CBCS SCHEME

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17CS34

Third Semester B.E. Degree Examination, Dec.2018/Jan.2019
Computer Organization

Time: 3 hrs. Max. Marks: 100

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

Module-1

1 a. Explain with a neat diagram the connection between the processor and the computer memory. **(05 Marks)**

b. Explain the Basic Instruction types with example. **(05 Marks)**

c. Define Addressing mode, explain the various addressing modes with example. **(10 Marks)**

OR

2 a. Write an assembly program that reads a line of characters and display it. **(05 Marks)**

b. What are assembler directives? Point out and explain the various directives with example. **(05 Marks)**

c. Point out various shifts and rotate instruction and example with a neat diagram and example. **(10 Marks)**

Module-2

3 a. Define interrupt. Point out and explain the various ways of enabling and disabling interrupts. **(07 Marks)**

b. What are Exceptions? Point out and explain the different kinds of exceptions. **(05 Marks)**

c. What is interrupt nesting, explain with a neat diagram the implementation of interrupt priority, using individual interrupt request and acknowledge lines. **(08 Marks)**

OR

4 a. What is Bus Arbitration? Explain centralized and distributed arbitration. With a neat diagram. **(10 Marks)**

b. Explain Universal serial Bus tree structure and split bus operation with a neat diagram. **(10 Marks)**

Module-3

5 a. Explain synchronous DRAMS with a block diagram. **(05 Marks)**

b. Define ROM ; point out and explain various types of ROMS. **(05 Marks)**

c. Define cache memory, explain various types of it with a neat block diagram. **(10 Marks)**

OR

6 a. What is Virtual memory? Explain virtual memory organization. **(07 Marks)**

b. Explain the optical disk organization with a neat diagram. **(10 Marks)**

c. Define Hit rate and miss penalty. **(03 Marks)**

Module-4

7 a. Draw 4-bit carry-look ahead adder and explain. **(10 Marks)**

b. Perform multification for –13 and + 9 using Booth's Algorithm and explain Booth's Algorithm process. **(10 Marks)**

OR

8 a. Explain with a neat figure the circuit arrangement for binary division. **(10 Marks)**

b. Explain IEEE standard for floating point number. **(10 Marks)**

Module-5

9 a. Explain three – bus organization of the datapath with a neat block diagrams. **(06 Marks)**

b. Explain Hard Wired Control Unit Organization in a processing unit. **(06 Marks)**

c. Write the control sequence for execution of the Instruction. Add (R_3), R_1 in the execution of a complete instruction. **(08 Marks)**

OR

10 a. Explain briefly the block diagram of a digital camera. **(10 Marks)**

b. With a neat block diagram, explain the working of microwave oven in an embedded system. **(10 Marks)**

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