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Sixth Semester B.Tech. Degree Examination, June/July 2023
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. Define the following:
   (i) Internet   (ii) Physical media   (iii) Delay
   (iv) Throughput   (v) Packet loss   **(05 Marks)**
   b. What is Access Networks? Explain Hybrid fiber co-axial access network.   **(08 Marks)**
   c. List and explain the different physical media.   **(07 Marks)**

OR

2 a. Explain store and forward packet switching.   **(08 Marks)**
   b. Explain the multiplexing in circuit switched network.   **(06 Marks)**
   c. Explain the OSI Reference Model.   **(06 Marks)**

Module-2

3 a. Explain the general format of HTTP Request and Response Message.   **(10 Marks)**
   b. With a neat diagram, explain (i) Cookies   (ii) Web caching   **(10 Marks)**

OR

4 a. Explain how user interacts with FTP through an FTP agent. Discuss about FTP command
      and replies.   **(08 Marks)**
   b. Draw DNS message format. Describe the various fields of DNS message format. **(08 Marks)**
   c. Explain the DNS Resource Record Tuple.   **(04 Marks)**

Module-3

5 a. Explain transport layer multiplexing and demultiplexing.   **(10 Marks)**
   b. With the help of FSM, describe the two states of the sender side and one state of the receiver
      side of rdt 2.0.   **(10 Marks)**

OR

6 a. With neat diagram demonstrate the working of :
      (i)   Go-BACK-N protocol
      (ii) Selective Repeat Protocol   **(10 Marks)**
   b. Draw TCP segment structure. Describe the various fields of TCP segment. **(10 Marks)**

Module-4

7 a. Explain a high-view of generic router architecture.   **(06 Marks)**
   b. Explain the 3 switching techniques.   **(06 Marks)**
   c. Draw IPv6 datagram format. Mention the significance of each field. **(08 Marks)**

OR

8 a. Write the link state algorithm and apply it to the following graph. Assume node 'u' as the source node.
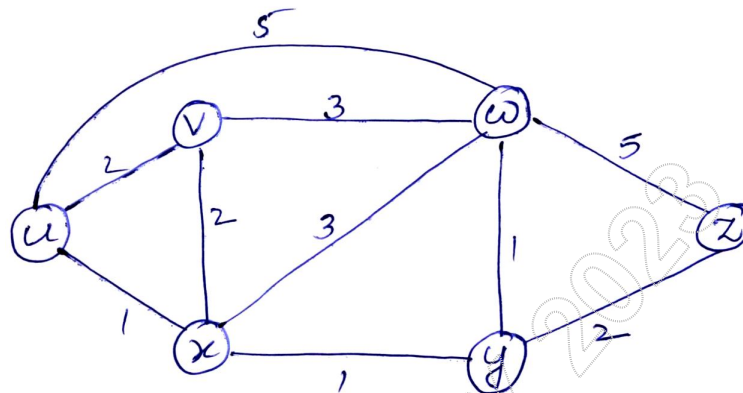

Fig.Q8(a) **(10 Marks)**

   b. Explain the routing in the internet:
   (i)   Intra-AS Routing in the Internet : RIP
   (ii) Inter-AS Routing : BGP **(10 Marks)**

Module-5

9 a. Explain the parity check method for error detection in one bit and 2 dimensional. **(10 Marks)**
   b. Write notes on:
   (i)   CSMA/CD
   (ii) Slotted ALOHA **(10 Marks)**

OR

10 a. With an example, explain the ARP. **(10 Marks)**
   b. What is link virtualization? Explain multiprotocol label switching. **(10 Marks)**

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