**SWARNANDHRA COLLEGE OF ENGINEERING & TECHNOLOGY**

DEPARTMENT OF MASTER OF COMPUTR APPLICATIONS

**III SEMESTER**

SUBJECT: Computer Networks Subject Code: 16MC3T02

Regulation: R16

UNIT-I

 1) Discuss the ISO - OSI layered model, bringing out the functionalities of each layer

2) Summarize the various layers of TCP /IP model. Also, list and explain the protocols used in each layer

3) What is meant by Network Topology? Draw and Explain various Topologies of computer Networks Identify the five components of a data communication system

 4) Write about full-duplex ,half-duplex and simplex transmission modes

 5) Why are protocols needed? Explain 6) Explain categories of networks

UNIT-II

1) Explain about Error detection and Error correction

2) Write about Hamming distance and find the minimum Hamming distance of the following d (000,011), d(000,101) , d(000,110) ,d(011,101), d(011,110) , d(101,110)

3) Write about Simple parity check code ( Encoder and Decoder for parity-check code)

4) Write about CRC encoder and decoder

 5) Given the data word 1010011010 and the divisor 10111

 a) Show the generation of the code word at the sender site

 b) Show the checking of the code word at the receiver site

6) Construct transmitted frame for a given data string 1101011011 and generator 10011 frame using CRC

 7) What is meant by hamming distance? Explain Hamming code error correction technique with example.

 8) Explain the following protocols in detail

 a)simplex protocol b) Stop and Wait ARQ

UNIT-3

 1. What is collision detection? Describe CSMA/CD and CSMA/CA Protocol in detail

2. Define MAC? Explain pure ALOHA when compared to slotted

3. Demonstrate the following CSMA Protocols

a) 1-Persistant CSMA b) Non-Persistent CSMA c) P-Persistent CSMA

UNIT-4

1)Differentiate between class full addressing and class less addressing in IPV4

2) Define NAT? Explain NAT implementation procedure in detail

3) What is TCP? Draw and explain TCP segment and its features

 4) Explain IPv6 address structure and address space in detail

5. Explain the following address mapping protocols in detail a) BOOTP b) DHCP

UNIT-5

1.) Define ARP? Explain the procedure for mapping logical address to physical address using ARP Protocol

 2) Define UDP? Draw and Explain UDP datagram format, operations and uses

 3) Explain about Quality of Service.

 4) Leaky bucket and token bucket algorithm

5) Explain TCP connection management procedure in detail

UNIT-6

1 .Write about WWW and HTTP.

2. What is FTP? Describe the functions of the two FTP connections

3. Describe the three FTP transmission Modes in detail

4. What is meant by name space? Explain the design of Domain Name Space in detail.

5. Explain about TELNET and SMTP.