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| LOGO.jpg | **GEETHANJALI INSTITUTE OF SCIENCE & TECHNOLOGY**  (**AN AUTONOMOUS INSTITUTION**)  **(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)**  **(Accredited by NAAC with “A” Grade, NBA (EEE,ECE &ME) & ISO9001:2008CertifiedInstitution)** |
| **QUESTION BANK(DESCRIPTIVE)**  **Subject Name with Code: Computer Networks (22A0520T) Course & Branch:** B.Tech & CSE & CSE (Data science)  **Year& Semester: II B.Tech I Semester**  **Regulation: RG22** | |

# UNIT - I

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| **S.No.** | **Question** | **[BT Level] [CO][ Marks]** |
| **2 Marks Questions (Short)** | | |
| **1.** | Define computer networks? | L1, CO1,2M |
| **2.** | List out layers of OSI &TCP/IP model? | L1, CO1,2M |
| **3.** | What are the unguided media for communication? | L1, CO1,2M |
| **4.** | Explain different types of networks. | L1, CO1,2M |
| **5.** | Explain Network topologies. | L1, CO1,2M |
| **Descriptive Questions (Long)** | | |
| **6.** | What is TCP/ IP& OSI reference model? & Explain it? With a neat sketch? | L2, CO1,12M |
| **7.** | What is meant by computer networks? & explain its network typologies? | L2, CO1,12M |
| **8.** | Explain the Transmission media of Physical layer | L2, CO1,12M |
| **9.** | Differentiate between Guided Media and Unguided Media in detail? With a neat sketch? | L3, CO1,12M |
| **10.** | Explain different types of networks? And it’s reference models in computer  Networks? | L2, CO1,12M |
| **11.** | What is physical layer? Explain briefly about guided and unguided medium? | L2, CO1,12M |
| **12.** | Compare and Contrast between TCP/IP & OSI Reference Model. | L3, CO1,12M |

**UNIT - II**

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| **S.No.** | **Question** | **[BT Level] [CO][ Marks]** |
| **2 Marks Questions (Short)** | | |
| **1.** | What is simplex protocol in data link layer? | L1, CO2,2M |
| **2.** | List out protocol in noiseless channel of data link layer? | L1, CO2,2M |
| **3.** | Define protocol? | L1, CO2,2M |
| **4.** | Write about sliding window protocol? | L1, CO2,2M |
| **5.** | What is mean by Data link layer? | L1, CO2,2M |
| **Descriptive Questions (Long)** | | |
| **6.** | Explain different types of protocols in data link layer? | L2, CO2,12M |
| **7.** | Define error correction? And briefly explain about the data link layer? | L2, CO2,12M |
| **8.** | Define error detection? And explain design issues of data link layer? | L2, CO2,12M |
| **9.** | Explain about sliding window protocols? | L2, CO2,12M |
| **10.** | 1. Write a short note on stop &wait protocol? 2. Write a short note on GO -Back ARQ used in real time Applications? | L2, CO2,12M |
| **11.** | What is a protocol? & Briefly explain the Noisy and Noiseless Channels? | L2, CO2,12M |
| **12** | Given data frame is 100111001 and the polynomial is X3+X+1 then find the CRC? | L2, CO2,12M |

# UNIT - III

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| **S.No.** | **Question** | **[BT Level] [CO][ Marks]** |
| **2 Marks Questions (Short)** | | |
| **1.** | What is mean by Network layer? | L1, CO3,2M |
| **2.** | What is mean by routing algorithm? | L1, CO3,2M |
| **3.** | Define Congestion control of Data packets? | L1, CO3,2M |
| **4.** | What is mean by Internetworking? | L1, CO3,2M |
| **5.** | Define Protocol and its properties? | L1, CO3,2M |
| **6.** | What is mean by connection Oriented Services? | L1, CO3,2M |
| **Descriptive Questions (Long)** | | |
| **7.** | Explain Some of the Design issues of network layer in Connection oriented Services? | L2, CO3,12M |
| **8.** | Define Routing process? &Briefly Explain its Forwarding Routing Table with  an Example? | L2, CO3,12M |
| **9.** | What is Congestion control? Explain how Congestion Occurred while sending the Data packets? | L2, CO3,12M |
| **10.** | Define internetworking? Explain its process in detail with a neat sketch? | L2, CO3,12M |
| **11.** | Explain Some of the Design issues of network layer in Connection less Services? | L2, CO3,12M |
| **12.** | 1. Write a short note on Features of Network layer? 2. write down the Features of Network Layer? Explain in detail? | L2, CO3,12M |
| **13.** | How network layer plays a key role while providing internet to user? Justify It? | L2, CO3,12M |
| **14.** | Write a Short note on Congestion control algorithms? Explain with a neat sketch? | L2, CO3,12M |

**UNIT - IV**

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| **S.No.** | **Question** | **[BT Level] [CO][ Marks]** |
| **2 Marks Questions (Short)** | | |
| **1.** | List out the Features of Transport Layer? | L1, CO4,2M |
| **2.** | What is mean by connection Oriented Services in transport layer? | L1, CO4,2M |
| **3.** | What are the transport layer protocols? define it? | L1, CO4,2M |
| **4.** | List out the elements of Transport layer protocols? | L1, CO4,2M |
| **5.** | What are the services of transport layer? | L1, CO4,2M |
| **6.** | What is mean by connection less Services in transport layer? | L1, CO4,2M |
| **Descriptive Questions (Long)** | | |
| **7.** | Define Transport layer?&Explain some of the Design issues of the layer while Sending and receiving? | L2, CO4,12M |
| **8.** | Explain the Services of the transport layer? Briefly explain with a neat sketch? | L2, CO4,12M |
| **9.** | Explain the service primitives of the Transmission control protocol over the network? | L2, CO4,12M |
| **10.** | Define a Protocol?& Explain How Elements of Transport layer protocol are used in the network? | L2, CO4,12M |
| **11.** | Define TCP?&Explain Briefly about the Internet transport protocols in TCP with a neat sketch? | L2, CO4,12M |

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| **12.** | Explain the service primitives of the User data gram protocol over the network? | L2, CO4,12M |
| **13.** | Define UDP?&Explain Briefly about the Internet transport protocols in UDP?  with a neat sketch? | L2, CO4,12M |
| **14.** | 1. Write a short note on flow control &Buffering with a neat sketch? 2. Write a short note on flow Multiplexing &Crash Recovery with a neat sketch? | L2, CO4,12M |

# UNIT - V

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| **S.No.** | **Question** | **[BT Level] [CO][ Marks]** |
| **2 Marks Questions (Short)** | | |
| **1.** | What is mean by Application layer? | L1, CO5,2M |
| **2.** | What is mean by Physical layer? | L1, CO5,2M |
| **3.** | Define network Security? | L1, CO5,2M |
| **4.** | Define SMTP Protocol? | L1, CO5,2M |
| **5.** | What is mean by Network layer? | L1, CO5,2M |
| **6.** | What is MQTT Protocol? | L1, CO5,2M |
| **Descriptive Questions (Long)?** | | |
| **7.** | Define DNS protocol?&Explain how it can be used in Various types of Devices &Applications | L2, CO5,12M |
| **8.** | Write a short note on E-mail &Buffering with a neat sketch? | L2, CO5,12M |
| **9.** | What is SMTP protocol ?&Explain how it can be used in Various types of Devices &Applications? | L2, CO5,12M |
| **10.** | Write a short note on Email Services protocols over the network with a neat sketch? | L2, CO5,12M |
| **11.** | Differentiate Between Domain Name System & File Transfer protocol in detail? with a neat sketch? | L3, CO5,12M |
| **12.** | Define MQTT Protocol? &Explain how it can be used in Various Applications? | L2, CO5,12M |
| **13.** | What is FTP protocol?&Explain how it can be used in Various types of Devices &Applications? | L2, CO5,12M |
| **14.** | Write a short note on Network Security protocols over the network with a neat sketch? | L2, CO5,12M |
| **15.** | Differentiate Between Simple Mail Transfer protocol & Message Queue telemetry transfer protocol in detail? with a neat sketch? | L3, CO5,12M |

Signature of the Staff:

Signature of Department Academic Committee Member 1:

Signature of Department Academic Committee Member 2:

Signature of Department Academic Committee Member 3: