CBCS SCHEME

USN [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]   18CS52

Fifth Semester B.E. Degree Examination, June/July 2023
Computer Networks and Security

Time: 3 hrs.   Max. Marks:

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

Module-1

1   a.   Explain briefly about the network application architectures with neat diagram.   (10 Marks)
    b.   Explain the transport services provided by internet.   (10 Marks)

OR

2   a.   Compare non persistent and persistent HTTP connections.   (06 Marks)
    b.   Explain importance of cookies and web caching with neat diagram.   (08 Marks)
    c.   Explain about DNS services.   (06 Marks)

Module-2

3   a.   Explain about connection oriented multiplexing and de-multiplexing with a neat diagram.   (10 Marks)
    b.   Explain UDP connection-less transport protocol and briefly explain TCP-segment structure.   (10 Marks)

OR

4   a.   Explain about Go-back-N and Selective repeat protocols with neat diagram.   (10 Marks)
    b.   Write a short note on TCP congestion control with fairness.   (10 Marks)

Module-3

5   a.   Explain DHCP client server interaction with neat diagram.   (07 Marks)
    b.   Explain Network Address Translation (NAT) operations with neat diagram.   (07 Marks)
    c.   Explain ICMP with error message types.   (06 Marks)

OR

6   a.   Discuss briefly four component functionalities of generic router architecture with neat diagram.   (10 Marks)
    b.   Explain BGP inter-AS routing protocol with a neat diagram.   (10 Marks)

Module-4

7   a.   Briefly explain various threats of network security.   (10 Marks)
    b.   Explain R.S.A algorithm with suitable example.   (10 Marks)

OR

8   a.   Explain Diffie-Hellman key exchange algorithm with example.   (10 Marks)
    b.   Brief importance of Firewall in securing network with neat diagram.   (10 Marks)

Module-5

9   a.   Explain 3 types of multimedia network applications with advantages.   (10 Marks)
    b.   Explain content distribution network operation with neat diagram.   (10 Marks)

OR

10 a.   Explain Voice-Over-IP : (i) Packet-loss   (ii) Packet-delay and   (iii) Packet-jitter   (10 Marks)
    b.   Explain SIP protocol with neat diagram.   (10 Marks)

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