LOYOLA COLLEGE (AUTONOMOUS) CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – **PHYSICS**

THIRD SEMESTER – **NOVEMBER 2024**

PPH3ME02 – COMMUNICATION PHYSICS AND NETWORK TECHNOLOGY

Date: 19-11-2024   Dept. No.   Max. : 100 Marks

Time: 01:00 pm-04:00 pm

SECTION A – K1 (CO1)		
	Answer ALL the questions	**(5 x 1 = 5)**
1	**Answer the following**	
a)	Mention the function of a MODEM.	
b)	What is mechanical splicing?	
c)	Differentiate between actual and virtual communication.	
d)	Give an example of connection-oriented service.	
e)	State any one advantage of optical fiber over coaxial cables.	
	SECTION A – K2 (CO1)	
	Answer ALL the questions	**(5 x 1 = 5)**
2	**True or False/Fill in the blanks/Answer the following**	
a)	Expand: (i) ARPANET (ii) IMP.	
b)	Switching elements are also known as _____.	
c)	Beneath the Internet layer there is a huge void in the TCP/IP model. Justify.	
d)	To detect 4 errors a distance of _____ code is required.	
e)	There are 5 layers in the TCP/IP model. [True/False]	
	SECTION B – K3 (CO2)	
	Answer any THREE of the following	**(3 x 10 = 30)**
3	Discuss the client-server model in computer networking.	
4	Give an account of the TCP/IP model.	
5	Mention and explain any two critiques of the OSI model.	[5 + 5]
6	Illustrate with clear diagrams, the various kinds of Optical Fibre losses.	
7	Expound the principles and working of the World Wide Web.	
	SECTION C – K4 (CO3)	
	Answer any TWO of the following	**(2 x 12.5 = 25)**
8	Highlight the salient features of the OSI model.	
9	Describe the principle of congestion control and explain the Leaky bucket algorithm with a neat sketch.	
10	Explain the features of a Stop-and-Wait protocol for an Error-free channel.	
11	Give a comparison between the twisted pair and coaxial cable.	

	SECTION D – K5 (CO4)	
	Answer any ONE of the following	**(1 x 15 = 15)**
12	Give a comprehensive outline of the transmission impairments in data communication.	
13	Discuss elaborately about the different types of network hardware.	
	SECTION E – K6 (CO5)	
	Answer any ONE of the following	**(1 x 20 = 20)**
14	(a) Explicate the various types of data framing, with necessary diagrams.	(12)
	(b) List any four protocol definitions of the data link layer and explain their functions.	(8)
15	(a) Expound the CRC method of error detection, with a suitable example.	(15)
	(b) Explain the DNS with an example of your own.	(5)

$$$$$$$$$$$$$$$$