**Discipline**: Computer Engg.

**Semester**: 6th

**Subject**: Network Security

**Lesson Plan Duration:** 16 weeks

Work Load (Lecture/Practical) per week (in hours): 03 Hours (lectures) 03 Hours per group (Practical’s)

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| **Week** | **Theory** | | **Practical** | |
| **Lecture**  **day** | **TOPIC (including assignment/test)** | **Day** | **TOPIC** |
| 1st | 1st | Need for securing a network | 1 | Installation of antivirus software |
| Principles of security | 2 |
| 2nd | Types of altacks |
| 3rd | Introduction to cyber crime |
| 2nd | 1st | Cyber law indian perspective(IT act 2000and amended  2008) | 1 | Installation of antivirus software |
| 2nd | Cyber ethics | 2 |
| Ethical hacking |
| Assignment; Cyber crime and cyber law in indian  pesspective. |
| 3rd | Whatis hacking ? |
| Attacker,phreaker etc. |  |
| 3rd | 1st | Test of ch 1(introduction) | 1 | Installation of Firwall |
| 2nd | Basic Encryption and Decryption | 2 |
| 3rd | Symmetric &asymmetric key Gyptogtaphy |
| 4th | 1st | Overview of DES | 1 | Installation of Firwall |
| RSA | 2 |
| 2nd | PGP |
| Inlriduction to hashing |
| 3rd | MD5 |
| SSW |
| 5th | 1st | SSH | 1 | Study of firwall parameters |
| HTTPS | 2 |
| Assignment:-Encryption and Decryption Methods |
| 2nd | Digital Signature |
| 3rd | Digital certification |
| 6th | 1st | Ipsec | 1 | Study of firwall parameters |
| Assignment- Various hashing | 2 |
| 2nd | Revision and Problem solving of chapter -2 |
| 3rd | Test-chapter2 (Securing data over Internet) |
| 7th | 1st | Definitions(virus,Worms and tryans) | 1 | Writing Program in c to encrypt using XOR key |
| Introduction to Preventive measures | 2 |
| 2nd | Access central |
| 3rd | Assignment-various Preventive Measures |
| 8th | 1st | Process Configuration | 1 | Writing Program in c to encrypt using XOR key |
| 2nd | Virus scanners | 2 |
| Heuristic scanners |
| 3rd | Application Level virus scanners |

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| **Week** | **Theory** | | **Practical** | |
| **Lecture**  **day** | **TOPIC (including assignment/test)** | **Day** | **TOPIC** |
| 9 th | 1st | Deploying virus Protection | 1 | Study of VPN |
| Assignment- various types of virus scanners | 2 |
| 2nd | Test- chapter3(virus ,Worms and Trojans |
| 3rd | Definition of Firewall |
| Types of Firewall |
| 10th | 1st | Types of Firewalls | 1 | Study of VPN |
| Limitation of firewall | 2 |
| 2nd | Firewall configuration |
| Assignment- Definition ,types and Limitation of firewall |
| 3rd | Test -chapter 4 firewalls |
| 11th | 1st | Introduction to IDS | 1 | Various hacking tools |
| Teardrop attacks | 2 |
| Counter meusures |
| 2nd | Host Based IDS setup |
| Assignment- IDS wirh Limitations |
| 3rd | Test -chapter 5 IDS |
| 12th | 1st | Handlingcyber assest as per configuration policy  standards | 1 | Various hacking tools |
| 2nd | Disposable policy | 2 |
| Assignment-Handling cyber Assests and Disposable  policy |
| 3rd | Basic of VPN |
| Setting of VPN |
| 13th | 1st | VPN Diagram | 1 | Hacking tool |
| 2nd | Configuration of required objects | 2 |
| 3rd | Exchanging keys |
| 14th | 1st | Modifying security policy | 1 | Application of Digital Sinnature |
| Assignment-VPN along with setting and diagram | 2 |
| 2nd | Test - Chapter 7 - VPN |
| 3rd | Network disaster |
| Cabling to pology |
| 15th | 1st | Single point of failure | 1 | Application of Digital signature |
| Save configuration file | 2 |
| 2nd | Server disasters |
| UPS ,RAID |
| 3rd | Clustering  Backups  Server Recovery  Assignment- Network and Server Disasters |
| 16th | 1st | Revision | 1 | viva |