

22417

23124

3 Hours / 70 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.

Marks

1. Attempt any FIVE of the following :

10

- (a) Enlist applications of Computer Network.
- (b) List four disadvantages of Bridges in Computer Network.
- (c) List four advantages of Ring Topology.
- (d) Draw the neat labelled diagram of OSI (Open System Interconnection) reference model.
- (e) List four Basic Network Services in Computer Network
- (f) List two transport layer protocols in Network.
- (g) Draw IPv6 Frame Format.



2. Attempt any THREE of the following :**3 × 4 = 12**

- (a) Compare peer-to-peer Network with client-server Network (four points).
- (b) State the layer of OSI reference model in which the following devices operate :
 - (i) Repeater
 - (ii) Bridge
 - (iii) Switch
 - (iv) Hub
 - (v) Router
 - (vi) Modem
 - (vii) Gateway
 - (viii) Access point
- (c) Compare between TCP and UDP with respect to following characteristics :
 - (i) Protocol connection software
 - (ii) Data interface to application
 - (iii) Reliability
 - (iv) Overhead
- (d) State five IP address classes. Explain any two IP address class.

3. Attempt any THREE of the following :**3 × 4 = 12**

- (a) Define the following :
 - (i) client
 - (ii) server
 - (iii) peer
 - (iv) protocol
- (b) Explain the working of NIC in LAN Network with diagram.
- (c) State the internet layer protocols in TCP/IP suite. Explain the function of ARP and ICMP.
- (d) Compare IPv4 & IPv6 address (four points).

4. Attempt any THREE of the following :**3 × 4 = 12**

- (a) Explain the steps to take backup of data in Computer Network.
- (b) A small educational organization situated within a single building want to create a network to share the information of its 5 departments among them, for this network no centralized management is required, also no security is required. Which network is suitable for such organization ? Justify.
- (c) Draw a neat labelled sketch of hybrid topology connecting one star network of 4 computers, one ring network of 5 computers and one bus network of 5 computers.
- (d) State disadvantages of Device sharing in Network and state 4 applications of Device sharing in Network.
- (e) Explain the working of PPP (Point-to-Point) protocol in Computer Network.

5. Attempt any TWO of the following :**2 × 6 = 12**

- (a) List 2 types of switches in Network. Explain them.
- (b) Explain the major functions of the first 6 layers of OSI model.
- (c) Define RARP. Enlist four drawbacks of RARP.

6. Attempt any TWO of the following :**2 × 6 = 12**

- (a) Draw the neat labelled diagram of Repeater. State the situation under which repeater is necessary in Networks.
 - (b) Compare OSI reference Model and TCP/IP Protocol (six points).
 - (c) Explain the working of subnetting with diagram and example.
-

