CBCS SCHEME

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21CS52

Fifth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025
Computer Networks

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Discuss OSI Reference model with a neat diagram. **(10 Marks)**

b. Explain Unicast, Multicast and broadcast in computer networks. **(10 Marks)**

OR

2 a. Discuss the following transmission medium with diagram,
(i) Co-axial cable.
(ii) Fibre optic cable. **(10 Marks)**

b. Explain the design issues in computer networks. **(10 Marks)**

Module-2

3 a. Explain error detecting codes and obtain the CRC code for the frame given polynomial 1101011111 using the generator $G(x) = x^4 + x + 1$. **(10 Marks)**

b. Explain framing with Byte Count and Flag bits with bit stuffing. **(10 Marks)**

OR

4 a. Illustrate the Hamming code method with an example. **(10 Marks)**

b. Explain the following with examples:
(i) Binary convolution code.
(ii) Reed Solomen code. **(10 Marks)**

Module-3

5 a. Discuss Store and Forward packet switching. **(10 Marks)**

b. Explain the services provided by Network layer to Transport layer. **(10 Marks)**

OR

6 a. Discuss shortest path algorithm. **(10 Marks)**

b. Explain the approaches to congestion control in Network layer. **(10 Marks)**

Module-4

7 a. Explain Berkeley Sockets in detail. **(10 Marks)**

b. Explain socket programming with an example. **(10 Marks)**

OR

8 a. Explain TCP protocol with TCP segment header. **(10 Marks)**

b. Explain TCP connection establishment and TCP connection release with code snippet. **(10 Marks)**

Module-5

9 a. Explain the process communication in the Application layer. **(10 Marks)**

b. Discuss the Transport services provided by the Internet. **(10 Marks)**

OR

10 a. Explain the web and HTTP with Request response behaviour. **(10 Marks)**

b. Discuss the Electronic Mail in the Internet. **(10 Marks)**

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