SVKM's Mithibai College of Arts, Chauhan Institute of Science & Amrutben Jivanlal College of Commerce & Economics (AUTONOMOUS)

Program: Bachelor of Science (Computer Science)		**Semester: V**	
Course: Computer Science Practical 12 (Information and Network Security and Optimization Technique)		**Course Code: USMACSP534**	
Teaching Scheme		**Evaluation Scheme**	
Practical (Hours per week)	**Credit**	**Continuous Assessment (CA)**	**Semester End Examinations (SEE)**
6	3	20%	80%

List of Practical: Information and Network Security (Languages use as Python / java)	
Sr. No.	**Topic**
1	Write programs to implement the following Substitution Cipher Techniques: - CaesarCipher - Monoalphabetic Cipher
2	Write programs to implement the following Substitution Cipher Techniques: - VernamCipher - Playfair Cipher
3	Write programs to implement the following Transposition Cipher Techniques: - Rail Fence Cipher - Simple Columnar Technique
4	Write program to encrypt and decrypt strings using - DES Algorithm - AES Algorithm
5	Write a program to implement RSA algorithm to perform encryption / decryption of agiven string.
6	Write a program to implement the Diffie-Hellman Key Agreement algorithm to generate symmetric keys.
7	Write a program to create worm.
8	Write a program to create a virus
9	Write a program to generate SHA-512
10	Write a program to calculate HMAC-SHA1 Signature

List of Practical: Optimization Technique	
Sr. No.	**Topic.**
1	LPP by graphical minimization/ maximization of LPP
2	LPP by simplex (<=)

3	LPP by simplex using big M method
4	Transportation problems using NWCR, LCM and VAM
5	Optimization of transportation using MODI
6	Assignment problem
7	Two Phase simplex method
8	Converting primal to dual and solve by simplex
9	Game theory
10	Bisection Method, The Newton-Raphson Method