KOLHAPUR INSTITUTE OF TECHNOLOGY'S,
COLLEGE OF ENGINEERING (AUTONOMOUS), KOLHAPUR
(AN AFFILIATED TO SHIVAJI UNIVERSITY, KOLHAPUR)

S. Y. B.Tech. (Computer Science & Engineering) (Sem-III)
MID SEMESTER EXAMINATION, SEPTEMBER 2019
Data Communication & Networks (UCSE0305)

Day and Date: Sunday, 22/09/2019
Time: 10:00 AM to 12:00 Noon

PRN No. :

Max Marks- 50

Instructions:
IMP: Verify that you have received question paper with correct course, code, branch etc.
   i) All questions are compulsory.
   ii) Figure to the right indicates full marks.
   iii) Assume suitable data wherever necessary.

		Marks	CO's	B.L	PO
Q1	**Attempt any three**	**18**			
A	Draw and explain TCP/IP reference model	6	CO1	2	PO1
B	Match the following to one or more layers of the OSI model: a. Reliable process-to-process message delivery b. Route selection c. Defines frames d. Provides user services such as e-mail and file transfer e. Transmission of bit stream across physical medium f. Interface to transmission media	6	CO1	2	PO 2
C	Identify the five components of a data communications system and explain	6	CO1	2	PO 2
D	Compare connection oriented and connection less service	6	CO1	2	PO 2
Q.2	**Attempt any three**	**18**			
A	**Solve:** A file contains 2 million bytes. How long does it take to download this file using a • 56-Kbps channel? • 1-Mbps channel?	6	CO2	3	PO 2
B	**Solve:** What is the transmission time of a packet sent by a station if the length of the packet is 1 million bytes and the bandwidth of the channel is 200 Kbps?	6	CO2	3	PO 2
C	**Solve:** How many bits can fit on a link with a 2 ms delay if the bandwidth of the link is • 1 Mbps? • 10 Mbps?	6	CO2	3	PO 2
D	**Solve:** We have a channel with 4 KHz bandwidth. If we want to send data at 100 Kbps, what is the minimum SNR_{dB}? What is SNR?	6	CO2	3	PO 2

Q3 Attempt any two   14

A	With example illustrate Time Division Multiplexing	7	CO2 2	PO1
B	Explain Frequency Division Multiplexing in detail	7	CO2 2	PO1
C	Draw the graph of the Manchester and differential Manchester scheme using each of the following data streams, assuming that the last signal level has been positive.	7	CO2 4	PO2

    I)01010101

     II) 11111111

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