**GOVERNMENT POLYTECHNIC EDUCATION SOCIETY**

 **MORNI, DISTT. PANCHKULA**

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Lesson Plan

Name of the Faculty : Mr. Bijender Singh

[Discipline :](file:///C%3A%5CUsers%5CLAB6%20PC19%5CDesktop%5C6th%20sem%20L%20P%5CNetwork%20Security.docx#bookmark2) Computer Engg.

[Semester :](file:///C%3A%5CUsers%5CLAB6%20PC19%5CDesktop%5C6th%20sem%20L%20P%5CNetwork%20Security.docx#bookmark3) 6th **Subject** : Network Security

Lesson Plan Duration : 15 weeks

Work Load (Lecture / Practical) per week (in hours): Lectures-03, Practical-03

| **Week** | **Theory** | **Practical** |
| --- | --- | --- |
| **Lecture day** | **Topic(including assignment / test)** | **PracticalDay** | **Topic** |
| **1st** | **1st** |  Need for securing a network | 1st | Study of various hacking tools. |
| **2nd** |  Principles of Security, Type of attacks |
| **3rd** | Introduction to cyber crime,Cyber law-Indian Perspective (IT Act 2000 and amended 2008) |
| **2nd** | **4th** | Cyber ethics, Ethical hacking |
| **5th** | What is hacking?  |
| **6th** | Attacker, Phreaker |
| **3rd** | **7th** | Introduction to basic encryption and decryption | 2nd | Installation and comparison of various anti virus software |
| **8th** | Concept of symmetric and asymmetric key cryptography |
| **9th** | Overview of DES, |
| **4th** | **10th** | Overview of RSA |
| **11th** | Overview of PGP |
| **12th** | Introduction to Hashing |
| **5th** | **13th** | Introduction to MD5 |
| **14th** | Introduction to SSL (Secure Sockets Layer) |
| **15th** | Introduction to SSH (Secure Shell) |
| **6th** | **16th** | Introduction to HTTPS (Hyper Text Transfer Protocol Secure)  |
| **17th** | Digital Signature | 3rd | Practical applications of digital signature. |
| **18th** | Digital Certification, IPSec |
| **7th** | **19th** | Definitions Virus, Worms and Trojans | 4th | Writing program in C to Encrypt/Decrypt using XOR key |
| **20th** | Preventive measures access central |
| **21st** | Checksum verification |
| **8th** | **22nd** | Process configuration, |
| **23rd** | Virus scanners |
| **24th** | Heuristic scanners |
| **9th** | **25th** | Application level virus scanners |
| **26th** | Deploying virus protection |
| **27th** | Definition and types of firewalls | 5th | Installation and study of various parameters of firewall  |
| **10th** | **28th** | Firewall configuration |
| **29th** | Firewall configuration |
| **30th** | Limitations of firewall |
| **11th** | **31st** | Introduction to Intrusion Detection System (IDS) IDS limitations |
| **32nd** | Teardrop attacks |
| **33rd** | Counter measures, Host based IDS set up |
| **12th** | **34th** | Handling Cyber Assets |
| **35th** | Configuration policy as per standards |
| **36th** | Disposable policy |
| **13th** | **37th** | Basics of Virtual Private Network (VPN) | 6th  | Study of VPN  |
| **38th** | Setting of VPN |
| **39th** | VPN diagram |
| **14th** | **40th** | Configuration of required objects, |
| **41st** | Exchange Keys, Modifying security policy |
| **42nd** | Disaster categories network disasters server disasters |
| **15th** | **43rd** | Cabling, topology, single point of failure |
| **44th** | Save configuration files, UPS, RAID,  |
| **45th** | Clustering, Backups, server recovery |