QPC: RJ19BTECH179   **AR 19**   Reg. No

GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Fourth Semester – Regular) Examinations, June – 2021

BPCCS4040 / BPCCT4040 – COMPUTER NETWORKS

(Common to C.S.E and C.S.T)

Time: 2 hrs   Maximum: 50 Marks

Answer ALL Questions
The figures in the right hand margin indicate marks.

PART – A: **(Multiple Choice Questions)**   **(1 x 10 =10 Marks)**

Q.1. Answer **ALL** questions   [CO#]   [PO#]

a. A subset of a network that includes all the routers but contains no loops is called _____   CO1   1

   (i) spanning tree   (ii) spider structure

   (iii) special tree   (iv) spider tree

b. Which of the following devices modulates digital signals into analog signals that can be sent over traditional telephone lines?   CO1   1

   (i) Router   (ii) Gateway

   (iii) Switch   (iv) Modem

c. Bits can be sent over guided and unguided media as analog signal by _____   CO2   1

   (i) amplitude modulation   (ii) digital modulation

   (iii) frequency modulation   (iv) phase modulation

d. The data link layer takes the packets from _____ and encapsulates them into frames for transmission.   CO2   `1

   (i) transport layer   (ii) physical layer

   (iii) network layer   (iv) application layer

e. Which provision can resolve / overcome the shortcomings associated with duplication or failure condition of Stop and Wait Automatic Repeat Request protocol especially due to loss of data frames or non-reception of acknowledgement?   CO2   2

   (i) Provision of sequence number in the header of message   (ii) Provision of checksum computation

   (iii) Stop and Wait Automatic   (iv) Duplication or failure condition

f. When a router cannot route a datagram or host cannot deliver a datagram, the datagram is discarded and the router or the host sends a _____ message back to the source host that initiated the datagram.   CO2   2

   (i) Source quench   (ii) Router error

   (iii) Destination unreachable   (iv) Time exceeded

g. What are called routers?   CO3   2

   (i) The devices that operates at session layer   (ii) The devices that operates at data layer

   (iii) The devices that operates at application layer   (iv) The devices that operates at network

h. Which one of the following descriptions about IPv6 is correct?   CO3   2

   (i) Addresses are not hierarchical and are assigned at random   (ii) Broadcasts have been eliminated and replaced with multicasts

   (iii) There are 2.7 billion available addresses   (iv) An interface can only be configured

i. Transport layer aggregates data from different applications into a single stream before passing it to _____   CO4   1

    (i) network layer   (ii) data link layer

    (iii) application layer   (iv) physical layer

j. Which one of the following is a version of UDP with congestion control?   CO4   1

    (i) stream control transmission protocol   (ii) datagram congestion control protocol

    (iii) structured stream transport   (iv) user congestion control protocol

PART – B: (Short Answer Questions)   (2 x 5 = 10 Marks)

Q.2. Answer *ALL* questions   [CO#]   [PO#]

		[CO#]	[PO#]
a.	List out the advantages of star Topology.	CO1	2
b.	Infer the Role of the L2CAP layer in Bluetooth?	CO2	2
c.	Analyze how Routers differentiate the incoming unicast, multicast and broadcast IP Packets	CO3	1
d.	Identify how a well-known port different from an ephemeral port?	CO4	2
e.	How does UDP address flow control mechanism?	CO4	1

PART – C: (Long Answer Questions)   (6 x 5 = 30 Marks)

Answer *ANY FIVE* questions   Marks   [CO#]   [PO#]

		Marks	[CO#]	[PO#]
3.	Draw the OSI network architecture and explain the Functionalities of every layer in detail.	(6)	CO1	2
4.	Analyze the advantages of optical fiber over twisted pair and coaxial cable.	(6)	CO1	3
5.	Assess and explain the Ethernet Frame Format.	(6)	CO2	2
6.	Analyze the Architecture of IEEE 802.11	(6)	CO2	2
7.	Explain in detail the operation of OSPF protocol by considering a suitable network.	(6)	CO3	1
8.	Examine the function of the Border Gateway Protocol used for Inter domain routing in internetwork.	(6)	CO3	3
9.	Draw and explain TCP state Transition diagram for Connection management.	(6)	CO4	1
10.	Sketch a neat architecture and explain TCP in detail	(6)	CO4	2

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