C 41252

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SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION MAY 2013

EE/PTEE 09 601—MICROPROCESSORS AND MICROCONTROLLERS

(2009 Admission onwards)

Time : Three Hours

Maximum : 70 Marks

Part A

Answer all questions.

1. What are software interrupts ?

2. What is modular programming ?

3. What is the difference between Asynchronous and Synchronous communication ?

4. What are register banks in 8051 ?

5. How external memory can be enabled in 8051 microcontroller.

(5 × 2 = 10 marks)

Part B

Answer any four questions.

6. Explain the terms :

   (a) Machine cycle.

   (b) Instruction cycle.

   (c) Execution cycle.

7. Detail the string instructions in 8086 microprocessors.

8. What is modular programming ? Explain.

9. Detail the control word preparation in 8255 IC.

10. Give the details of programming timer in 8051 for precise time delay generation.

11. How LCD can be interfaced to 8051 microcontroller ?

(4 × 5 = 20 marks)

Part C

12. (a) Explain the minimum mode and maximum mode configuration in 8086.

    Or

    (b) How DMA can be used for bulk data transfer ? Explain.

13. (a) Explain the memory organisation with block diagram in 8086.

    Or

    (b) (i) Detail the different jump instructions in 8086.

    (ii) Write a program to generate a square waveform 8086.

Turn over

14. (a) Explain the configuration steps of 8251 IC for serial communication.

Or

   (b) Explain the operation of interrupt controller 8259 IC.

15. (a) Detail the interrupt service scheme in 8051 microcontroller.

Or

   (b) Detail the interfacing of serial ADC interfacing with neat block diagram.

(4 × 10 = 40 marks)