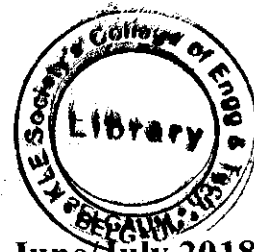


CBCS SCHEME



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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 $2M \times 8$ 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 $8 \div 3$ 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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