

Fifth Semester B.E. Degree Examination, Feb./Mar. 2022 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. Differentiate between :
(i) HTTP and FTP (ii) SMTP and HTTP (iii) UDP and TCP (10 Marks)
- b. Explain Cookies and Web Caching with diagram. (10 Marks)

OR

- 2 a. Describe in detail the services offered by DNS and explain DNS message format. (08 Marks)
- b. Compare HTTP and SMTP. (04 Marks)
- c. Define Socket. Demonstrate the working of TCP-Socket. (08 Marks)

Module-2

- 3 a. With the help of FSM, describe the two states of the sender side and one state of the receiver side of rdt2.0 (10 Marks)
- b. With a neat diagram, demonstrate the working of Go-BACK-N protocol. (10 Marks)

OR

- 4 a. Describe TCP connection management with help of diagram. (10 Marks)
- b. Interpret the FSM to TCP congestion control. (10 Marks)

Module-3

- 5 a. Explain the Implementation of virtual circuit services in Computer Network. (07 Marks)
- b. Explain the three Switching Techniques. (06 Marks)
- c. Explain Distance vector algorithm using three nodes network. (07 Marks)

OR

- 6 a. Explain Dijkstra's algorithm with example. (10 Marks)
- b. Explain various broadcast routing algorithms. (10 Marks)

Module-4

- 7 a. Explain Feistel structure of DES Algorithm. (10 Marks)
- b. Explain RSA Algorithm with an example. (10 Marks)

OR

- a. ... prove that the two keys k_1 and k_2 are equal. (10 Marks)
- b. Discuss the following :
(i) Secure Hash Algorithm (ii) Firewalls. (10 Marks)

Module-5

- 9 a. Explain briefly how DNS redirects a users request to a CDN server. (10 Marks)
- b. With neat diagram explain the naïve-architecture for audio/video streaming. (10 Marks)

OR

- 10 a. Write a short notes on :
(i) Netflix video streaming platform (ii) VOIP with Skype. (10 Marks)
- b. With neat diagram explain the RTP header fields. (10 Marks)

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Important Note : 1. On complete answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revelation of identification, appeal to evaluator and/or equations written eg. 42+8=50, will be treated as malpractice.