MSE (SEM-III)

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

Second Year B.Tech. (Coputer Science Engineering)

MID SEMESTER EXAMINATION, SEPTEMBER 2018

DATA COMMUNICATION & NETWORK (UCSE305)

Day and Date: Saturday,22/09/2018
Time: 09:30 AM to 11:30 AM

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 indicate full marks.
iii) Assume suitable data wherever necessary.

		Marks	CO's	Blooms Level	Po Level
Q.1	**Attempt any 10**	**10(10*1)**			
A	A television broadcast is an example of _____ transmission. A) half-duplex B) simplex C) full-duplex D) automatic		CO1	2	
B	A _____ is a data communication system within a building, plant, or campus, or between nearby buildings. A) LAN B) MAN C) WAN D) none of the above		CO1	1	
C	The _____ layer is responsible for moving frames from one hop (node) to the next. A) transport B) data link C) physical D) none of the above		CO3	2	
D	The Internetworking Protocol (IP) is a _____ protocol. A) connection-oriented B) reliable C) both a and b D) none of the above		CO3	1	
E	In asynchronous transmission, the gap time between bytes is _____. A) variable B) fixed C) zero D) a function of the data rate		CO1	2	

F	_____is the rate of change with respect to time. A) Time B) Frequency C) Amplitude D) Voltage		CO1	2
G	Baseband transmission of a digital signal is possible only if we have a ____ channel. A) bandpass B) low-pass C) high rate D) low rate		CO2	3
H	If the bandwidth of a signal is 5 KHz and the lowest frequency is 52 KHz, what is the highest frequency? A) 5 KHz B) 47 KHz C) 57 KHz D) 10 KHz		CO2	4
I	When propagation speed is multiplied by propagation time, we get the _____. A) wavelength of the signal B) throughput C) distance a signal or bit has traveled D) distortion factor		CO1	4
J	The _____ product defines the number of bits that can fill the link. A) delay-amplitude B) frequency-amplitude C) bandwidth-period D) bandwidth-delay		CO1	3
K	The minimum bandwidth of Manchester and differential Manchester is ____ that of NRZ. A) the same as B) twice C) thrice D) none of the above		CO1	4
L	Which multiplexing technique transmits digital signals? A) WDM B) FDM C) TDM D) None of the above		CO2	3
Q.2	**Attempt any Four**	**20(4*5)**		
A	What does the amplitude of a signal measure? What does the frequency of a signal measure? What does the phase of a signal measure?		CO2	3
B	A network with bandwidth of 10 Mbps can pass only an average of 12,000 frames per minute with each frame carrying an average of 10,000 bits. What is the throughput of this network?		CO2	4

C	What are the propagation time and the transmission time for a 2.5-kbyte message (an e-mail) if the bandwidth of the network is 1 Gbps? Assume that the distance between the sender and the receiver is 12,000 km and that light travels at 2.4×10^8 m/s.		CO2	5
D	Compare OSI and TCP/IP reference model.		CO1	3
E	What does the Shannon capacity have to do with communications?		CO3	2
Q.3	**Attempt any four**	**20(4*5)**		
A	Distinguish between data rate and signal rate		CO3	3
B	In a digital transmission, the sender clock is 0.2 percent faster than the receiver clock. How many extra bits per second does the sender send if the data rate is 1Mbps		CO2	4
C	Differentiate between Synchronous and Asynchronous Transmission		CO2	3
D	Explain Frequency Division Multiplexing in detail		CO2	2
E	Draw the graph of the NRZ-L scheme using each of the following data streams, assuming that the last signa11evel has been positive. I)01010101 II) 11111111		CO1	4

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