Subject : Computer Networks

Course :B.Tech. **Branch :** CSE –A B **Year:**III **Semester :**II

QUESTION BANK
(Academic Year 2018-19)

UNIT-1 : INTRODUCTION

1. a. Write a short note on ARPANET. [5 Marks]
   b. Explain about Network topologies. [5 Marks]

2. What are the different layers of the OSI model? What are the functions of each layer. [10 Marks]

3. Explain the protocol stack of TCP/IP. [10 Marks]

4. a. Write a short note on Novel Network. [5 Marks]
   b. Explain about Different types of Networks. [5 Marks]

5. a. Write the Difference between OSI and TCP/IP Layers. [5 Marks]
   b. List the difference between logical , physical and port addresses. [5 Marks]

UNIT-II : PHYSICAL LAYER

1. a.What are the roles of a physical layer. [5 Marks]
   b. Define Fourier Analysis. [5 Marks]

2. What is Multiplexing, Discuss about different types of Multiplexing. [10 Marks]

3. a. Define Un-Guided Media. [5 Marks]
   b. Briefly describe Digital Modulation. [5 Marks]

4. Explain about Guided Media with neat diagrams. [10 Marks]

5. a. Explain Difference between TDM Code Division Multiplexing. [5 Marks]
   b. What are Data Link Layer Design Issues. [5 Marks]

UNIT-III : DATA LINK LAYER

1. What is the need for framing? What are the different framing techniques [10 Marks]
2. Explain the working of Go-back-N ,selective Repeat ARQ protocols with Examples. [10 Marks]
3. How CRC is used for error detection? Write algorithm for it. Explain with an example. [10 Marks]
4. Explain the frame format and working of HDLC protocol. [10 Marks]
5. Explain about Elementary Data Link Layer Protocols. [10 Marks]

6. Write about Error detection and Error correction [10 Marks]

UNIT-IV : THE MEDIUM ACCESS CONTROL SUB LAYER

1. What is pure ALOHA and slotted ALOHA? Mention the advantages ALOHA [10 Marks]
2. What is CSMA? Explain CSMA/CD CSM A]/CA Methods [10 Marks]
3. Explain about Ethernet Types Ethernet Frame Format. [10 Marks]
4. Explain basic IEEE 802.11 Ethernet MAC Data Frame. [10 Marks]
5. Explain the architecture of IEEE 802.15. [10 Marks]

UNIT-V : NETWORK LAYER

1. a. What are the Services provided by Network layer to the Transport layer. [5 Marks]
   b. Compare Virtual-Circuit and Datagram Subnets. [5 Marks]
2. a. What is the Optimality Principle. Explain count-to-infinity problem. [5 Marks]
   b. Explain shortest path routing distance vector routing algorithms with an example. [5 Marks]
3. a. Explain IP Addressing. [5 Marks]
   b. Write about congestion control techniques. [5 Marks]
4. a. What is routing ? Explain hierarchical routing algorithm . [5 Marks]
   b. Explain broadcast routing. [5 Marks]
5. a. Explain about Traffic Aware Routing ,Admission Control, Load Shedding. [5 Marks]
   b. Explain general principals of congestion Prevention Policies. [5 Marks]

VI : TRANSPORT LAYER APPLICATION LAYER

1. a. Explain in detail about TCP. [7 Marks]
   b. Explain UDP architecture in detail. [3Marks]
2. a. Explain about Difference between TCP UDP. [5 Marks]
   b. Write about TCP Connection Management. [5 Marks]
3. Write in detail about E-Mail architecture. [10 Marks]
4. a. Explain briefly about DNS. [10 Marks]
5. a . Write about FTP.. [5 Marks]
   b. Write a short note on WWW. [5 Marks]