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18CS52

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

- 8 a. In the Diffie - Hellman key exchange protocol 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 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.