

22414

23242

3 Hours / 70 Marks

Seat No.

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- Instructions* –
- (1) All Questions are *Compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following: **10****
- a) Define following terms
 - i) Protocol
 - ii) Peer
 - b) List any two advantages of computer network.
 - c) List guided transmission media.
 - d) List IEEE 802·X standards for network.
 - e) Define error and state it's types.
 - f) Define the term 'Topology'. List the names of any two network topologies.
 - g) Name the layer which is associated with transmission media.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Explain modes of communication.
 - b) Draw and explain constructional diagram of fiber optic cable.
 - c) Explain ESS architecture of IEEE 802.11 with neat diagram.
 - d) Compare IPV4 and IPV6.
- 3. Attempt any THREE of the following:** **12**
- a) Describe multiplexing techniques with the help of diagram.
 - b) Describe the components of data communication with neat diagram.
 - c) Explain Mesh topology with suitable diagram.
 - d) Explain data encapsulation in OSI reference model.
- 4. Attempt any THREE of the following:** **12**
- a) Compare wired and wireless transmission media.
 - b) Explain OSI reference model with its layered architecture.
 - c) Explain satellite communication with the help of neat diagram.
 - d) Describe different IP address classes.
 - e) A system uses CRC on a block of 8 bytes. How many redundant bits are sent per block? What is the ratio of useful bits to total bits.

5. Attempt any TWO of the following:**12**

- a) For the following situation state which type of network architecture is appropriate and justify your answer.
 - i) Number of user 50
 - ii) Data and resources need to be restricted
 - iii) No network administrator required
 - iv) All user with equal priority.
- b) Why circuit switching is preferred over packet switching in voice communication?
- c) For the classless address 129.65.33.01/24. Find the following -
 - i) Number of address in the block (N)
 - ii) The first address
 - iii) The last address

6. Attempt any TWO of the following:**12**

- a) Describe bluetooth architecture technologies.
 - b) Describe the process of DHCP server configuration.
 - c) Draw with neat labelled sketch of star-bus topology connecting three star networks, having three computers in two stars and two computers in one star.
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