SWARNANDHRA
COLLEGE OF ENGINEERING AND TECHNOLOGY
(AUTONOMOUS)

SEETHARAMPURAM, NARSAPUR-534280, WG- DT, AP

DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

TEACHING PLAN

Course Code	Course Title	Year/Sem	Branch	Contact Hrs/Week	Academic Year
20MC3L03	NETWORK SECURITY LAB	II/III	MCA	3	2021-2022

COURSE OUTCOMES (CO): At the end of the course, Student will be able to

	Course Outcomes	Knowledge Level (K)#
CO1	Implement Data Link layers methods	K3
CO2	Demonstrate Networking programs	K3
CO3	Apply the knowledge of symmetric cryptography to implement encryption and decryption using Ceaser Cipher, Substitution Cipher, Hill Cipher	K3
CO4	Demonstrate the different algorithms like DES, BlowFish, and Rijndael, encrypt the text "Hello world" using Blowfish Algorithm.	K2
CO5	Analyze and implement public key algorithms like RSA, Diffie-Hellman Key Exchange mechanism, the message digest of a text using the SHA-1 algorithm	K4

S.No	Program	Proposed Number of Labs
1.	Implement the data link layer farming methods such as character stuffing and bit stuffing.	1
2.	Implement on a data set of characters the three CRC polynomials – CRC 12, CRC 16 and CRC CCIP.	1
3.	Implement Dijkstra's algorithm to compute the Shortest path thru a graph.	1
4.	Take an example subnet graph with weights indicating delay between nodes. Now obtain Routing table art each node using distance vector routing algorithm.	1

5	Take an example subnet of hosts. Obtain broadcast tree for it.	1
6	Write a C program that contains a string (char pointer) with a value \Hello World'. The program should XOR each character in this string with 0 and displays the result.	1
7.	Write a C program that contains a string (char pointer) with a value \Hello World'. The program should AND or and XOR each character in this string with 127 and display the result	1
8.	Write a Java program to perform encryption and decryption using the following algorithms: a) Ceaser Cipher b) Substitution Cipher c) Hill Cipher	1
9.	Write a Java program to implement the DES algorithm logic	1
10.	Write a C/JAVA program to implement the BlowFish algorithm logic	1
11.	Write a C/JAVA program to implement the Rijndael algorithm logic.	1
12	Write a Java program to implement RSA Algorithm	1
13.	Implement the Diffie-Hellman Key Exchange mechanism using HTML and JavaScript. Consider the end user as one of the parties (Alice) and the JavaScript application as other party (bob).	1
14.	Calculate the message digest of a text using the SHA-1 algorithm in JAVA.	1

Faculty

Head of the Department

Principal