CBCS SCHEME

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

15CS34

Third Semester B.E. Degree Examination, Feb./Mar. 2022
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. Describe the basic operational concept of a computer. **(08 Marks)**

b. What is performance measurement? Explain the overall SPEC rating for the computer in a program Suit. **(08 Marks)**

OR

2 a. What is addressing mode? Explain Indirect, Indexed, Relative, Auto Increment and Decrement addressing modes with example. **(10 Marks)**

b. Define the little endian and big endian assignment? Represent the number 82436571H in 32 bit big endian and little endian memory. **(06 Marks)**

Module-2

3 a. Define Bus arbitration. Explain the centralized and distributed bus arbitration. **(10 Marks)**

b. Explain Daisy chaining technique. **(06 Marks)**

OR

4 a. Describe the main phases of SCSI bus. **(08 Marks)**

b. Explain the architecture and addressing scheme of USB. **(08 Marks)**

Module-3

5 a. Explain the Internal organization of 2M × 8 Asynchronous DRAM chip. **(08 Marks)**

b. Describe set associative mapping function in cache with an example and how it can be made fully Associative. **(08 Marks)**

OR

6 a. Explain how virtual memory translation is done to translate virtual address into physical address. **(08 Marks)**

b. Write a note on :
(i) Magnitude Hard disk
(ii) Optical disk **(08 Marks)**

Module-4

7 a. Explain 4-bit carry look ahead adder. **(06 Marks)**

b. Perform the multiplication of 15 and –7 using Booth's algorithm and Bit pair recording method. **(10 Marks)**

OR

8 a. Perform the Restoring division for 9 ÷ 4 by showing all the steps. **(08 Marks)**

b. Explain the IEEE floating point addition/subtraction unit. **(08 Marks)**

Module-5

9 a. Explain multiple bus organization of CPU and write the control sequence for the instruction ADD R1, R2, R3 (10 Marks)

b. Explain the organization of a micro programmed control unit. (06 Marks)

OR

10 a. Explain the working of microwave oven in an embedded system. (08 Marks)

b. Explain different ways of implementing multiprocessor system and justify how time is reduced. (08 Marks)

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