*Name* : ...................................................................

*Roll No.* : ...............................................................

*Invigilator's Signature :* ............................................

## CS/BMS (H)/SEM-3/MMS-305/2011-12

# 2011

# INFORMATION AND COMPUTER TECHNOLOGY
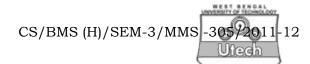
*Time Allotted* : 3 Hours                    *Full Marks* : 70

*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
## (Objective Type Questions )

1.   Answer the following questions.                    10 × 1 = 10

   A.   Choose the correct alternatives of the following :

   i)   A ..................... is someone who uses a computer and a network of internet connection to intrude into another computer or system to perform an illegal act.

   a)   hacker            b)   programmer

   c)   terrorist          d)   spammer.

   ii)   A television broadcast is an example of .................. transmission.

   a)   simplex           b)   half duplex

   c)   full duplex        d)   automatic.

iii) The ................ is the physical path over which a message travels.

    a)   protocol          b)   medium

    c)   signal            d)   all of these.

iv) A collection of related web pages is called a

    a)   web book       b)   web site

    c)   web directory   d)   web engine.

v) The full form of LLC is

    a)   logical link control

    b)   linear link control

    c)   linear logic control

    d)   none of these.

vi) Modulation is used to

    a)   reduce the bandwidth

    b)   separate differing transmission

    c)   insure that intelligence may be transmitted over long distance

    d)   allow the use of practicable antennas.

vii) TCP is a/an

    a)   reliable connection oriented protocol

    b)   unreliable connection oriented protocol

    c)   reliable connection-less protocol

    d)   unreliable connection-less protocol.

viii) Error detection at the data link is achieved by

    a)    cyclic redundancy codes

    b)    bit stuffing

    c)    hamming

    d)    equalization.

B.   Answer the following questions briefly.

    ix)    What is quantization ?

    x)    What is the full form PCM ?

## GROUP – B

### ( Short Answer Type Questions )

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

2. What do you mean by the word "distributed processing" ? Describe at least four advantages of distributed processing.

                                                              1 + 4

3. Name five network topologies and mention one advantage and one disadvantage for each type.     5

4. Briefly describe about different transmission modes.     5

5. What is information ? Explain the need of information in our lives.     5

6. What is line encoding ? Explain the different types of line encoding ?     1 + 4

7. Write a short note on characteristics of data communication.

**GROUP – C**

**( Long Answer Type Questions )**

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

8.  Describe briefly about OSI model. What is cyber crime ?
    State the different types of cyber crime.        10 + 2 + 3

9.  Describe the functionality of each device :

    Modem, Router, Firewall, Bridge and Gateway.

10. What are the needs of Modulation ? Compare among ASK,
    FSK, PSK with the help of a neat sketch. Draw the digital
    signal encoding format for NRZL, NRZI, RZ, Manchester
    codes ?        3 + 6 + 6

11. Describe the concept of Leaky Bucket for controlling
    congestion ? Explain the Ethernet frame format. Draw &
    describe TCP segment format.        6 + 3 + 6

12. Difference between Windows and Unix.

13. What is the purpose of domain name system ? Give at least
    three differences between Linux and Windows operating
    systems.

3243        4