Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/ BCA/SEP.SUPPLE/SEM-5/BCA-501/2012

2012

DATA COMMUNICATION AND COMPUTER NETWORK

Time Allotted : 3 Hours *Full Marks :* 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : 10 × 1 = 10

   i) Which layer of the OSI model does 'framing' ?

   a) Network b) Presentation

   c) Data link d) Physical.

   ii) ..... is a data communication system covering an area the size of a town or city.

   a) LAN b) MAN

   b) WAN d) None of these.

   iii) Which topology features a point-to-point line configuration ?

   a) mesh b) ring

   c) star d) all of these.

iv) In digital transmission

a) baud rate is equal to bit rate

b) baud rate is smaller than bit rate

c) baud rate is higher than bit rate

d) both (a) and (b).

v) A repeater is a device that operates in the

a) physical layer

b) data link layer

c) presentation layer

d) session layer.

vi) A method to manage network & interwork traffic to improve throughput is called

a) Flow control

b) Error control

c) Congestion control

d) None of these.

vii) ..... is an application layer protocol that transfers files between two sites.

a) SMTP b) FTP

c) HTTP d) all of these.

viii) A TCP/IP protocol that allows a host to find its Internet address given its physical address

a) ARP b) RARP

c) HTTP d) SMTP.

ix) A multimedia Internet service that allows users to traverse the Internet by moving from one document to another via links that connect them together is

a) WAN

b) Wireless communication

c) WWW

d) None of these.

x) After a message is decrypted, it is called

a) plaintext b) ciphertext

c) cryptonite d) cryptotext.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. Compare between the TCP/IP and OSI reference model. 5

3. What are baud rate and bit rate ? Establish the relationship between these two. 3 + 2

4. Describe the structure of HDLC frame in detail. 5

5. Describe the difference between TCP and UDP. 5

6. Describe the concept of DNS. 5

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

7. a) Explain the functions of router, bridge, gateways. 6

b) What is QOS? 4

c) What are the needs of modulation ? 5

8. a) Briefly explain IPv6 datagram. 5

   b) Explain the concept of LAN, MAN & WAN. 7

   c) Why is class of IP address needed ? 3

9. a) Compare between packet switching and circuit switching. 5

   b) Compare among ASK, FSK and PSK with the help of the sketch. 10

10. a) What is network topology ? Write the advantages of ring topology over star topology. 2 + 3

    b) What do you mean by piggy backing ? 5

    c) Write the functions of preamble field of 802·3 frame. Describe the priority scheme of Token Ring LAN . 2 + 3

11. Write short notes on any *three* of the following : 3 × 5

    a) Public key cryptography

    b) DNS

    c) Functions of each layer of OSI model.

    d) X·25

    e) ARP.