CBCS Scheme

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15CS52

Fifth Semester B.E. Degree Examination, Dec.2017/Jan.2018

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. Compare client server and Perl-to-Peer architecture. **(05 Marks)**
b. Describe HTTP with persistent and non-persistent connections. **(08 Marks)**
c. What are the services provided by DNS? **(03 Marks)**

OR

2 a. Demonstrate socket implementation using TCP. **(08 Marks)**
b. Write a note on web caching. **(04 Marks)**
c. Illustrate the basic operation of SMTP with an example. **(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. Write the link-state routing algorithm. Solve the following graph using link-state algorithm with source node 'u'.

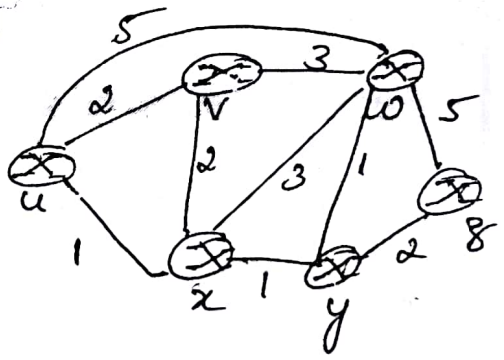

Fig.Q5(a) **(08 Marks)**

b. What is routing? Explain the structure of a router. **(08 Marks)**

OR

6 a. Discuss the IPV6 packet format. (05 Marks)
b. Elaborate the path attributes in BGP and steps to select the BGP routes. (05 Marks)
c. List the broadcast routing algorithms. Explain any one of them. (06 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)

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. Elaborate the features of streaming stored video. (03 Marks)
b. With a neat diagram, explain the CDN operation. (08 Marks)
c. Summarize the limitations of Best-effort IP service. (05 Marks)

OR

10 a. Explain the diffserv internet architecture. (05 Marks)
b. Describe the leaky bucket: policing mechanism. (06 Marks)
c. Discuss the round-robin and waited fair queuing scheduling mechanism. (05 Marks)

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