

Code No.: IT503PC

R20

H.T.No.

8

R

**CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS**

**III-B.TECH-I-Semester End Examinations (Regular) - January- 2024
DATA COMMUNICATION & COMPUTER NETWORKS
(IT)**

[Time: 3 Hours]

[Max. Marks: 70]

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks.

PART-A

(20 Marks)

1. a) Mention the purpose of layering in networks. [2M]
- b) Map OSI layers to TCP/IP layers. [2M]
- c) Define forward error correction. [2M]
- d) Describe error control and flow control in data link layer [2M]
- e) A network on the internet has a subnet mask of 255.255.240.0. What is the maximum number of hosts it can handle? [2M]
- f) Why is IPV4 to IPV6 transition required? [2M]
- g) Mention the services offered by transport layer. [2M]
- h) Define congestion. [2M]
- i) Define HTTP and FTP. [2M]
- j) What are the differences between Remote login and TELNET? [2M]

PART-B

(50 Marks)

2. Describe the components of data communication and various categories of networks. [10M]
- OR**
3. Elaborate the TCP/IP reference model with neat diagram. [10M]
4. Explain in detail about error detection and correction Techniques. [10M]
- OR**
5. Discuss about the working of ALOHA system and CSMA/CD protocol. [10M]
6. Describe the function of ICMP protocol with a neat diagram of packet format. [10M]
- OR**
7. Draw and explain the format of IPv6 header in detail. [10M]
8. Describe in detail about TCP datagram format. [10M]
- OR**
- 9.a) How is TCP connection established? Explain. [6M]
- b) Describe multiplexing and demultiplexing. [4M]
10. Elaborate the electronic mail in the internet (e-mail). L6
- OR**
- 11.a) Distinguish between telnet and SSH. [4M]
- b) Briefly discuss about the FTP. [6M]
