CBCS SCHEME

USN | | | | | | | | | | |

15CS34

Third Semester B.E. Degree Examination, June/July 2018
Computer Organization

Time: 3 hrs. Max. Marks: 80

Note: *Answer any FIVE full questions, choosing one full question from each module.*

Module-1

1 a. Define Addressing Mode. Give the details of different addressing modes. **(08 Marks)**
b. Describe the basic operational concepts between the processor and memory. **(08 Marks)**

OR

2 a. What is Subroutine? How to pass parameters to subroutines? Illustrate with an example. **(08 Marks)**
b. How to encode assembly instructions into 32-bit words? Explain with examples. **(08 Marks)**

Module-2

3 a. Define Bus Arbitration. With diagrams, explain the centralized bus arbitration mechanism. **(08 Marks)**
b. With the help of timing diagram, briefly discuss the main phases of SCSI bus involved in its operation. **(08 Marks)**

OR

4 a. With neat diagrams, explain how to interface printer to the processor. **(08 Marks)**
b. Explain the following methods of handling interrupts from multiple devices.
i) Interrupt nesting/priority structure ii) Daisy chain method. **(08 Marks)**

Module-3

5 a. Describe how to translate virtual address into physical address with diagram. **(08 Marks)**
b. Draw and explain the internal organisation of 2M × 8 asynchronous DRAM chip. **(08 Marks)**

OR

6 a. Describe any two mapping functions in cache. **(08 Marks)**
b. Describe the principles of magnetic disk. **(08 Marks)**

Module-4

7 a. Perform the operations on 5 – bit signed numbers using 2's complement system. Also indicate whether overflow has occurred. **(06 Marks)**
i) (-10) + (-13) ii) (-10) – (-13) iii) (-2) + (-9).
b. Perform the multiplication of 13 and -6 using Booth algorithm and Bit – pair recoding method. **(10 Marks)**

OR

8 a. Perform the restoring division for 8 ÷ 3 by showing all the steps. **(06 Marks)**
b. Explain the logic diagram of 4 – bit carry look ahead adder and its operations. **(10 Marks)**

Module-5

9 a. Draw and explain multiple bus organization along with its advantages. **(10 Marks)**
b. Write down the control sequence for the instruction Add (R_3) , R_1 for single bus organization. **(06 Marks)**

OR

10 a. With block diagram, explain the general requirements and working of digital camera. **(10 Marks)**
b. Write the control sequence for an unconditional branch instruction. **(06 Marks)**

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