17429

21415

3 Hours / 100 Marks **Seat No.** | | | | | | | | |

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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
(7) Preferably, write the answers in sequential order.

Marks

1. (A) Attempt any SIX : **12**

(a) Compare human network and computer network.
(b) Define 'Packet' in concern with computer communication.
(c) Define the term 'Topology'. List the names of any two network topologies.
(d) State whether the Bus is active or Passive Network. Justify your answer.
(e) Give any two applications of microwave communication.
(f) State two applications of optical fibre cable.
(g) What is CDMA ?
(h) What is PPP ? Describe in brief.

(B) Attempt any TWO : **08**

(a) Give advantages and disadvantages of computer network.
(b) Describe Tree Topology with neat diagram. State its advantages. (any two)
(c) You are asked to establish a small network with minimum cost at least eight computers. Also it is necessary to use centralized database. Which type of network topology you will use ? Justify your answer.

2. Attempt any FOUR : **16**

(a) Describe classification of computer networks.
(b) Enlist essential components required to design computer network. Describe any one in brief.
(c) With the help of neat diagram explain satellite communication.
(d) What is the frequency band used for cellular telephony ? How a mobile call is transmitted and received ?

P.T.O.

(e) State any four advantages of server based network over peer to peer network.

(f) Draw the constructional sketch of co-axial cable. Describe any three characteristics of co-axial cable.

3. Attempt any FOUR : **16**

(a) List any four types of servers. Describe them in brief.

(b) State any two advantages of ring topology, define token. State whether ring topology is broadcast or point to point network.

(c) In brief describe OSI model with suitable diagram.

(d) Describe connection oriented and connectionless services.

(e) Explain data encapsulation in OSI model.

(f) Compare UDP and TCP (four points)

4. Attempt any FOUR : **16**

(a) Describe different IP address classes.

(b) Compare IPv4 and IPv6.

(c) Explain in brief the functioning of Bluetooth.

(d) List any four IP functions.

(e) What is token passing. List any four protocols associated with application layer of OSI model.

(f) Compare LAN, MAN and WAN.

5. Attempt any FOUR : **16**

(a) Differentiate SLIP and PPP. (Any four points)

(b) Describe the function of repeater. In which situation the repeater is used in the network ?

(c) Describe the following terms with reference to cellular telephony :

(i) Hard Hand Off (ii) Soft Hand Off

(d) What is NIC ? State functions of NIC.

(e) Site address 201.70.64.0. The company needs six subnets. Design subnets .Write addresses of all subnets.

(f) In which situation MODEMS are useful in network.

6. Attempt any TWO : **16**

(a) How cross cable is created ? Draw figure and explain. Give its application.

(b) Describe TCP / IP model with suitable diagram. Describe the function of each layer.

(c) With the help of neat sketch describe the working of Router. Describe in detail the operation of Router considering OSI model.

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