F 3512 (Pages : 2) Reg. No.....4.....

Name.....

B.TECH. DEGREE EXAMINATION, NOVEMBER 2010

Fourth Semester

Branch—Computer Science and Engineering

ADVANCED MICROPROCESSORS AND PERIPHERALS (R)

(Prior to 2007 Admissions—Supplementary)

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*
Each question carries 4 *marks.*

1. Explain the model operation of 8255.
2. List the functions and applications of 8252.
3. What are the additional facilities in microcontrollers compared to a microprocessor ?
4. Draw the interfacing of a seven segment display with 8085 processor.
5. What is meant by pipelining ? How pipelining is incorporated in 8086 architecture ?
6. Explain the flag register and its functions in 8086.
7. What are the different types of shift instruction in 8086 ?
8. What is meant by protected mode of operation ? Explain with respect to 80286.
9. Explain the descriptors and selectors in 80336.
10. List the latest AMD processors and explain their salient features.

(10 × 4 = 40 marks)

Part B

Answer **either** (*a*) **or** (*b*) *of each module.*

MODULE I

11. (a) Explain with a neat block diagram the functions of 8251 interface. Show how it can be connected to 8085 processor.

Or

(b) (i) What are the various modes of operation of 8255 ?

(ii) Show how can be interfaced to 8085 microprocessor.

Turn over

MODULE II

12. (a) Draw the interfacing diagram of an 8 bit ADC with 8085 processor and explain. Write a programme to read the analog input connected to the ADC.

Or

(b) Discuss the interfacing of a 4 × 4 matrix keyboard with 8085 processor. Draw the flowchart to read the data of any key pressed.

MODULE III

13. (a) (i) What are the various registers in 8086 ? Explain their functions.

(ii) What is meant by memory segmentation ? What are its advantages ?

Or

(b) What are various addressing modes in 8086 ? Explain with examples.

MODULE IV

14. (a) (i) Explain the string manipulation instructions in 8086.

(ii) Write an assembly language program to find out the largest number from a given array o 8 bit numbers stored in memory starting from an offset address 2000 H. The length of th array is 100.

Or

(b) Discuss the salient features and architecture of 80286 processor.

MODULE V

15. (a) (i) Describe the paging mechanism in 80386. What are the advantages of paging ?

(ii) Explain the address translation for logical address to physical address in 80386 in protecte mode.

Or

(b) Write short notes on the following :—

(i) Branch prediction in pentium processor.

(ii) RISC processors.

(iii) Superscalar Architecture.

(5 × 12 = 60 mark