

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.

- | | | | |
|----|--|------------|---|
| 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.

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|----|---|-------------|---|
| 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.

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|----|--|------------|---|
| 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.

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|----|--|-------|---|
| 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?

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|--|------------|---|
| 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.

- | | | |
|---|------------|---|
| 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 |

***** End *****