Name of the Program:	MCA	**Semester:**	III
Paper Title :	Data Communication and Computer Network	**Paper Code:**	EEC52101
Maximum Marks :	40	**Time duration:**	3 hours
Total No of questions:	08	**Total No of Pages:**	02
Instruction for the Candidate:	1. At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code and Date of Exam. 2. All parts of a Question should be answered consecutively. Each Answer should start from a fresh page. 3. Assumptions made if any, should be stated clearly at the beginning of your answer.		

Answer all the Groups
Group A
Answer all the questions of the following $5 \times 1 = 5$

1. **a)** Define piggybacking.
    b) Describe an internet and intranet?
    c) Define MAC.
    d) Define redundancy.
    e) What are the advantages of dividing an Ethernet LAN with a bridge?

GROUP –B
Answer *any three* of the following $3 \times 5 = 15$

2. Compare and contrast the Go back N ARQ protocol with Selective Repeat ARQ?

3. Explain FDM with proper diagram.

4. Define circuit switching networks in details?

5. How performance is improved in CSMA/CD protocol compared to CSMA protocol? Explain.

GROUP –C
Answer *any two* of the following $2 \times 10 = 20$

6. a) Draw & explain TCP/IP protocol suite.   [7+3=10]
    b) Draw and describe the process of data communication in: i) Simplex mode ii) Half Duplex iii) Full Duplex

7. a) What is the purpose of NIC?   [3+2+2+3=10]
    b) If an Ethernet destination address is 07:01:02:03:04:05, what is the type of the address (unicast, multicast, or broadcast)?
    c) Find the error if any, in the following IPv4 address.

i) 111.56.034.78

ii) 11100.23.14.67

d) A block of addresses is granted to a small organization. We know the one of the addresses is 205.16.37.39/28. What is the first address in the block?

8. Write a short note on i) leaky bucket algorithm and ii) Email   [5+5=10]

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