Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
ME – SEMESTER – III (New) • EXAMINATION – WINTER - 2020

Subject Code: 3730505   **Date:02/01/2021**
Subject Name: High Performance Networks
Time: 10:30 AM TO 12:30 PM   **Total Marks: 56**
Instructions:
  1. **Attempt any FOUR questions out of EIGHT questions.**
  2. **Make suitable assumptions wherever necessary.**
  3. **Figures to the right indicate full marks.**

Q.1 **(a)** What are the different types of networks? What are the different design issues while designing a network system?   **07**
(b) How do you access VPN? Explain and differentiate Remote access and site to site VPN.   **07**

Q.2 **(a)** What are labels in MPLS? How MPLS based VPN works?   **07**
(b) How a prerecorded stored video streamed to user on demand? Elaborate all the techniques of video streaming.   **07**

Q.3 **(a)** Discuss SIP signaling protocol used in VOIP applications.   **07**
(b) What is P2P overlay network? Elaborate its properties and differentiate between structured and unstructured overlay networks.   **07**

Q.4 **(a)** What are the risk and limitations of VPN? Explain security protocols used in VPN.   **07**
(b) What is a digital certification? How it can be achieved?   **07**

Q.5 **(a)** Explain fixed and adaptive playout delay mechanism used in removing jitter at the receiver for audio under VOIP application.   **07**
(b) Describe the components of network management architecture, functions and the different management services provided by network management applications.   **07**

Q.6 **(a)** Draw the RTP header format and explain the significance of each field. What are the difference between RTP and RTCP?   **07**
(b) Explain the working of SMI and MIB internet standard management framework.   **07**

Q.7 **(a)** What is the difference between authentication, integrity, confidentiality and nonrepudiation? Describe two types of cryptographic algorithms.   **07**
(b) Describe Network Performance Evaluation in traffic modeling.   **07**

Q.8 **(a)** How Skype works as a VOIP application? Explain.   **07**
(b) Explain integrated service model.   **07**

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