17429

15162

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) 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. (A) Attempt any SIX : **6 × 2 = 12**

(a) Define Computer Network.

(b) List two applications of Computer Network.

(c) Define Network topology. List types of Network topologies.

(d) State two features of (i) TELNET (ii) FTP.

(e) State the criteria for selection of transmission media.

(f) Draw and label fiber optics cable.

(g) Define (i) Protocol (ii) Encapsulation

(h) Differentiate between IPV_4 & IPV_6. (two point)

(B) Attempt any TWO : **2 × 4 = 8**

(a) Classify Networks on the basis of their geography and define.

(b) Name the topology which is combination of different topologies. Explain it with advantages.

(c) List and describe criteria for selection of Network topology.

P.T.O.

2. Attempt any FOUR : **4 × 4 = 16**

(a) State the difference between server based network and peer to peer network.

(b) State the functions of (i) Hub (ii) Repeater (iii) Bridge (iv) Router.

(c) List types of cable. Draw and label the constructional sketch of co-axial cable.

(d) State the need of transmission media.

(e) State four benefits of computer networks.

(f) State characteristics of cables.

3. Attempt any FOUR : **16**

(a) Explain which resources can be shared in computer networks.

(b) What is role of Modems in Networking ? Explain types of Modems.

(c) Describe presentation layer of OSI model.

(d) State name of protocol used at different layers of OSI model.

(e) Explain the concept of encapsulation.

(f) Write abbreviation / Acronym of following :

(i) SLIP (ii) PPP (iii) ARP (iv) RARP

(v) FTP (vi) SMTP (vii) DNS (viii) UDP

4. Attempt any FOUR : **16**

(a) State meaning of (i) Subnetting (ii) Supernetting with suitable examples.

(b) Draw and explain layered structure of TCP/IP model.

(c) Draw the Bluetooth architecture and describe its working.

(d) Define IP Addressing. List IP Address classes with their range of addresses.

(e) What do you mean by Layered Architecture ?

(f) Compare LAN & WAN.

5. Attempt any FOUR : **16**

(a) State the application of NIC device driver and client server software.

(b) Differentiate between TCP and UDP (four points).

(c) Name the types of Handoffs in Mobile Communication and describe Handoff procedure with suitable diagram.

(d) A computer centre is connected in star topology with 8 computer. This set-up has to be converted into Mesh topology. What are the requirements ? What are the advantages and disadvantages of the two systems ? Draw the sketches for both the topologies.

(e) Draw the frame format of TCP Header and state the function of various fields.

(f) Draw the sketch of bus topology and explain.

6. Attempt any TWO : **16**

(a) Draw and explain the functions of various layer of OSI Reference model.

(b) Explain protocol used in internet layer in TCP/IP.

(c) State eight advantages of fibre optic cable over other cables.
