

(3 Hours)

[75 marks]

N.B:

1. attempt any three questions from each section
2. Answers to the two sections must be written in same answer sheet.
3. Figures to the right indicate full marks.
4. Assume additional data if necessary but state the same clearly.
5. Symbols have their usual meanings and tables have their usual standard design unless stated otherwise.
6. Use of Simple calculators and statistical tables is allowed.

Section I

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|---|---|---|---|
| 1 | A | Compare centralized and decentralized architecture in a distributed system? | 6 |
| | B | Describe the different forms of communication in distributed system. | 6 |
| 2 | A | Discuss the primitives of a socket used in socket programming in connection oriented protocol. | 6 |
| | B | Discuss flat and structured naming systems with the help of examples. | 6 |
| 3 | A | What is mutual exclusion? Discuss the advantage and disadvantage of using token ring algorithm for mutual exclusion. | 6 |
| | B | What is cache coherence? Discuss the implementation issues of cache coherence protocol in the Client centric consistency model. | 6 |
| 4 | A | What is main issue in backward recovery? How it is achieved? What is forward recovery? | 6 |
| | B | Discuss the different types of system authentication protocols. | 6 |
| 5 | A | Discuss client side caching in CODA. | 6 |
| | B | Illustrate with an example the implementation of an object reference that allows a client to bind to a remote object in CORBA. | 6 |

Section II

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|---|---|---|---|
| 6 | A | Differentiate between Interrupts and polling. Also explain what is edge triggering and level triggering interrupt modules. | 6 |
| | B | Write a short note VLSI and PLD. | 7 |
| 7 | A | Explain the different deadlock prevention methods. | 6 |
| | B | Explain unipolar and bipolar stepper motor. | 7 |
| 8 | A | Consider the following C code. Write an appropriate assembly code for it
while (x != 1000)
{
...
} | 6 |
| | B | What is clock cycle? Given a clock frequency of 10 MHz, determine the number of clock cycles corresponding to a real-time interval of 100 ms. | 7 |

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|----|---|---|---|
| 9 | A | Explain in detail Blind counting synchronization and Gadget Busy waiting. | 6 |
| | B | Explain with example data sharing problem with respect to interrupts. | 7 |
| 10 | A | Write a C code to initialize and activate External interrupt 1 to rising edge, when input is given to external interrupt pin. | 6 |
| | B | What is preemptive and non preemptive interrupts? Explain with example. | 7 |
