CBCS SCHEME

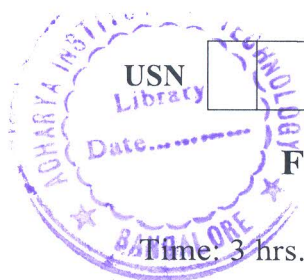USN

First Semester MCA Degree Examination, June/July 2019
Computer Networks

Time: 3 hrs.   Max. Marks: 80

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

Module-1

1 a. What is a computer network? Explain LAN, MAN and WAN.   **(08 Marks)**
    b. With a neat diagram, describe the functionality of each layer of OSI model.   **(08 Marks)**

OR

2 a. Explain co axial cable and optical fiber with their applications.   **(08 Marks)**
    b. Show NRZ and NRZI encoding for the bit pattern 10000101111   **(04 Marks)**
    c. A channel capacity is intended to be 20mbps. Bandwidth allocated is 3MHz. to achieve this capacity compute the SNR required.   **(04 Marks)**

Module-2

3 a. Suppose we want to transmit a message 10011010 and protect if from error using the CRC polynomial $x^3 + x^2 + (1101)$.
        i) Use polynomial division to determine message to be transmitted.
        ii) Suppose the leftmost bit is inverted due to link, what in the result at the receivers CRC calculating.   **(08 Marks)**
    b. Explain the working of selective repeat sliding window protocol in flow control.   **(08 Marks)**

OR

4 a. Explain characteristic and types and Ethernet.   **(08 Marks)**
    b. Explain architecture of 802.11.   **(08 Marks)**

Module-3

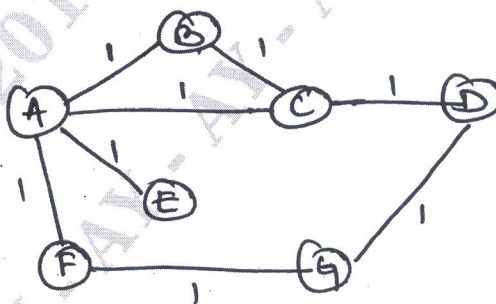5 a. Explain distance vector routing algorithm for the following :   **(08 Marks)**

Fig Q5(a)

    b. With a neat diagram, explain the frame format of IPV_4 header.   **(08 Marks)**

OR

6 a. Explain leaky token bucket congestion control algorithm with suitable diagram.   **(08 Marks)**
    b. With a neat diagram, explain the frame format of IPV_6 header.   **(08 Marks)**

Module-4

7 a. Explain TCP connection management with the help of neat diagram. (08 Marks)
   b. Explain with diagram TCP header format. (08 Marks)

OR

8 a. Explain the concept of 3 ways handshake. (08 Marks)
   b. Explain with diagram UDP header format. (08 Marks)

Module-5

9 a. Explain Architecture Email system. (08 Marks)
   b. Write short notes on
      i) HTTP   ii) Mobile web. (08 Marks)

OR

10 a. Explain the architecture of world wide web. (08 Marks)
    b. Explain Domain name space in detail. (08 Marks)

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