



# INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

## Electronics and Communication Engineering

### Laboratory Equipment – Microprocessors and Microcontrollers Laboratory

This laboratory provides all hardware and software required to learn the assembly language programming systematically for the different applications of microprocessor and microcontrollers by using hardware and software environment. The configuration of hardware and software used are detailed as follows:

- 1. Server Configuration:** Dell PowerEdge R430, Form Factor: 2U Rack Server, Processor Series: Intel® E5-2623 v3 Product Family, Processor Sockets: 2, Max Memory Capacity: 4GB DDR4, Max Storage Capacity: 2x2 TB HDD, Supports Intel C610 series chipset, Supported Power Supplies: 495W, 750W, 1100W.
- 2. Operating System:** Microsoft – Microsoft – Windows 11 &amp;.
- 3. Connectivity:** 1000Mbps internet and LAN connected to campus server.
- 4. Laboratory Equipment:**

S.No	Item	Make	Quantity	Cost per Unit (Rs.)	Total Cost (Rs.)
1	Intel 8086 Microprocessor	Professional Advanced Electronics	03	6,500	19,500
2	Intel 8086 Microprocessor	Professional Advanced Electronics	05	7,750	38,750
3	Intel 8086 Microprocessor	Professional Advanced Electronics	04	6,006	24,024
4	Intel 8086 Microprocessor	Professional Advanced Electronics	18	6,395	1,15,110
5	Intel 8086 Microprocessor	Professional Advanced Electronics	13	6695	87,035
6	Intel 8051 Microcontroller	Professional Advanced Electronics	10	7,750	77,500
7	Intel 8051 Microcontroller	Professional Advanced Electronics	10	6,006	60,060
8	Intel 8051 Microcontroller	Professional Advanced Electronics	11	6,395	70,345
9	Intel 8051 Microcontroller trainer kits with keyboard	Professional Advanced Electronics	10	6,695	66,950
10	RS232 Serial interface cable	Professional Advanced Electronics	03	225	675
11	RS232 Serial interface cable	Professional Advanced Electronics	45	213	9,585
12	Digital Storage oscilloscope (0-25 MHz)	Professional Advanced Electronics	10	13,250	13,2500
13	Stepper motor interface card	Professional Advanced Electronics	02	3,200	6,400
14	Stepper motor interface card	Professional Advanced Electronics	01	3,750	3,750
15	Stepper motor interface card	Professional Advanced Electronics	02	4,550	9,000
16	Stepper motor interface card	Professional Advanced Electronics	14	2,906	40,684

17	Stepper motor interface card	Professional Advanced Electronics	11	3,604	39,644
18	Stepper motor interface card	Professional Advanced Electronics	15	3,604	54,060
19	Analog to digital converter interface card	Professional Advanced Electronics	14	891	12,474
20	Analog to digital converter interface card	Professional Advanced Electronics	02	1,150	2,300
21	Analog to digital converter interface card	Professional Advanced Electronics	01	1,250	1,250
22	Analog to digital converter interface card	Professional Advanced Electronics	03	1,525	4,575
23	Analog to digital converter interface card	Professional Advanced Electronics	11	1,356	14,916
24	Dual Digital to analog converter interface card	Professional Advanced Electronics	10	1,356	13,560
25	Dual Digital to analog converter interface card	Professional Advanced Electronics	14	891	12,474
26	Programmable peripheral interface (8255) interface card	Professional Advanced Electronics	05	2,250	11,250
27	Programmable peripheral interface (8255) interface card	Professional Advanced Electronics	02	1,744	3,488
28	Programmable peripheral interface (8255) interface card	Professional Advanced Electronics	05	1,744	8,720
29	USART (8251) interface card	Professional Advanced Electronics	05	2,250	11,250
30	USART (8251) interface card	Professional Advanced Electronics	02	1,744	3,488
31	Keyboard / Seven segment display controller interface card	Physitech Electronics	02	950	1,900
32	Keyboard / Seven segment display controller interface card	Physitech Electronics	05	2,450	12,250
33	Traffic Light controller interface card	Physitech Electronics	02	850	1,700
34	Traffic Light controller interface card	Physitech Electronics	01	750	750
35	Real time counter / Tone generator interface card	Professional Advanced Electronics	02	2,500	5,000
36	Elevator interface card	Professional Advanced Electronics	02	2,000	4,000
37	Temperature controller with oven interface card	Professional Advanced Electronics	02	525	1,050
38	Temperature controller with oven interface card	Professional Advanced Electronics.	01	4,900	4,900
39	SRAM & DRAM interface card	Professional Advanced Electronics	02	4,500	9,000
40	DMA Controller Interface card	Professional Advanced Electronics	01	11,600	11,600
41	LCD interface card	Professional Advanced Electronics	19	969	18,411
42	LCD interface card	Professional Advanced Electronics	21	1,125	23,675

43	Timer / Counter, UART & Interrupt interface card	Professional Advanced Electronics	03	3,600	10,800
44	Timer / Counter, UART & Interrupt interface card	Professional Advanced Electronics	25	2,790	69,750
45	Timer / Counter, UART & Interrupt interface card	Professional Advanced Electronics	16	2,700	43,200
46	Keyboard interface card	Professional Advanced Electronics	02	950	1,900
47	Keyboard interface card	Professional Advanced Electronics	01	1,050	1,050
48	Keyboard interface card	Professional Advanced Electronics	16	1,008	16,128
49	Keyboard interface card	Professional Advanced Electronics	21	1,085	22,785
50	8051 microcontroller Kits	Electro Systems Associates	40	6,779	27,1160
51	8086 microprocessor Kits	Electro Systems Associates	30	10,480	3,14,400
52	Relay output interface card	Electro Systems Associates	02	3,800	7,600
53	Display interface card	Electro Systems Associates	02	1,350	2,700
54	8279 study card	Electro Systems Associates	02	2,960	5,920
55	8255 study card	Electro Systems Associates	02	1,850	3,700
56	8251/8253 study card	Electro Systems Associates	02	1,490	2,980
57	8259 study card	Electro Systems Associates	02	1,490	2,980
58	8 Bit ADC interface card	Electro Systems Associates	02	2,340	4,680
59	Dual DAC interface card	Electro Systems Associates	02	1,200	2,400
60	Elevator interface card	Electro Systems Associates	02	1,100	2,200
61	Stepper motor interface card	Electro Systems Associates	02	5,200	10,400
62	Key board interface card	Electro Systems Associates	02	1,380	2,760
63	EPROM programmer adapter interface card	Electro Systems Associates	02	1,870	3,740
64	12 Bit ADC interface card	Electro Systems Associates	02	5,500	11,000
65	Real time clock interface card	Electro Systems Associates	02	1,100	2,200
66	DAC-ADC temp sensor interface card	Electro Systems Associates	02	1,650	3,300
67	Musical tone generator interface card	Electro Systems Associates	02	1,100	2,200
68	Dual slope DAC interface card	Electro Systems Associates	02	1,500	3,000
69	Keyboard and display interface card	Electro Systems Associates	02	2,700	5,400

70	Logic controller interface card	Electro Systems Associates	02	1,350	2,700
71	16*2 LCD interface with black light interface card	Electro Systems Associates	02	1,850	3,700
72	Temp transducer interface card	Electro Systems Associates	02	5,800	11,600
73	DC motor interface card	Electro Systems Associates	02	3,700	7,400
74	Traffic light interface card	Electro Systems Associates	02	1,100	2,200
75	Desktop Computer Systems: Vostro3470 / 3268 desktop Intel core-i3- 4150 processor / 4GB DDR4-500GB SATA HDD / keyboard and mouse / NO ODD / 22" Monitor	DELL	24	21,000	5,04,000
<b>Total Cost (Rs.)</b>				<b>24,11,536</b>	
<b>In Words Rupees Twenty four lakh Eleven thousands five hundred and thirty six Only</b>					

Date:

**HOD**