Code No: **R201216** **R20** **SET - 1**

I B. Tech II Semester Supplementary Examinations, January/February - 2023
COMPUTER ORGANIZATION
(Common to CSE, IT)

Time: 3 hours Max. Marks: 70

Answer any FIVE Questions ONE Question from Each Unit
All Questions Carry Equal Marks

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UNIT- I

1. a) Explain in brief about Weighted and Non-Weighted codes with one example each. [7M]
   b) With an example, explain the CRC code for detecting multiple errors in a message. [7M]

(OR)

2. a) Explain about various types of complements for a binary number with suitable examples. [7M]
   b) Explain the two broad categories of Two-Level implementation of Logic gates with example. [7M]

UNIT- II

3. a) What are the Multiplexers? Explain with its diagram and list out its applications. [7M]
   b) Explain the J-K Flip-flop and give its Characteristic Table. What is race around condition in J-K Flip-flop and how it can be eliminated? [7M]

(OR)

4. a) Briefly discuss the types of Shift Registers. [7M]
   b) Explain the working and types of Encoders and Decoders in Digital electronics. [7M]

UNIT- III

5. a) Explain the Floating point Multiplication algorithm with an example. [10M]
   b) Illustrate the method used for addition of two decimal numbers. [4M]

(OR)

6. a) With a neat diagram, Explain the use of Timing and control unit of a CPU. [7M]
   b) List out and explain the Memory Reference instructions. [7M]

UNIT- IV

7. a) Define the terms [7M]
   i) Control Unit ii)Control Memory iii) Micro Instruction
   iv) Control Address Register v)Assembler vi)Debugger vii)Emulator
   b) With neat diagram, explain the address selection for control memory [7M]

(OR)

8. a) Draw the block diagram of Micro-programmed control unit of a basic computer and explain its components. [7M]
   b) Explain the implementation of WHILE-DO, REPEAT-UNTIL Loop structures in 8086 programming. [7M]

UNIT- V

9. a) With a neat diagram, show the memory address map of RAM and ROM for a computer system (Assume 512 bytes). [7M]
   b) Elaborate on the different methods to achieve the asynchronous way of data transfer and discuss its advantages and disadvantages. [7M]

(OR)

10. a) Draw the block diagram of DMA controller and explain its key components. [7M]
    b) What is a Virtual Memory? Explain the process of converting virtual addresses to physical addresses with a neat diagram [7M]

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