

17429

14115

3 Hours / 100 Marks

Seat No.

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- Instructions :** (1) All Questions are *compulsory*.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

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

12

- Define Server. Give the name of any two types of Server.
- Define LAN. Write any two disadvantages of LAN.
- Write in brief any two role of network control devices in computer network.
- List any two disadvantages of bus topology.
- Define Wi-Max.
- Give any two disadvantages of unshielded twisted pair cable.
- Define protocol. Give the name of any two protocols.
- List different classes of IP address.

(B) **Attempt any TWO :**

8

- Compare Server based network and peer-to-peer network. (Any four points)
- Give any four selection criteria for selecting network topology.
- Discuss hybrid topology with suitable diagram.

2. **Attempt any FOUR :**

16

- Enlist eight applications of computer network.
- Compare LAN, MAN and WAN. (Any four points)
- Draw and explain Co-axial cable.
- State the factors to be considered for selecting transmission media. (Eight points)
- Discuss any four network features.
- Explain infrared communication. List any two disadvantages of infrared communication.



P.T.O.

- 3. Attempt any FOUR :** **16**
- (a) Explain PAN with suitable diagram. Differentiate between PAN and CAN. (Two points only)
 - (b) Discuss the role of HUB. Differentiate between Active Hub and Passive Hub.
 - (c) Why layered architecture is used in OSI reference model ? Discuss.
 - (d) Explain encapsulation with example.
 - (e) Write the name of layers that perform the following functions in OSI :
 - (i) Data Encryption
 - (ii) Error Correction
 - (iii) File Transfer
 - (iv) Data Encoding
 - (f) Explain the services provided by transport layer in TCP/IP Model.
- 4. Attempt any FOUR :** **16**
- (a) Explain following protocols :
 - (i) PPP
 - (ii) SLIP
 - (b) Compare IPv4 and IPv6. (Any four points)
 - (c) Draw and explain fiber optic cable.
 - (d) Explain sub-netting and super-netting with example.
 - (e) Explain horizontal and vertical communication.
 - (f) Enlist the components of computer network. Describe any one in brief.
- 5. Attempt any FOUR :** **16**
- (a) Compare OSI reference model and TCP/IP network model.
 - (b) In star topology which device is preferable as a star device between switch and hub ? Justify your answer.
 - (c) Explain different modes of fibre optic cable.
 - (d) State the situations under which gateways are necessary in the network.
 - (e) Explain connectionless and connection oriented protocol. Give the example for each type.
 - (f) Explain following :
 - (i) Telnet
 - (ii) FTP
- 6. Attempt any TWO :** **16**
- (a) Explain the function of each layer of OSI reference model with neat diagram.
 - (b) Give the name of protocols used by different layers of TCP/IP. Discuss the function of ARP and RARP.
 - (c) Explain satellite communication with neat diagram.
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