

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 Hr/ week	Academic Year	Date of Commencement of Semester
24MC2L02	Networks and Security Lab	I/II	MCA	3	2025-26	17.02.2025

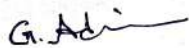
Course Outcomes (COs): At the end of the course, student will be able to

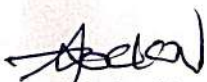
Course Outcomes		Knowledge Level (K)#
CO1	Implement data link layer framing methods like character and bit stuffing in C.	K3
CO2	Develop a C program to compute CRC checksums using CRC-16 and CRC-CCITT	K3
CO3	Implement Dijkstra's algorithm in C or Java to find the shortest path in a graph.	K3
CO4	Calculate 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 framing 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		


Faculty


Head of the Department


Principal