

Time: 3Hours

[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 Discuss some characteristics of real -time audio/video communication.
 - b Define and explain Internet of Things (IoT).
 - c What is the need of Firewall for Internet Security?
 - d Explain S/MIME mail protocol.
 - e Compare OSI and TCP/IP protocol suite.
- 2 a Explain DNS query and response message format. [10]
- b Write short notes on JPEG and IPTV. [10]
- 3 a What is Voice over IP? Explain messages and address formats of Session Initiation Protocol (SIP)? How a simple session of VOIP happen using SIP? [10]
- b Explain IoT protocol layer diagram with protocols at each layer. [10]
- 4 a Draw TCP/IP protocol suite and explain each layer in detail. [10]
- b Explain VoIP in details. [10]
- 5 a Explain Distance Vector Multicast Routing Protocol (DVMRP) with its header format. [10]
- b Explain Software defined networking in detail with necessary diagrams. [10]
- 6 a Explain Differentiated Services (DS) with respect to Quality of Service(QoS). [10]
- Explain DS field, per-hop behavior and traffic conditioner with respect to DS.
- b Why do you need Network Automation? Explain. [10]