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CBCS SCHEME

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BEC702/BTE702

Seventh Semester B.E./B.Tech. Degree Examination, June/July 2026
Computer Networks and Protocols

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Outline the functions of various layers in TCP/IP with necessary diagram, to show logical connections between the layers.	10	L2	CO1
	b.	Compare and contrast various physical topologies in a computer network.	10	L2	CO1
		OR			
Q.2	a.	Explain encapsulation and decapsulation in protocol layering with a neat diagram.	10	L2	CO1
	b.	Discuss the ARP operations and show how ARP sends request and reply messages with an example.	10	L2	CO1
		Module – 2			
Q.3	a.	Explain the characteristics and frame format of Ethernet frame.	10	L2	CO2
	b.	Explain the characteristics of wireless LAN. Compare the architecture of wired and wireless LANs.	10	L2	CO2
		OR			
Q.4	a.	Explain the spanning tree algorithm with an example.	10	L2	CO2
	b.	Explain character oriented framing and bit oriented framing with examples.	10	L2	CO2
		Module – 3			
Q.5	a.	With a neat diagram, explain how NAT can help in address translation.	10	L2	CO3
	b.	Explain classful and classless addressing in IPV4 address.	10	L2	CO3
		OR			
Q.6	a.	With a neat diagram, explain IPV_4 datagram format.	10	L2	CO3
	b.	Explain distance vector algorithm with an example.	10	L2	CO3
		Module – 4			
Q.7	a.	In a Go-Back-N protocol, the size of the send window must be less than 2^m. Justify it with an example	10	L2	CO3
	b.	With a neat diagram, explain the TCP segment format.	10	L2	CO3

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		OR			
Q.8	**a.**	Explain the various services offered by TCP.	**10**	**L2**	**CO3**
	b.	With a neat diagram, explain selective repeat protocol.	**10**	**L2**	**CO3**
		Module – 5			
Q.9	**a.**	Explain the request and response message formats of HTTP.	**10**	**L2**	**CO4**
	b.	Explain the three phases in the process of transferring a mail message.	**10**	**L2**	**CO4**
		OR			
Q.10	**a.**	With a neat diagram, explain the logical connection at application layer.	**10**	**L2**	**CO5**
	b.	Write short notes on: (i) Data flow characteristics (ii) Domain Name Servers (DNS)	**10**	**L2**	**CO5**

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