

CBCS SCHEME

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15CS/IS52

Fifth Semester B.E. Degree Examination, June/July 2023 Computer Networks

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Explain the networks applications architectures briefly. (07 Marks)
- b. Discuss proxy – server architecture with a suitable diagram. (05 Marks)
- c. Illustrate the basic operations of SMTP with an example. (04 Marks)

OR

- 2 a. Describe HTTP with persistent and non-persistent connections. (07 Marks)
- b. Discuss how files are distributed in a peer – to – peer application. (05 Marks)
- c. With a diagram, explain how application processes communicate through a socket. (04 Marks)

Module-2

- 3 a. Briefly explain TCP sits services with TCP segment structure. (08 Marks)
- b. Illustrate the principles of reliable data transfer with FSM over a channel with bit errors (rdt2.0). (08 Marks)

OR

- 4 a. Explain with an example : i) GO – Back – N protocol ii) Selective repeat ARO protocol. (08 Marks)
- b. Compute estimated RTT, DevRTT and TCP Timeout interval for the given data $x = 0.125$, $y = 0.25$, sample RTT's are 106ms, 120ms and (Estimated RTT was 100ms and DevRTT was 5ms). (08 Marks)

Module-3

- 5 a. With neat diagram explain router architecture. (08 Marks)
- b. Draw IPV6 datagram format, mention the significance of each fields. (08 Marks)

OR

- 6 a. Suppose that host application needs to transmit a packet of 3,500 bytes. The physical layer has an MTU of 1500 bytes. The packet has an IP header of 20 bytes plus another attached header of 20 bytes. Fragment the packet, specify the 1D, MF and offset fields of all fragment. (08 Marks)
- b. Illustrate Routing Information Protocol (RIP) with suitable diagram. (08 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.

Module-4

- 7 a. With neat diagram explain the components of GSM 2G Cellular network architecture. (08 Marks)
b. Explain agent advertisement and mobile IP registration with a neat diagram. (08 Marks)

OR

- 8 a. Explain in brief how mobility is managed in cellur networks and write a note on indirect routing to mobile node. (08 Marks)
b. What is handoffs? Explain steps involved when a base station does decide to handoff a mobile user. (08 Marks)

Module-5

- 9 a. Elaborate the properties of video and audio summarize the limitations of Best effort IP services. (08 Marks)
b. Categorize the streamlining of stored videos and explain briefly. (08 Marks)

OR

- 10 a. With a diagram, explain content distribution network operation. (08 Marks)
b. With the general format, explain various fields of Real - Time protocol. (08 Marks)
