

Code No.: EC701PC

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

**IV-B.TECH-I-Semester End Examinations (Regular) - November- 2024
DATA COMMUNICATIONS AND NETWORKS**

(ECE)

[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 and may have a, b, c as sub questions.

PART-A

(20 Marks)

1. a) Differentiate simplex and duplex communication systems. [2M]
- b) Mention the different types of channels. [2M]
- c) What is the significance of Data Link Layer? [2M]
- d) What is redundancy? [2M]
- e) Give two advantages of IPv6. [2M]
- f) Define Internet Protocol. [2M]
- g) List out the duties of transport layer. [2M]
- h) Write the principle of Go-Back-N. [2M]
- i) Highlight the purpose of a DNS. [2M]
- j) State advantages of HTTP. [2M]

PART-B

(50 Marks)

- 2.a) Examine OSI architecture with a neat diagram. [6M]
 - b) Explain the advantages of wireless LANS. [4M]
- OR**
- 3.a) Draw and explain TCP/IP protocol suite in detail. [6M]
 - b) What is standard? Why standards are used? [4M]
- 4.a) Explain briefly about HDLC protocol. Discuss the frame formats of HDLC protocol. [6M]
 - b) Explain the functions of Data Link Layer. [4M]
- OR**
- 5.a) Draw and explain the frame format of IEEE 802.11. [6M]
 - b) Discuss about any one of the error detection method. [4M]
6. Explain the principle of datagram networks with suitable diagrams. [10M]
- OR**
7. Explain about IPv6. Compare IPv4 and IPv6. [10M]
8. Explain the header format, services and applications of UDP protocol. [10M]
- OR**
9. Define principle of congestion control. Explain the various approaches used by TCP for congestion control. [10M]
10. Write about HTTP and SMTP. [10M]
- OR**
11. Explain FTP with a neat diagram. Discuss the FTP commands and replies. [10M]
