Course Code:23CS5T02

BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

(AUTONOMOUS)

III - B. Tech I-Semester Supplementary Examinations (BR23), Mar/Apr - 2026

COMPUTER NETWORKS (CSE)

Time: 3 hours | Max. Marks: 70

Question Paper consists of Part-A and Part-B
*Answer **ALL** the question in **Part-A andPart-B***

PART–A (10X2 = 20M)

		Marks	CO	BL
1. a)	Define protocol.	(2M)	CO1	L 1
b)	List the advantages and disadvantages of the fiber optic cable.	(2M)	CO1	L 2
c)	Define flow control.	(2M)	CO2	L 1
d)	Compare the ACK and NACK.	(2M)	CO2	L 2
e)	What is the pure ALOHA?	(2M)	CO3	L 1
f)	How can data travel through the channel?	(2M)	CO3	L 1
g)	What is the store-and-forward packet switching?	(2M)	CO4	L 2
h)	What is the tunnelling?	(2M)	CO4	L 1
i)	Outline the port number	(2M)	CO5	L 2
j)	What is a DNS resolver?	(2M)	CO5	L 2

PART–B (5X10 = 50M)

2a.	Explain the different network topologies with neat sketches.	5(M)	CO1	L 2
b.	Illustrate the TCP/IP Reference Model and describe each layer in detail	5(M)		L 2
	(OR)			
3a.	What is guided media? Explain different types of guided transmission media.	5(M)	CO1	L 2
b.	What is the structure of optical fiber and explain how data is transmitted using total internal reflection.	5(M)		L 2
4a.	Explain fixed-size and variable-size framing techniques with suitable diagrams.	5(M)	CO2	L 2
b.	Discuss in detail about the CRC generation and verification with an example	5(M)		L 3
	(OR)			
5a.	Explain Simplex Stop-and-Wait protocol in detail.	5(M)	CO2	L 2
b.	Illustrate the HDLC in detail with frame format.	5(M)		L2
6a.	Solve that a group of N stations share a 56-kbps pure ALOHA channel. Each station outputs a 1000-bit frame on average once every 100 sec, even if the previous one has not yet been sent (e.g., the stations can buffer outgoing frames). What is the maximum value of N?	5(M)	CO3	L 3
b.	Explain the token passing with a neat sketch.	5(M)		L 3
	(OR)			
7a.	Explain about CDMA in detail with diagram.	5(M)	CO3	L 2
b.	Illustrate the fast ethernet (100 Mbps) and its operation	5(M)		L 4

8a.	Explain the services provided by the Network Layer in detail	5(M)	CO4	L 2
b.	Discuss in detail about the congestion control mechanisms and prevention policies	5(M)		L 2
	(OR)			
9a.	Elaborate the fragmentation and reassembly in the internet	5(M)	CO4	L 4
b.	Explain the transition methods between IPV4 and IPV6.	5(M)		L 2
10a	Explain UDP in detail with services, features, format, and applications.	5(M)	CO5	L 2
b.	Illustrate the TCP flow control with windows.	5(M)		L 2
	(OR)			
11a	Analyze the architecture of email, message transfer, and formats.	5(M)	CO5	L 4
b.	Explain how domain names are resolved step-by-step.	5(M)		L 2

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