Paper id: 251023

Roll No:

BTECH
(SEM VI) THEORY EXAMINATION 2024-25
DATA COMMUNICATION NETWORKS

TIME: 3 HRS   **M.MARKS: 70**

Note: Attempt all Sections. In case of any missing data; choose suitably.

SECTION A

1.   **Attempt *all* questions in brief.**   **02 x 7 = 14**

Q no.	Question	CO	Level
a.	Define Internet Protocol.	1	K1
b.	What are the design issues in Network Layer?	4	K1
c.	Explain advantages and disadvantages of Guided and Unguided medium.	2	K2
d.	Explain broadcast mode related to CSMA/CD.	3	K2
e.	Explain bit stuffing in Data Link Layer.	2	K2
f.	What is fast Ethernet?	3	K1
g.	Explain File Transfer Protocol.	5	K2

SECTION B

2.   **Attempt any *three* of the following:**   **07 x 3 = 21**

a.	Describe the various persistence methods of CSMA and role of Inter frame Space and contention window in CSMA/CA.	3	K2
b.	Explain Framing in Data Link Layer using proper diagrams.	2	K2
c.	Describe the working principle and architecture of Wireless LAN IEEE 802.11 standard.	3	K2
d.	What do you mean by intra domain and inter domain routing techniques? Explain link state routing.	4	K1
e.	Describe the working of Asymmetric and symmetric Key Cryptography using suitable diagrams.	5	K2

SECTION C

3.   **Attempt any *one* part of the following:**   **07 x 1 = 07**

a.	What are the roles of Protocol in Data Communication? Write principles of Protocol layering.	1	K1
b.	Compare TCP/IP and OSI model on basis of services, protocols and interfaces.	1	K2

4.   **Attempt any *one* part of the following:**   **07 x 1 = 07**

a.	Discuss the concept of redundancy in error detection & correction.	2	K6
b.	Explain Point to Point Protocol.	2	K2

5.   **Attempt any *one* part of the following:**   **07 x 1 = 07**

a.	Explain CDMA in detail.	3	K2
b.	Describe the working principle and architecture of Bluetooth IEEE standard.	3	K2

6.   **Attempt any *one* part of the following:**   **07 x 1 = 07**

a.	Describe the IPv6 datagram format in detail. Compare it with IPv4.	4	K2
b.	What is the difference between network layer delivery and transport layer delivery? Explain Congestion control algorithms.	4	K1

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7.　　**Attempt any *one* part of the following:**　　　　　　　**07 x 1 = 07**

a.	Write short note on (i) Email (ii) WWW (iii) SMTP	5	K1
b.	Explain in details various design goals of Network Security.	5	K2