Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 80345

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Fifth Semester

Electronics and Communication Engineering

EC 6504 — MICROPROCESSOR AND MICROCONTROLLER

(Common to Fifth Semester Biomedical Engineering and also common to Fourth Semester Information Technology and Medical Electronics/Computer Science and Engineering)

(Regulations 2013)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1.   List the flags of 8086 microprocessor.

2.   List the segment registers of 8086.

3.   Define machine cycle.

4.   Define Bus.

5.   How DMA is initiated?

6.   What is the drawback of memory mapped I/O?

7.   Draw the pin diagram of 8051.

8.   What is the significance of EA pin?

9.   List the modes of Timer in 8051.

10.   State how baud rate is calculated for serial data transfer in mode 1.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the internal hardware architecture of 8086 microprocessor with neat diagrams. (12)

    (ii) Write a short note about assembler directives. (4)

Or

    (b) Explain the various addressing modes of 8086 microprocessor with suitable examples. (16)

12. (a) Discuss about the multiprocessor configurations of 8086. (16)

Or

    (b) Explain in detail about the system bus timing of 8086/8088. (16)

13. (a) Explain in detail about DMA controller. (16)

Or

    (b) Explain the procedure of interfacing D/A and A/D converter circuit. (16)

14. (a) Explain in detail about the architecture of 8051 microcontroller with a neat diagram. (16)

Or

    (b) Write an ALP using 8051 instructions to receive bytes of data serially and put them in P1. Set the baud rate at 4800, 8-bit data, and 1 stop bit. (16)

15. (a) Describe the different modes of operation of timers/counters in 8051 microcontroller. (16)

Or

    (b) Draw a diagram to interface a stepper motor with 8051 microcontroller, also write an 8051 ALP to run the stepper motor in both forward and reverse direction with a delay. (16)

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