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BT–5/D–21 **45116**

COMPUTER ORGANIZATION AND ARCHITECTURE

Paper–CSE–307N

Time Allowed : 3 Hours] [Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

UNIT–I

1. Explain Digital arithmetic operations using Booth's algorithm for addition and subtraction. 15

2. What do you understand by Floating point representation of numbers? Describe the various arithmetic operations performed using Floating point representation. 15

UNIT–II

3. What is Program interrupt? Discuss about the way the interrupt is handled by the Computer by describing the interrupt cycle by mean of flowchart. 15

4. What is Instruction cycle? Discuss about memory reference instructions and register reference instructions. 15

UNIT–III

5. What is Stack organization in the CPU? How is stack organization used for evaluating the arithmetic expressions written in postfix/reverse polish notation. Explain with example. 15

6. How are the operands chosen during program execution based on the addressing modes of the instruction? Explain with example. 15

UNIT–IV

7. What is Asynchronous Data transfer between two independent units? Discuss the various modes of Data transfer–Programmed I/O, Interrupt-initiated I/O and Direct Memory Access. 15

8. What is the difference between isolated I/O and Memory-mapped I/O? What are the advantages and disadvantages of each? 15