DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular End Semester Examination – Summer 2022

Course: B. Tech. Branch : Computer Science and Engineering Semester : VI

Subject Code & Name: Computer Networks (BTCOC602)

Max Marks: 60 **Date:17/08/2022** **Duration: 3.45 Hr.**

Instructions to the Students:

1. *All the questions are compulsory.*
2. *The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.*
3. *Use of non-programmable scientific calculators is allowed.*
4. *Assume suitable data wherever necessary and mention it clearly.*

		(BT Level)	Marks
Q. 1	**Solve Any Two of the following.**		12
A)	Explain network software with respect to protocol hierarchy and design issue for layer?	Understand	6
B)	Compare connection oriented and connectionless protocol?	Understand	6
C)	Define following performance metrics Bandwidth ,Latency, data rate, Delay -bandwidth product and throughput	Remember	6
Q.2	**Solve Any Two of the following.**		12
A)	Compare token ring and FDDI with their frame format.	Application	6
B)	With reference of ATM answer the following a. How is an ATM virtual connection identified? b.. Name the ATM layers and their functions. c. Why does ATM use small, fixed-length cells?	Understand	6
C)	Explain in brief 802.11 architecture and protocol stack?	Understand	6
Q. 3	**Solve Any Two of the following.**		12
A)	Illustrate the services provided to the network layer by the data link layer.	Understand	6
B)	Calculate CRC code for Message "11101010111101010100011" if divisor polynomial is $X^5+ X^3+ X^2 +1$	Apply	6
C)	In a block of addresses, we know the IP addresses of two hosts are 25.34.12.56/16, 182.44.82.16/26. What are the first address (network address) and the last address (limited broadcast address) in each of these blocks?	Apply	6
Q.4	**Solve Any Two of the following.**		12
A)	The following is a dump of a TCP header in hexadecimal format. (05320017 00000001 00000000 500207FF 00000000) $_{16}$ a. What is the source port number and the destination port number?	Apply	6

c. What the sequence number?

d. What is the acknowledgment number?

e. What is the length of the header?

f. What is the type of the segment?

g. What is the window size?

B)	Compare IPv4/IPv6 protocols?	Understand	6
C)	Illustrate with example leaky bucket and token bucket algorithms for traffic shaping?	Understand	6

Q. 5	**Solve Any Two of the following.**		12
A)	Explain types of DNS messages?	Understand	6
B)	Compare SMTP and POP Protocols.	Understand	6
C)	Illustrate with example public key and private key cryptography?	Understand	6

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