

Ref. e-Tender Notice No. NITJ/PUR/EE/170/2021/e-tender No- 106/2022

Please	e find enclosed herewith the following:	Page No.			
1.	e-Tender Notice No. NITJ/PUR/EE/170/2021/e-tender No- 106/2022 & Schedule for Opening of the e-Tender				
2.	Annexure-I (Detail of Equipment, Tender Fee & EMD)	3-4			
3.	Important Note	5			
4.	Instruction to Tenderers	6-8			
5.	Tender Evaluation	9-10			
6.	Terms & Conditions	11-12			
7.	Acceptance of terms and conditions	13			
8.	Questionnaires A & B	14-15			
9.	Performa for performance statement	16			
10.	Annexure 'A' (Specifications of the Equipment)	17-43			
11.	Annexure 'B' & 'C' (Format For Performance Bond/ Guarantee & Format For Performance Bond (Bank Guarantee)	44-45			
12.	Annexure – 'D' (Format for Manufacturer's Authorization Form)	46			
13.	Annexure- 'E' (Declaration Regarding Blacklisting/ Debarring for taking part in Tender)	47			
14.	Annexure – 'F' (Certificate of Warranty)	48			

Assistant Registrar Dr. B. R Ambedkar NIT Jalandhar

Email: arpurchase@nitj.ac.in



THIS DOCUMENT IS FOR REFERENCE ONLY. ONLY E-TENDERS WILL BE ACCEPTED

e-Tender Notice No. NITJ/PUR/EE/170/2021/e-tender No- 106/2022

National Institute of Technology, Jalandhar invites e-tender for purchase of Various Equipments / Instruments / Components required for E-Yantra Lab for the Department of Electrical Engineering as per detail available at <u>Annexure-I</u> along with Tender Fee & EMD of the Institute as per details given below:

I	Downloading & Submission of Online e-tender/bids	Start Date: 22.03.2023 upto 04:00 PM
II	Last date of submission of online bids	End Date: 12.04.2023 upto 04:00 PM
III	Physical submission of Tender Feeand EMD	End Date: 13.04.2023 upto 04:00 PM
IV	Opening of Technical e-Bid (online)	13.04.2023 at 04:00 PM

Detailed Terms and Conditions are available in e-tender document. The bid document can be downloaded from the <u>CPP Portal</u>.

Complete tender document is available for reference purposes on Institute website <u>www.niti.ac.in</u> and <u>CPP Portal.</u> Only e-tenders will be accepted.

Registrar



<u>Annexure-I</u>

Ref. No. e-Tender Notice No. NITJ/PUR/EE/170/2021/e-tender No- 106/2022

Detail of Equipment, Tender Fee & EMD are as under:

Sr. no.	Item/ Instruments / Equipments / Appratus	Qty. Tender Fee		EMD
1.	ATmega Development Board	01	Rs. 500/-	Rs.3,000/-
2.	LPC Development Board	01	-	
3.	8051 microcontroller based Development Board	01	-	
4.	Raspberry-Pi 3	06	-	
5.	Micro SD card (16 GB)	06	-	
6.	USB Adapter	06		
7.	RF Transceiver module	04		
8.	Zigbee Modules 100m range	06		
9.	Zigbee Modules Adapter	06		
10.	Color sensor module	04		
11.	Gyroscope Module	04		
12.	Servo motor based Gripper Kit	01		
13.	HD USB WebCam	02		
14.	Metal-gear Servo Motors	10		



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15.	ESP Development Board (10 gpio)	04		
16.	ESP Development Board (Dual mode. 2.4 GHz)	06		
17.	2-Channel Relay Board (12 volt)	02		
18.	2-Channel Relay Board (5 volt)	02		
19.	Nucleo boards	02		
20.	Tiva Launchpad	02		
21.	Motor Driver Module	06		
22.	Quad Encoder Geared DC Motor	08		
23.	Micro Servo motor	05		
24.	FPGA module	02		
25.	Soldering Station	01		
26.	Screw Driver and bit set with carry box	02		
27.	Screw Driver with Bulb (150 Mm and 200mm)	04		

For Participation in tender, whole list of Equipments / Instruments / Components are required to be provided / Quoted otherwise bid will not be entertained. The bidders are required to quote total rate of these items collectively as per BOQ of the tender document.

Note: The quantity of required equipment/item may vary as per requirement.

*Exemption of Tender fee & EMD will only be given to MSME/NSIC registered bidders.



Important Note

- 1. All corrigenda, addenda, amendments and clarifications regarding this tender document will be uploaded on the website <u>www.nitj.ac.in</u> and CPP Portal and not in the newspaper;Bidders shall keep themselves updated with all such developments.
- 2. In case, the last date of receipt/opening of bids falls on holiday, the bids shall be receipt/opened on the next working day at same time.
- 3. In case, the last date of submission of EMD & Tender fee falls on holiday, the EMD & Tender fee shall be submitted on the next working day at same time.
- 4. Tenderer who have downloaded the tender document form from the institute website, shall submit a declaration along with tender document that I/We have downloaded the Tender Form from the institute website <u>www.nitj.ac.in</u> and I/we have not tempered /modified the tender form in any manner. In case, if the same is found to be tempered/modified in any manner, I/we understand that my/our tender will be summarily rejected and I/we are liableto be banned from doing business with institute.
- 5. Tender fee of Rs.500/- (Non- refundable) in the form of DD in favour of <u>Director, D RB R</u> <u>Ambedkar NIT, Jalandhar.</u>
- 6. EMD (refundable) in the form of DD in favour of <u>Security- A/c, DR B R Ambedkar NIT</u>, <u>Jalandhar</u>.
- 7. <u>Both EMD and Tender fee are be submitted as per dates mentioned in schedule.</u> <u>failing which e-bids will not considered.</u>
- All the bidders are required to submit the Tender Fee and EMD as per requirement of tender document failing which bids received straightway rejected and bid will be invalid.
- Note: If the bidder inadvertently or otherwise upload the quoted rates in the technicalbid, the bid will be straightway rejected and treated invalid.
- If the bidder is exempted for payment of Tender Fee and EMD as NSIC/MSME registered bidders, then bidder is required to submit NSIC/MSME exemption certificate for same. The Certificate must be valid as on last date of submission of bid.

<u>Tenderer must submit a scanned copy (duly signed and stamped) regarding terms &</u> <u>conditions as per our tender documents along-with make/model. specifications. bill of</u> <u>quantity as per required equipment in the technical bid for examine the bid asper our</u> <u>institute tender documents. It is noted that no rate should be depicted in theletter head.</u>



Instructions to Tenderer

- 1. No tender will be accepted in physical form. The bidders shall have to submit their bids online in Electronic Format under Digital Signatures. For participation in the e- tendering process, the bidders need to register themselves on CPP Portal.
- 2. Bids are to be submitted online and opened online as per time given failing which no tender will be considered.
- 3. Bids will be opened online as per time given schedule.
- 4. Before submission of online bids, bidders must ensure that scanned copies of all the necessary/relevant documents have been uploaded with the bid which should be duly signed and stamped. The duly signed and stamped copies of Terms & Conditions of the tender, reply of the Questionnaire of Plant & Machinery and other documents of the Tender & Annexures must be uploaded, failing which their bids may be rejected.
- 5. NIT JALANDHAR, will not be responsible for any delay in online submission of bids due to any reason whatsoever.
- 6. Bidders should also upload the scanned copies of Tender fees/EMD/Exemption Certificate as specified in the tender documents along with online technical documents. EMD in the form of a Demand Draft in favour of the <u>Security – A/c, Dr</u> <u>B R Ambedkar NIT, payable at Jalandhar</u> (refundable separate) and Tender Fee in the form of a Demand Draft in favour of the <u>Director, Dr B R Ambedkar NIT, payable at Jalandhar</u> (Non- refundable separate) should also be submitted in physical form to the following address as per scheduled time given for physical submission of EMD and Tender fee. The Envelope should be super- scribed as EMD and Tender Fee for Tender for Supply of Various Equipments / Instruments / Components and sent to following address:-

Kind Attention- Assistant Registrar (Purchase Section) Director, Dr B R Ambedkar National Institute of Technology, G T Road Amritsar By Pass, Jalandhar-144001, Punjab (India).

- 7. The details of EMD specified in the tender document should be same as submitted online (scanned copies). Otherwise tender will be rejected summarily.
- 8. The conditional bids shall not be considered and will be out rightly rejected.

Read and Accepted



- 9. The Financial Bid through e-tendering process shall be opened of only those bidders, who will qualify in the technical bid and approved by the Purchase Committee/Technical Experts. The date, time & place of opening of the financial bid(s) will be intimated in due course of time.
- 10. At any time prior to the deadline for submission of bid, the institute may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective tenderer(s), modify the tender document by issuance of an amendment.
- 11. The amendment will be uploaded on Institute website and CPP Portal only. In order to provide reasonable time to prospective tenderer(s), for preparing their bid as per amendment, the institute may, at its discretion extend the deadline for the submission of tender.
- 12. The supplier must upload the original manuals / catalogue and Make/Model of the Equipment /Item. Otherwise bid is liable to be rejected.
- 13. The Institute is not liable to pay any interest on EMD. Earnest money deposit shall be forfeited, if the tenderer, withdraws its bid during the period of tender validity. The Earnest money deposit of the tenderer, whose tender has been accepted, will be returned on the submission of <u>performance security @ 3% of the total value of the offer. The performance security will be kept till the warranty period + 02 months more of the Equipment /Item. The warranty period will start from the date of satisfactory installation of the Equipment /Item duly given by the concerned department. Earnest money deposit of the successful tenderer shall be forfeited, if it refuses or neglects to execute the contract or fails to furnish the required performance security within the time frame as specified by the institute. The EMD(s) of other Bidder(s) whose offer are found according to required specifications/ lowest will be released after finalization of Technical Bids/ Lowest Bid/Purchase.</u>
- 14. The Format of Performance Bank Guarantee bond or Performance Bank Guarantee issued by the bank as per the format given in <u>Annexure "B" & "C"</u>.
- 15. Delivery time is the essence of the contract and must be met with.
- 16. Nearest specifications/better specifications can be considered. In case of deviation, complete justification should be furnished with proper documents.
- 17. The Director may accept a tender in part or whole of the quantity offered, reject any tender without assigning any reasons and may not accept the lowest bidder. Further in case of any doubt/dispute, the decision of the Director of the Institute shall be final.

Read and Accepted.



- 18. The offer shall be kept valid for minimum 120 days.
- 19. a) Either the agent/ dealer on behalf of the Principal/OEM or Principal/OEM itselfcan bid but both cannot bid simultaneously for the same item/product in the same tender.
 - b) If an agent/ dealer submits bid on behalf of the Principal/OEM, the same agent /dealer shall not submit a bid on behalf of another Principal/OEM in the sametender for the same item/product.
 - c) Only one agent/dealer of single Principle/OEM can submit the bid. If more than one agent/dealer of same OEM/Principal quote in the tender, then bids of all the bidders of single OEM/Principle are liable to be rejected.
 - d) All offers other than those from the Principal/OEM should be supported by an authority letter from the manufacturer authorizing the dealer /supplier to tender on their behalf as per <u>Annexure-D</u>. In case of manufacturer, a certificate or a copy thereof to the effect that the bidder is a manufacturer of the Equipment /Item mustbe accompanied with the technical bid.
- 20. The supplier will be responsible till the entire stores contracted for, arrive in good condition at destination.
- 21. The tenderer should not have been debarred and/ or blacklisted by any Central Government/ or any State Government Department(s). This must be supported by an affidavit as per format given in Annexure-"E".
- 22. If any information furnished by the bidder is, at any stage found to be incorrect/false/fabricated, the Institute shall have the absolute right to forfeit the EMD, warranty/performance guarantees or/and security deposits, in addition to cancellation of contract, and in accordance with law, such other actions may be takenlike black-listing of the bidder etc.

Read and Accepted.



TENDER EVALUATION

Institute will evaluate all the proposals to determine whether these are complete in all respects as specified in the tender document. Evaluation of the proposals shall be done in two stages as:

(a) <u>Stage – I (Technical Evaluation):</u>

(i) Institute shall evaluate the technical bid(s) to determine the following like the bid qualifies the essential eligibility criteria or not , the tenderer has submitted the EMD & Tender fee or not, any computational errors have been made or not, all the documents have been properly filled or otherwise, all the documents have been submitted/ uploaded with technical bid or not, the specifications, Make/Model, Catalogue of quoted Equipment /Item are as per requirement tender specifications or not, Authorization of Dealer / Distributor/ Exclusive Agent certificate from manufacturer is in order or not, Sales & service policy of equipment / item during warranty period and after warranty period will also be seen, location of their authorized service center will also be seen for evaluation etc.

After evaluation of technical bid(s), a list of the qualifying tenderer (s)/ bidder s) shall be made. Short-listed tenderer(s) will be informed of the date, time and place of opening of financial bid(s) and they may attend or depute their authorized representative/s to attend the schedule of opening of financial bid(s) on the scheduled date and time, if they wish to do so. The representative(s) should have a letter of authority to attend the price bid(s) opening event.

Read and Accepted



PART – II (e-FINANCIAL BID):

- a) Bidders should offer the rates as per the format of BOQ as available on CPP Portal. Detailed bill of material/quantity is also to be provided along with the price breakup of each item as per requirement of the tendered specification of the equipment in the online price bid at <u>CPP Portal</u>.
- Note: The quoted amount as filled in the Annexure(s) of online financial bid and detailed bill of material/quantity provided with price break up of each item in the online financial bid should be tallied and both must be same, otherwise bid will be treated invalid.

ARBITRATION:

In case of any dispute or difference arising out in connection with the tender conditions/job order/Contract, the Institute and the Seller/Service Provider will address the dispute/difference for a mutual resolution and failing which, the matter shall be referred for arbitration to a sole Arbitrator to be appointed by the Institute.

The Arbitration shall be held in accordance with the provisions of the Arbitration and Conciliation Act, 1996 and the venue of arbitration shall be at Jalandhar only. The decision of the Arbitrator shall be final and binding on both the parties.

JURISDICTION:

The courts at Jalandhar alone will have the jurisdiction to trial any matter, disputeor reference between parties arising out of this tender / contract. It is specifically agreed that no court outside and other than Jalandhar Court shall have jurisdiction in the matter.

Read and Accepted.



(TERMS AND CONDITIONS (FOR THE SUPPLY OF GOODS, EQUIPMENT /ITEM)

- 1. Rate should be quoted F.O.R NIT Jalandhar and In INR only.
- 2. Where the Equipment / Machinery/ Instrument are composed of several sub units/components, the rate should be quoted for each subunit/component separately. NIT Jalandhar reserves the right to increase or decrease the number of sub units/components and number of Equipment / Machinery/ Instrument according to its requirements.
- 3. The institute being government educational institute is having Excise and Custom duty exemption in terms of government notification No. 51/96-customs Dt. 23-7-1996 and No. 10/97-central excise Dt. 1-3- 1997 as amended from time to time, therefore taxes be quoted accordingly and this must be depicted in Price Bid clearly.
- 4. GST or any other chargeable duty where applicable must be specifically mentioned, failing which no tax or duty will be allowed at subsequent stage.
- 5. All items shall be indicated both in words as well as in figures. If there is difference between amount quoted in words and figures, amount quoted in words shall prevail.

6. Payment:

(a) 100% payment will be made against physical delivery, inspection, installation, trainingof the Equipment/Machinery/Instrument etc. in the institute, receipt of satisfactory working report of the Equipment / Machinery/Instrument etc. and receipt of Performance Bank Guarantee @ 3%.

- 7. Warranty: Rates should be quoted with comprehensive warranty. Besides this, policy regarding after sale service on the expiry of warranty period of Equipment / Machinery/Instrument etc. may be explained. The bidders should attach duly signed and stamped certificate of warranty as per <u>Annexure-F</u> with the technical bid.
- 8. Training: In house training (where applicable) after the installation and commissioning of Equipment / Machinery/Instrument etc. shall be provided by thesupplier.
- 9. Delivery: Delivery date will be mentioned in the supply order. The time and date of delivery or dispatch stipulated in a supply order shall be deemed to be the essence of the supply order and if the supplier fails to deliver or dispatch any consignment within the period prescribed for such delivery, the delayed consignment will be accepted subject topenalty as laid down in the supply order, which will be recovered from the pending payments.

Read and Accepted.



- 1. No recovery of penalty will be made, if the delayed supplies are acceptable by extending the delivery period by the Director with our any LD charges.
- 2. Director will allow extension on the request of the supplier by recording in writing that in exceptional circumstances the supply was beyond the control of the supplier and there was no loss to the institute.
- 3. Penalty on account of delay, Director NIT, Jalandhar reserves the right to impose 0.5% (Half) per cent penalty per week on account of delay in supply, if delivery received after expiry of the original delivery period. The total penalty will not exceed 10% of the value of the delayed goods.
- i) **Installation**: Supplier has to install the Equipment / Machinery/ Instrument within two to three weeks from the receipt of the Equipment / Machinery/Instrument etc. in NIT Jalandhar.
- ii) Spares and Accessories, wherever required should be quoted separately and clearly, even if these are not asked for.
- iii) Site Preparation: The supplier shall inform NIT Jalandhar about the site preparation, if any, needed for the installation, immediately after receipt of the supply order. Supplier must provide complete details regarding space and all infrastructural requirements needed for the Equipment / Machinery/Instrument etc which NIT Jalandhar should arrange before the arrival of Equipment / Machinery/Instrument etc to ensure its early installation and smooth operation thereafter. The supplier may offer his advice and render assistance to NIT Jalandhar in the preparation of the site and other pre installation requirements.
- iv) The total scope of work includes the supply, installation, satisfactory commissioning and testing of the Equipment / Machinery/Instrument etc by the supplier, training at NIT Jalandhar, method development and validation for parameters as mentioned in specifications at <u>Annexure-A</u>. The supplier will complete installation & Commissioning of Machine within two to three weeks from the date of receipt of Equipment / Machinery/Instrument etc. of NITJ.
- v) Details about the service center for the quoted Equipment / Machinery/Instrumentetc. in India may be mentioned.

Read and Accepted.



Acceptance

We	_read	and	accept	the	instructions	to	the
tenderer, terms & conditions and all oth	ner docu	uments	as menti	oned	in the tender	and	shall
comply with them strictly.							
Name of Bidder							
		-		Sig	nature		
Address							
Address		_		Sea	al of firm:		
		_					
				Dat	e		



Questionnaires A & B

QUESTIONNAIRE FOR PLANT & MACHINARY

Note: Please submit the reply in detail and also enclose the necessary documents with proof where required as per Questionnaire. These documents must be submitted in the technical bid document.

Please state that you have submitted your quotations as per procedure mentioned below:-

- Bids consisting of technical details bringing out clearly in a separate sheet, the deviation in the specifications if any from that of tender enquiry specifications along with commercial terms and tender form.
- 1. Please attach list dully signed by you, for such spare parts and tools which are absolutely essential for proper maintenance and operation of machine for a period of two years giving full particulars of spare and tool with a price of each spare parts and tools separately.
- 2. Please confirm that you have adequate servicing and spare parts facilities in India in respect of Equipment /Item tendered by you or that you should arrange to provide such facilities simultaneously.
- 3. Please indicate that you guaranteed that before going out of production of spareparts, you will give adequate advance notice to the purchaser so that the institute may order his requirements of spares in one lot ,if he so desire.
- 4. Please indicate that you guaranteed that if you go out of production of spare parts, then you will make available prints, drawings of the spare parts and specifications of the material at no cost if and when required in connection with Equipment /Item to enable the purchaser to fabricate or procure spare parts fromother sources.
- 5. Please confirm that you undertake to enter into a rate contact with the purchaser to supply spare parts on an agreed basis for an agreed period.
- 6. Status:
 - a) Indicate whether you are ISU or SSI
 - b) Are you registered with Government e-Marketing (GeM) for the itemquoted? If so indicate whether there is any monetary limit or registration.
 - c) If you are a small scale unit registered with NSIC under single pointregistration scheme whether there is monetary limit.
- 7. a) If you are registered either with NSIC or with Government e-Marketing (GeM), please State whether you are registered with Directorate of industries of the state government concerned.
 - b) If so, confirm whether you have attached a copy of the certificate, issued by Director of industries.
- 8. Please indicate:-Name & Full Address of your Banker
- 9. Please indicate whether you agree to submit advance samples if called uponto do so within the specified period of 21 days.



- 10. Business name and constitution of firm:
 - i) The Indian company Act.1956
 - ii) Indian partnership Act.1932
 - iii) Any act, if not, who are the owner/partners (please give full name and address)
- 11. Whether the tendering firm is / are:
 - i) Manufacturers authorized agents
 - ii) Holders stock of the stores tendered for
 - iii) NBI manufacturer's agents please enclose with tender the copy of manufacturer's authorization.
- 12. Please state whether the inspection clause is acceptable to you
- 13. Here state specifically:
 - i) Whether the price quoted by you is to the best of your knowledge and belief is not more than the price usually charged by you on stores of the same natures, class of description to any private purchase either foreign or as well as government purchaser. If not state the reason thereof if any also indicates the margin of Difference.
 - In respect of indigenous items for which there is a controlled price fixed by law, the price quoted shall not be higher than that the controlled price and rates available on DGS&D/ Government e-Marketing (GeM) contract. The reason thereof should be stated.
- 14. State whether business dealing with you has been banned by Ministry/Department of supply or any other Govt. Department.
- 15. Please confirm that you have read all the instruction carefully and have complied with accordingly.

(Signature of Tenderer)

1. Full Name & Address of the person signing

(_____)

2. Whether signing as proprietor /partners



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PERFORMA FOR PERFORMANCE STATEMENT

(For the Period of last 3 years)

e-Tender Notice No. NITJ/PUR/EE/170/21/e-tender No. 106/22							
Sr. No.	Order (full placed address of purchaser)	Order No. & Dated	Description And Qty. of Stores Ordered	Value of Order	Date of Completion of Delivery	Has the equipment/Item been satisfactory commissioned	



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Annexure "A"

1) ATMEGA Development Board

- Microcontroller: ATMEGA2560 with 16 MHz crystal with On-Board USBASP Programmer.
- Power: 7 to 15 VDC with Reverse Polarity Protection.
- 2.4GHz ZigBee wireless module adaptor
- 2×16 Character Alphanumeric LCD.
- SD card Holder.
- CH340G USB to Serial converter.
- ESP8255 Adaptor interface with USB to Serial Converter.



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2) LPC Development Board

- Microcontroller: LPC2148 with 512K on chip memory
- Crystal for LPC2148: 12Mhz
- Crystal for RTC: 32.768KHz
- 50 pin Berg header for external interfacing
- Wireless module adapter for 2.4GHz ZigBee (Xbee) / Bluetooth / WiFi connectivity
- On board 512 bytes of I2C external EEPROM
- USB Type B Connector SD / MMC card holder with SPI interface
- 10pin(2X5) FRC JTAG connector for Programming and debugging
- 50 Pin Expansion header for easy access to I/O pins
- On board Two Line LCD Display (2x16) (with jumper select option to disable LCD)
- L293D 600mA Dual DC motor Driver
- ULN2003 500mA driver
- Two RS-232 Interfaces (For direct connection to PC's Serial port)
- Real-Time Clock with Battery Holder
- 2 Analog Potentiometers connected to ADC
- TSOP1738 IR receiver
- 4 USER Switches
- 4 USER LEDs
- Reset and Boot loader switches
- 3V button cell for on chip RTC
- ON/OFF switch
- On Board Buzzer Interface
- Schematics and Application examples in KEIL to be provided in the
- documentation CD
- Should be compatible to be used as main board for developing applications



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3)8051 Microcontroller based DEVELOPMENT BOARD

- 8051 CPU,5 V operating voltage •
- Operating Frequency from 0 MHz to 40 MHz .
- 16,32,64 kB of on-chip flash user code memory with ISP and IAP
- ports 12-clock (default) or 6-clock mode selection via software or ISP
- SPI and enhanced UART, PCA (Programmable counter array) with PWM and capture/compare functions
- Four 8-bit I/O ports with three high-current port 1 pins
- Three 16-bit timers and counters, •
- Programmable watchdog timer, eight interrupt sources with four priority levels, Second DPTR (Data pointer) register, Low EMI mode (ALE inhibit),
- TTL- and CMOS-compatible logic levels, Brownout detection, Low power modes, Power-down mode with external interrupt wake-up, Idle mode, Packages-DIP40

19



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4) Raspberry Pi 3

- Broadcom BCM2837B0, Cortex-A53 (ARMv8) 64-bit SoC @ 1.4GHz
- 1GB LPDDR2 SDRAM
- 2.4GHz and 5GHz IEEE 802.11.b/g/n/ac wireless LAN, Bluetooth 4.2, BLE
- Gigabit Ethernet over USB 2.0
- Extended 40-pin GPIO header
- Full-size HDMI
- 4 USB 2.0 ports
- CSI camera port for connecting a Raspberry Pi camera
- DSI display port for connecting a Raspberry Pi touchscreen display
- 4-pole stereo output and composite video port
- Micro SD port for loading your operating system and storing data
- 5V/2.5A DC power input
- Power-over-Ethernet (PoE) support







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5) Micro SD card (16 GB)

- Item Height: 0.43 Inches
- Item Width: 0.59 Inches
- Product dimensions: 0.1 x 1.5 x 1.09 cm; 10 Grams
- Ram Size: 16 GB



14



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6) USB adapter 2A

- Input voltage: 230 V
- Output voltage: 5V
- Should include 1 m Micro USB cable



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7) <u>RF Transceiver</u>

- Transceiver RF Transceiver Module 2.4G 1100m with Antenna
- Should support up to six channels of data reception.
- Auto-acknowledge and auto-retransmit abilities.
- Range: 800+ meters line of sight, Weight: 13.28 g
- 2.4GHz ISM band transceiver for arduino
- 5V tolerant inputs which allows for direct connection of SPI pins to the Arduino



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8) Zigbee modules 100m range

- Digital I/O: 15
- ADC Channels: (4) 10-bit ADC inputs
- Data Rate: RF 250 Kbps, Serial up to 1 Mbps
- Range: Indoor 200 ft (60 m), Outdoor (LOS) 4000 ft (1200 m)
- Transmit Power: 3.1 mW (+5 dBm)
- Channels: 16 channels
- Encryption: 128-bit AES
- Voltage requirements: 2.1 to 3.6 VDC
- Current requirements: ~33 mA @ 3.3VDC (transmit), ~28 mA @ 3.3VDC (receive)
- Communication: CMOS UART / SPI @ ~3.3V
- Dimensions: 1.087" L x 0.960" W x 0.16" H (27.61 x 24.38 x 4.06 mm)
- Operating temperature range: -40 to +185 °F (-40 to +85 °C)





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9) Zigbee module adapter

- USB to serial base unit for the XBee line
- All XBee pins broken out
- Onboard 3.3V regulated supply
- Reset button
- Length: 4cm, breadth: 2.5cm, height: 1cm

25



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10) Color sensor module

- Power supply: 3-5v
- Resistance to light interference
- LED can be controlled on and off
- Should detect non-luminous object color
- Best detection distance = 1cm (min)





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11) Gyroscope module

- Mpu6050+hmc5883I+bmp180
- Power supply: 3-5v
- Communication mode: IIC communication protocol
- Application 3-axis gyro + 3-axis acceleration + 3-axis magnetic field + air pressure module



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12) Servo motor based gripper kit

- Compatible with Raspberry-Pi, Arduino and other IoT devices, Wide operating voltage range 5-12 V
- Laser cut acrylic gripper, suitable for object size up-to 11 cm
- Should be compatible with DPDT Switch for manual control or use microcontroller (with Motor driver module)





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13) HD USB Webcam

- Resolution/fps: Full HD 1080p or 720p/30 fps ٠
- Diagonal field of view: 78 degree .
- Should have autofocus and auto light correction . 0
- Noise cancelling mic (s): 1-omni directional long range
- 2m cable .



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14) Metal gear servo motors

- 4-6 V, 10 mA rating
- Double ball bearing servo motor
- 32 cm servo wire length



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15) ESP Development board (10 gpio)

- ESP8266 board
- Wifi wireless communication
- USB hardware interface with TTL included
- 10 gpio, every gpio can be PWM
- Pcb antenna
- I2c, 1-wire, plug & play
- weight: 60 gms



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16) ESP Development board (Dual mode 2.4 GHz)

- ESP32: 2.4 GHz dual-mode Wifi and Bluetooth development with 4 MB of flash.
- Should support LWIP protocol.
- Should support three modes: AP, STA, AP+STA coexistence mode.
- Should be compatible with Arduino, Nodemcu, and MicroPython, can be programmed with for the Arduino IDE and Lua.





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17) 2-Channel relay board (12 volt)

- 2 channel 12V relay module
- Relay outputs: NO: normally open relay interface COM: common interface relays NC: normally closed relay interface
- Working voltage 12V High / Low level changeable
- Fault-tolerant design



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18) 2-Channel relay board (5 volt)

- Relay module is 5V active low. (Relay will Get Trigger when Low Voltage/Signal . Supplied to IN Pin).
- Should be able to control various appliances with high Current. .
- Should be controlled directly by microcontroller (Arduino, 8051, AVR, PIC, DSP . ARM, MSP430, TTL Logic)
- 15-20 mA Driver current with High-Current Relay, AC 250 V 10 A; DC 30V 10A . 8550 Transistor Drive, Drive Ability Working Voltage 5 V



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19) Nucleo boards

- STM32 microcontroller with LQFP64 package (128K FLASH)
- Two types of extension resources
 - o Arduino Uno Revision 3 connectivity
 - Extension pin headers for full access to all STM32 I/Os
- Mbed-enabled
- On-board ST-LINK/V2-1 debugger/programmer with SWD connector
 - Selection-mode switch to use the kit as a standalone ST-LINK/V2-1
- Flexible board power supply
 - USB VBUS or external source (3.3 V, 5 V, 7 12 V)
 - o Power management access point
- Three LEDs
 - USB communication (LD1), user LED (LD2), power LED (LD3)
- Two push buttons: USER and RESET
- USB re-enumeration capability: three different interfaces support on USB
 - o Virtual Com port
 - o Mass storage
 - o Debug port



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Launchpad

- 120MHz 32-bit ARM Cortex-M4 CPU with floating point .
- 1MB Flash, 256KB SRAM, 6KB EEPROM Integrated 10/100 Ethernet MAC+PHY, data protection hardware
- 8x 32-bit timers, dual 12-bit 2MSPS ADCs, motion control PWMs, USB H/D/O, and serial communication interfaces Dual, stackable Booster Pack XL connection sites
- TivaWare 2.1
- On-board, in-circuit debug interface (ICDI)
- Multiple development tool chain support: CCS, Keil, IAR, Mentor & GCC





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21) Motor drive module

- 8A and 6-36V ratings
- Compatible with manual switches, TTL logic gates and relays
- dual H-Bridge chip along with all necessary peripherals

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22) Quad encoder geared DC motor

- RPM: 200 rpm @12V
- Voltage: 4V to 12V DC
- Stall Torque: 40.3 kg-cm @ 12V DC
- Shaft size: 8mm dia
- Shaft length: 25 to 30mm



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23) Micro servo motor

- Working Torque: 2kg/Cm Reaction Speed: 0.11 Seconds / 60 Degrees (4.8v)
- Weight: 13.6g servo come with arm set
- Stall torque: 1.8kg/cm (4. 8v)2.2kg/cm(6v)
- Operating speed: 0. 1sec/60 degree (4. 8v), 0. 08sec/60degree(6v)
- Servo: Digital Servo
- Operating Voltage: 4.8v- 6v
- Structural Material: Metal gear Coreless Motor DUAL BALL Axle Bearing Fit



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24) FPGA module

- Based on EP4CE10 FPGA Chip
- Data Rates: 3.125GBPS
- 150K Logic Elements
- 6.3MB Embedded Memory
- Rate Matching FIFO
- Operating voltage: 5V
 User I/O banks: 8



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26) Soldering station

- Temperature controlled soldering station with digital display: LED
- Sensor type: Ceramic
- Heating element: Non integrated
- Station lock (Temperature locking facility)
- Maximum Temperature range (in deg C): 480
- Power consumption of temperature controlled soldering station (in Watts): 95
- No. Of channels: 1
- Soldering iron for Channel 1 (Power consumption in Watts)
- Temperature Accuracy: +/- 10 deg. C
- Temperature stability: +/- 5 deg. C
- ROHS Marked
- Chisel bits for soldering iron: 0.8 mm, 1.6 mm, and 2.4 mm (one number from each)
- Warranty (In years): 3



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27) Screw Driver and bit set with carry Box

- Precision machined cr-v bits made of chrome vanadium (white nickel plated) coated high grade steel
- Steel bits with smooth sandblasted finish offer durability and corrosion-resistant
 performance
- Should contain 53pc screwdriver bits, 35pc security screwdriver bits, 12pc screwdriver nut bits, 24pc precision screwdriver bits, 1pc Ratchet Screwdriver handle, 1pc Magnetic extension bit holder, 24pc precision screwdriver bits set with case, 1 mini plier
- Sturdy blow-molded carrying case included for securely storing and transporting all pieces in the set





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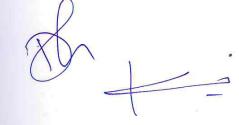
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28) Screw Driver with bulb (150mm and 200mm)

- 7 Screw Driver Set with Neon Bulb (Silver and Green)
- Both flat heads and square pokers

 $i^{(k)}$







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Annexure "B"

FORMAT FOR PERFORMANCE BOND/GUARANTEE

(Undertaking from the supplier on a Non Judicial Stamp Paper of requisite duly attested by Notary) In consideration for "The Registrar, National Institute of Technology Jalandhar (hereinafter called NIT Jalandhar)having agreed to release the payment of net value as per terms and conditions of a concluded Order No._________ (hereinafter called 'the order') for supply of __________ (here in after called 'the Equipment //tem)to us Messrs _________ (hereinafter called 'the supplier') on submission of a Performance Bond to the satisfaction of NIT Jalandhar for the due performance of the said order.

We, Messer's _____hereby submit the FDR/TDR No. ______ issued by ______(Name of Bank) for ______pledged in favour of Registrar, NIT Jalandhar as performance guarantee amount and hereby irrevocably, unconditionally and absolutely undertake against any loss or damage caused or suffered by NIT Jalandhar by reason of any failure of the supplier to perform or omission or negligence to perform any part of its obligations to the satisfaction of NIT Jalandhar in terms of the order.

We, the supplier, do hereby authorize Registrar, NIT Jalandhar to forfeit this Performance Guarantee amount / undertake to pay the amount due and payable under this guarantee without any demur merely ona demand from the NIT Jalandhar stating that the amount claimed is due by way of loss or damage causedto or would be caused to or suffered by the NIT Jalandhar by reason of any breach by us of any of the terms and conditions contained in the said order or by reason of our failure or omission or negligence to perform the said order or any part thereof. We, the Supplier, undertake to pay to NIT Jalandhar any amount so demanded by NIT Jalandhar, notwithstanding:

a) Any dispute or difference between NIT Jalandhar and supplier or any other person or between the supplier or any person or any suit or proceeding pending before any court or tribunal or arbitrator relating thereto; or

b) The invalidity, irregularity or unenforceability of the order; or

c) Any other circumstances which might otherwise constitute discharge of this guarantee, including any act of omission or commission on the part of NIT Jalandhar to enforce the obligations by the supplier orany other person for any reason whatsoever.

We, the Supplier, further agree that the performance Bond/ Guarantee herein contained shall becontinued one and remain in full force and effect during the period that would be taken for the performanceof the said order and that it shall continue to be enforceable till all the dues of the NIT Jalandhar under orby virtue of the said order have been fully paid and its claims satisfied or discharged or till the office of theRegistrar, NIT Jalandhar certifies that terms and conditions of the said order have been fully and promptly carried out by us and accordingly discharges this Performance Bond/ Guarantee.

We, the Supplier, further agree with NIT Jalandhar, that NIT Jalandhar shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said order or to extend time of performance by the said supplier from time to time or to postpone for any time or from time to time and of the powers exercisable by the NIT Jalandhar against the said supplier and forbear or enforce any of the terms and conditions relating to the order and we shall not be relieved from our liability by reason of any such variation or extension being granted to us or for any forbearance, act or omission on the part of NIT Jalandhar or any indulgence by NIT Jalandhar to us or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

This Performance Bond/Guarantee will not be discharged due to the change in the constitution of the supplier. We, the Supplier, undertake not to revoke this Performance Bond / Guarantee except with the priorconsent of NIT Jalandhar in writing.

The disputes relating to this Bank Performance Bond / Guarantee shall be resolved as per the terms and conditions of the order.



Annexure "C"

FORMAT FOR PERFORMANCE BOND (BANK GUARANTEE)

In consideration for the Registrar, National Institute of Technology Jalandhar, *(hereinafter called NIT Jalandhar)* having agreed to release the payment of net value as per terms and conditions of a concluded Order No. dated *(hereinafter called 'the order')* for supply of

(hereinafter called 'the Equipment /Item) to Messrs ______ (hereinafter called 'the supplier') on submission of a Bank Guarantee to the satisfaction of NIT Jalandhar for the due performance of the said order. We, (hereinafter called 'the Bank') at the request of

We, <u>(hereinafter called 'the Bank')</u> at the request of the supplier do, as a primary obliger and not merely as surety, hereby irrevocably, unconditionally and absolutely undertake against any loss or damage caused or suffered by NIT Jalandhar by reason of any failure of the supplier to perform or omission or negligence to perform any part of its obligations to the satisfaction of NIT Jalandhar in terms of the order.

We, the Bank do hereby undertake to pay the amount due and payable under this guarantee without any demur merely on a demand from NIT Jalandhar stating that the amount claimed is due by way of loss or damage causedto or would be caused to or suffered by NIT Jalandhar by reason of any breach by the said supplier of any of theterms and conditions contained in a said order or any part thereof. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under this guarantee, which shall not be considered as satisfied by any intermediate payment or satisfaction of any part of or obligation hereunder. However, our liability under this guarantee shall be restricted to an amount not exceeding.

We, the Bank, undertake to pay to NIT Jalandhar any amount so demanded by NIT Jalandhar, notwithstandinga). Any dispute and difference between NIT Jalandhar and supplier or any other person or between the supplieror any person or any suit or proceeding pending before any court or tribunal or arbitrator relating thereto or

a). The invalidity, irregularity or unenforceability of the order or

b). Any other circumstances which might otherwise constitute discharge of this guarantee, including any act of omission or commission on the part of NIT Jalandhar to enforce the obligations by the supplier or any other person for any reason whatsoever.

We, the Bank, further agree that the guarantee herein contained shall continue and remain in full force and effect during the period that would be taken for the performance of the said order and that it shall continue to beenforceable till all the dues of NIT Jalandhar under or by virtue of the said order have been fully paid and its claims satisfied or discharged or till the office of the Registrar, NIT Jalandhar confirms that the terms and conditions of the said order have been fully and promptly carried out by the said supplier and accordingly discharge this guarantee.

We, the Bank, hereby agree and undertake that any claim which the bank may have against the supplier shall be subject to and subordinate to the prior payment and performance in full of all the obligations of the bank hereunder and the bank will not, without prior written consent of NIT Jalandhar, exercise any legal rights or remedies of any kind in respect of any such payment or performance so long as the obligations of the bank hereunder remain owning and outstanding, regardless of the insolvency, liquidation or bankruptcy of the supplieror otherwise. We, the Bank, will not counter claim or set off against its liabilities to NIT Jalandhar hereunder any sum outstanding to the credit of NIT Jalandhar with it.

We, the Bank, further agree with NIT Jalandhar, that NIT Jalandhar shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said order or to extend time of performance by the said supplier from time to time or to postpone for any timeor from time to time and of the powers exercisable by the NIT Jalandhar against the said supplier and forbear orenforce any of the terms and conditions relating to the order and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said supplier or for any forbearance, act or omissionon the part of NIT Jalandhar or any indulgence by NIT Jalandhar to the said supplier or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relievingus.

This guarantee will not be discharged due to the change in constitution of the Bank or the supplier.

We, the Bank, lastly undertake not to revoke this Guarantee during its currency except with the prior consent of NIT Jalandhar in writing.

The disputes relating to this Bank Guarantee shall be resolved as per the terms and conditions of the order.



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Annexure "D"

FORMAT FOR MANUFACTURER'S AUTHORIZATION FORM

To, The Registrar Dr B. R Ambedkar National Institute of TechnologyJalandhar

Sub. : e-Tender for "_____".

Dear Sir,

 We,_______, who are established and reputed manufacturers of

 _______, having factory/office at______, hereby authorize M/s

 _______ [name & address of agents/distributors] to bid, negotiate and conclude the order

 with you for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per the terms and conditions of tender for the goods offered for supply against this invitation for bid by the above supplier.

*specify in detail manufacturer's responsibilities the services to be rendered by

M/s_____are as under:

i) ______ ii) ______

[Specify the services to be rendered by the agent/distributor] In case duties of the agent/distributor are changed or agent/ distributor is changed it shall be obligatory on us to automatically transfer all the duties and obligations to the new Indian Agent failing which we will ipso-facto become liable for all acts of commission or omission on the part of new Indian Agent/ distributor.

Yours faithfully,

[Name & Signature] For and on behalf of M/s._____[Name of manufacturer]



Annexure "E"

DECLARATION REGARDING BLACKLISTING / DEBARRING FOR TAKING PART IN TENDER

Self Attested

I / We _____(Tenderer) hereby declare that the firm / agency namelyM/s. ______has not been blacklisted or debarred in the past by Union / State Government or organization from taking part in Government tenders in India.

Or

I / We			(Ten	der	er) h	ereby declare	that th	ne Firm	/ age	ncy	/ namely
M/s								was	s bla	ckli	sted or
debarred	by Union /	State	Government	or	any	Organization	from	taking	part	in	Government
tenders for	r a period of										

years w.e.f	. <u> to </u> to	The period is over on
and now the firm/	/company is entitled to take p	part in Government tenders.

In case the above information found false I / we are fully aware that the tender/ contract will be rejected / cancelled by Director, NIT Jalandhar, and EMD / SD shall be forfeited.

DEPONENT Attested: (Stamp of Company with authorized sign) Name______ Address _____



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EPABX-0181-2690301-453 Email registrar@nitj.ac.in

Annexure "F"

CERTIFICATE OF WARRANTY

- i) I/We certify that the warranty shall be for a period of ______years for ______ and starting from the date of satisfactory installation, commissioning and handing over of the Equipment/Item and of the works conducted therewith covered under the supply order in working order. During the warranty period, I/we shall provide free "after sale service" and the replacement of any part(s) of the Equipment /Item or rectification of defects of work of the Equipment /Item will be freeof cost. The replacement of the parts shall be arranged by us, at our own cost and responsibility. We undertake that the above warranty shall begin only from the date of satisfactory and faultless functioning of the Equipment /Item for 60 days at NIT Jalandhar premises. The benefit of change in dates of the warranty period shall be in the interest of the use/your organization.
- ii) During the warranty period, we shall provide at least_

preventive maintenance visits.

- iii) Uptime Guarantee: During the warranty period, we will be responsible to maintain the Equipment/Item in good working conditions for a period 350 days (i.e. 95% uptime) in a block of 365 days.
 - a) All complaints will be attended by us within 2 working days of receipt of the complaint in our office.
 - b) In case there is delay of more than 2 days in attending to a complaint from our side then you cancount the number of days in excess of the permissible response time in the downtime. The above said response time of 2 days for attending to a complaint by us will not be counted in the downtime.
 - c) **Penalty**: We shall pay a penalty equivalent to **0.5 % of the FOB/CIF** value of the Equipment /Itemfor every week or part thereof delay in rectifying the defect.

Note: The right to accept the reason (s) for delay and consider reduction or wave off the penaltyfor the same shall be at the sole discretion of Director, NIT Jalandhar

- iv) We certify that the Equipment /Item being/ quoted is the latest model and that spares for the Equipment /Item will be available for a period of at least_____years and we also guarantee that we will keep the organization informed of any update of the Equipment /Item over a period of _____years.
- v) We guarantee that in case we fail to carry out the maintenance within the stipulated period, NIT Jalandhar reserves the right to get the maintenance work carried out at our risk, cost and responsibility after informing us. All the expenses including excess payment for repairs/maintenance shall be adjusted against the Performance Bank Guarantee. In case the expenses exceed the amount of Performance Bank Guarantee, the same shall be recoverable from us with/without interest in accordance with the circumstances.
- vi) We shall try to repair the Equipment /Item at NIT Jalandhar premises itself. However, the Equipment/Item will be taken to our site on our own expenses in case it is not possible to repair the same at NIT Jalandhar. We shall take the entire responsibility for the safe custody and transportation of the Equipment /Item taken out for repairs till the Equipment /Item is rehabilitated to the NIT Jalandhar after repair Any loss of Equipment /Item or its accessories under its charge on account of theft, fire or any other reasons shall be at our sole risk and responsibility which will be compensated to NIT Jalandhar for such losses at the FOB/CIF value for the damaged/lost Equipment /Item part, including accessories.
- vii) We undertake to perform calibration after every major repair/breakdown/taking the Equipment /Item forrepair out of NIT Jalandhar premises.
- viii) In case of extended warrantee, we undertake to carry out annual calibration of the Equipment /Item.
- ix) We guarantee that we will supply spare parts if and when required on agreed basis for an agreed price. The agreed basis could be an agreed discount on the published catalogue price.
- x) We guarantee to the effect that before going out of production of spare parts, we will give adequate advance notice to you so that you may undertake to procure the balance of the life time requirements of spare parts.
- xi) We guarantee the entire unit against defects of manufacture, workmanship and poor quality of components.

Signature & Seal of the Manufacturer/Tenderer