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## Fifth Semester B.E. Degree Examination, June/July 2019 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. Describe in detail the services offered by DNS and explain the DNS message format. (08 Marks)
- b. Illustrate the basic operation of SMTP and FTP. (08 Marks)

OR

- 2 a. Explain the persistent and non-persistent connection of HTTP. (08 Marks)
- b. Define a socket. Describe the socket programming using TCP. (08 Marks)

### Module-2

- 3 a. Draw and explain the FSM for sender and receiver side of rdt 2.1 protocol. (08 Marks)
- b. Elaborate the three-way handshaking procedure used in TCP. (04 Marks)
- c. Suppose that 2 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 ms just before first of the sample obtained.
  - (ii) Compute DevRTT, Assume  $\beta = 0.25$  and DevRTT was 5 msec before first of these samples are obtained. (04 Marks)

OR

- 4 a. With an FSM, explain the three phases of congestion control. (08 Marks)
- b. Write the TCP segment structure and explain its fields. (04 Marks)
- c. Elaborate the working of Go-Back N protocol. (04 Marks)

### Module-3

- 5 a. Give the format of IPV6 datagram and explain the fields. (06 Marks)
- b. What are the message types used in IGMP? (03 Marks)
- c. Write the link state routing algorithm and apply it to the following graph with source node [Refer Fig.Q5(c)] is 'u'. (07 Marks)

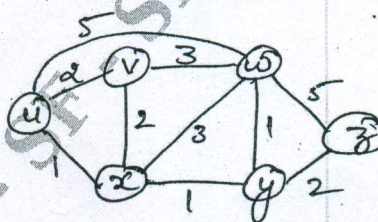


Fig.Q5(c)

OR

- 6 a. What is routing? Write the structure of a router. (07 Marks)
- b. List the broadcast routing algorithms? Explain any one of them. (04 Marks)
- c. Describe the intra-AS routing protocols in detail (05 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.



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**Module-4**

- 7 a. Illustrate the two different approaches for routing to a mobile node. (08 Marks)  
b. With a neat diagram, bring out the steps for mobile node registration to home agent. (08 Marks)

**OR**

- 8 a. Bring out the components of 3G Cellular Network architecture. (08 Marks)  
b. State handoff? What are the steps involved in accomplishing handoff. (05 Marks)  
c. Explain the three phases of mobile IP. (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)

**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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