UG Odd Semester (CBCS) Exam., December—2016

COMPUTER SCIENCE

(3rd Semester)

Course No. : MCSCC–304

(Microprocessor and Assembly Language Programming)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, selecting **one** from each Unit

UNIT—I

1. *(a)* Describe how the control bus signals are produced for an 8086 system operating in maximum mode. 7

(b) Why is DMA data transfer faster than doing the same data transfer with program instructions? 7

2. *(a)* Describe the series of actions that a DMA controller will perform after it receives a request from a peripheral device to transfer data from the peripheral device to memory. 8

(b) List the major steps in developing an assembly language program and discuss them. 6

UNIT—II

3. *(a)* List three methods of passing parameters to a procedure and give the advantages and disadvantages of each method. 8

(b) Discuss different types of FAR call for a procedure. 6

4. *(a)* Discuss the differences between macro and procedure. 6

(b) What are assembler directives? Discuss eight assembler directives. 8

UNIT—III

5. *(a)* Why must a 12-bit D/A converter have latches on its inputs if it is to be connected to 8-bit parts or an 8-bit data bus? 8

(b) Why must data be sent to a printer on a handshake basis? 6

6. *(a)* Discuss about 8255 A in detail. 8

(b) Give the differences between single-handshake and double-handshake data transfer. 6

UNIT—IV

7. *(a)* Why is it necessary to push all registers used in the procedure at the start of an interrupt-service procedure and to pop them at the end of the procedure? 8

(b) Why must you use an IRET instruction rather than the regular RET instruction at the end of an interrupt-service procedure? 6

8. *(a)* Briefly describe the condition(s) which cause(s) the 8086 to perform each of the following types of interrupt : 10

type 0, type 1, type 2, type 3, type 4

(b) Describe the purpose of the 8086 interrupt vector table. 4

UNIT—V

9. *(a)* Explain how telephone companies commonly transmit many phone signals on a single wire or channel. 7

(b) How is the start of a message frame indicated in a bit-oriented protocol such as HDLC? 7

10. *(a)* What is the difference between a baseband network and a broadband network? 7

(b) What is the main difference between a UART and a USART? 7

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