



# CBCS SCHEME

15CS52

## Fifth Semester B.E. Degree Examination, Dec.2023/Jan.2024 Computer Networks

Time: 3 hrs.

Max. Marks: 80

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

### Module-1

- 1 a. Explain HTTP messages. (08 Marks)  
b. Explain web caching with diagram. (08 Marks)

OR

- 2 a. Explain FTP with its commands and replies. (08 Marks)  
b. Explain SMTP. (04 Marks)  
c. Explain DNS resource record. (04 Marks)

### Module-2

- 3 a. Elaborate the three way handshaking in TCP. (05 Marks)  
b. Discuss Go-Back N protocol. (06 Marks)  
c. Explain the connection-oriented multiplexing and de-multiplexing. (05 Marks)

OR

- 4 a. State congestion and discuss the cause of congestion. (04 Marks)  
b. With a neat diagram, explain the TCP segment structure. (08 Marks)  
c. Suppose that two measured sample RTT values are 106 ms and 120 ms. Compute:  
i) Estimated RTT after each of these sample RTT value is obtained. Assume  $\alpha = 0.125$  and estimated RTT is 100 msec just before first of the samples obtained.  
ii) Compute DevRTT.  
Assume  $\beta = 0.25$  and DevRTT was 5 msec before first of these samples are obtained. (04 Marks)

### Module-3

- 5 a. With diagram explain router architecture. (08 Marks)  
b. Explain IP fragmentation. (08 Marks)

OR

- 6 a. Explain distance vector algorithm. (08 Marks)  
b. Explain 4 types of hierarchical OSPF routers. (04 Marks)  
c. Compare link state with distance vector algorithm. (04 Marks)

### Module-4

- 7 a. Show the components of GSM 2G cellular network architecture with a diagram. (07 Marks)  
b. Illustrate the steps involved in mobile IP registration with home agent. (05 Marks)  
c. Write a note on mobile IP. (04 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.

OR

- 8 a. Define Handoff. Explain the steps accomplishing a handoff. (07 Marks)  
b. Bring out the mechanism of direct routing to mobile node in mobility management. (06 Marks)  
c. Compare the 4G LTE standard to 3G systems. (03 Marks)

**Module-5**

- 9 a. Bring out the leaky bucket mechanism for traffic policing. (07 Marks)  
b. Classify the multimedia network applications. (03 Marks)  
c. Describe the link scheduling mechanisms. (06 Marks)

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OR

- 10 a. List the categories of streaming stored video. Explain any one of them. (08 Marks)  
b. Explain the working of CDN. (08 Marks)

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