**LESSON PLAN**

|  |  |  |
| --- | --- | --- |
| **Discipline:**  Computer Sc. & Engg. | **Semester:**  Six (6th ) | **Name Of The Faculty:**  Er Biswajit Moharana |
| **Subject:**  Cryptography & Network Security  (Th-1) | **No of days/ week class allotted:**  Six(6) | **Semester from date: 16.01.24 to Date: 26.04.24**  **No of weeks: 15** |
| **WEEK** | **CLASS DAY** | **THEORY TOPICS** |
| 1st | 1st | **Chapter No.- 1: Possible Attacks On Computers**  The need for security |
| 2nd | Security approach |
| 3rd | Principles of security |
| 4th | Continue……. |
| 5th | Types of attacks |
| 6th | Continue…. |
| 2nd | 1st | ***Review Class*** |
| 2nd | **Chapter No.- 02 (Cryptography Concepts)**  Plain text & Cipher Text |
| 3rd | Substitution techniques |
| 4th | Cont. |
| 5th | Transposition techniques |
| 6th | Continue |
| 3rd | 1st | Encryption & Decryption |
| 2nd | Symmetric key cryptography |
| 3rd | Asymmetric key cryptography |
| 4th | Continue |
| 5th | Symmetric & Asymmetric key cryptography difference |
| 6th | ***Review Class*** |
| 4th | 1st | ***Monthly Test- 1*** |
| 2nd | **Chapter No.- 03 (Symmetric & Asymmetric Key Algorithms)**  Symmetric key algorithm types |
| 3rd | Continue……. |
| 4th | Overview of Symmetric key cryptography |
| 5th | Continue…. |
| 6th | Data encryption standards |
| 5th | 1st | Over view of Asymmetric key cryptography |
| 2nd | Continue… |
| 3rd | The RSA algorithm |
| 4th | Problem using RSA algorithm |
| 5th | Problem |
| 6th | Problem |
| 6th | 1st | Symmetric key cryptography |
| 2nd | Asymmetric key cryptography |
| 3rd | Digital signature |
| 4th | Continue |
| 5th | ***Review Class*** |
| 6th | **Chapter No.- 04(Digital Certificate & Public Key Infrastructure)**  Digital certificates |
| 7th | 1st | Continue… |
| 2nd | Private key management |
| 3rd | Continue… |
| 4th | PKIX Model |
| 5th | Continue |
| 6th | ***Monthly Test- 2*** |
| 8th | 1st | Public key cryptography standards |
| 2nd | Continue… |
| 3rd | ***Review Class*** |
| 4th | **Chapter No.- 05(Internet Security Protocols)**  Basic concept |
| 5th | Secure socket layer |
| 6th | Continue… |
| 9th | 1st | Transport layer security |
| 2nd | Secure Hypertext transfer protocol (SHTTP) |
| 3rd | Continue… |
| 4th | Time stamping protocol (TSP) |
| 5th | Secure electronic transaction (SET) |
| 6th | ***Review Class*** |
| 10th | 1st | ***Monthly Test- 3*** |
| 2nd | **Chapter No.- 06(User authentication)** Authentication basics |
| 3rd | Password |
| 4th | Authentication Tokens |
| 5th | Continue |
| 6th | Certificate based authentication |
| 11th | 1st | Continue |
| 2nd | Biometric authentication |
| 3rd | ***Review Class*** |
| 4th | ***Monthly Test- 4*** |
| 5th | **Chapter No.- 07(Network Security & VPN)** Brief introduction of TCP/IP |
| 6th | Continue |
| 12th | 1st | Firewall |
| 2nd | IP Security |
| 3rd | Continue |
| 4th | Virtual Private Network (VPN) |
| 5th | ***Review Class*** |
| 6th | Review Class |
| 13th | 1st | Review Class |
| 2nd | Review Class |
| 3rd | Review Class |
| 4th | Review Class |
| 5th | Review Class |
| 6th | Review Class |
| 14th | 1st | Previous Year Question Answer Discussion |
| 2nd | Previous Year Question Answer Discussion |
| 3rd | Previous Year Question Answer Discussion |
| 4th | Previous Year Question Answer Discussion |
| 5th | Previous Year Question Answer Discussion |
| 6th | Previous Year Question Answer Discussion |
| 15th | 1st | Previous Year Question Answer Discussion |
| 2nd | Previous Year Question Answer Discussion |
| 3rd | Previous Year Question Answer Discussion |
| 4th | Previous Year Question Answer Discussion |
| 5th | Previous Year Question Answer Discussion |
| 6th | Previous Year Question Answer Discussion |

*Chapters covered up to IA****: 1, 2 & 3.***