SCHEME OF COURSE WORK

Course Details:

Course Title	: **Network Security and Data Mining Lab**		
Course Code	**:** 13CS2116	**L P C**	**0 3 2**
Programme:	**: M.Tech.**		
Specialization:	**: CSE**		
Semester	**:II Semester**		
Prerequisites	**: DBMS**		
Courses to which it is a prerequisite	**: Text Mining**		

Course Outcomes (COs):

1	Apply number theory to cryptography and learn SQL server
2	Write programs to implement and text encryption algorithms and learn WEKA software
3	Write code to implement and test Linear Congruential algorithm, Rabin-Miller Primarily testing algorithm, Euclid algorithm, RSA algorithm , DES algorithm, Apriori algorithm
4	Write code to determine the private key of the user given Public key parameters and learn Rosetta software
5	Design a method to configure a mail agent to support Digital Certificates and create a database using Rosetta software

Program Outcomes (POs):

A graduate of M.Tech CSE Specialization will be able to

1	Graduates will demonstrate knowledge in core subjects of Computer Science and Engineering and the ability to learn independently.
2	Graduates will demonstrate the ability to design a software application or process that meets desired Specifications within the constraints.
3	Graduates will demonstrate the ability to solve problems relevant to industries and research organizations.
4	Graduates will develop innovative thinking capabilities to promote research in core and trans-disciplinary areas.
5	Graduates will be familiar with modern engineering software tools and equipment to analyze computer science and engineering problems.
6	Graduates will demonstrate the ability to collaborate with engineers of other disciplines and work on projects requiring multidisciplinary skills.
7	Graduates will acquire project management and finance control abilities.
8	Graduates will be able to communicate effectively in both verbal and written forms.
9	Graduates will engage themselves in lifelong learning in the context of rapid technological changes in computer science and engineering
10	Graduates will demonstrate an appreciation of ethical and social responsibilities in professional and societal

	context.
11	Graduates will demonstrate the ability in carrying out tasks independently and by reflective learning.

Course Outcome versus **Program Outcomes:**

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	S	S	S	S	S	S					
CO2	S	S	S	S	S	S					M
CO3	S	S	S	S	S	S					M
CO4	S	S	S	S	S	S					M
CO5	S	S	S	S	S	S					M

S - Strongly correlated, *M* - *Moderately* correlated, *Blank* - *No correlation*

Assessment Methods:	Assignment / Quiz / Seminar / Case Study / Mid-Test / End Exam

Teaching-Learning and Evaluation

Week	TOPIC / CONTENTS	Course Outcomes	Teaching-Learning Strategy	Assessment Method & Schedule
1	Implement the encryption and decryption of 8-bit data using Simplifed DES Algorithm(Created by Prof.Edward Schaefer) in C.	CO-1	Lecture / Discussion Problem solving	Mid-Test 1 (Week 9)
2	Write a program to beak the above DES coding	CO-2	Lecture / Discussion Problem solving	Mid-Test 1 (Week 9)
3	Implement Linear Congruential Algorithm to generate 5 pseudo-random numbers in C.	CO-3	Lecture / Discussion Problem solving	Mid-Test 1 (Week 9)
4	Implement Rabin-Miller Primality Testing Algorithm in C.	CO-3	Lecture / Discussion Problem solving	Mid-Test 1 (Week 9)
5	Implementation of multi dimensional data model using oracle warehouse builder/SQL Server.	CO-1	Lecture / Discussion Problem solving	Mid-Test 1 (Week 9)
6	Introduction to weka:Al the features of weka software will be explored in this assignment. Implement of the following programs in C/C++.	CO-2	Lecture / Discussion Problem solving	Mid-Test 1 (Week 9)
7	Implementation of Apriori algorithm.	CO-3	Lecture / Discussion Problem solving	Mid-Test 1 (Week 9)
8	Implementation of FP tree algorithm.	CO-3	Lecture / Discussion Problem solving	Mid-Test 1 (Week 9)
9.	Implement the Euclid Algorithm to generate the GCD of an array of 10 integers in C.	CO-3	Lecture / Discussion Problem solving	Mid-Test 2 (Week 18)
10	a)Implement RSA algorithm for encryption and decryption in c. b)In an RSA System,the public key of a given user is e=31,n=3599.write a program to find private key of the User.	CO-4	Lecture / Discussion Problem solving	Mid-Test 2 (Week 18)
11	Configure a mail agent to support Digital Certificates, send a mail and verify the correctness of this system using the configured parameters.	CO-5	Lecture / Discussion Problem solving	Mid-Test 2 (Week 18)
12	Configure SSH(Secure Shell) and send/receive	CO-5	Lecture / Discussion	Mid-Test 2

	a file on this connection to verify the correctness of this system using the configured parameters.		Problem solving	(Week 18)
13	Configure a firewall to block the following for 5 minutes and verify the correctness of this system using the configured parameters. (a)Two neighborhood IP addresses on your LAN. (b)All ICMP requests. (c)All TCP SYN Packets.	CO-5	Lecture / Discussion Problem solving	Mid-Test 2 (Week 18)
14.	Implementation of Naïve Bayesian classification algorithm.	CO-4	Lecture / Discussion Problem solving	Mid-Test 2 (Week 18)
15	Introduction to ROSETTA: All the features of Rosetta software.	CO-4	Lecture / Discussion Problem solving	Mid-Test 2 (Week 18)
16	Generate lower and upper boundary values for a database using Rosetta.	CO-4	Lecture / Discussion Problem solving	Mid-Test 2 (Week 18)
17	Classify a database using Rosetta for an input excel database file.	CO-5	Lecture / Discussion Problem solving	Mid-Test 2 (Week 18)
18	Generate the decision rules and partition an input database using Rosetta.	CO-5	Lecture / Discussion Problem solving	Mid-Test 2 (Week 18)
19	Mid Test 2			
20	End Exam			

Faculty Member