Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058, India

(Autonomous College Affiliated to University of Mumbai)

Re-Examination

June-July 2019

Max.Marks: 60 Duration: 3Hrs

Class: B.E. Semester: VII

Course Code: EXC704 Branch: ETRX

Name of the Course: Computer Communication and Networks

Instruction:

(1) All questions are compulsory
(2) Draw neat diagrams wherever required
(3) Assume suitable data if necessary
(3) CO – Course Outcomes

Q No.		Max. Marks	CO
Q.1 (a)	Define and compare TDMA, FDMA and CDMA. Five channels, each with a 500-kHz bandwidth, are to be multiplexed together. What is the minimum bandwidth of the link if there is a need for a guard band of 50kHz between the channels to prevent interference?.	06	CO1
Q.1 (b)	Highlight the problem of transparency in HDLC protocol.Also discuss any two common methods of error detection used by data link layer.	06	CO2
	OR		
Q.1 (b)	Define Error control and Flow control. Compare and contrast byte-stuffing and bit-stuffing..	06	CO2
Q.2 (a)	What is IP addressing and Subnetting?. Also discuss IP addressing concept and various classes of IP address.	06	CO3
Q.2 (b)	1) A telephone line normally has a bandwidth of 3200 Hz assigned for data communications. The signal-to-noise ratio is usually 3062. Calculate the channel capacity C and comment. 2) Now consider an extremely noisy channel in which the value of the signal-to-noise ratio is almost zero. In other words, the noise is so strong that the signal is faint. Find channel capacity 'C' and comment.	06	CO1
	OR		
Q.2 (b)	Compare GEO, MEO and LEO. Prove mathematically that the visibility of Geosynchronous Orbiting Satellite is 24Hrs.	06	CO1
Q.3 (a)	Brief on exposed and hidden node terminal problems in wireless networks.	06	CO1
Q.3 (b)	What are the factors that causes congestion? Discuss any two congestion detection mechanisms.	06	CO4
	OR		
Q.3 (b)	List the four flow characteristics for QoS. Also discuss any 2 scheduling techniques used for QoS improvements.	06	CO4

Q.4 (a)	How is fair bandwidth distribution is done? Explain fairness algorithm with example.	04	CO2
Q.4 (b)	Explain how Subnet Mask Works? Assume IP Address :192.168.2.1 Now Assume that the administrators requirement is 40 hosts and is using Class C network-id address : 192.168.2.0. Using the concept of Subnetting find the possible of host/subnets and subnet ranges.	08	CO3
Q.5 (a)	What are major components of SMTP? Discuss in brief.	06	CO5
Q.5 (b)	What are various connectionless protocols? Discuss any one in brief.	06	CO5

————-Best of Luck————