

Code No.: (R22CS501PC)

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H.T.No.

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CMR ENGINEERING COLLEGE: : HYDERABAD

UGC AUTONOMOUS

III-B.TECH-I-Semester End Examinations (Regular) - December- 2025

COMPUTER NETWORKS

(Common for CSE, CSD)

[Time: 3 Hours]

[Max. Marks: 60]

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

Part A is compulsory which carries 10 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

(10 Marks)

1. a) Define computer network. [1M]
- b) List out guided and unguided transmission media. [1M]
- c) What are the design issues of data link layer? [1M]
- d) Define PPP. [1M]
- e) Define network routing. [1M]
- f) What is the network address in a class A subnet with the IP address of one of the hosts as 25.34.12.56 and mask 255.255.0.0? [1M]
- g) What are the responsibilities of transport layer? [1M]
- h) Define jitter. [1M]
- i) List the functions of application layer. [1M]
- j) Define static and dynamic web pages. [1M]

PART-B

(50 Marks)

2. Explain different layers and their functionality of TCP/IP reference model with neat sketch. [10M]

OR

3. What are the different types of networks? Explain in detail. [10M]
4. Explain Go-Back- N ARQ protocol using selective repeat with neat sketch. [10M]

OR

- 5.a) What is HDLC? Explain the frame format in HDLC with types. [5M]
- b) Explain the frequency division multiplexing with a neat sketch. [5M]
6. Illustrate the routing functionality of Distance vector routing algorithm with an example. [10M]

OR

7. Explain the congestion control algorithms. [10M]
8. Draw and explain each field in the TCP Segment header. [10M]
9. Explain TCP connection management with neat diagram. [10M]
10. Explain the following terms [10M]
i) WWW ii) HTTP.

OR

- 11.a) How DNS service maps domain names to IP addresses? Explain with an example. [5M]
- b) Discuss about audio compression. [5M]
