22417

12223

3 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions : (1) All Questions are *compulsory.*

(2) Illustrate your answers with neat sketches wherever necessary.

Marks

1. Attempt any FIVE of the following : **10**

(a) State any two applications of computer networks.

(b) Describe use of repeaters.

(c) List layers of OSI model.

(d) Classify computer networks based on transmission technology.

(e) State any two network layer protocols.

(f) Define IP address.

(g) Write any two connecting devices used for tree topology.

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

(a) Differentiate between Hub & Switch on the basis of layer, port, device type & speed.

(b) Draw and explain TCP/IP protocol suit.

(c) Describe networking as a layered approach.

(d) Give the names of layers, where following protocols are belong to :

(i) SMTP (ii) TCP/UDP (iii) IP (iv) PPP

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

(a) Classify computer networks based on transmission technology & network relationships.

(b) With suitable diagram explain Tokan ring topology. What happens if tokan is lost ?

(c) Describe specific functions of (i) Transport layer (ii) Data link layer.

(d) Differentiate between TCP and UDP (any 4 points).

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

(a) Define NOS. Explain it's types and features. (any 2 types & 2 features)

(b) Draw a neat diagram of fiber optic cable & state its types. (any 2)

(c) Describe any four basic network services.

(d) Describe any four classes of IPv4 addresses with its range.

(e) Suggest suitable network computing model for a LAN of 25 machines and 3 printers.

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

(a) Explain working of ARP & RARP.

(b) What is subnet mask ? Explain with example.

(c) Suggest suitable network layout for an organization's office in a building of 5 floors. Each floor needs 20 machines and 2 printers. Identify appropriate topology & connecting devices.

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

(a) Describe procedure to configure TCP/IP network layer services.

(b) Design a network of class B with network address 136.10.0.0 with 2 subnets. State the subnet mask used & subnet addresses.

(c) For a trading firm organization with 50 users, draw network architecture design of wireless LAN. State devices used and its specifications.