GURUKULA KANGRI (DEEMED TO BE UNIVERSITY), HARIDWAR
END SEMESTER EXAMINATION-2021
CLASS – B.TECH.
SEMESTER – Vth
SUBJECT NAME – COMPUTER NETWORK
SUBJECT CODE- BCE-C511

TIME: 3 HOUR **MAX. MARKS: 70**

MIN. PASS: 40%

NOTE: QUESTION PAPER IS DIVIDED INTO TWO SECTIONS A AND B. ATTEMPT BOTH SECTIONS AS PER GIVEN INSTRUCTIONS.

SECTION-A (SHORT ANSWER TYPE QUESTIONS)

INSTRUCTIONS: ANSWER ANY FIVE QUESTIONS IN ABOUT 150 WORDS EACH. EACH QUESTION CARRIES SIX MARKS. (5 X 6 = 30 MARKS)

Q.1. Explain the Wireless LAN 802.11 Architecture.

Q.2. What is the role of ISP in providing the Internet? How ISP are characterized on the basis of the internet?

Q.3. What is poll/select in line discipline function of data link layer?

Q.4. How transmission modes are different with respect to data transmission? Justify your answer.

Q.5. Explain the different types of switching techniques and mention its advantages and disadvantages.

Q.6. Describe the relative advantages and disadvantages of

a. Terrestrial links b. Satellite links c. Optical fiber transmission

Q.7. A 6300 km long trunk operates at 8 Mbps and is used to transmit 512 byte frames and uses sliding window protocol. If the propagation speed is 8 μsec / km, how many bits should the sequence number field be?

Q.8. Explain the concept of Submarine cables. Explain the concept of working of internet.

Q.9. Explain the traditional cryptography used for network security and privacy.

Q.10. Consider two hosts A and B connected by a single direct link of rate 10^6 bits/sec. The distance between the two hosts is 7000 km and the propagation speed along the link is 4 x 10^8 m/sec. Host X sends a file of 25800 bytes as one large message to host Y continuously. Calculate transmission, propagation delay, RTT.

SECTION-B (LONG ANSWER TYPE QUESTIONS)

INSTRUCTIONS: ANSWER ANY FOUR QUESTIONS IN DETAIL. EACH QUESTION CARRIES TEN MARKS. (4 X 10 = 40 MARKS)

Q.1. What is meant by subnetting? Why is it required? Explain how subnet masks are generated with respect to IP addresses.

Q.2. write a short notes on:

(a)FTP (b) HTTP (c) IMAP (d) ARP

Q.3. Find the class of the following addresses, IP address in binary, subnet mask, broadcast id

a. 213.210.23.26
b. 10.64.64.0
c. 191.27.26.23
d. 241.80.20.31

Q.4. A channel has a bit rate of 6 Kbps and one way propagation delay of 80 msec. The channel uses stop and wait protocol. The transmission time of the acknowledgement frame is negligible. To get a channel efficiency of at least 75%, the minimum frame size should be.

Q.5. How DNS works. What do you understand by iterative or recursive DNS.

Q.6. What is meant by subnetting? Consider a big single network having IP Address 202.10.20.36 divide this network into 4 subnets. Find out the IP Address of all the subnet, Total number of IP Addresses, Total number of hosts that can be configured.

Q.7. Explain TCP/IP Protocol Suit with neat sketch and list out differences between TCP/IP and OSI model.

Q.8. Calculate the shortest path using link state routing algo. (dijkastra algo) by taking initial node as 1.