

USN

--	--	--	--	--	--	--	--

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

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Explain in detail the two network application architectures. (06 Marks)
- b. Suppose you wanted to do a transaction from a remote client to a server as fast as possible. Would you use UDP or TCP? Why? Justify your reasons. (08 Marks)
- c. What are the different types of transport services provided by the internet? (06 Marks)

OR

- 2 a. With a general format, explain the HTTP request and HTTP response message. (06 Marks)
- b. Explain FTP commands and replies. (08 Marks)
- c. What are the services provided by DNS? (06 Marks)

Module-2

- 3 a. Draw and explain the FSM for sender side and receiver side of rdt 2.0 protocol. (06 Marks)
- b. Explain selective repeat ARQ protocol. (06 Marks)
- c. Explain TCP connection management with appropriate sketches (three way handshake, closing). Explain use of SYN, FIN, RST. (08 Marks)

OR

- 4 a. Explain UDP segment structure. (06 Marks)
- b. Why does TCP protocol run only in the end systems and not in the intermediate network elements, routers and link layer switches. (06 Marks)
- c. What is congestion in network? Explain how TCP handles congestion. (08 Marks)

Module-3

- 5 a. What is routing? With a neat diagram, explain the structure of a router. (10 Marks)
- b. Write link state routing algorithm, consider the following network with the indicated link costs. Apply link state routing algorithm to compute the shortest path from u to all other nodes in the network (Refer Fig.Q.5(b)). (10 Marks)

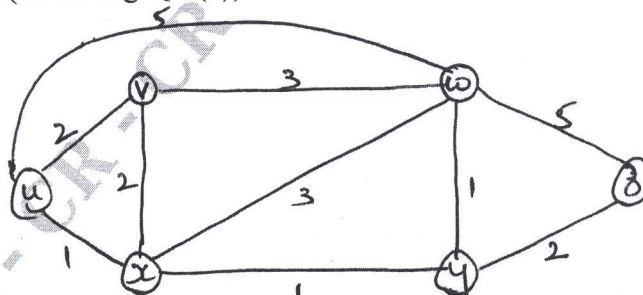


Fig.Q.5(b)

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

- 6 a. Write short notes on:
i) Broadcast routing (10 Marks)
ii) Multicast routing. (06 Marks)
- b. Draw IPV6 datagram format. Explain its fields. (04 Marks)
- c. Indicate two key differences between IPV4 and IPV6 format.

Module-4

- 7 a. With a neat diagram, explain the components of 3G cellular network architecture. (10 Marks)
- b. Explain steps of land off for a mobile user. (10 Marks)

OR

- 8 a. Explain the three phases of mobile IP. (10 Marks)
- b. With a neat diagram, explain two different types of routing approach to mobile node. (10 Marks)

Module-5

- 9 a. Describe the leaky bucket policing mechanism. Explain in detail how the algorithm is used to achieve traffic policing. (10 Marks)
- b. Explain the working of CDN. (10 Marks)

CMRIT LIBRARY
BANGALORE - 560 037

OR

- 10 a. Explain the working of video streaming over HTTP. Explain perfecting, buffer etc and the roles in this process. (10 Marks)
- b. Explain these different types of streaming stored video. (10 Marks)
