Reg. No										

AR23/24

GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR
(GIET UNIVERSITY)

M.C.A (Second Semester) Regular/Supplementary Examinations, May – 2025

MCA23203 – Computer Networks

(MCA)

Time: 3hrs | Maximum: 60 Marks

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions		CO #	Blooms Level
a.	What are the basic components of a computer network?	CO1	K1
b.	If a mesh network consists of 7 nodes then find out number of links of the network.	CO1	K3
c.	Differentiate between PAP and CHAP in authentication.	CO3	K2
d.	Write the class of the following IPV4 addresses. 172.24.20.2 , 126.41.251.230, 241.241.2.2 , 193.200.20.127	CO4	K4
e.	What are the functions of TelNet Protocol ?	CO5	K1

PART – B **(10 x5=50 Marks)**

Answer ***ALL*** questions		Marks	CO #	Blooms Level
2. a.	Draw TCP/IP Protocol suit. Explain the role of protocols used in each layer.	7	CO1	K1
b.	What are different types performance criteria used to measure performance of the computer network ?	3	CO1	K2
	(OR)			
c.	Define modulation. How different modulation techniques are used in analog signal transmission.	5	CO1	K2
d.	Convert the digital data 11001011 into digital signal by using NRZ-L, NRZ-I,Manchester, Differential Manchester techniques.	5	CO1	K3
3.a.	Define data redundancy. How is it used in Checksum method to detect error through an example ?	5	CO2	K2
b.	How hamming code is used for detection and correction of error if sender sends a data 1110001 and receiver receives 1111001 ?	5	CO2	K4
	(OR)			
c.	Show that there is no error in data if data is 1110101 and the divisor polynomial is X^3+X+1 using CRC method.	5	CO2	K4
d.	Draw HDLC frame format and explain different fields of the frame.	5	CO2	K1
4.a.	If a network is having 185.124.42.68/27 IP address then find out its nertwork address, last address , subnet mask and number of the hosts in the network.	5	CO3	K2
b.	Discuss state transition diagram of PPP.	5	CO2	K1
	(OR)			
c.	How CSMA/CD is used for mutiple acess in networking?	5	CO3	K2
d.	What is channelization? How is it used as mutiple access control protocol?	5	CO3	K1
5.a.	If a network is having 185.124.42.68/27 IP address then find out its nertwork address, last address , subnet mask and number of the hosts in the network.	5	CO4	K3

b.	Draw and explain IPv4 frame format.	5	CO4	K1
	(OR)			
c.	What is IP address ? Discuss about classful addressingof IPv4.	5	CO4	K1
d.	An organisation is granted the block 130.56.0.0/16. The administrator wants to create1024 sunets. i. Find the subnet mask ii. Find the number of addresses in each subnet. iii. Find the first and lasgt addresss in subnet 1.	5	CO4	K4
6.a.	Compare TCP header with UDP header.	5	CO5	K2
b.	Discuss different open loop congestion control methods are used.	5	CO5	K1
	(OR)			
c.	Write short notes of Quality of service in netwoking	5	CO5	K1
d.	Describe HTTP role in application layer.	5	CO5	K1

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