**SRM Institute of Science and Technology**

**School of Computing**

**DEPARTMENT OF DATA SCIENCE AND BUSINESS SYSTEMS**

SRM Nagar, Kattankulathur – 603203, Chengalpattu District, Tamilnadu

**Academic Year: 2023-24 (ODD)**

**Test: CLAT-1**  [Portion: UNIT 1] **Date: 08.08.2023**

**Course Code & Title:** **21CSC302J & Computer Networks** **Duration:** 60 Minutes

**Year & Sem:** III Year & V Sem **Max. Marks:** 25

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| **Part – A (5 x 1 = 5 Marks) Instructions: Answer ALL questions** | | | | | | |
| **Q. No** | **Question** | **Marks** | **BL** | **CO** | **PO** | **PI Code** |
| **1** | **What network topology offers the best scalability and ease of adding new devices?**  a) Bus topology  b) Ring topology  c) Star topology  d) Mesh topology | **1** | **L1** | **1** | **1** | **1.6.2** |
| **2** | **Which OSI layer is responsible for addressing and routing data packets to their destinations across multiple networks?**  a) Data Link Layer  b) Transport Layer  c) Network Layer  d) Presentation Layer | **1** | **L1** | **1** | **1** | **1.6.2** |
| **3** | **Which TCP/IP layer handles IP addressing, packet forwarding, and routing decisions?**  a) Network Layer  b) Data Link Layer  c) Physical Layer  d) Transport Layer | **1** | **L2** | **1** | **1** | **1.6.2** |
| **4** | **What is the main advantage of using twisted-pair cables over coaxial cables?**  a) Twisted-pair cables can carry signals over longer distances.  b)Twisted-pair cables have higher data transfer rates.  c) Twisted-pair cables are less susceptible to signal interference.  d)Twisted-pair cables are easier to install and terminate**.** | **1** | **L2** | **1** | **1** | **1.6.2** |
| **5** | **Knowledge and reasoning also play a crucial role in dealing with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ environment.**   1. Completely Observable 2. Partially Observable 3. Neither Completely nor Partially Observable 4. Only Completely and Partially Observable | **1** | **L1** | **1** | **1** | **1.6.2** |

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| **Part B- (2 \* 10 = 20 Marks) Instructions: Answer ANY TWO questions** | | | | | | | |
| 6 | You are working from home and need to connect to your office's internal network to access shared resources and files. Explain the role of TCP/IP in setting up a remote connection, the protocols involved, and the security measures taken to protect data during transmission. | 10 | L3 | 1 | 1 | 1.6.2 |
| 7 | A hospital needs to establish a network to connect various departments, including patient records, laboratories, and radiology. Describe how a tree network topology can be implemented to create a hierarchical and organized network structure. | 10 | L3 | 1 | 1 | 1.6.2 |
| 8 | Compare guided and unguided transmission medium | 10 | L2 | 1 | 1 | 1.6.2 |

**Course Outcome (CO) and Bloom’s level (BL) Coverage in Questions**