



# BRAINWARE UNIVERSITY

Course – BSc (HN)

Basic Computer Networks (BHNC202)

(Semester – 2)

**Time allotted: 3 Hours**

**Full Marks : 70**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

## Group –A

(Multiple Choice Type Question)

10 x 1 = 10

1. Choose the correct alternative for the following (Any Ten)

- (i) Error control activity is performed by
  - a) Data Link Layer    b) Network Layer    c) Transport Layer    d) Session Layer
- (ii) Flow Control is a technique applied in
  - a) Network Layer    b) Data Link Layer    c) Transport Layer    d) Presentation Layer
- (iii) IP address in the A class is given by
  - a) 225.123.23.34    b) 192.23.21.4    c) 251.128.9.45    d) 10.14.5.68
- (iv) Which one from the following is not a error control method
  - a) Parity Check    b) CRC    c) Hamming Code    d) Hamming Distance
- (v) IPv4 address is having a length of
  - a) 128 bit    b) 16 bit    c) 32 bit    d) 64 bit
- (vi) File transfer activity is performed by
  - a) Data Link Layer    b) Network Layer    c) Transport Layer    d) Application Layer
- (vii) Hamming code is used for
  - a) Error Detection    b) Error correction    c) Error encapsulation    d) both a & b

- (viii) UDP is  
 a) Connection-oriented      b) Connection-less      c) both (a) and (b)      d) None of these
- (ix) Which of the following protocol is based on the concept of Distance Vector Routing?  
 a) OSPF      b) RIP      c) BGP      d) DVMRP
- (x) Process to Process delivery is the function of ..... layer.  
 a) Data Link Layer      b) Network Layer      c) Application Layer      d) Transport Layer
- (xi) For a 3 bit sliding window the sequence number can range from  
 a) 0-15      b) 0-7      c) 8-15      d) 1-16

### Group – B

(Short Answer Type Question)

3 x 5 = 15

Answer any *Three* of the following

2. What do you mean by line coding? For a signal represented by 01110010 draw the patterns using the schemes: NRZ-L, NRZ-I, Manchester and Differential- Manchester encoding. [1+2+2]
3. Describe an IP packet explaining the different fields in brief.
4. Discuss about different topologies?
5. Write short note on Fiber Optic Cables.
6. Discuss about Wi-fi and Wi-max. [2.5 + 2.5]

### Group – C

(Long Answer Type Question)

3 x 15 = 45

Answer any *Three* of the following

7. a) What do you mean by congestion?  
 b) Discuss Closed Loop congestion control methods.  
 c) Discuss Three-way-handshaking method in TCP [2+5+8]

8. a) What do you mean by Flow Control?  
b) In case of Go-Back-N ARQ, discuss the followings with the help of suitable diagrams:  
(I) Lost frame, (II) Lost Acknowledgement.  
c) Discuss with diagrams the difference between CSMA/CD and CSMA/CA. [2+8+5]
9. a) Discuss Classless IPv4 Addressing scheme. Discuss how first address, last address and total number of addresses can be found in a group of addresses, with an example.  
b) Explain NAT ing  
c) Give an example of three subnetwork from the address 192.168.20.0/26 [5+4+6]
10. a) Explain how ARP works.  
b) Discuss Link State Routing with an example.  
c) Write a short note on SAN. [4+8+3]
11. Write short notes on : [3 x 5]  
a) DHCP  
b) ISDN  
c) Cryptography