CBCS SCHEME

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

15CS34

Third Semester B.E. Degree Examination, Dec.2019/Jan.2020
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. With a neat diagram, explain the connection between processor and memory. **(08 Marks)**

b. Explain: (i) Processor clock (ii) Clock rate
(iii) Basic performance equation (iv) Performance measurement **(08 Marks)**

OR

2 a. List the addressing modes with assemble syntax and addressing functions. **(08 Marks)**

b. Explain basic input output operation. Write a program to read a line of character and display it. **(08 Marks)**

Module-2

3 a. Explain the interrupts with hardware. Write the steps in enabling and disabling interrupts. **(08 Marks)**

b. Explain the issues in handling the multiple devices in interrupts. **(08 Marks)**

OR

4 a. With a neat diagram, explain DMA and different types of bus arbitrations. **(08 Marks)**

b. Explain USB tree structure and protocols. **(08 Marks)**

Module-3

5 a. Draw the internal organization of a 2M × 8 dynamic memory chip. Explain fast page mode. **(08 Marks)**

b. Explain the mapping functions used in cache memory. **(08 Marks)**

OR

6 a. What is memory interleaving? Explain with example. **(08 Marks)**

b. What is virtual memory? Explain the address translation. **(08 Marks)**

Module-4

7 a. Design 4-bit carry look ahead adder and explain. **(08 Marks)**

b. Explain Booth recoding of a multiplier. Perform (+13) × (–6) using Booths algorithm. **(08 Marks)**

OR

8 a. Explain logic and circuit arrangement for implementing restoring division. **(08 Marks)**

b. Write the rules for arithmetic operations on floating point operations. **(08 Marks)**

Module-5

9 a. With a neat diagram, explain single bus organization of data path inside the processor. **(08 Marks)**

b. Write actions required and control sequence for execution of instruction ADD (R_3), R_1. **(08 Marks)**

OR

10 a. Briefly explain the block diagram of microwave oven. **(08 Marks)**

b. Explain the different possible ways of implementing a multiprocessor system. **(08 Marks)**

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