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| **QUESTIONBANK(DESCRIPTIVE)**  **Subject Name with Code: (23A0519T)**  **Course & Branch: B.TECHCSE, CSE(DS)&CSE(CS) Year& Semester: II-IIRegulation: RG23** | |

**UNIT - I**

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| **S.No.** | **Question** | **[BT Level] [CO][ Marks]** |
| **2 Marks Questions (Short)** | | |
|  | What is a Personal Area Network (PAN | L1/CO1/2M |
|  | What is a Home Network | L1/CO1/2M |
|  | What are Wide Area Networks (WANs) | L1/CO1/2M |
|  | What is the OSI Reference Model | L1/CO1/2M |
|  | What are Service Primitives? | L1/CO1/2M |
| **6** | What is meant by Internetworks? | L1/CO1/2M |
|  | **Critique the TCP/IP Reference Model.** The TCP/IP model | L3/CO1/2M |
|  | Define Local Area Network (LAN) | L1/CO1/2M |
|  | **Explain Metropolitan Area Network (MAN)?** | L1/CO1/2M |
|  | Discuss Network Protocols? | L2/CO1/2M |
| **Descriptive Questions (Long)** | | |
|  | a)What is a computer network? Explain PAN,LAN, MAN and WAN with examples? | L2/CO1/10M |
|  | a)Discuss Broadband Access Networks and their significance?  b)Critique the TCP/IP Reference Model? | L2/CO1/10M |
|  | a)What are Mobile and Wireless Access Networks? Provide examples?  b)Describe Content Provider Networks and their role in internet architecture.? | L2/CO1/10M |
|  | a)Compare Network technology from local to global levels?  b) Explain the OSI Reference Model and its layers? | L2/CO1/10M |
|  | a)Explain Transit Networks and their importance in internet connectivity?  b) What are Network Protocols and their design goals? | L2/CO1/10M |
|  | a)Analyze the structure and components of Enterprise Networks?  b)Compare Network technology from local to global levels? | L4/CO1/10M |

**UNIT - II**

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| **S.No.** | **Question** | **[BT Level] [CO][ Marks]** |
| **2 Marks Questions (Short)** | | |
|  | What is Guided Transmission Media? | L1/CO2/2M |
|  | What is Persistent Storage | L1/CO2/2M |
|  | Describe Twisted Pair Cables | L3/CO2/2M |
|  | What are Fiber Optics | L1/CO2/2M |
|  | What is Error Control in the Data Link Layer | L1/CO2/2M |
|  | Define Flow Control in the Data Link Layer | L2/CO2/2M |
|  | What is a Simplex Link-Layer Protocol | L1/C02/2M |
|  | Describe the Sliding Window Protocol | L2/CO3/2M |
|  | What is the Channel Allocation Problem | L1/CO3/2M |
|  | Explain CSMA/CD | L1/CO3/2M |
| **Descriptive Questions (Long)** | | |
|  | Explain the differences between Guided Transmission Media types: Twisted Pairs, Coaxial Cable, and Fiber Optics.? | L1/CO2/10M |
|  | Describe Data Link Layer Design Issues and Services Provided to the Network Layer.? | L2/CO2/10M |
|  | Compare Error-Detecting and Error-Correcting Codes. | L4/CO2/10M |
|  | Explain the principles of Sliding Window Protocols and their importance.? | L2/CO2/10M |
|  | Choose the Multiple Access Protocols: Aloha, Slotted Aloha, CSMA, CSMA/CD, and CSMA/CA. | L3/CO3/10M |
|  | Describe the Classic Ethernet Physical Layer and its components. | L3/CO2/10M |
|  | a)Compare Ethernet Performance: Classic Ethernet, Fast Ethernet, Gigabit Ethernet, and 10Gigabit Ethernet?  b)Analyze the development and advantages of Switched Ethernet. | L2/CO3/10M |
|  | a)Apply the Channel Allocation Problem and its solutions  b)Describe the assumptions for Dynamic Channel Allocation and their impact. | L4/CO2/10M |

**UNIT - III**

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| **S.No.** | **Question** | **[BT Level] [CO][ Marks]** |
| **2 Marks Questions (Short)** | | |
|  | What are Network Layer Design Issues | L1/CO4/2M |
|  | Describe Store-and-Forward Packet Switching | L3/CO4/2M |
|  | What services are provided to the Transport Layer by the Network Layer | L1/CO4/2M |
|  | How is Connection-less Service implemented in the Network Layer | L4/CO4/2M |
|  | How is Connection-Oriented Service implemented in the Network Layer | L4/CO4/2M |
|  | Compare Virtual-Circuit and Datagram Networks | L4/CO4/2M |
|  | What is the Shortest Path Algorithm | L1/CO4/2M |
|  | Explain the Flooding Routing Algorithm | L2CO4/2M |
|  | What is Distance Vector Routing | L1/CO4/2M |
|  | Describe the role of IP Addresses in the Network Layer. | L4/CO4/2M |
| **Descriptive Questions (Long)** | | |
|  | Define switching? Explain Virtual circuit switching techniques? | L3/CO4/12M |
|  | Compare Virtual-Circuit and Datagram networks? | L4/CO4/12M |
|  | a)Explain briefly about the shortest path routing algorithm?  b)Discuss the following: i) Broadcast Routing ii) Multicast Routing? | L2/CO4/12M |
|  | Compare IPv4 and IPv6 protocols. | L4/CO4/12M |
|  | a)Explain Link State Routing with an example  b) Distance Vector Routing algorithm with suitable example. | L2/CO4/12M |
|  | Explain routing algorithms in a single network with examples | L2/CO4/12M |
|  | a)What is the Optimality Principle in routing, and how is it applied?  b) Explain the process of Packet Fragmentation and Reassembly | L2/CO4/12M |

**UNIT - IV**

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| **S.No.** | **Question** | **[BT Level] [CO][ Marks]** |
| **2 Marks Questions (Short)** | | |
|  | What is the Transport Service? | L1/CO5/2M |
|  | What services are provided to the upper layers by the Transport Layer | L1/CO5/2M |
|  | What are Transport Service Primitives | L1/CO5/2M |
|  | What are Berkeley Sockets | L1/CO5/2M |
|  | Give an example of socket programming | L3/CO5/2M |
|  | What are the elements of transport protocols? | L2/CO5/2M |
|  | What is multiplexing in the context of transport protocols | L3/CO5/2M |
|  | What is the purpose of congestion control in the transport layer | L2/CO5/2M |
|  | What is the UDP segment header | L2/CO5/2M |
|  | Describe TCP connection establishment | L2/CO5/2M |
| **Descriptive Questions (Long)** | | |
|  | a)Discuss the transport service and its importance in networking? | L2/CO5/12M |
|  | Explain the services provided by the Transport Layer to the upper layers.. | L2/CO5/12M |
|  | What are Transport Service Primitives? Provide examples. | L1/CO5/12M |
|  | Describe Berkeley Sockets and their role in network programming. | L4/CO5/12M |
|  | Provide an example of socket programming: An Internet File Server. | L4CO5/12M |
|  | Explain the elements of transport protocols: Addressing, Connection Establishment, Connection Release, Error Control, and Flow Control. | L2/CO5/12M |
|  | Discuss congestion control and its significance in the transport layer. | L3/CO5/12M |
|  | Compare UDP and TCP protocols in the transport laye | L4/CO5/12M |

**UNIT - V**

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| **S.No.** | **Question** | **[BT Level] [CO][ Marks]** |
| **2 Marks Questions (Short)** | | |
|  | What is the role of a User Agent in electronic mail? | L2/CO6/2M |
|  | Describe the standard message format for electronic mail | L4/CO6/2M |
|  | What is message transfer in electronic mail | L1/CO6/2M |
|  | Explain the concept of final delivery in electronic mail | L2/CO6/2M |
|  | What is a static web object | L1/CO6/2M |
|  | How do dynamic web pages differ from static web pages? | L4/CO6/2M |
|  | What is the purpose of HTTPS in web communication | L1/CO6/2M |
|  | Describe the role of Content Delivery Networks (CDNs)? | L2/CO6/2M |
|  | What is a peer-to-peer (P2P) network? | L1/CO6/2M |
|  | Outline the key milestones in the evolution of the internet | L4/CO6/2M |
| **Descriptive Questions (Long)** | | |
|  | Describe the architecture and services of electronic mail. | L2/CO6/12M |
|  | Explain the role and functions of the User Agent in electronic mail? | L1/CO6/12M |
|  | Differentiate between static web objects and dynamic web pages. | L4/CO6/12M |
|  | Describe the role of Content Delivery Networks (CDNs) and their benefits? | L2/CO6/12M |
|  | Outline the evolution of the internet and key milestones. | L3/CO6/12M |

**Signature of the Staff:A.ramesh**

**Signature of Department Academic Committee Member 1:**

**Signature of Department Academic Committee Member 2:**

**Signature of Department Academic Committee Member 3:**