C.U.SHAH UNIVERSITY
Winter Examination-2021

Subject Name: Data Communication & Networking

Subject Code: 4CS03BNT1   **Branch: B.C.A.**

Semester: 3   **Date: 15/12/2021**   **Time: 02:30 To 05:30**   **Marks: 70**

Instructions:
1. Use of Programmable calculator & any other electronic instrument is prohibited.
2. Instructions written on main answer book are strictly to be obeyed.
3. Draw neat diagrams and figures (if necessary) at right places.
4. Assume suitable data if needed.

Q-1   **Attempt the following questions:**   **(14)**

a) The first Network was called _____.

    A. CNNET   C. NSFNET

    B. ASAPNET   D. ARPANET

b) A _____ connection provides a dedicated link between two devices.

    A. Multi-point   C. Point-to-point

    B. Primary   D. Secondary

c) Communication between a computer and a keyboard involves _____ Transmission.

    A. Full-duplex   C. Half-duplex

    B. Simplex   D. None of these

d) Which topology requires a central controller or hub?

    A. star   C. mesh

    B. ring   D. bus

e) The _____ layer changes bits into electromagnetic signals.

    A. Transport   C. Physical

    B. Session   D. Presentation

f) The information to be communicated in a data communications system is the _____

    A. medium   C. protocol

    B. transmission   D. message

g) As the data packet moves from the upper to the lower layers, headers are _____.

    A. Removed   C. Added

    B. Rearranged   D. Modified

h) What is the main function of the transport layer?

    A. Node-to-node delivery   C. Synchronization

    B. Process-to-process delivery   D. Updating routing tables

i) ARP stand for _____.

A. Address Routing Protocol   C. Address Resolution Protocol

B. Address Routing Program   D. Address Routing Packet

j) What is the port number of HTTP ?

 A. 80   C. 25

 B. 23   D. 20/21

k) TCP is _____

 A. Connection oriented   C. Both (A) and (B)

 B. Reliable   D. None of these

l) The commonly used protocol for webpage transfer is _____

 A. HTML   C. WML

 B. HTTP   D. WTTP

m) IPV4 address is of _____ bits

 A. 4   C. 16

 B. 32   D. 128

n) Multiplexing is used in _____

 A. Packet switching   C. Circuit switching

 B. Message switching   D. None of these

Attempt any four questions from Q-2 to Q-8

Q-2		**Attempt all questions**	**(14)**
	a)	Explain TCP/IP in detail.	**(5)**
	b)	Explain CSMA/CD and CSMA/CA in detail.	**(5)**
	c)	Explain Wi-Fi in detail.	**(4)**
Q-3		**Attempt all questions**	**(14)**
	a)	Explain radio wave and micro wave transmission.	**(5)**
	b)	Explain HUB with its types.	**(5)**
	c)	Explain difference between IPV4 and IPV6.	**(4)**
Q-4		**Attempt all questions**	**(14)**
	a)	Explain physical addressing, logical addressing and port addressing.	**(5)**
	b)	Explain twisted pair cable with its types.	**(5)**
	c)	Explain unicast and broadcast in networking.	**(4)**
Q-5		**Attempt all questions**	**(14)**
	a)	Explain router in detail.	**(5)**
	b)	Explain Multiplexer with diagram.	**(5)**
	c)	Explain DNS in detail.	**(4)**
Q-6		**Attempt all questions**	**(14)**
	a)	Explain Message switching and Packet switching in detail.	**(7)**
	b)	Explain FDM and TDM in detail.	**(7)**
Q-7		**Attempt all questions**	**(14)**
	a)	Explain simplex, half duplex and full duplex in detail.	**(7)**

b) Explain star topology and mesh topology in detail. **(7)**

Q-8   **Attempt all questions** **(14)**
     a) Explain OSI reference model in detail. **(7)**
     b) Explain following network types in detail. **(7)**
        PAN, LAN, WAN