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**GIET UNIVERSITY, GUNUPUR – 765022**  
 B. Tech (Fifth Semester Regular) Examinations, December – 2023  
**21BCSPC35001 – Computer Networks**  
 (CSE,CSE(DS))

Time: 3 hrs

Maximum: 70 Marks

**Answer all questions**  
**(The figures in the right hand margin indicate marks)**

**PART – A****(2 x 5 = 10 Marks)**

Q.1. Answer <i>ALL</i> questions	CO #	Blooms Level
a. What are the components of data communication?	CO1	K1
b. How many links are required to make mesh topology if number of nodes are 7 ?	CO2	K3
c. Find the parity of the data words “10101” and “0000” .	CO2	K3
d. What is the class of following IP addresses? 127.48.255.0 , 240.33.3.0 , 195.46.5.5 and 165.255.255.7	CO3	K2
e. Write the functions of Transport layer.	CO4	K2

**PART – B****(15 x 4 = 60 Marks)**Answer *ALL* questions

	Marks	CO #	Blooms Level
2. a. By using Unipolar RZ, Polar-NRZ, Bipolar-RZ, NRZ-I and Manchester encoding techniques, encode the following binary data to digital signal 1110010.	7	CO2	K2
b. What are different transmission modes used in computer network? Explain with example.	8	CO2	K1
(OR)			
c. What are analog modulation techniques? Explain with example.	7	CO1	K1
d. Write short notes on Guided media used for data communication.	8	CO2	K2
3.a. Define checksum and prove that the data 10011001111000100010010010000100 with 4 blocks and each block having 8 bits has no error at receivers end.	8	CO2	K3
b. Differentiate between stop and wait ARQ and selective repeat ARQ.	7	CO2	K2

(OR)

c.	Apply CRC method to check whether the data 11100101 is having any error or not where the divisor polynomial is given as $X^3+X+1$ .	8	CO3	K3
d.	Using Hamming code techniques find out error and correct the error if data sent is 100100 and data received is 101100.	7	CO2	K3
4.a.	What is Ethernet? Describe the different fields of the Ethernet Packet.	7	CO3	K1
b.	How do the Frame relay use in virtual circuit switching ?	8	CO3	K2
(OR)				
c.	Draw the IPv4 Datagram format and define the role of each field.	8	CO3	K2
d.	Explain the role of ATM as physical layer carriers.	7	CO3	K1
5.a.	Draw the TCP datagram format. Explain functions of all the fields in detail.	7	CO4	K2
b.	Describe FTP role in application layer.	8	CO4	K1
(OR)				
c.	How congestion control is related to quality of service ?	7	CO4	K1
d.	Write short notes on Quality of service	8	CO4	K1

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