



**GOVT. OF BIHAR**  
**DEPARTMENT OF SCIENCE & TECHNOLOGY, PATNA**  
**LOK NAYAK JAI PRAKASH INSTITUTE OF TECHNOLOGY**  
**CHAPRA, SARAN (BIHAR)-841302**

LNJPIT Chapra is in process of procuring the GOODS/Equipment/Learning resources for strengthening of EEE Department under TEQIP-III Scheme. Details of the Instruments and their specifications are providing bellow.

**Package Name**

- **BIHAR/LNJPIT/Microprocessor LAB**

Package wise procurement will be done, Interested suppliers/Bidders are required to give the following information/Documents on [principallnjpitchapra@gmail.com](mailto:principallnjpitchapra@gmail.com)/[lnjpchaprattq3.procurement@gmail.com](mailto:lnjpchaprattq3.procurement@gmail.com) latest by **06-08-2019** so the invitation for bidding process can be initiated through PMS.

- Supplier Name
- Address (with Pin Code)
- Email-ID
- Mobile No.
- GST NO.
- Reference Doc. for same item supplied to other Institute

Dear Sir,

1. You are invited to submit your Firm details as mentioned above for the procurement of following goods with item wise detailed specifications given at Annexure I,

Sr. No	Item Name	Quantity	Specifications
1	8085 MICROPROCESSOR TRAINER KIT	5	Training & development kit has following features ; • High performance 8 bit 8085A CPU @ 3 MHz. • Onboard 40x2 /16x2 / 20x4 LCD Interface options. • 16 K powerful monitors FIRMWARE Including all standard commands, codes, functions and utility subroutines, Assembler and Dis-assembler. 4K has been used for system firmware. • 8K user RAM 6264 with battery backup for sockets using 3.6V Ni-Cd Battery. • Three 28 pin sockets provided for memory expansion up to a maximum of 56 K. • Versatile Keyboard/Display controller using 8279 brought out on separate FRC connector. • 24 Parallel I/O lines from 8255 are brought out on separate FRC connector. • 22 Parallel I/O lines from 8155 are bough on separate FRC Connector. 2k-bit static RAM (256 bytes) and a timer also available. • On board 40x2 LCD display & connector for 104 Key Standard PC-compatible Keyboard. • Three 16 bit Timer / Counter channels are available on-board, using 8253. These channels are available on a 10 pin FRC connector. • Serial I/O through auto adjusting type RS-232 channel. • On Board USB interface hardware. • Built-in audio cassette interface • All address, data and control and

			hardware interrupt lines are brought out on a Pin FRC connector for system interfacing and expansion. • All DYNA Study & PIO Cards are supported by this trainer kit. • Switch Mode Power Supply : +5v 1A, +12v 1A, -12v 0.5A • Supplied in attractive wooden enclosure. • Documentation includes User Manual with details Cable & connector set available for interfacing.
2	8086 Microprocessor Kits	5	Training & development kit has following features ; • High Performance 16 bit 8086 CPU @ 8 MHz. • Onboard 40x2 /16x2 / 20x4 LCD Interface options • Optional socket for 8087-2 NDP (Co-Processor). • 8284 Clock Generator, 8288 Bus Controller. • 64 KB Powerful Monitor Firmware in two 27256 EPROMs organized as 16 bit words. Expandable to 128 KB. Assembler / Dis-assembler included. • 64 KB Static RAM in two 62256 RAMs organized as 16 bit words with battery back-up. • 3.6V Ni-Cd battery backup circuit for static RAMs. • On board 40x2 LCD display & connector for 104 Key Standard PC-compatible Keyboard. • On board 8254 Time/Counter chip. Out of 3 Channels of Timer/Counter Two Channels are totally available to the user through a 7 pin relimate Connector. • 48 Parallel I/O lines from Two 8255 are brought out on separate FRC connector. • Printer Interface Provided through another 26 pin FRC Connector. • Serial I/O through 8251 USART, with on-board level shifters 1488 & 1489, brought out on a 9 bit D type Connector. • Software Selectable Baud Rates : 300 to 9600. • 8259 Interrupt Controller Provides 8 Prioritized interrupt Levels. • On Board USB interface hardware • All 8086 bus Signals terminated on 50 and 20 Pin FRC Connector • All DYNA Study & PIO Cards are supported by this trainer kit. • Two Modes of Operation: Monitor Mode & Serial Mode. • Switch Mode Power Supply : +5v 3A, +12v 1A, -12v 0.5 A • Supplied in attractive wooden enclosure. • Documentation includes User Manual with details
3	8051 Microcontroller development board	3	The Easy8051 V6 development system is a fully contained board suitable for programming 8051 microcontroller from Atmel as well as for designing and testing 8051 projects. This development system includes an on board programmer providing an interface between the microcontroller and a PC. You are simply expected to write a program in one of the 8051 compiler, generate a.hex file and program your microcontroller using the on board 8051 programmer. The easy 8051V6 contains many devices, such as 128x64 graphic LCD display, alphanumeric 2v16 LCD display, on board 2x16 LCD display, 4x4 keypad, port expander etc, that conveniently interface with 8051 microcontroller and allow you to easily simulate the operation of the target device. Key Features: 1. Onboard programmer. 2. In circuit debugger. 3. Onboard keyboard interface. 4. Onboard pull up /down resistors for port out. 5. Onboard GLCD/LCD 6. USB connectivity with on board power supply. 7. Micro c software. 8. Keil software compatibility. 9. All ports pins are available on connectors. 10. All pins are connected to individual pins for inputs. 11. 38 SMD LEDS are for each pins. 12. Port expander available. 13. 6 sockets are available for individual Microcontrollers. 14. Jumpers for shorting protection. 15. Onboard clock signal generator. 16. Onboard DS1820 Temperature sensor. 17. RS 232 COMMUNICATION connectors.
4	ADC interface module	4	The Easy8051 V6 development system is a fully contained board suitable for programming 8051 microcontroller from Atmel as well as for designing and testing 8051 projects. This development system includes an on board programmer providing an interface between the microcontroller and a PC. You are simply expected to write a program in one of the 8051 compiler, generate a.hex file and program your microcontroller using the on board 8051 programmer. The easy 8051V6 contains many devices, such as 128x64 graphic LCD display, alphanumeric 2v16 LCD display, on board 2x16 LCD display, 4x4 keypad, port expander etc, that conveniently interface with 8051 microcontroller and allow you to easily simulate the operation of the target device. Key Features: 1. Onboard programmer. 2. In circuit debugger. 3. Onboard keyboard interface. 4. Onboard pull up /down resistors for port out. 5. Onboard GLCD/LCD 6. USB connectivity with on board power supply. 7. Micro c software. 8. Keil software compatibility. 9. All ports pins are available on connectors. 10. All pins are connected to individual pins for inputs. 11. 38 SMD LEDS are for each pins. 12. Port expander available. 13. 6 sockets are available for individual Microcontrollers. 14. Jumpers for shorting protection. 15. Onboard clock signal generator. 16. Onboard DS1820 Temperature sensor. 17. RS 232 COMMUNICATION connectors.
5	DAC Peripheral interface study	4	DAC: 8 Bit DAC ; • Compatible with $\mu$ Processor / $\mu$ Controller Kits. • It is used to study basics of Analog To Digital conversion & develop real time control applications. • The card uses monolithic CMOS 8 bit high speed current output DAC-0808. • This converter has 8 bit resolution, 100 ns settling time & adjustable voltage reference. • Output Load Driving Capacity of CVC : 20 mA • Analog Comparator has medium switching speeds & its output is converted

	Card		to TTL level and latched to avoid oscillating comparator status reading. • The PCB track design is shielded to keep low noise level in the Analog paths and this card gives stable analog input readings. The card is also protected for reverse supply polarity.
6	Logic Controller Interface Module	4	CI: Logic Controller Interface Card with ; • Compatible with $\mu$ Processor / $\mu$ Controller Kits. • Logic states of 16 bits are indicated by 16 LED's. Each LED's is driven by a NOR gate (IC 74LS02). • The Card displays the binary contents of the CPU's Internal Registers & Memory locations on LED's. • Due to series current limiting resistor, of the LED, when input of NOR gate is high, Current Sink passes through the LED & the LED glows. • Logic 1 : Glowing LED, Logic 0 : Extinguished LED • The contents are sent via the accumulator to the 8255 ports defined in the output mode to the LED's. • The status of the 8255 A, B or C ports can be displayed by Interconnecting Proper Straps.
7	stepper motor interface	4	STEPPER: Stepper Motor ControlCard with ; • Compatible with $\mu$ Processor / $\mu$ Controller Kits. • The Card has the capability to drive 12V DC, 5 Amp / Phase Stepper Motor. • Easy Operational Software helps to have variable Speeds, Steps from 0 to 64K & Directions. • The drive circuit mainly controls the dynamic torque & the output transistors can give up to 3 amp current. • The working temperature of the Stepper Motor is 30 to 40 ° C. above ambient. • Installation is of Class B, which can withstand hot spot temperature of 130 deg. C.
8	Traffic Light Controller card compatible with 8085/8086	4	TRAFFIC : Traffic Control Card with ; • Compatible with $\mu$ Processor / $\mu$ Controller Kits. • This card is used to simulate the Traffic Control Sequence at a junction. • It consists of Red, Yellow & Green lights for each road. • The Anodes of these LEDs are connected to the output pins of 74LS245 buffer IC. The 8255 Ports a, b & c drive the input of these buffer ICs. • It is interfaced to 8255 through a connector on which 8255 lines are brought out.
9	8255 Study Card	4	STUDY-8255: 8255 Study Card with Features ; <input type="checkbox"/> Compatible with $\mu$ Processor / $\mu$ Controller Kits. Jumper Selectable I/O addresses <input type="checkbox"/> Demo programs of all modes available. Compatible programs based on different kits supported now available. <input type="checkbox"/> RST5.5, RST6.5, RST7.5 are provided onboard for interrupt driven modes. (For 8085 based Kits) Using 8255, all possible modes can be experimented. <input type="checkbox"/> PA0-PA7, PB0-PB7, PC0-PC7 LED indicators and test lug inputs with handshake signals. <input type="checkbox"/> User links and lugs provided for inputs with their legends <input type="checkbox"/> Experiments for both polled and interrupt driven data transfer is possible with links for 8085 interrupts. <input type="checkbox"/> Supplied in a attractive wooden cabinet.
10	8251 USART STUDY CARD	4	STUDY-8255: 8255 Study Card with Features ; <input type="checkbox"/> Compatible with $\mu$ Processor / $\mu$ Controller Kits. Jumper Selectable I/O addresses <input type="checkbox"/> Demo programs of all modes available. Compatible programs based on different kits supported now available. <input type="checkbox"/> RST5.5, RST6.5, RST7.5 are provided onboard for interrupt driven modes. (For 8085 based Kits) Using 8255, all possible modes can be experimented. <input type="checkbox"/> PA0-PA7, PB0-PB7, PC0-PC7 LED indicators and test lug inputs with handshake signals. <input type="checkbox"/> User links and lugs provided for inputs with their legends <input type="checkbox"/> Experiments for both polled and interrupt driven data transfer is possible with links for 8085 interrupts. <input type="checkbox"/> Supplied in a attractive wooden cabinet.
11	8253 study card	4	STUDY-8253: 8253 Study Card with Features ; <input type="checkbox"/> Compatible with $\mu$ Processor / $\mu$ Controller Kits. Jumper Selectable I/O addresses. <input type="checkbox"/> Demo programs of all modes available. Compatible programs based on different kits supported now available. <input type="checkbox"/> RST5.5, RST6.5, RST7.5 are provided onboard for interrupt driven modes. (For 8085 based Kits) Using 8253 all possible modes can be experimented. <input type="checkbox"/> LED indicators are provided for testing I/P's for clocks, gates & output signals. <input type="checkbox"/> Manual Pulsar keys are provided for each timer clock input. <input type="checkbox"/> All interrupts provided for interrupt driven mode of 8253. User links and lugs provided for inputs with their legends Supplied in a attractive wooden cabinet.

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme [TEQIP]-Phase III** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.