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Shree Damodar College of Commerce & Economics, Margao-Goa
S.Y.B.C.A, Semester IV, End Semester Examination, April 2015

COMPUTER NETWORKS (BCA 402)

Duration: 2 hours   **Marks: 50**

Instruction: 1) All questions are compulsory
                      2) Figures to the right indicate full marks
                      3) Start each new question on fresh page

Q.1 Answer the following   **10 marks**

A) Choose the most appropriate option for the following :   **(5 X 1 =5)**

   i) Communication between keyboard and computer involves -----
       a) Simplex   b) Half duplex   c) Full duplex   d) Automatic

   ii) Mail services are available to the network users through the ----- layer
       a)Data link   b)physical   c)Transport   d) Application

   iii) In the----- random access method there is no collision
       a)ALOHA   b)CSMA / CD   c)CSMA /CA   d) Token

   iv) An IP Address consists of ------bits
       a) 4   b) 8   c)32   d)Any of the above

   v) ARP reply is -------- to -------
       a) Broadcast ; all hosts   b) Multicast ;one host
       c) Unicast ; all hosts   d) Unicast ; one host

B) State True or False for the following statements   **(5 X 1 =5)**

   1) Transmission media are closest to the transport layer.

   2)   In fibre optics the signal source is radio waves

   3) ICMP is a dynamic mapping protocol in which a physical address is found for a
       given IP address .

   4).Teleconferencing is a multicasting application.

   5) Start and stop bits used in serial communication are for error correction.

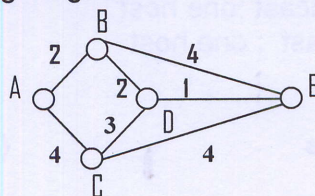**Q.2 Answer the Following**   **10 Marks**
a) Explain the working principle of ALOHA protocol.   (2 Marks)

b) What do you understand by transmission impairment ? What are the different types
   of impairment?   (3 Marks)

c) Give five points of difference between star topology and bus topology.   (5 Marks)

Q.3 Answer the Following   **10 Marks**
x) Sender's Data :1110101 1111100 1010101 . Use block sum check method to send
   data .   (2 Marks)

y) Define each of the following terms i) Asynchronous communication   ii)Synchronous
   communication iii) Isochronous communication.   (3 Marks)

c) What are the drawbacks of stop and wait protocol and how they are overcome in
   sliding window protocol?   (5 Marks)

Q.4 Answer the Following   **10 Marks**
a) State four functions performed by network layer.   (2 Marks)

b) Explain the concept of flooding with appropriate example.   (3 Marks)

c) Use shortest path algorithm to obtain a best route from node A to node E for the
   following diagram   (5 Marks)

Q.5 Answer the Following   **10 Marks**
a) What is symmetric key cryptography?   (2 marks)

b) What are the main functions of session layer and transport layer ?   (3 Marks)

c) Explain the working of CSMA /CD.   (5 Marks)

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