

Fifth Semester B.E. Degree Examination, June/July 2025
Computer Networks and Security

Max. Marks: 100

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

Module-1

- 1 a. Explain with neat diagram client server and peer to peer architecture. (08 Marks)
- b. Explain Transport service provided by the internet. (07 Marks)
- c. Compare between HTTP and SMTP. (05 Marks)

OR

- 2 a. Explain details in service offered by DNS with interaction of the various DNS servers. (08 Marks)
- b. Define Socket? Demonstrate the working of top socket. (06 Marks)
- c. Explain with details of peer to peer file distribution. (06 Marks)

Module-2

- 3 a. Explain the concept of Transport Layer Multiplexing and Demultiplexing. (06 Marks)
- b. Explain briefly TCP congestion control mechanisms. (08 Marks)
- c. Explain selective repeat protocols with neat diagram. (06 Marks)

OR

- 4 a. Explain with neat diagram of UDP segment structure and its fields. (08 Marks)
- b. Explain stop and wait protocols with fsm representations. (06 Marks)
- c. Explain TCP Connection Management Mechanism with neat diagram. (06 Marks)

Module-3

- 5 a. Explain different Switching Technique. (07 Marks)
- b. Explain with neat diagram Distance Vector Routing Algorithms. (07 Marks)
- c. Explain various fields of IPv6 with general format. (06 Marks)

OR

- 6 a. Explain Broad Casting Routing Algorithms of any two. (07 Marks)
- b. Explain Intra-AS Routing protocols in details. (06 Marks)
- c. Write the link state Algorithms and apply its to the following graphs with source node A.

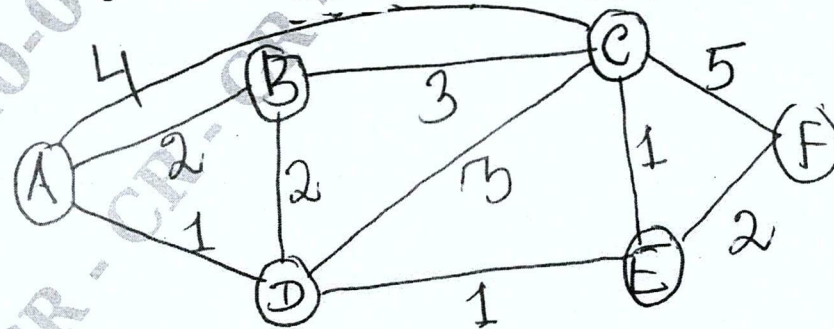


Fig. Q. 6 (c)
1 of 2

(07 Marks)

Module-4

- 7 a. Explain Diffie – Hellman Key Exchange protocols. (08 Marks)
- b. What are the elements of network security? Explain the threat of network security. (06 Marks)
- c. Write short note on:
i) Digital signature
ii) firewall (06 Marks)

- 8 a. Explain steps for Data Encryption Standard (DES) Algorithms. (07 Marks)
- b. Explain classification of Network Attacks. (06 Marks)
- c. Explain secure flash algorithms with neat diagram. (07 Marks)

Module-5

- 9 a. Explain details properties of Audio and Video. (07 Marks)
- b. Explain the RTP protocols with header files. (06 Marks)
- c. Explain limitation of best effort IP services. (07 Marks)

OR

- 10 a. Explain various types of multimedia Network Applications. (06 Marks)
- b. Explain various streaming stored video. (07 Marks)
- c. Discuss adaptive streaming with DASH. (07 Marks)

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