18CS52

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

Time: 3 hrs.   Max. Marks: 100

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)**

*****