22417

11920

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) 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) List advantages & disadvantages of Computer Network.

(b) State features of Nos.

(c) Define host and access point in computer network.

(d) State Computer topology. Give its importance.

(e) Define protocol. State its significance.

(f) List any four application layer protocols.

(g) Explain the logical address and physical address in computer network.

2. Attempt any THREE of the following : **12**

(a) Describe working of Mesh topology. Give its advantages and disadvantages.

(b) Draw OSI model. State function of each layer.

(c) Describe design issue for layering in computer network.

(d) Describe working of SLIP protocol and PPP protocol.

3. Attempt any THREE of the following : **12**

(a) Describe the classification of networks based on transmission technology.

(b) State NIC and Access Point. How it differs ?

(c) Describe working of TCP/IP model. How it differs from OSI ?

(d) Explain working of ARP and RARP to assign IP addresses.

4. Attempt any THREE of the following : **12**

(a) List and describe any four benefits of Computer network.

(b) Draw and describe graphical representation of Hybrid topology. Give it significance.

(c) Define Interfaces, Services, Packets & Layer.

(d) Give class & subnet address for following IP address :

(i) 191.168.0.1

(ii) 221.45.14.68

(iii) 245.32.14.24

(iv) 10.145.14.68

(e) Describe working of Nos. State its salient features.

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

(a) Describe working of DNS and SMTP protocols with suitable example.

(b) Draw & explain structure of IPV6 address. Highlights major enhancement` w.r.f IPV4.

(c) Differentiate between peer-to-peer, client server and distributed modes of computing. (Any four points)

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

(a) Enlist steps to share a printer in a network and share a scanner within two computers.

(b) Elaborate the procedure to divide networks into subnets. Divide given network address in four equal part to hold maximum 50 devices in each subnet.

IP address 192.168.14.14/25

(c) Design a network with 15 host divided into 3 equal size sub-networks each with different network topology. i.e. bus, star and ring. Connect these sub-networks with suitable network device. Specify IP address to each sub-network with its Broadcast and Network address.
