CS/BCA/(Supple)/SEM-5/BCA-501/09

DATA COMMUNICATION AND COMPUTER NETWORKS (SEMESTER - 5)

1. .....
Signature of Invigilator

2. .....
Signature of the Officer-in-Charge

Reg. No. | | | | | | | | | | | | | | |

Roll No. of the Candidate | | | | | | | | | | | | | | |

– –

CS/BCA/(Supple)/SEM-5/BCA-501/09

ENGINEERING & MANAGEMENT EXAMINATIONS, AUGUST – 2009

DATA COMMUNICATION AND COMPUTER NETWORKS (SEMESTER - 5)

Time : 3 Hours] [Full Marks : 70

INSTRUCTIONS TO THE CANDIDATES :

1. This Booklet is a Question-cum-Answer Booklet. The Booklet consists of **32 pages**. The questions of this concerned subject commence from Page No. 3.
2. a) In **Group – A**, Questions are of Multiple Choice type. You have to write the correct choice in the box provided **against each question**.
   b) For **Groups – B** & **C** you have to answer the questions in the space provided marked 'Answer Sheet'. Questions of **Group – B** are Short answer type. Questions of **Group – C** are Long answer type. Write on both sides of the paper.
3. **Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
4. Read the instructions given inside carefully before answering.
5. You should not forget to write the corresponding question numbers while answering.
6. Do not write your name or put any special mark in the booklet that may disclose your identity, which will render you liable to disqualification. Any candidate found copying will be subject to Disciplinary Action under the relevant rules.
7. **Use of Mobile Phone and Programmable Calculator is totally prohibited in the examination hall.**
8. You should return the booklet to the invigilator at the end of the examination and should not take any page of this booklet with you outside the examination hall, **which will lead to disqualification**.
9. Rough work, if necessary is to be done in this booklet only and cross it through.

No additional sheets are to be used and no loose paper will be provided

FOR OFFICE USE / EVALUATION ONLY

Marks Obtained

	Group – A										Group – B			Group – C				
Question Number																	***Total Marks***	***Examiner's Signature***
Marks Obtained																		

.....

Head-Examiner/Co-Ordinator/Scrutineer

S–54006 (17/08)

http://qpaper.wbut.ac.in

DO NOT WRITE ON THIS PAGE

http://qpaper.wbut.ac.in

CS/BCA/(Supple)/SEM-5/BCA-501/09
DATA COMMUNICATION AND COMPUTER NETWORKS
SEMESTER - 5

Time : 3 Hours] [Full Marks : 70

GROUP – A
(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : $10 \infty 1 = 10$

i) Which of the following is not a standard RS-232C signal ?

a) RTS b) CTS

c) DSR d) VDR. ☐

ii) The network topology that supports bi-directional links between each possible node is

a) ring b) star

c) tree d) mesh. ☐

iii) Which of the following ISO level is more closely related to the physical communications facilities ?

a) Application b) Session

c) Network d) Data link. ☐

iv) In Ethernet CSMA/CD, the special bit sequence transmitted by media access management for collision handling is called as

a) preamble b) postamble

c) jam d) none of these. ☐

http://qpaper.wbut.ac.in

v) Baud means

a) the number of bits transmitted per unit time

b) the number of bytes transmitted per unit time

c) the rate at which the signal changes

d) none of these. ☐

vi) A modem constellation diagram has data points at (0, 1) and (0, 2). What type of modulation does the modem use ?

a) Phase modulation b) Amplitude modulation

c) Both (a) and (b) d) None of these. ☐

vii) Manchester code is

a) Bi-polar code b) Non return to zero code

c) Polar code d) None of these. ☐

viii) Bit stuffing refers to

a) inserting a '0' in user data stream to differentiate it with a flag

b) inserting a '0' in flag stream to avoid ambiguity

c) appending a nibble to the flag sequence

d) appending a nibble to the user data stream. ☐

ix) Which of the following is not a field in the Ethernet message packet ?

a) Type b) Data

c) Pin-code d) Address. ☐

x) Baud rate of the signal if the bit rate is 20000 bits per second & 4 bits per signal, is

a) 20000 b) 5000

c) 80000 d) None of these. ☐

http://qpaper.wbut.ac.in

GROUP – B

(Short Answer Type Questions)

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

2. What does the CRC generator append to the data unit ?

3. In what situations does the sender retransmit a packet ?

4. What is the advantage of QPSK over ASK or PSK ?

5. Briefly explain asynchronous transmission method.

6. What is the difference between routing and bridging ?

GROUP – C

(Long Answer Type Questions)

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

7. a) What are the differences between unicast, multicast and broadcast addresses ? 5

   b) Explain the goals of layered protocol. 5

   c) List the names of guided and unguided media. 5

8. a) Suppose there is heavy traffic on both a CSMA/CD LAN and a token ring LAN. A station on which system is more likely to wait longer to send a frame ? Give reasons. 6

   b) How does a token bus LAN operate ? Explain. 6

   c) What is the smallest size of a token ring data frame ? What is the largest size of a Token ring data frame ? 3

9. a) What is the difference between in-band signaling and out-of-band signaling ? 4

   b) When a device uses a B channel, how many bits can it send per frame ? 2

   c) Briefly explain the advantage of ISDN over other types of network. 5

   d) Define NT1, NT2, TA, TE2 in connection with ISDN. 1 + 1 + 1 + 1

http://qpaper.wbut.ac.in

10. a) Given a 10 bit sequence 1010011110 and a divisor 1011, find whether there is any error in the data unit using CRC method. 7

b) What are the three important multiplexing techniques ? Explain in brief. 8

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

a) Packet switching

b) Leaky bucket algorithm

c) Network security

d) Digital to analog conversion

e) Topology.

END

http://qpaper.wbut.ac.in