Title of Course: Block Chain Security Assistant

Class:B.VocII(Soft.Dev) | **Skill Level: 7**

Department of B.Voc(Software Development)

1. Title: **Block Chain Security Assistant**

2. Year of implementation:2020

Structure of Course

Skill Level	Theory Hours	Practical Hours	Total Hours	Credits	No. of students in batch
7	20	30	50	03	30

Syllabus

Learning Objectives:

- Learn the principles of modern cryptography and Network Security.
- Understand constructions of various cryptographic objects.
- Learn about how to maintain the Confidentiality, Integrity and Availability of a data

Theory Syllabus (20 Hrs.)

UNIT-I INTRODUCTION TO CRYPTOGRAPHY AND BLOCK CIPHERS

Security attacks, Security Mechanisms, A Model for Network Security Model, Classical Encryption Techniques, Symmetric Cipher Model, Substitution Techniques, Transposition Techniques, Rotor Machines, Steganography,Block Cipher Design Principles.

UNIT-II NETWORK SECURITY APPLICATION

Authentication Applications: Kerberos - X.509 Authentication Service - Electronic Mail Security, Web Security, Public Key Infrastructure, Pretty Good Privacy, S/MIME, IP Security Overview, IP Security architecture, Authentication Header, Encapsulating Security Payload.

- **List of Experiments: ----------24 hr.**

PracticalList:

1. Practical on Block Cipher Modes.
2. Working of Hash Functions.
3. What are Message Authentication Codes?
4. How to recognize Secure Channel.
5. Working of RSA.
6. Introduction to Cryptographic Protocols.
7. How Negotiation Protocol works.
8. How to do Data Encryption and Decryption

- **Project/ Field Visits/ Industrial Visit----------06 hr.**

Learning Outcomes:

After successful completion of the course,

- Provide security of the data over the network.
- Protect any network from the threats in the world.
- Know significant portion of current cryptography research.
- Understand security protocols for protecting data on networks.

Recommended Books:

1. William Stallings, "Cryptography and Network security Principles and Practices"Pearson Education, 4th ed.,

2. Wade Trappe, Lawrence C Washington, " Introduction to Cryptography with coding theory"

BOS Sub Committee:

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Expert:

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