**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** | **Which network topology provides the highest level of redundancy and fault tolerance?**  a) Star topology  b) Bus topology  c) Ring topology  d) Mesh topology | **1** | **L1** | **1** | **1** | **1.6.2** |
| **2** | **At which OSI layer are packets or frames converted into bits for transmission over the communication medium?**  a) Network Layer  b) Physical Layer  c) Data Link Layer  d) Transport Layer | **1** | **L1** | **1** | **1** | **1.6.2** |
| **3** | **TCP/IP is a suite of protocols used for:**  a) Secure online transactions  b) Managing network hardware  c) Email communication  d) Interconnecting devices on the internet | **1** | **L2** | **1** | **1** | **1.6.2** |
| **4** | **Coaxial cables are commonly used for which of the following applications?**  a) Home wireless networks  b) Long-distance fiber-optic connections  c) Cable television (CATV)  d) Bluetooth data transfer | **1** | **L2** | **1** | **1** | **1.6.2** |
| **5** | **Which of the following communication technologies uses circuit switching?**  a) Ethernet  b) Wi-Fi  c) PSTN (Public Switched Telephone Network)  d) IP (Internet Protocol) | **1** | **L1** | **1** | **1** | **1.6.2** |

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| **Part B- (2 \* 10 = 10 Marks) Instructions: Answer ANY TWO questions** | | | | | | | |
| 6 | You are trying to access a website hosted on a remote server, but you receive a "Page Not Found" error. Explain the step-by-step process of how TCP/IP helps in establishing the connection and troubleshooting the issue. | 10 | L3 | 1 | 1 | 1.6.2 |
| 7 | A university campus wants to establish a Wi-Fi network to provide internet access to students and faculty across different buildings. Describe how a hybrid network topology, combining star and mesh topologies, can be used to achieve seamless and reliable Wi-Fi coverage. | 10 | L3 | 1 | 1 | 1.6.2 |
| 8 | Compare OSI and TCP/IP protocol suite | 10 | L2 | 1 | 1 | 1.6.2 |

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