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Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 43215 Roll No.

# B. Tech Examination 2025-26

## (Odd Semester)

## COMPUTER NETWORKS

*Time : Three Hours]* *[Maximum Marks : 60*

**Note :–** Attempt all questions.

### SECTION – A

1. Attempt all parts of the following : $1 \times 8 = 8$

   (a) State any two advantages of computer networking.

   (b) What is errors detection?Name any two methods.

   (c) Differentiate between guided and unguided media.

   (d) What is congestion control?

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(e) What is telnet?

(f) Mention any two services provided by FTP.

(g) Define static and dynamic routing.

(h) Differentiate betweeen IP address and MAC address.

## SECTION – B

2. Attempt any two parts of the following . $6 \times 2 = 12$

(a) Describe the functionsof network layer and explain various routing algorithm.

(b) Compare circuit, packet and message switching.

(c) Explain the domain name system and its hierarchical structure.

(d) Differentiate between connection-oriented and connection-less protocol.

## SECTION – C

3. Attempt any two parts from each question. Each part carry equal marks. $8 \times 5 = 40$

(a) Explain different network topologies with neat diagram.

(b) Describe the working of HTTP protocol and its message format.

(c) Discuss various design issues of data link layer.

4. (a) What are firewalls? Why are they used?

(b) Explain various IEEE 802 standards in detail.

(c) Write short notes on:

(i) ARP

(ii) ICMP

(iii) Fragmentation

5. (a) Compare OSI and TCP/IP reference model in detail.

(b) Discuss the concept of world wide web (WWW) and its components.

(c) Explain error detection and error correction methods.

6. (a) Explain the types of transmission media and used in communication.

(b) (i) What is piggybacking?

(ii) Write short note on CSMA channel access technique

(c) Differentiate between following:

(i) Routers, switches, bridges

(ii) Static and dynamic routing

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