

Roll No:

Hi-Tech Institute of Engineering & Technology
DEPARTMENT OF COMPUTER
APPLICATION
Course- MCA.

(SEM-3) ODD SEMESTER Model paper- 1

Subject Code: KCA-303

Subject Name: COMPUTER NETWORK

Time: 3: 00 Hours

Total Marks: 100

Note: 1. Attempt all Sections.

SECTION-A

1. Attempt all question in brief.

2x 10 = 20

Q.No	Question	Marks	CO
a.	List out components of data communication system.	2	1
b.	Discuss various transmission modes.	2	1
c.	Discover how many times a packet has to visit the network layer and data link layer during a transmission from S to D? Assume that Source S and Destination D are connected through an intermediate router R.	2	2
d.	Discuss CSMA/CD.	2	2
e.	Discuss Dynamic Host Configuration Protocol(DHCP).	2	3
f.	Explain Round-Trip Time (RTT).	2	3
g.	Describe sockets with respect to communication system.	2	4
h.	What is three-way handshaking?	2	4
i.	Discuss role of SMTP in email communication system.	2	5
j.	Define cookies with respect to computer networks.	2	5

SECTION-B

2. Attempt any three of the following:

10x3 =30

Q.No	Question	Marks	CO
a.	Justify the statement "TCP is reliable than UDP". Also elaborate format for TCP packet..	10	1
b.	A bit stream 10011101 is transmitted using the standard CRC method. The generator polynomial is $x^3 + 1$. Show the actual bit string transmitted. Suppose the third bit from the left is inverted during transmission. Show that this error is detected at the receiver's end.	10	2
c.	What is cyclic code? Explain cyclic redundancy check(CRC CODE)?	10	3
d.	Write short notes on any two: (i) Domain Name Systems (ii) Telnet (iii) FTP	10	4
e.	Discuss various computer network topologies with suitable diagrams	10	5

SECTION-C

3. Attempt any ONE part of the following:

10x1 = 10

Q.No	Question	Marks	CO
a.	Discuss various types of transmission media with their applications areas.	10	1
b.	Explain responsibilities each layer in ISO/OSI Model with suitable diagrams.	10	1

4. Attempt any ONE part of the following:

10x1 = 10

Q.No	Question	Marks	CO
a.	Explain Selective Reject and Go-Back-N-ARQ with reference to sliding window protocol.	10	2
b.	What do you mean error handling at data link layer? Discuss hamming code with suitable example	10	2

5. Attempt any ONE part of the following:

10x1 = 10

Q.No	Question	Marks	CO
a.	What is need of IP address? Discuss Classful addressing in IPv4.	10	3
b.	Discuss IPv4 packet format with suitable diagram the at network layer.	10	3

6. Attempt any ONE part of the following:

10x1 = 10

Q.No	Question	Marks	CO
a.	Differentiate between Open Loop and Closed Loop Congestion Control at transport layer. Explain various traffic shaping algorithms.	10	4
b.	Differentiate between Open Loop and Closed Loop Congestion Control at transport layer. Explain various traffic shaping algorithms.	10	4

7. Attempt any ONE part of the following:

10x1 = 10

Q.No	Question	Marks	CO
a.	Define network security and discuss various network security services in computer networks.	10	5
b.	Discuss E-mail architectures with its components.	10	5

