F 3669 (Pages : 2) Reg. No.....

Name.....

# B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

**Fifth Semester**

Branch : Electronics and Communication Engineering

EC 010 506 – MICROPROCESSORS AND APPLICATIONS (EC)

(New Scheme – 2010 Admission onwards)

[Regular/Improvement/Supplementary]

Time : Three Hours Maximum : 100 Marks

## Part A

*Answer* **all** *questions.*

*Each question carries* 3 *marks.*

1. What is the difference between microprocessor and microcomputer? Explain.
2. What is tri state logic? Explain with its diagram.
3. Differentiate DAC from ADC.
4. Explain the basic concepts of programmable interfacing devices.
5. Explain the minimum and maximum mode operations of intel 8086 microprocessor.

(5 × 3 = 15 marks)

## Part B

*Answer* **all** *questions.*

*Each question carries* 5 *marks.*

6. Discuss the functions of microprocessors in detail.
7. Write an ALP to find largest number in a given data array. Explain the steps.
8. What are SIM and RIM instructions? Explain.
9. Draw the 8237 DMA controller and explain it in detail.
10. Explain the advantages and disadvantages of physical memory in detail.

(5 × 5 = 25 marks)

## Part C

*Answer* **all** *questions.*

*Each full question carries* 12 *marks.*

11. (i) Explain the organization of a microprocessor based system with a neat diagram.

    (ii) Explain the significance and types of flags in detail.

*Or*

**Turn over**

12. (i) Explain the pin configurations and functions of 8085, with a diagram in detail.

(ii) Explain the terms T state, Machine cycle and instruction cycle with respect to execution of instructions.

13. (i) Explain stack and subroutine with examples.

(ii) Write an ALP to multiply two 8-bit numbers stores at 2000H and 2001H and display the result in the address field of the microprocessor kit.

*Or*

14. (i) Write an ALP to arrange numbers in a data array in descending orders.

(ii) Explain the basic concepts in 8085 serial I/O lines.

15. (i) Explain the steps to interface input and output devices.

(ii) Give an account on "Vectored interrupts".

*Or*

16. (i) Explain the interfacing of 8279 key board with a neat diagram.

(ii) Draw the block diagram of 8259A and explain it detail.

17. Explain the block diagram of DMA controller in detail.

*Or*

18. (i) Explain the following in detail :

(a) PPI.

(b) Restart as software instruction.

(ii) Give an account on "memory mapped I/O and I/O mapped I/O schemes".

19. (i) Explain the internal architecture of intel 8086 in detail.

(ii) Explain the interrupt applications of intel 8086 with examples.

*Or*

20. (i) Explain the addressing modes of intel 8086 in detail.

(ii) Explain the memory organization in intel 8086.

(5 × 12 = 60 marks)