SWARNANDHRA
COLLEGE OF ENGINEEERING AND TECHNOLGY
(AUTONOMOUS)
SEETHARAMPURAM, NARSAPUR-534280, WG- DT, AP
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

TEACHING PLAN

Course Code	Course Title	Year / Sem.	Branch	Contact Hr/ week	Academic Year	Date of Commencement of Semester
24MC2L02	Networks and Security Lab	I/II	MCA	3	2025-26	17.02.2025

Course Outcomes (COs): At the end of the course, student will be able to

Course Outcomes		Knowledge Level (K)#
CO1	Implement data link layer framing methods like character and bit stuffing in C.	**K3**
CO2	Develop a C program to compute CRC checksums using CRC-16 and CRC-CCITT	**K3**
CO3	Implement Dijkstra's algorithm in C or Java to find the shortest path in a graph.	**K3**
CO4	Calculate and present routing tables using the distance vector routing algorithm.	**K4**
CO5	Write Java programs for encryption and decryption using various algorithms and key exchange mechanisms	**K6**

S.No	EXERCISE/PROGRAM	Proposed Number Labs
	EXERCISE-1	
1	Implement the data link layer farming methods such as character stuffing and bit stuffing.	1
	EXERCISE-2	
2	Implement on a data set of characters the three CRC polynomials – CRC 12, CRC16 and CRCCCIP.	1
	EXERCISE-3	

3	Implement Dijkstra's algorithm to compute the Shortest path through a graph.	1
EXERCISE-4		
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
EXERCISE-5		
5	Take an example subnet of hosts. Obtain broadcast tree for it	1
EXERCISE-6		
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
EXERCISE-7		
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
EXERCISE-8		
8	Write a Java program to perform encryption and decryption using the following algorithms: a) Ceaser Cipher b) Substitution Cipher c) Hill Cipher	1
EXERCISE-9		
9	Write a Java program to implement the DES algorithm logic	1
EXERCISE-10		
10	Write a C/JAVA program to implement the BlowFish algorithm logic	1
EXERCISE-11		

11	Write a C/JAVA program to implement the Rijndael algorithm logic.	1
EXERCISE-12		
12	Using Java Cryptography, encrypt the text "Hello world" using BlowFish.	1
EXERCISE-13		
13	Create your own key using Java key tool. a) Write a Java program to implement RSA Algorithm b) Write a Java program to implement Public key Algorithm like ElGamal c) Implement the Diffie-Hellman Key Exchange mechanism using HTML	1
Lab Internal Examination		

P. Venkanna.

Faculty

Head of the Department

Principal