

**Duration: 3hrs**

**[Max Marks: 80]**

- N.B. :** (1) Question No 1 is Compulsory.  
(2) Attempt any three questions out of the remaining five.  
(3) All questions carry equal marks.  
(4) Assume suitable data, if required and state it clearly.

**1 Attempt any FOUR**

**[20]**

- a What is the role of VPI and VCI in an ATM?
- b Explain SONET layers in detail.
- c What are the drawbacks of traditional routing methods? Explain in brief.
- d Explain Network security safeguards.
- e Write a short note on RTP.

**2 a What is the need of DWDM Explain working principle of DWDM along with advantages and disadvantages? [10]**

- b Explain IEEE 802.11 architecture in detail. [10]

**3 a Compare Infrastructure networks and Ad-hoc networks. Also give examples of both types. [10]**

- b Explain OSPF in detail. Compare RIP and OSPF. [10]

**4 a What are network security threats ? Explain in detail. [10]**

- b Explain multicast routing protocol in detail with examples. [10]

**5 a Write a note on Internet Security. [10]**

- b What is the need for a firewall in Network Security? Discuss any two types of firewalls in detail. [10]

**6 a What is the need of compression? Explain different compression techniques in detail. [10]**

- b Write a note on 3 tier Network design layers. [10]