SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech. IV Year I Semester Regular & Supplementary Examinations October/November-2025
COMPUTER NETWORKS
(Computer Science & Information Technology)

Time: 3 Hours   **Max. Marks: 60**

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Define Network and elaborate the Network criteria.	CO1	L1	6M
	b	Explain in detail about OSI reference model.	CO1	L2	6M

OR

2	a	Write notes on i) Radio Wave ii) Micro wave.	CO1	L4	6M
	b	Illustrate what are the data rate limits in computer networks.	CO1	L3	6M

UNIT-II

3	a	What is framing? Explain with frame architecture.	CO2	L2	6M
	b	Write about Pure and slotted ALOHA protocol.	CO2	L4	6M

OR

4	a	Explain about the Elementary data link protocols.	CO2	L2	6M
	b	Justify what are the error correction techniques used in data link layer.	CO2	L5	6M

UNIT-III

5	a	Calculate the Shortest Path Algorithm considering an example.	CO3	L3	6M
	b	List and explain congestion control algorithms in network layer.	CO3	L1	6M

OR

6	a	Describe the term internetworking in network layer.	CO3	L2	6M
	b	Sketch and explain in detail about IPV4protocol.	CO3	L4	6M

UNIT-IV

7	a	Explain about the elements of transport layer.	CO4	L2	6M
	b	Elaborate each field of TCP segment header with neat diagram.	CO4	L5	6M

OR

8	a	Summarize congestion control in TCP.	CO4	L6	6M
	b	Write in detail about User Datagram Protocol (UDP).	CO4	L4	6M

UNIT-V

9	a	Write short notes on application layer.	CO5	L4	6M
	b	Describe SMTP protocol.	CO5	L2	6M

OR

10	a	Name the basic functions of E-Mail.	CO5	L1	6M
	b	Illustrate in detail about function and structure of e-mail protocol.	CO5	L3	6M

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