S.No. : 23

BCS 3503

No. of Printed Pages : 04

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

PAPER ID : 33222 Roll No. 1 2 2 [redacted]

B. Tech. Examination, 2024-25

(Odd Semester)

COMPUTER NETWORKS

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

Note :– Attempt all questions.

SECTION–A

1. Attempt all parts of the following : 8×1=8

   (a) What is ISDN?

   (b) Name two examples of network applications.

   (c) Define a sliding window protocol.

   (d) Name one congestion control technique used in networking.

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(e) What is the primary role of transport layer?

(f) What is data compression?

(g) What is a virtual terminal?

(h) Name one example of file access in the application layer.

SECTION – B

2. Attempt any two parts of the following : 2×6=12

(a) Explain the key features of the OSI reference model.

(b) Discuss error detection and correction methods in the data link layer.

(c) Explain a simple transport protocol with an example.

(d) Discuss the design issues of the application layer.

SECTION – C

Note :– Attempt all questions. Attempt any two parts from each questions. 8×5=40

3. (a) Compare analog and digital transmission techniques.

(b) Describe the structure and architecture of a computer network.

(c) Explain the role of LAN protocols in medium access.

4. (a) Explain the design issues associated with the network layer.

(b) Compare collision-free protocols with CSMA/CD.

(c) Write a detailed note on routing algorithm with examples.

5. (a) Discuss the design issues in transport layer.

(b) Discuss the importance of network security and privacy with examples.

(c) Explain the significance of data compression and encryption in the presentation layer.

6. (a) Explain the working of electronic mail systems.

(b) What is a virtual terminal? Explain its significance in networks.

(c) Write a detailed note on file transfer and file access mechanism.

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