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Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 65029

5 Year M.Sc. DEGREE EXAMINATION, MAY/JUNE 2013.

Fourth Semester

Information Technology

XCS 234 — MICROPROCESSORS

(Common to 5 Year M.Sc. Computer Technology and
5 Year M.Sc. Software Engineering)

(Regulation 2003)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the operations commonly performed by a microprocessor.

2. Differentiate microprocessor and microcontroller.

3. Write the function of control and status signals in 8085.

4. How the instruction set is classified based on byte size in 8085?

5. Write the function of STA and SHLD instructions.

6. How to enable and disable interrupts in 8085?

7. Differentiate synchronous and asynchronous serial communication.

8. Write the function of Mode 0 and Mode 1 in 8253 timer.

9. List the methods for converting analog input into digital output.

10. Why is DMA transfer used in microprocessors? Justify.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the architecture of 8085 with its block diagram. (8)

(ii) Discuss memory interfacing concepts in 8085. (8)

Or

(b) (i) Compare and contrast the features of micro computer, mini computer and large computers. (8)

(ii) Discuss the addressing modes of 8085 with examples. (8)

12. (a) (i) Write assembly language program to compute factorial of a number. (8)

(ii) Discuss the instructions used for stack implementation with examples. (8)

Or

(b) (i) Write assembly language program to generate Fibonacci series. (8)

(ii) Discuss the instructions used for implementing subroutines with examples. (8)

13. (a) Explain the working of Interrupt controller with its block diagram.

Or

(b) Explain the working of DMA controller with its block diagram.

14. (a) (i) Discuss the working of I/O modes and BSR mode in 8255 Interface. (8)

(ii) Explain the working of Keyboard/Display controller with its block diagram. (8)

Or

(b) (i) Explain the working of 8251 USART with its block diagram. (8)

(ii) Discuss the features and working of 8253 timer. (8)

15. (a) (i) Discuss the interfacing of segment displays to microprocessor. (8)

(ii) Explain the working of D/A converters. Illustrate with an example the interfacing of D/A to microprocessor. (8)

Or

(b) (i) Explain the bidirectional transfer between two microcomputers with its block diagram. (8)

(ii) Discuss the software architecture of 8086, 80286 and 80386 microprocessors. (8)

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