Semester IV (B.Tech)

Er. No..2018308
Academic Year: 2021-22

Jaypee University of Engineering & Technology, Guna
T-3 (Even Semester 2022)
18B11CI411 – Computer Networks

Maximum Duration: 2 Hours

Maximum Marks: 35

Notes:
1. This question paper has **7** questions.
2. Write relevant answers only.
3. Do not write anything on question paper (Except your Er. No.).

		Marks
Q1.	Generate the chip sequence for the four stations. Compute the data to be transferred through common channel if the original sequence of data is $\{0, 1,-, 0\}$. Here ' -' represent the silent station.	[05]
Q2.	Describe the different types of channelization protocols used in media access control (MAC).	[05]
Q3. (a)	If an Ethernet destination address is **07:01:02:03:04:05**, what is the type of the address?	[03]
(b)	Show the original (unabbreviated) form of the IPV6 address **0: AA :: 0**.	[02]
Q4	An ISP is granted a block of addresses starting with 120.60.4.0/22. The ISP wants to distribute these blocks to 100 organizations with each organization receiving just eight addresses. Design the sub-blocks and give the slash notation for each sub-block. Find out how many addresses are still available after these allocations.	[05]
Q5	What is the purpose of domain name system (DNS)? Discuss three main divisions of domain name space.	[05]
Q6	Explain user datagram format in detail. In TCP, if the value of HLEN is 0111, how many bytes of option are included in the segment?	[05]

Q7 (a) Use link state routing algorithm to compute the routing table for node B and node D of the network as given in the Fig. 1.
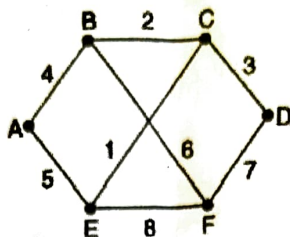

Fig.1

(b) Explain the fundamental principle of Leaky bucket algorithm with suitable diagram. [02]

$120.60.4.0 /29$

$120.60.4.7 /29$

$120.60 6.\overset{255}{\rlap{\ }} /29$

$\dfrac{32}{256}$
$\overline{8}$

$\overset{11}{256}$
$\dfrac{3}{768}$

$2+4+1+3+5+5$