

NO.C/298/2011 (8)

13th DECEMBER, 2012

TENDER NOTICE

Sealed tenders are invited for the purchase of "ELECTRONIC EQUIPMENT" at Model Polytechnic College, Vadakara. Tender documents can be had from this office during office hours on any working day up to **14/01/2013** on non refundable payment of Rs.2000+VAT @4% for original tender and Rs.1000 + VAT@4% for duplicate tender, by way of DD in favour of the **Principal, Model Polytechnic College, Nut Street, Vatakara – 4**. The filled up tenders in sealed covers should reach the undersigned by 2 pm on **15/01/2013**, which would be opened at 3 pm on the same day itself.

MODEL POLYTECHNIC COLLEGE, VADAKARA

LIST OF ELECTRONICS ITEMS

SL. No.	PAGE NO. (NITT&R ApprovedList)	ITEM / SPECIFICATION	QTY RQD
1	2	<p>DIGITAL IC TESTER Specification: Tests most of the 6 to 40 pin ICs in DIP package. The list includes 74/54, 40/45, 93/96 series ICs, EPROMs, RAMs, peripheral ICs, microprocessor (8088/8085/Z80/6502), miscellaneous digital ICs. Automatic testing of variety of ICs. Potential free 40 pin universal ZIF socket. Digital Display to show IC number, PASS & FAIL Status, Operations display.</p>	2
2	3	<p>DIGITAL IC TRAINER KIT Specification: • Indicators - 10 TTL/CMOS Logic Level Inputs with Dual Color LED indication for logic low and logic high - 10 LED for output indication. • Clock Generator - Fixed Clock generation of 1Hz, 10Hz, 100Hz, 1 KHz, 10 KHz, and 100 KHz & 1 MHz. • Pulse Generator - Logic Pulsar provides single pole double throw bounce less pulses of Low to High and High to Low transitions • Logic Probe - Logic Probe facility provided with LED indicators to indicate Logic High, Low & Tri-state • Bread Board Area - Two Distribution Strip of 100 tie points each totaling 200 tie points - One Terminal Strip of 630 tie points • Display - Three digit seven-segment LED display. • Sockets on board - 14 Pin Socket- 8Nos. - 16 Pin Socket- 3Nos. - 20 Pin Socket- 1No. • One IC each of 7400, 7402, 7408, 7432, 7404, 7490, 7495, 7486, 7447 & Two Nos. of IC 7476.</p>	30

3	19,82	<p>ARDUINO DUEMILANOVE MICROCONTROLLER BOARD</p> <p>Specification: 14 digital input/output pins (6 can be used as PWM outputs), 6 analog inputs, a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button</p>	20
4	4,5	<p>MICROCONTROLLER KIT 8051</p> <p>Specification:</p> <ul style="list-style-type: none"> • 8051/89C52/89C51RD2/89C61X2 CPU operating@11.0592MHz • 32K user RAM using 6264 with Battery Backup using NICD Battery • One socket is provided for RAM expansion up to 64K • 16K bytes of powerful monitor EPROM using 27512 • 48 I/O lines using 2 Nos. of 8255 brought at 26 Pins FRC <p>Connector to interface with IC-XX Series</p> <ul style="list-style-type: none"> • Three Channel Timer/Counter using 8253 • 20x2/40x2/20x4 Alphanumeric LCD Display with Backlite • 101 ASCII Keyboard interface using 89c2051 operating @ 12MHz • On-board Single Line Assembler & Disassembler • Two External interrupts INT0 & INT1 are available at 40 pin FRC connector • RS-232C using RX/TX of 8051 • Two modes of operation: -Keyboard Mode -Serial Mode • Powerful Commands like Examine/ Edit Memory, Examine/Edit Register, Single stepping, Execution,Break Point can be used through ASCII keyboard or PC serial mode • Facility for Downloading/Uploading files from/to PC • All Address, Data, Control & Port lines are available on 40 Pins & 20 Pins FRC Connector • All IC's are mounted on IC Sockets • Bare board Tested Glass Epoxy SMOBC PCB is used • In-Built Power Supply of +5V/1.5A, ±12V/250mA 	12

5	40	<p>VLSI DEVELOPMENT BOARD WITH WIRELESS COMMUNICATION</p> <p>Specifications:</p> <ul style="list-style-type: none"> • Two Xilinx Spartan2 (XC2S200) FPGA board • On board 2.4GHz wireless trans-receiver • 8 Logic Input & output, 6 Digit 7 segment Display • On board 8 channel ADC & Memory interface • Configuration PROM socket for FPGA backup • 26 Pin & 40 pin Connector for external I/Os • On board Peripherals includes: RS232, PS2, Parallel port, VGA • Customized software for wireless chatting. • Xilinx Family: SPARTAN 2, XC2S200PQ208 • Device Density :200K gates, 5,292 Logic Cells • On board, 2 Crystal 8MHz & 25MHz. • Master Reset key for hardware reset • Program Key for FPGA reconfiguration • Onboard PROM(1Mb size) Socket in a PLCC package for FPGA backup <p>Configuration Methods:</p> <ul style="list-style-type: none"> • IEEE 1149.1 JTAG Interface, Slave Serial Interface, PROM Interface • Memory : 1MB(128K X 8) memory interface • Digital I/O's : • 8 Logic Input, 8 Logic Output, 6 Digit Seven Segment Display. • Peripherals : • Channel 1 IEEE RS232 Serial Interface • Channel 2 IEEE RS232 Serial Interface • IEEE PS2 Interface for Keyboard, IEEE VGA Interface for Monitor 	1
6	41	<p>VLSI DEVELOPMENT PLATFORM</p> <p>Specifications:</p> <ul style="list-style-type: none"> • FPGA (XILINX Spartan2) Application Development Board (50 K Gates, 1728 logic cells), I/O ports 176, Number of pins 208 • The I/O experiments board • Xilinx Family : SPARTAN 2, XC2S50PQ208 • Device Density : 50 K gates, 1728 Logic Cells • 2 Crystal 8 MHz & 25 MHz, Master Reset key for hardware reset, • Program Key for FPGA reconfiguration • EPROM Socket : in PLCC package for FPGA backup • Configuration Methods : • JTAG Interface (Boundary Scan), • Slave Serial Interface, • PROM Interface • External I/O's : 40 pin, 4 header connector • Number of I/O's : 176 • Power Supply : 220/110V, 50 Hz / 60 Hz • Power Consumption : 2.5 VA (approx.) 	3

7	29,45,58,66,85	<p>FUNCTION GENERATOR 2 Mhz</p> <p>Specifications :</p> <p>Frequency Range 0.01Hz to 2MHz in 8 decade ranges. Frequency Indication $\pm 1\%$ ± 1 digit. Output Impedance 50 ohms Frequency Indication Accuracy $\pm 1\%$ ± 1 digit Output Waveforms Sinusoidal, Triangle, Square, Ramp, Pulse, TTL (Sync) & DC Outputs.Sine Distortion $< 1\%$ (typical).Square Wave Rise / Fall Time < 75nsec.Frequency Stability $< 0.5\%$ of the set frequency (after $\frac{1}{2}$ Hour warm up). Duty Cycle 10% to 90% variable .Maximum Output Voltage a) Into 50 ohms 10V p-p output.b) Open Circuit 20V p-p output.Amplitude Indication 3 digit seven segment display (Vp-p) $\pm 5\%$.Amplitude Flatness ± 0.5dB upto 100KHz range / ± 1.0dB for 1MHz range. Attenuator Two step attenuators of 20dB & 40dB. Fine attenuation of 20dB through vernier control. (Total 80 dB attenuation).Attenuator Accuracy ± 0.5dB per 20dB at 1KHz.DC Offset $\pm 10V \pm 5\%$ (DC + AC peak) in open circuit $\pm 5V \pm 5\%$ (DC + AC peak) in 50 ohms.AC Mains Power 230V AC $\pm 10\%$, 50Hz., 15VA.</p>	14
8	14,28,44,50,57,61	<p>DIGITAL MULTI METER</p> <p>Specification:</p> <ul style="list-style-type: none"> • 3.5 Digits Average,Battery operated • AC 600 V 1% DC 600 V 0.5% • AC 10 A 1.5% DC 10 A 1.5% • Resistance 40 Mega Ohms 1.5% • Frequency 50 Kilo Hertz 1% • Capacitance 1 micro F to 100 micro F 2.5% 	100
9	42,47	<p>BREAD BOARD WITH HYLEM SHEET</p> <p>Specification: Size: 220X165X9 mm Tie Point : 1680</p>	42
10	2,42,47,57,61,65,83,84,	<p>BREAD BOARD</p> <p>Specification: Size: 220X165X9 mm Tie Point : 1680</p>	110
11	61	<p>AMMETER</p> <p>Specifications: 0-50μA</p>	10
12	28,47,61	<p>AMMETER</p> <p>Specification: 0-100μA</p>	44

13	61	AMMETER Specifications: 0-25mA	10
14	28,47,61	AMMETER Specifications: 0-100mA	40
15	31,64	VOLT METER Specification: 0-2V	20
16	25,45,55	SOLDERING IRON 25W WITH STAND Specifications : 25watts/230volts Soldering Iron with changeble Aluminium Coated Spade Long Life Delux Bit with High quality fiber body Soldering iron stand with Stainless steel plate for sponge and powder coated spring holder Maximum Temperature: 380°C General purpose for all electronic applications.	30
17	29	MULTI OUT PUT POWER SUPPLY 30 V/2 A, 5 V/2 A, 15 V/1 A Multiple Power Supply DC Output 0-30 V, 2 A, Continuously variable by means of coarse and fine controls 5 V, 2 A Adjustable from 4 V - 6 V 0 +15 V, 1 A Dual Tracking adjustable coarse & fine controls Current Limit 100 mA - 2A Continuously adjustable for (0-30 V & 5V) 100 mA - 1A Continuously adjustable for (+15 V) Resolution Voltage : 10 mV Current : 5 mA Internal Resistance : <15 mΩ Stability : <2.5 mV at (30 V / 2A, 5 V / 2A, +15 V / 1A) Recovery Time : <50 μs Load Regulation : < 0.05 % Line Regulation : <0.05 % Temp. Coefficient : < (0.05 % + 5 mV / 0C) Ripple & Noise : < 1 mVrms Display : 3 digit for voltage & 3 digit for current LED indication for Voltage & Current Accuracy : + (1% +1 digit) Tracking Error :+ (0.1% + 5 mV) for + 15V Over Range Indication : Glowing 'ORA' or 'ORB', 'ORC+' or 'ORC-' LEDs indicate Overload	7