

22417

21222

3 Hours / 70 Marks

Seat No.

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15 minutes extra for each hour

- 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. **Attempt any FIVE of the following :** **5 × 2 = 10**
  - (a) Enlist four advantages of LAN.
  - (b) Explain the advantages of Repeater.
  - (c) List any two functions of presentation layer.
  - (d) State any two differences between LAN and WAN.
  - (e) List four commands of SMTP.
  - (f) Define IP address. State IP address classes.
  - (g) Draw the following topology with five host.
    - (i) Ring
    - (ii) Star
  
2. **Attempt any THREE of the following :** **3 × 4 = 12**
  - (a) Describe the construction of Fiber optic cable with a neat diagram.
  - (b) Explain ISO-OSI reference model with diagram.
  - (c) Describe the working of following layers of OSI model.
    - (i) Data link layer
    - (ii) Network layer
  - (d) What is DNS server ? Describe concept of DNS.

- 3. Attempt any THREE of the following :** **3 × 4 = 12**
- (a) Describe the classification based on Network relationship.
  - (b) Describe construction of co-axial cable with neat diagram.
  - (c) Compare between OSI and TCP/IP model (any 4 points).
  - (d) Explain the concept of FTP with neat diagram.
- 4. Attempt any THREE of the following :** **3 × 4 = 12**
- (a) Distinguish between client-server & distributed networks.
  - (b) Define routers. Explain with diagram.
  - (c) List and explain functions of session layer.
  - (d) What is subnetting in IP network ? Explain with suitable example.
  - (e) Describe working of NOS. State its salient features.
- 5. Attempt any TWO of the following :** **2 × 6 = 12**
- (a) Describe working of DNS and SMTP protocols with suitable example.
  - (b) Draw and explain the structure of IPV6 address. Highlight major enhancement w.e.f. IPV4.
  - (c) Design suitable network layout for an organization with four departments (6 users each), shared print server, & network server.
- 6. Attempt any TWO of the following :** **2 × 6 = 12**
- (a) Describe the concept of data encapsulation. Explain in details.
  - (b) Design a network of class 'C' with network address 192.168.5.0 with 2 subnet. State the subnet mask and subnet address.
  - (c) State devices and its specifications for setting a wireless network.
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