



NATIONAL INSTITUTE OF TECHNOLOGY DELHI

(An autonomous Institute under the aegis of Ministry of HRD, Government of India)

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Ref.No. NITD/03/Stores/55/2014

5th November, 2014

NOTICE INVITING QUOTATION

Subject: **Procurement of Equipments for the various Laboratories in Departments of Electronics & Communication Engineering and Electrical and Electronics Engineering for various Labs. of NITD,**

Sealed Quotations are invited from the reputed firms/manufacturers for the supply of the following Equipment for the use of various Labs. of the Departments of Electronics & Communication Engineering and Department of Electrical and Electronics Engineering of the National Institute of Technology, Delhi (NITD): -

Technical Specification: Digital system Design Lab

| Sr.No | Name of item | Specification | Qty |
|-------|---|--|-----|
| 1. | VLSI UNIVERSAL BOARD WITH sp-3 CPLD-84 - USB-JTAG | Xilinx FPGA XC3S50-4PQ208, Xilinx CPLD XC9572PC84 (USB port JTAG Programming) Santa Cruz connector for docking FPGA card. On board Configuration reset 16 x 2 LCD display interface 24 input Dip switches and 16 output LEDs. 4 Multiplexed Seven segment Xilinx FPGA XC3S50-4PQ208 Xilinx CPLD XC9572PC84 ,72 Macrocells USB JTAG Cable, User Manual, Sample Code Maximum User I/O 150 for Xilinx FPGA on board Programming mode facility. | 02 |
| 2. | CPLD Development Board | CPLD Board a) A lot of Experiments b) Have complete tool for downloading programming for CPLD c) A lot of important peripheral like (ADC, LCD, Relay, Buzzer, Display etc. At very low cost Technical Specification: a) 16 O/Ps with LED indication. b) Four 7 segment multiplexed display. c) 16 Dip Switches for the Digital inputs | 02 |

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| | | <p>d) 16 x 2 LCD.</p> <p>e) Onboard 8 Mhz clock & power on reset circuit.</p> <p>□ 1 Buzzer.</p> <p>f) JTAG Programming cable.</p> <p>h) 5V operation</p> | |
| 3. | 8 BIT DAC INTERFACE | <ul style="list-style-type: none"> • Easy interface to all Microprocessors/Microcontrollers • Non-inverting digital inputs are TTL and CMOS Compatible • Power supply voltage range: $\pm 4.5V$ to $\pm 12V$ • Onboard + & - input supply provision • Input header to give digital input • 8 bit DAC 0808 for convert digital to analog input data • LM358 operational amplifier to pull up signals • Variable trimpots to adjust wave amplitude and shape <p>Output connector to interface with microcontroller</p> | 02 |
| 4. | 8 BIT ADC INTERFACE | <ul style="list-style-type: none"> • Easy interface to all Microprocessors/Microcontrollers • adjusted voltage reference • 0V to 5V input range with single 5V power supply • Outputs meet TTL voltage level specifications • 8 channel ADC 0809 for conversion • Conversion Time 100 • Onboard digital data output LED indicators • Facility to see output data on lcd & Leds • Compatible and easy to use and interface with any processing device <p>8 Input resistance cluster to give on board 8 channel input</p> | 02 |
| 5. | 4X4 KEYBOARD INETRFACE | <ul style="list-style-type: none"> • 4X4 Matrix keypad • Input /ouput 10 pin header to interface any processor • Compatible to interface with vlsi-8051 <p>Key press status LED indicator</p> | 02 |
| 6. | VGA INTERFACE-VLSI | <ul style="list-style-type: none"> • On board 25 pin VGA connector • On board data ,clk test points • Facility to interface with Processor. • On board 5v power,clk & data signal indicators | 02 |

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| 7. | LED+7 SEG interface | 4 seven segment with control and data open I/O Multiplexing facility to run counter 0 to 9999 | 02 |
| 8. | GSM INTERFACE | This Development board has RS 232 conversion circuit to condition GSM modem data and easy to interface with serial microcontrollers and desktop to develop applications like security systems and to study AT command set . | 02 |
| 9. | BLUETOOTH INTERFACE | This board has serial Bluetooth modem (class1) 3.0 V to 3.6V operation, full Bluetooth Data rate over UART and USB Support. | 02 |
| 10. | RFID INTERFACE | RFID Reader Module has an inbuilt antenna designed to work on the standard carrier frequency of 125 kHz. Direct TTL output that can be directly coupled with most of the microcontrollers without max232. Operates at 5v with 500ma of current. Rs232 to convert signal into TTL to RS232 (optional). Sensitivity Range is about 6cm from Antenna. Buzzer to detect the proximity cards. | 02 |

- 1. Warranty/Guarantee:-** Suppliers must give the comprehensive warranty in writing that everything to be supplied by them hereunder shall be free from all defects and faults in material, workmanship and material shall be in full conformity with the specification. The period of warranty shall not be less than one year from the date of supply of these Lab.equipment.
- 2.** Rates to be quoted should be final and nothing extra shall be paid over the quoted rates.
- 3.** The sealed quotations shall be subscribed as “**QUOTATIONS FOR THE SUPPLY OF LAB. EQUIPMENT FOR VARIOUS LABS. OF DEPARTMENTS OF ECE AND EEE**” and shall be addressed to Deputy Registrar, National Institute of Technology, Delhi, IAMR Campus, Narela, Delhi-110040,
- 4.** The last date of receipt of these quotations will be **21st NOVEMBER, 2014**

Deputy Registrar,
NIT, Delhi