

Reg. No. :

--	--	--	--	--	--	--	--	--	--

Question Paper Code: 31545

B.E. / B.Tech. DEGREE EXAMINATION, NOVEMBER 2015

Fifth Semester

Electronics and Communication Engineering

01UEC505 – MICROPROCESSORS, MICROCONTROLLERS AND APPLICATIONS

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Distinguish between the shift and rotate instructions of 8085.
2. How many memory locations can be addressed by a microprocessor with 16 address lines?
3. List out the flags present in 8086 microprocessor.
4. How clock signal is generated in 8086? What is the maximum internal clock frequency of 8086?
5. How a keyboard matrix is formed in keyboard interface using 8279?
6. Why interfacing is needed for I/O devices?
7. Illustrate the difference between microprocessor & micro controller.
8. Write a program using 8051 microcontroller to subtract the contents of R1 of Bank0 from the contents of R0 of Bank2.
9. How many ports are needed in interfacing a stepper motor with microcontroller?
10. State various commands associated with LCD module.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Describe the various addressing modes of 8085 microprocessor with an example.

(12)

- (ii) Apply 8085 microprocessor instructions to develop an ALP for Multiplication of two 8-bit numbers which are stored in memory locations 2200H and 2201H by repetitive addition and store the result in memory locations 2300H and 2301H. (4)

Or

- (b) Draw the architecture of 8085 Processor and explain the various blocks. (16)
12. (a) (i) Discuss the function of the Intel 8086 microprocessor with a architecture. (12)
- (ii) Compare minimum and maximum mode operation of 8086 microprocessor. (4)

Or

- (b) (i) List and describe the data transfer group and bit manipulation group of 8086 instructions. (10)
- (ii) Write an ALP using 8086 microprocessor to find the largest element in an array. (6)
13. (a) (i) List out the two operating modes of 8255 PPI and state its features. (4)
- (ii) Describe the operation of interrupt controller 8259. (12)

Or

- (b) With a neat block diagram explain the key board and display controller IC 8279. (16)
14. (a) Describe in detail about 8051 microcontroller memory. (16)

Or

- (b) Illustrate the following status word and control word registers formats i) program status word ii) timer mode control iii) timer control register and iv) serial ports control register. (16)
15. (a) With a complete example, explain the design of traffic light controller using microcontroller. (16)

Or

- (b) Draw the diagram to interface a stepper motor with 8051 microcontroller and explain. Also write an ALP using 8051 instructions to run the stepper motor in both forward and reverse direction with delay. (16)