CS/B.TECH/ECE(O)/ODD/SEM-7/EC-703C/2019-20

Maulana Abul Kalam Azad University
of Technology, West Bengal

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

Paper Code : EC-703C

PUID : 07081 (To be mentioned in the main answer script)

COMPUTER NETWORKS

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 any *ten* of the following : $10 \times 1 = 10$

    i)   Wireless transmission can be done via

        a)   radio waves   b)   microwaves

        c)   infrared   d)   all of the mentioned.

    ii) The first Network is

        a)   CNNET   b)   NSFNET

        c)   ASAPNET   d)   ARPANET.

    iii) .... layer is an addition to OSI model when compared with TCP IP model.

        a)   Application layer

        b)   Presentation layer

        c)   Session layer

        d)   Both Session and Presentation layers.

CS/B.TECH ... ...

iv) When 2 or more bits in a data unit has been changed during the transmission, the error is called

a) random error

b) burst error

c) inverted error

d) none of these.

v) Three or more devices share a link in .... connection.

a) Unipoint

b) Multipoint

c) Point to point

d) None of these.

vi) For large networks .... topology is used.

a) Mesh b) Ring

c) Bus d) Star.

vii) Which one of the following routing algorithms can be used for network layer design ?

a) Shortest path algorithm

b) Distance vector routing

c) Link state routing

d) All of these.

viii) The data link layer takes the packets from .... and encapsulates them into frames for transmission.

a) network layer b) physical layer

c) transport layer d) application layer.

ix) In OSI network architecture, the routing is performed by

a) network layer b) transport layer

c) application layer d) none of these.

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x) Two devices are in network if

   a) a process in one device is able to exchange information with a process in another device

   b) a process is running on both devices

   c) PIDs of the processes running of different devices are same

   d) none of these.

xi) The functionalities of presentation layer includes

   a) Data compression   b) Data encryption

   c) Data description   d) All of these.

xii) Network congestion occurs

   a) in case of traffic overloading

   b) when a system terminates

   c) when connection between two nodes terminates http://www.makaut.com

   d) none of these.

GROUP – B

(Short Answer Type Questions)

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

2. Define computer networks. Discuss various types of network topologies in computer network.

3. What is bit Stuffing ? Why is it used ?

4. What are the differences between bridge and hub ? Why is hub called multiport receiver ?

5. What is the purpose of DNS ?

6. How are HTTP and WWW related to the Internet ?

GROUP – C
(Long Answer Type Questions)
Answer any *three* of the following. $3 \times 15 = 45$

7. a) Explain why Layered architecture is preferred in communication.

    b) Explain OSI model in detail.

    c) State the difference between OSI and TCP/IP model. $3 + 10 + 2$

8. a) What are the major drawbacks of X.25 protocol ?

    b) What are the advantages of ATM based network ?

    c) Describe IEEE 802.3 Ethernet LAN architecture. $4 + 4 + 7$

9. a) What are classful and classless addressing ?

    b) Discuss Class *A*, Class *B*, Class *C*, Class *D* and Class *E* addresses in ranges in decimal dot notations with examples. $5 + 10$

10. a) Describe the format of ATM cell.

    b) What is the relation between TPs, VPs and VCs ?

    c) How does NNI differ from UNI ? $6 + 5 + 4$

11. a) Describe 802.3 MAC frame format.

    b) Explain the following LAN technology in brief :

    (i) Token ring

    (ii) Token bus. $7 + (4 + 4)$

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