** by Tender Opening Committee authorized by the Competent Authority. The date fixed for opening of bids, if subsequently declared as holiday by the Government / Institute, the revised date of schedule will be notified. However, in absence of such notification, the bids will be opened on next working date, the time remaining unaltered. The financial bids of only those bidders, who's Technical Bids will qualify, shall be opened by concerned committee. For any queries regarding the tender, please send a mail to info.purchase@iiita.ac.in.

5. The Director if IIIT-Allahabad reserves the right to reject any or all the bids, or cancel the tender, without assigning any reason and the decision of the Director – IIIT-Allahabad shall be final and binding.


10.14.2018
Faculty In-charge Purchase

Copy to:

➤ Hon'ble Director for kind information.


Annexure-I

Technical Bid

(On letter head of the Firm & in a separately sealed envelope)

PROFORMA FOR APPLICATION

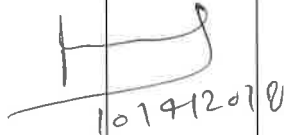
1. Name of the firm: -.....
 2. Address of the firm:-
 3. Phone Number (With Code):-
 4. Proprietor's name: -
 5. Address of Proprietor: -
 6. Proprietor's Phone No. :-
 7. E-mail Address:-.....
 8. Details of the firm(**Please attach documentary evidence**):-
 - (a)Date from which the firm is operating: -
 - (b)Turnover of the firm during: - FY 2015-16 (Rs.).....
Profit & Loss A/c Attached (Yes / No).....
FY 2016-17 (Rs.).....
Profit & Loss A/c Attached (Yes / No).....
- (Not less than 25 lacs per financial Year. Profit & Loss A/c verified by CA must be attached)**
- c) PAN No. :-
 - (d) GST No. :-
10. Firm/Company status [OEM/Auth.Dealer/Distributor/Supplier/Other (Specify)] -
- (Note - Please attach the documentary abidance. Preference will be given to OEM and Authorized Dealer / Distributor / Supplier)**
11. Other Required Documents Attached (Yes / No) –
- a. Technical Compliance Sheet Attached (Yes / No) -
 - b. Copies of Similar supply order attached (Yes / No) -
 - c. Letter of Bid attached (Yes / No) -
 - d. EMD Submitted (Yes / No) -


10/4/2018

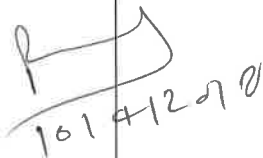
Annexure-II

Technical Compliances

(On letter head of the Firm & in a separately sealed envelope)

Sl. No.	Item and Specification	Qty	Compliance	Deviation / Remarks
01	<p><u>PAM, PWM, PPM, and line coding techniques</u></p> <p>Technical Specifications: Modulation & Demodulation Techniques: PAM, PWM, PPM, Line Coding Techniques Internal Signal Generator: Direct Digital Synthesizer</p> <ul style="list-style-type: none"> • Types of Signal : Sine, Square, Triangle, Arbitrary • Frequency: 500Hz, 1KHz, 2KHz, 3KHz <p>External Signal:</p> <ul style="list-style-type: none"> • Types of Signal : Sine, Square, Triangle, Arbitrary • Maximum Input Voltage: 3Vpp (Max.) +1.5V DC offset • Frequency : 500Hz to 3.5KHz <p>Sampling/Ramp Frequencies: 1.25 KHz, 2.50 KHz, 5 KHz, 9.80 KHz, 19.53 KHz, 39.06KHz, 78.13 KHz</p> <p>SMD LED Indicators: 46 nos. for</p> <ul style="list-style-type: none"> • DDS signal selection • DDS signal frequency selection • Sampling selection • Technique Selection • Interconnect path <p>Crystal Frequency: 20MHz Selection Mode: Push switches Random Data: 8 Bit/ 16 Bit/ 32 Bit (For line Coding) Test Points: 29 nos. (Gold Plated) Low Pass Filter: Cut-off frequency-5KHz Learning Material: CD (Theory, procedure, reference results, etc), Power Supply: 110V - 260V AC, 50/60Hz Operating Condition: 0-40°C, 85% RH Accessories: 2mm Patch cords</p>	05		
02	<p><u>PCM, DPCM, CVSD Modulator and Demodulator</u></p> <p>Technical Specifications:</p> <p>Modulation & Demodulation Techniques : PCM, DPCM, CVSD</p> <p>Internal Signal Generator : Direct Digital Synthesizer</p> <ul style="list-style-type: none"> • Types of Signal : Sine, Square, Triangle, Arbitrary signals • Frequency : 500Hz, 1KHz, 2KHz, 3KHz <p>External Signal :</p> <ul style="list-style-type: none"> • Types of Signal : Sine, Square, Triangle, Arbitrary signals • Maximum Input Voltage: 3Vpp (Max.) +1.5V DC offset • Frequency : 500Hz to 3.5KHz <p>SMD LED Indicators : 44 nos. for</p> <ul style="list-style-type: none"> • DDS signal selection • DDS signal frequency selection • Sampling selection • Technique selection • Interconnect path <p>Transmission Effect : Attenuation (7dB & 10dB), Noise, Filter Crystal Frequency : 8MHz Sampling Frequencies : 4KHz, 8KHz, 16KHz, 32KHz Line Speed : 32KHz, 64KHz, 128KHz, 256KHz Selection Mode : Push switches Number of Test Points : 38 nos. (Gold plated) Low Pass Filter : Cut-off frequency-5KHz Learning Material : CD (Theory, procedure, reference results, etc) Power Supply : 110V - 260V AC, 50/60Hz Operating Condition : 0-40°C, 85% RH Accessories: 2mm Patch cords</p>	05		
03	<p><u>Delta, Adaptive Delta, Sigma Delta Modulator & Demodulator</u></p> <p>Technical Specifications: Modulation & Demodulation Techniques : Delta, Adaptive Delta, Sigma Delta First order, Sigma Delta Second order</p>	05		

	<p>Internal Signal Generator : Direct Digital Synthesizer</p> <ul style="list-style-type: none"> Types of Signal : Sine, Square, Triangle, Arbitrary Frequency : 500Hz, 1KHz, 2KHz, 3KHz <p>External Signal :</p> <ul style="list-style-type: none"> Types of Signal : Sine, Square, Triangle, Arbitrary signals Maximum Input Voltage: 3Vpp (Max.) +1.5V DC offset Frequency : 500Hz to 3.5KHz <p>SMD LED Indicators : 48 nos. for</p> <ul style="list-style-type: none"> DDS signal selection DDS signal frequency selection Sampling selection Technique selection Interconnect path <p>Transmission Effect : Attenuation (7dB & 10dB), Noise, Filter</p> <p>Crystal Frequency : 8MHz</p> <p>Sampling Frequencies : 16KHz, 32KHz, 64KHz, 128KHz, 256KHz</p> <p>Integrator step : Normal & 3 times</p> <p>Selection Mode : Push switches</p> <p>Number of Test Points : 46 nos.(Gold plated)</p> <p>Low Pass Filter : Cut-off frequency-5KHz</p> <p>Digital Filter : Decimation filter (16:1)</p> <p>Learning Material : CD (Theory, procedure, reference results, etc)</p> <p>Power Supply : 110V - 260V AC, 50/60Hz</p> <p>Operating Condition : 0-40°C, 85% RH</p> <p>Accessories: 2mm Patch cords</p>			
04	<p>Digital Companding : A Law & μ Law</p> <p>Technical Specifications:</p> <p>Compression and Decompression Techniques: A-Law, μ-Law</p> <p>Signal Generator : Generated Sine</p> <ul style="list-style-type: none"> Direct Digital Synthesizer wave 14 Bit data input through Dip switch. <p>SMD LED Indicators :</p> <ul style="list-style-type: none"> 73nos, for Dip based input data Compressed output Decompressed output Technique selection <p>Crystal Frequency : 8MHz</p> <p>Test Points : 37nos</p> <p>Learning Material : CD (Theory, procedure, reference results, etc)</p> <p>Power Supply : 110V - 260V AC, 50/60Hz</p> <p>Operating Condition : 0-40°C, 85% RH</p> <p>Accessories: 2mm Patch cords, FRC Cable 16 pins</p>	05		
05	<p>Understanding noise generation and its applications</p> <p>Technical Specifications:</p> <p>Noise generator : White Noise, Additive White Gaussian Noise, Periodic Random Noise</p> <p>Internal Signal Generator : Direct Digital Synthesizer</p> <ul style="list-style-type: none"> Types of Signal: Sine, Square, Triangle, Arbitrary signals. <p>SMD LED Indicators : 13nos for</p> <ul style="list-style-type: none"> DDS Signal selection DDS Signal frequency selection Noise selection <p>Selection Mode : Push switches</p> <p>Crystal Frequency : 8MHz</p> <p>Test Points: 5 nos.</p> <p>Gain selection for Modulating : 10K potentiometer</p> <p>Gain selection for Noise : 10K potentiometer</p> <p>Learning Material : CD (Theory, procedure, reference results, etc)</p> <p>Power Supply : 110V - 260V AC, 50/60Hz</p> <p>Operating Condition : 0-40°C, 85% RH</p> <p>Accessories: 2mm Patch cords</p>	05		10/4/2018
06	<p>ASK, FSK, BPSK, DBPSK Modulator and Demodulator</p> <p>Technical Specifications:</p> <p>Modulation & Demodulation Techniques : ASK, FSK, BPSK , DBPSK</p> <p>Internal Data Generator : Digital data</p> <p>Data Pattern : 8-Bit, 16-Bit, 32-Bit, 64-Bit</p> <p>Frequency : 2KHz, 4KHz, 8KHz, 16KHz</p> <p>Internal Carrier Generator : Direct Digital Synthesized</p> <p>Carrier Signal : Sine</p> <p>SMD LED Indicators : 24 nos. for</p> <p>Digital data selection,</p> <ul style="list-style-type: none"> Data frequency selection and Technique selection 	05		

	<p>Number of Test Points : 39 nos.(Gold plated) Crystal Frequency : 8MHz Selection Mode : Push switches Learning Material : CD (Theory, procedure, reference results, etc) Power Supply : 110V - 260V AC, 50/60Hz Operating Condition : 0-40°C, 85% RH Accessories: 2mm Patch cords</p>			
07	<p><u>QPSK, OQPSK, DQPSK Modulator & Demodulator</u> Features</p> <ul style="list-style-type: none"> • Personalized Learning platform • On-board four variable line speed rates and single bit data pattern. • On board DDS technology based Carrier Generator • SMD LED indicators • Can be issued just like a book for hands-on learning <p>Technical Specifications Modulation & Demodulation Techniques</p> <ul style="list-style-type: none"> • 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 : 25 nos. for • Digital data selection, data frequency selection and technique selection • Number of Test Points : 57 nos. • Crystal Frequency : 8MHz • Selection Mode : Push switches • Dimensions (mm) : W 326 x D 252 x H 52 • Power Supply : 110V - 260V AC, 50/60Hz • Weight : 1.5Kg (approximately) • Operating Condition : 0-40 deg. Celcius, 85% RH • Included accessories: 2mm Patch cord - 1no. • Power Supply module- 1no. 	05		
08	<p><u>16 QAM (Quadrature Amplitude Modulation) Training System</u></p> <ul style="list-style-type: none"> • Encoding: 4 bits encoding with Symbol Mapper • Modulation: 16-QAM Modulation with I & Q Channel • Constellation (Vector / XY) View • User selectable step variable clock frequency • User Selectable 8 / 16 / 32 / 64 bit Data • Digitally Synthesized Sine & Cosine Wave of Maximum 19.2KHz. • External Trigger Out <p>Technical Specifications</p> <ul style="list-style-type: none"> • 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 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 ±10%, 50 / 60 Hz • Power Consumption : 2.5 VA approximately • Weight : .5Kg approximately • Dimension (mm) : W 360 * D 260 * H 110 • Operating Conditions : 0-40 deg.Celcius , 80% RH 	05		
09	<p><u>Understanding Block Codes Encoder and Decoder</u> Features</p> <ul style="list-style-type: none"> • On-board clock generation for Data and Code. • On-board data generator. • On board error generator block • BCD rotary switches for Data Selection. • LED Numeric display. • Single bit error detection and correction. • Default and manual H-matrix selection 	05		

	<ul style="list-style-type: none"> Exhaustive learning material <p>Technical Specifications</p> <ul style="list-style-type: none"> Crystal Frequency : 11.059 MHz Word Length : 4 bits Codeword Length : 7 bits code Data Format : NRZ (Not Return to Zero) Interconnections : 2 mm sockets (Gold plated) Test points : 5 nos (Gold plated) Power Supply : 110-220 V \pm10%, 50/60 Hz Operating Conditions : 0-40 C, 80% RH Internal Power supply : +5V DC Weight : 1.5 Kgs. Approximately Dimensions (mm) : 326 W \times 252 D \times 52 H Learning Material: Online (Theory, procedure, reference results, etc). Included Accessories : <ul style="list-style-type: none"> Patch cord 8" : 12 nos. Power supply : 2 nos. Mains cord : 2 nos. 			
10	<p>Two Channel Code Division Multiple Access (DSSS and FHSS) Features</p> <p>Technical Specifications:</p> <ul style="list-style-type: none"> On-board data generators and PRN sequence generators BCD rotary switches for Data Selection Tap selectable PN sequence generators Multiple data rate and chip rate selection Variable processing gain selection Slow and Fast frequency hopping demonstration PN sequence driven Frequency synthesizer with non-overlapping frequency channel assignment <p>Major blocks :</p> <ul style="list-style-type: none"> Data generators 1 Data generators 2 PN sequence 1 PN sequence 2 Clock Generator DSSS Modulator 1 DSSS Modulator 2 Frequency Synthesizer 1 Frequency Synthesizer 2 FHSS Modulator 1 FHSS Modulator 2 Mixer DSSS Demodulator <p>Technical Specifications</p> <ul style="list-style-type: none"> Mains Supply : 230 V \pm10%, 50/60 H Data Source Data rate : 16Kbps, 8 Kbps, 4Kbps World Length : 8 bits Data Format : NRZ (Non Return to Zero) <p>PN Sequence Generators</p> <ul style="list-style-type: none"> Chip Clock : 240 KHz, 120 KHz, 60 KHz, 16 KHz, 8 KHz, 4 KHz. Sequence type : Maximal length sequence Sequence patterns: Selectable through feedback taps in LFSR. BFSK frequencies : 100 KHz for mark and 50 KHz for space Frequency synthesizer O/P : Sinusoidal Frequency synthesizer frequencies : 1.6 MHz, 1.4 MHz, 800 KHz, 400KHz. Hopping channels : Four No. of hops per data period : Variable (selectable for slow and fast hopping) Mains Supply : 5V, 12 V DC, 200 mA Test Points : 44 nos.(Gold plated) BNC to BNC Accessories : 1. Patch cord. 	05		<p style="text-align: right;">10/4/2018</p>

A- GENERAL INSTRUCTIONS

1. For the Bidding / Tender Document Purposes, Indian institute of information Technology, Allahabad shall be referred to as 'Institute / Institution / Employer / Clint "and the Bidder/Successful Bidder shall be referred to as 'Firm / Contractor / Bidder / Tenderer / Supplier / SP (Service Provider).
2. While all efforts have been made to avoid errors in the drafting of the tender documents, the Bidder is advised to check the same carefully. No claim on account of any errors detected in the tender documents shall be entertained.
3. The bidder shall submit the copy of the authorization letter / Power of Attorney as the proof of authorization for signing on behalf of the Bidder.
4. All Bidders are hereby explicitly informed that conditional offers or offers with deviations from the specification of the Items, the bids not meeting the minimum eligibility criteria, Technical Bids not accompanied with EMD of requisite amount of a signed Undertaking in lieu of EMD, or any other requirements stipulated in the tender documents may be rejected.
5. For all purposes of this procurement process including arbitration there under, the address of the bidder mentioned in the bid shall be final unless the bidder notifies any change of address by a separate letter sent by registered post with acknowledgement due to IIIT-Allahabad. The bidder shall be solely responsible for the consequences of any omission or error to notify any change of address in the aforesaid manner.
6. **Tenderer should take into account any corrigendum published on the Tender document before submitting their bids. All such corrigendum will be placed on IIIT-A website www.iiita.ac.in Intending tenderers are advised to visit www.iiita.ac.in for regular update, if any, till the closing date of tender for any corrigendum/ addendum/ amendment. IIITA will not be responsible for ignorance of corrigendum.**
7. Quoted price must be F.O.R. Destination at IIIT-A, Deoghat, Jhalwa Allahabad.
8. Supply by Successful Bidder must be completed within specified time provided in Purchase Order. If the supply delayed beyond the stipulated time of completion, penalty of 1% to 10% of the total amount may be imposed at the discretion of competent authority, during next two weeks. This purchase order will be automatically expired after 3 weeks, unless extension is provided by the Institute on supplier's request.
9. **No deviation will be accepted at any stage of supply.** The item specifications and supply condition must be as per quotation quoted by successful bidder and supply order as per enquiry / tender terms and conditions. Otherwise supply will not be accepted.
10. Taxes must be quoted separately in financial / price bid.
11. Payment shall be made to successful bidder within 15 days after item delivery, proper installation and satisfactory report from user end. Successful Bidder will have to submit the bill along with a copy of satisfactory installation report from user end within the delivery time limit.
12. Warranty period will be start from the date of satisfactory installation report. Warranty start and end date should be clearly mentioned in the bill and warranty card duly signed & stamped wherever applicable.
13. **As per Government policy payment to the contractor etc. are to be made through Electronic Transfer to their respective accounts. You are requested to give your account number with full details so that Electronic Transfer of payment may be ensured.**
14. Kindly quote your Income Tax PAN No. & GST No. etc as applicable.
15. **This is to certify that this Institute is established by Government of India and is imparting higher education in Information Technology and the software being purchased is only for teaching & research purposes and not for manufacturing any item for commercial use.**

16. Any wrong or misleading information will lead to disqualification.
17. IIIT-Allahabad through its Director, reserves the right to amend/withdraw any of the terms and conditions in the tender documents or to reject any or all tenders without giving any notice or assigning any reason. The decision of the Director, IIIT -Allahabad in this regard shall be final and binding on all.
18. The EMD shall be returned to the bidder (s) whose offer is not accepted by the Institute within 15 days after finalization and award of the contract without any interest. Unsuccessful bidders may collect the EMD (within next 10 days after finalization & award of the contract) from Purchase Section, IIIT-A between 3PM to 5PM on any working day after providing a copy of any Photo Identity Card. After these 10 days EMD will be sent by registered post to the postal address provided by the firm/bidder at point no.19. Representative may also collect the EMD on behalf of the bidder, after providing an authorization letter from the bidder along with a copy of his photo identity card. If the return of EMD is delayed for any reason, no interest/penalty shall be payable to the bidder.
19. Complete Postal address of tenderer/bidder (to dispatch the EMD to unsuccessful bidder):

20. All disputes are subject to Jurisdiction of Allahabad Courts.

21. For any query pertaining to this bid correspondence may be addressed to

Faculty In-Charge Purchase
IIIT-Allahabad, Deoghat
Jhalwa, Campus
Allahabad- 211015 (UP)
Phone : +91 0532-2922051.
E-mail: info.purchase@iiita.ac.in

B- EARNEST MONEY DEPOSIT

1. The bid security may be forfeited:
 - (i) If the bidder withdraws his bid during the period of validity of the bids specified by the bidder in the bid form; or
 - (ii) In case of successful bidder, if the bidder
 - (a) fails to supply the items mentioned for purchase in this tender document.
 - (b) fails to furnish required Performance Security Deposit in accordance with the terms of Tender Documents within the time frame specified by the Institute; or
 - (c) Fails or refuses to honor his own quoted prices for the services or part thereof.

C-VALIDITY OF BIDS

1. Bids shall remain valid and open for acceptance for a period of 90 days from the last date of submission of Bids.
2. In case, client calls the bidder for negotiation then this shall not amount to cancellation or withdrawal of original offer which shall be binding on the bidder.
3. The client may request for extension for another period of 60 days, without any modifications and without giving any reasons thereof.

D-PREPARATION / SUBMISSION OF BIDS

1. No Bid shall be accepted after the specified date and time. However the Institute, reserves right to extend the date / time for submission of bids, before opening of the Technical Bids.

2. **Technical Bid:** Technical Bid shall be put in a separate sealed envelope superscripted as "Envelope A- Technical Bid". Technical Bid should be prepared as per the instructions given in the Tender Documents along with all required information, documents in support of the minimum eligibility criteria, valid EMD of requisite amount. Documents comprising the Bid:
 - a. Technical Bid Submission Form duly signed and printed on Company's letterhead. (Annexure –I & Annexure – II)
 - b. EMD of 25,000/- or MSME / NSIC Certificate
 - c. All attested supporting document in proof of having fully adhered to minimum eligibility criteria as referred in Annexure -I.
3. **Financial Bid:** Bidder shall prepare the financial Bid in the Price Schedule as provided in the Tender Document as per Annexure-IV. Financial Bid shall be put in a separate sealed envelope superscripted as "Envelope B- Financial Bid".

E-CLARIFICATION ON TECHNICAL BID EVALUATION.

1. The Technical Bids shall be evaluated based on the available documents submitted by the bidder. To assist in the examination, evaluation, and comparison of the bids, and qualification of the bidders, the client may, at its discretion, ask any bidder for a clarification of its bid. Any clarification submitted by a bidder that is not in response to a request by the IIIT-Allahabad shall not be considered. The Institute request for clarification and the response shall be in writing.
2. If a bidder does not provide clarifications of its bid by the date and time set in the Institute's request for clarification, its bid may be rejected.
3. Institute also reserves the right to seek confirmation/clarification from the issuer agency, on the supporting documents submitted by the bidder.

F-PERFORMANCE SECURITY (PS):

1. The successful bidder has to deposit Performance Security which will be a sum equivalent to 10% of the total value in favour of 'IIIT-Allahabad', payable at Allahabad in form of Demand Draft / Pay Order/Bank Guarantee within fifteen days of the acceptance of the Purchase Order. Performance Security should remain valid for a period of sixty days beyond the date of completion warranty period of Items to be purchased.
2. The Performance Security will be forfeited by order of the Competent Authority, if Item/ Equipment has not been found satisfactory and Supplier refuses to rectify the problem within warranty period.
3. If the successful bidder fails to provide the Performance Security within fifteen days of the issuance of the work order, such failure shall constitute a breach of the Tender Condition and the Institute shall be free to make other arrangements at the risk, cost and expense of the Contractor.
4. On due performance and completion of the warranty period in all respects, the Performance Security will be returned to the Supplier without any interest.
5. Bank Guarantee to be submitted by the successful bidder should be sent to the Institute directly by the issuing bank under Registered Post (A.D.). If Successful Bidder is submitting the BG directly, please request the issuing branch to immediately send by Registered Post (A.D.) and unstamped duplicate copy of the guarantee directly to the Institute with a covering letter to compare with the original BGs and confirm that it is in order.

LETTER OF BID
(To be printed on Bidder's letterhead)

Dated:, 2018

To,
Faculty-In-Charge Purchase
Indian Institute of Information Technology
Deoghat, Jhalwa, Allahabad.

Sub: Submission of Bids against Tender Ref. No. _____

We, the undersigned, declare that:

1. We have examined and accepted all the terms and conditions of the tender reference number _____ and ready to offer the required services accordingly required in tender document.
2. We offer to execute in conformity with the Bidding Documents for **Purchase of Digital Kits at IIIT-Allahabad.**
3. Our bid shall be valid for a period of 90 days from the date fixed for the bid submission deadline in accordance with the Bidding Documents and shall remain binding upon us and maybe accepted at any time before the expiry of the period.
4. If our bid is accepted, we commit to submit a Performance Security Deposit in accordance with the Bidding Documents.
5. We also declare that the any Government body has not declared us ineligible or blacklisted us on charges of engaging in corrupt, fraudulent, collusive or coercive practices or any failure/lapses of serious nature.
6. We also accept all the terms and conditions of this bidding document and undertake to abide by them, including the condition that you are not bound to accept highest ranked bid / lowest bid or any other bid that you may receive.

Yours sincerely,
Authorized Signatory

(Authorized person shall attach a copy of Authorization for signing on behalf of Bidding company)

Full Name and Designation

Format for Submitting the Price Schedule

(To be submitted along with the financial bid in separate sealed cover)

Ref. IIT-A/FIP/TENDER/ /2018


Date:.....

To,

Faculty – in – Charge
Purchase Section
IIT-Allahabad

Price Schedule

Sl. No.	Item and Specification	Qty	Price	Amount
01	<p><u>PAM,PWM, PPM, and line coding techniques</u></p> <p>Technical Specifications: Modulation & Demodulation Techniques: PAM, PWM, PPM, Line Coding Techniques Internal Signal Generator: Direct Digital Synthesizer</p> <ul style="list-style-type: none"> • Types of Signal : Sine, Square, Triangle, Arbitrary • Frequency: 500Hz, 1KHz, 2KHz, 3KHz <p>External Signal:</p> <ul style="list-style-type: none"> • Types of Signal : Sine, Square, Triangle, Arbitrary • Maximum Input Voltage: 3Vpp (Max.) +1.5V DC offset • Frequency : 500Hz to 3.5KHz <p>Sampling/Ramp Frequencies: 1.25 KHz, 2.50 KHz, 5 KHz, 9.80 KHz, 19.53 KHz, 39.06KHz,78.13 KHz</p> <p>SMD LED Indicators: 46 nos. for</p> <ul style="list-style-type: none"> • DDS signal selection • DDS signal frequency selection • Sampling selection • Technique Selection • Interconnect path <p>Crystal Frequency: 20MHz Selection Mode: Push switches Random Data: 8 Bit/ 16 Bit/ 32 Bit (For line Coding) Test Points: 29 nos. (Gold Plated) Low Pass Filter: Cut-off frequency-5KHz Learning Material: CD (Theory, procedure, reference results, etc), Power Supply: 110V - 260V AC, 50/60Hz Operating Condition: 0-40°C, 85% RH Accessories: 2mm Patch cords</p>	05		
02	<p><u>PCM, DPCM, CVSD Modulator and Demodulator</u></p> <p>Technical Specifications: Modulation & Demodulation Techniques : PCM, DPCM, CVSD Internal Signal Generator : Direct Digital Synthesizer</p> <ul style="list-style-type: none"> • Types of Signal : Sine, Square, Triangle, Arbitrary signals • Frequency : 500Hz, 1KHz, 2KHz, 3KHz <p>External Signal :</p> <ul style="list-style-type: none"> • Types of Signal : Sine, Square, Triangle, Arbitrary signals • Maximum Input Voltage: 3Vpp (Max.) +1.5V DC offset • Frequency : 500Hz to 3.5KHz <p>SMD LED Indicators : 44 nos. for</p> <ul style="list-style-type: none"> • DDS signal selection • DDS signal frequency selection • Sampling selection • Technique selection • Interconnect path <p>Transmission Effect : Attenuation (7dB & 10dB), Noise, Filter Crystal Frequency : 8MHz Sampling Frequencies : 4KHz, 8KHz, 16KHz, 32KHz Line Speed : 32KHz, 64KHz, 128KHz, 256KHz Selection Mode : Push switches Number of Test Points : 38 nos.(Gold plated) Low Pass Filter : Cut-off frequency-5KHz Learning Material : CD (Theory, procedure, reference results, etc) Power Supply : 110V - 260V AC, 50/60Hz Operating Condition : 0-40°C, 85% RH Accessories: 2mm Patch cords</p>	05		
03	<u>Delta, Adaptive Delta, Sigma Delta Modulator &</u>	05		

	<p>Demodulator</p> <p>Technical Specifications:</p> <p>Modulation & Demodulation Techniques : Delta, Adaptive Delta, Sigma Delta First order, Sigma Delta Second order</p> <p>Internal Signal Generator : Direct Digital Synthesizer</p> <ul style="list-style-type: none"> • Types of Signal : Sine, Square, Triangle, Arbitrary • Frequency : 500Hz, 1KHz, 2KHz, 3KHz <p>External Signal :</p> <ul style="list-style-type: none"> • Types of Signal : Sine, Square, Triangle, Arbitrary signals • Maximum Input Voltage: 3Vpp (Max.) +1.5V DC offset • Frequency : 500Hz to 3.5KHz <p>SMD LED Indicators : 48 nos. for</p> <ul style="list-style-type: none"> • DDS signal selection • DDS signal frequency selection • Sampling selection • Technique selection • Interconnect path <p>Transmission Effect : Attenuation (7dB & 10dB), Noise, Filter</p> <p>Crystal Frequency : 8MHz</p> <p>Sampling Frequencies : 16KHz, 32KHz, 64KHz, 128KHz, 256KHz</p> <p>Integrator step : Normal & 3 times</p> <p>Selection Mode : Push switches</p> <p>Number of Test Points : 46 nos.(Gold plated)</p> <p>Low Pass Filter : Cut-off frequency-5KHz</p> <p>Digital Filter : Decimation filter (16:1)</p> <p>Learning Material : CD (Theory, procedure, reference results, etc)</p> <p>Power Supply : 110V - 260V AC, 50/60Hz</p> <p>Operating Condition : 0-40°C, 85% RH</p> <p>Accessories: 2mm Patch cords</p>			
04	<p>Digital Companding : A Law & μ Law</p> <p>Technical Specifications:</p> <p>Compression and Decompression Techniques: A-Law, μ-Law</p> <p>Signal Generator : Generated Sine</p> <ul style="list-style-type: none"> • Direct Digital Synthesizer wave • 14 Bit data input through Dip switch. <p>SMD LED Indicators :</p> <ul style="list-style-type: none"> • 73nos, for Dip based input data Compressed output • Decompressed output • Technique selection <p>Crystal Frequency : 8MHz</p> <p>Test Points : 37nos</p> <p>Learning Material : CD (Theory, procedure, reference results, etc)</p> <p>Power Supply : 110V - 260V AC, 50/60Hz</p> <p>Operating Condition : 0-40°C, 85% RH</p> <p>Accessories: 2mm Patch cords, FRC Cable 16 pins</p>	05		
05	<p>Understanding noise generation and its applications</p> <p>Technical Specifications:</p> <p>Noise generator : White Noise, Additive White Gaussian Noise, Periodic Random Noise</p> <p>Internal Signal Generator : Direct Digital Synthesizer</p> <ul style="list-style-type: none"> • Types of Signal: Sine, Square, Triangle, Arbitrary signals. <p>SMD LED Indicators : 13nos for</p> <ul style="list-style-type: none"> • DDS Signal selection • DDS Signal frequency selection • Noise selection <p>Selection Mode : Push switches</p> <p>Crystal Frequency : 8MHz</p> <p>Test Points: 5 nos.</p> <p>Gain selection for Modulating : 10K potentiometer</p> <p>Gain selection for Noise : 10K potentiometer</p> <p>Learning Material : CD (Theory, procedure, reference results, etc)</p> <p>Power Supply : 110V - 260V AC, 50/60Hz</p> <p>Operating Condition : 0-40°C, 85% RH</p> <p>Accessories: 2mm Patch cords</p>	05		
06	<p>ASK, FSK, BPSK, DBPSK Modulator and Demodulator</p> <p>Technical Specifications:</p> <p>Modulation & Demodulation Techniques : ASK, FSK, BPSK , DBPSK</p> <p>Internal Data Generator : Digital data</p> <p>Data Pattern : 8-Bit, 16-Bit, 32-Bit, 64-Bit</p> <p>Frequency : 2KHz, 4KHz, 8KHz, 16KHz</p> <p>Internal Carrier Generator : Direct Digital Synthesized</p> <p>Carrier Signal : Sine</p> <p>SMD LED Indicators : 24 nos. for</p> <p>Digital data selection,</p> <ul style="list-style-type: none"> • Data frequency selection and • Technique selection <p>Number of Test Points : 39 nos.(Gold plated)</p> <p>Crystal Frequency : 8MHz</p> <p>Selection Mode : Push switches</p> <p>Learning Material : CD (Theory, procedure, reference results, etc)</p> <p>Power Supply : 110V - 260V AC, 50/60Hz</p>	05		

	<p>Operating Condition : 0-40°C, 85% RH Accessories: 2mm Patch cords</p>			
07	<p><u>QPSK, OQPSK, DQPSK Modulator & Demodulator</u></p> <p>Features</p> <ul style="list-style-type: none"> • Personalized Learning platform • On-board four variable line speed rates and single bit data pattern. • On board DDS technology based Carrier Generator • SMD LED indicators • Can be issued just like a book for hands-on learning <p>Technical Specifications</p> <p>Modulation & Demodulation Techniques</p> <ul style="list-style-type: none"> • 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 : 25 nos. for • Digital data selection, data frequency selection and technique selection • Number of Test Points : 57 nos. • Crystal Frequency : 8MHz • Selection Mode : Push switches • Dimensions (mm) : W 326 x D 252 x H 52 • Power Supply : 110V - 260V AC, 50/60Hz • Weight : 1.5Kg (approximately) • Operating Condition : 0-40 deg. Celcius, 85% RH • Included accessories: 2mm Patch cord - 1no. • Power Supply module- 1no. 	05		
08	<p><u>16 QAM (Quadrature Amplitude Modulation) Training System</u></p> <ul style="list-style-type: none"> • Encoding: 4 bits encoding with Symbol Mapper • Modulation: 16-QAM Modulation with I & Q Channel • Constellation (Vector / XY) View • User selectable step variable clock frequency • User Selectable 8 / 16 / 32 / 64 bit Data • Digitally Synthesized Sine & Cosine Wave of Maximum 19.2KHz. • External Trigger Out <p>Technical Specifications</p> <ul style="list-style-type: none"> • 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 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 ±10%, 50 / 60 Hz • Power Consumption : 2.5 VA approximately • Weight : 5Kg approximately • Dimension (mm) : W 360 * D 260 * H 110 • Operating Conditions : 0-40 deg.Celcius , 80% RH 	05		
09	<p><u>Understanding Block Codes Encoder and Decoder</u></p> <p>Features</p> <ul style="list-style-type: none"> • On-board clock generation for Data and Code. • On-board data generator. • On board error generator block • BCD rotary switches for Data Selection. • LED Numeric display. • Single bit error detection and correction. • Default and manual H-matrix selection 	05		

	<ul style="list-style-type: none"> Exhaustive learning material <p>Technical Specifications</p> <ul style="list-style-type: none"> Crystal Frequency : 11.059 MHz Word Length : 4 bits Codeword Length : 7 bits code Data Format : NRZ (Not Return to Zero) Interconnections : 2 mm sockets (Gold plated) Test points : 5 nos (Gold plated) Power Supply : 110-220 V ±10%, 50/60 Hz Operating Conditions : 0-40 C, 80% RH Internal Power supply : +5V DC Weight : 1.5 Kgs. Approximately Dimensions (mm) : 326 W × 252 D × 52 H Learning Material: Online (Theory, procedure, reference results, etc). Included Accessories : <ul style="list-style-type: none"> Patch cord 8" : 12 nos. Power supply : 2 nos. Mains cord : 2 nos. 			
10	<p>Two Channel Code Division Multiple Access (DSSS and FHSS) Features</p> <p>Technical Specifications:</p> <ul style="list-style-type: none"> On-board data generators and PRN sequence generators BCD rotary switches for Data Selection Tap selectable PN sequence generators Multiple data rate and chip rate selection Variable processing gain selection Slow and Fast frequency hopping demonstration PN sequence driven Frequency synthesizer with non-overlapping frequency channel assignment <p>Major blocks :</p> <ul style="list-style-type: none"> Data generators 1 Data generators 2 PN sequence 1 PN sequence 2 Clock Generator DSSS Modulator 1 DSSS Modulator 2 Frequency Synthesizer 1 Frequency Synthesizer 2 FHSS Modulator 1 FHSS Modulator 2 Mixer DSSS Demodulator <p>Technical Specifications</p> <ul style="list-style-type: none"> Mains Supply : 230 V ±10%, 50/60 H Data Source Data rate : 16Kbps, 8 Kbps, 4Kbps Word Length : 8 bits Data Format : NRZ (Non Return to Zero) <p>PN Sequence Generators</p> <ul style="list-style-type: none"> Chip Clock : 240 KHz, 120 KHz, 60 KHz, 16 KHz, 8 KHz, 4 KHz. Sequence type : Maximal length sequence Sequence patterns: Selectable through feedback taps in LFSR. BFSK frequencies : 100 KHz for mark and 50 KHz for space Frequency synthesizer O/P : Sinusoidal Frequency synthesizer frequencies : 1.6 MHz, 1.4 MHz, 800 KHz, 400KHz. Hopping channels : Four No. of hops per data period : Variable (selectable for slow and fast hopping) Mains Supply : 5V, 12 V DC, 200 mA Test Points : 44 nos.(Gold plated) BNC to BNC Accessories : 1. Patch cord. 	05		
Total Amount				
Taxes / GST @.....%				
Grand Total				

Yours faithfully,

(Signature of Authorised Signatory)

Name :

Designation :

Company seal :

(On the letterhead of the bidding company)

To,

Faculty – in- Charge Purchase
IIIT-Allahabad

UNDERTAKING

I, _____, of M/s. _____, having registered office at _____, do hereby undertake that my company, M/s. _____, will not withdraw or modify its bids submitted for Tender No. _____ dated _____ for the _____ (Tender Name).’ during the period of validity of the bids.

I further undertake to have understood that if my company M/s. _____ withdraws or modifies its bids or if it fails to submit a performance security before the stipulated deadline or fails to supply the item/equipment if the work is awarded to it, M/s. _____ will be suspended for a specified time period from being eligible to submit bids for enquiry / tender with the Indian Institute of Information Technology, Allahabad.

Place :

Date :



To
Faculty – In- Charge
Purchase Section
IIIT-Allahabad

WHEREAS

.....
(Name and address of the Contractor) (Hereinafter called “the supplier”) has undertaken, in pursuance of contract no.

Dated to perform the work) (herein after called “the contract”).

AND WHEREAS it has been stipulated by you in the said contract that the Contractor shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the Contractor such a bank guarantee:

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the Contractor, 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 limits 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.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until theday of....., 20__

.....
(Signature of the authorized officer of the Bank)

.....
Name and designation of the officer

.....
Seal, name & address of the Bank and address of the Branch
(Bank's common seal)