**LESSON PLAN**

**NAME OF THE FACULTY: - Promila Hansu**

**DISCIPLINE: - CSE**

**SEMESTER:- 6th**

**SUBJECT—Network Security**

**Lesson Plan Duration:- 15 weeks**

**Work Load (Lecture/Practical) per week (In hours): Lecture- 02, Practical -02**

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| **Week** | **Theory** | | **Practical** | |
|  | **Lecture Day** | **Topic (Including assignment/test)** | **Practical** | **Topic** |
| 1st |  | Unit-1-Introduction to subject, syllabus and books, Introduction to communication. Need for securing a network; Principles of Security. | 1st | Installation and comparison of various antivirus software |
|  | Type of attacks, introduction to  cyber crime, Recapitulation |
| 2nd |  | cyber law-Indian Perspective (IT Act 2000 and amended 2008) | 2nd | Installation and study of various parameters of firewall. |
|  | Cyber ethics, ethical hacking, Assignment, What is hacking? attacker, phreaker etc, Revision |
| 3rd |  | Unit-2-Securing Data over Internet Introduction to basic encryption and decryption | 3rd | Writing program in C to Encrypt/Decrypt using XOR key |
|  | concept of symmetric and asymmetric  key cryptography, overview of DES ,Assignment |
| 4th |  | RSA, PGP | Internal viva for the conducted 3 practical’s | |
|  | Introduction to Hashing: MD5, |
| 5th |  | SSL,  SSH, HTTPS | 4th | Study of VPN. |
|  | Digital Signatures |
| 6th |  | Digital certification, IPSec,Revision, | 5th | Study of various hacking tools. |
|  | Unit-3-Virus, Worms and Trojans |
|  |  |
| 7th |  | preventive measures – access central, checksum verification, process  configuration | 6th | Practical applications of digital signature. |
|  | virus scanners, heuristic scanners, |
| 8th |  | application level virus scanners, | Practice & Viva  Internal viva for the conducted 6 practical’s | |
|  | Deploying virus protection. |
| 9th |  | Unit-4-Firewalls, Definition and types of firewalls | Practice & Viva | |
|  | firewall configuration |
| 10th |  | Limitations of firewall. Revision |
|  | Unit-5-Intrusion Detection System (IDS),test |
| 11th |  | IDS limitations – teardrop attacks | Practice & Viva | |
|  | counter measures, Host based IDS set up, Revision |
| 12th |  | Unit-6-Handling Cyber Assets | Practice & Viva | |
|  | Configuration policy as per standards, Disposable policy, Revision |
| 13th |  | Unit-7-Virtual Private Network (VPN), Basics, setting of VPN | Practice & Viva | |
|  | VPN diagram, configuration of required objects, exchanging  keys |
| 14th |  | modifying security policy ,Revision, Unit-8-Disaster and Recovery  Disaster categories; network disasters | Practice & Viva | |
|  | cabling, topology, single point of failure, save  configuration files |
| 15th |  | server disasters – UPS, RAID | Practice & Viva | |
|  | Clustering, Backups, server recovery, Revision |