CBCS SCHEME

USN

180 552

Fifth Semester B.E. Degree Examination, Jan./Feb. 2023 Computer Networks and Security

Time: 3 hrs.

Max. Marks: 00

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

Module-1

- 1 a. Explain the use of cookie files in web applications. (06 Marks)
 - With a neat diagram, explain how SMTP can be used for transmitting mails from sender to receiver.
 - c. Discuss the working of Bit Torrent for file distribution. (06 Marks)

OR

- a. Differentiate between persistent and non persistent connections in HTTP.
 b. In brief explain the conditional GET operation.

 (05 Marks)
 (05 Marks)
 - c. Describe the DNS records and messages in detail. (16 Marks)

Module-2

- 3 a. In brief describe UDP segment structure and checksum computation. (06 Marks)
 - b. With a neat diagram demonstrate the working of GO-BACK-N protocol. (08 Marks)
 - c. Explain TCP flow control in detail.

(06 Marks)

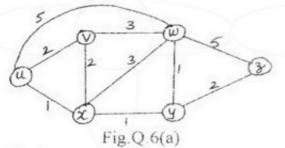
- OF
- 4 a. With the help of a FSM, describe reliable data transfer in a Lossy channel with bit errors (rdt 3.0).
 - b. Explain the various fields of a TCP segment structure. (05 Marks)
 - c. What are the approaches to congestion control? Explain in detail with example. (07 Marks)

Module-3

- 5 a. Explain inter autonomous system routing with Border Gateway protocol. (08 Marks)
 - b. Explain various Broadcast Routing algorithms. (08 Marks)
 - c. Write a note on IGMP protocol. (04 Marks)

OR

6 a. Write the link state algorithm and apply it to the following graph. Assume node 'to' as the source node. (10 Marks)



b. Explain the architecture of a Router

1 of 2

(iv Marks)

Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.

2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

DOWNLOAD THIS FREE AT

www.vturesource.com

18CS52

Module-4

- a. What are the elements of network security? Discuss the threats to network security.
 - b. Explain RSA algorithm. Using RSA encrypt a message m = 9. Assume p = 3 and q 11 Find the public key and private key, also show encryption and decryption. (10 Marks)

OR

- 8 a. Explain the working of DES algorithm. (08 Marks)
 b. Discuss the secure Hash Algorithm. (06 Marks)
 - c. Write a note on firewalls. (06 Marks)

Module-5

- 9 a. Explain the types of multimedia network applications. (06 Marks)
 - b. Briefly explain how DNS redirects a user request to a CDN server. (08 Marks)
 - c. With a diagram, explain SIP call establishment. (06 Marks)

OR

- 10 a. What are the properties of video and audio? Explain in detail. (07 Marks)
 - b. With a neat diagram, explain streaming stored video over HTTP (07 Marks)
 - c. Explain the Forward Error Correction (FEC) technique for loss anticipation in VoIP application.