**Curriculum Planner(2021-22)**

**(Department of Computer Science)**

**Course: GENERIC**

**Semester: IV**

**Paper: INFORMATION SECURITY AND CYBER LAWS**

**Teacher Name: - Ms. Kanishka**

**Paper Shared with:None**

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| **Topic** | **Chapter No** | **Schedule(Approximate)** |
| **Course Introduction:** Computer network as a threat, hardware vulnerability, software vulnerability, importance of data security.  | [1] 1.1-1.3 (pgs 1-18)[1] 7.2 (only Categories of Attack, pgs 424-425) | January  |
| **Introduction to Cryptography and Applications :** Important terms, Threat, Flaw, Vulnerability, Exploit, Attack, Ciphers, Codes, Caesar Cipher, Rail-Fence Cipher, Asymmetric and symmetric key cryptography  | [1] 2.1 (Only introduction, Terminology, definitions, exclude algorithm: pgs 36-40)[1] 2.2 (including Advantages and Disadvantages of the Caesar Cipher: pgs 42-43)[1] 2.3 (pgs 53-54)[1] 2.7 (only definitions on pg 92, pg 93- Table only)[1] (pg 121-Sidebar 3.1 only, pg 122) |
| **Risk Analysis and Threat:** Risk analysis, process, key principles of conventional computer security, security policies, authentication, data protection, access control, internal vs external threat, passwords, authentication, and access control, computer forensics and incident response  | [1] 8.2 (pg 568-570)[1] 8.3 (pg 591-597)[1] 4.5 (pg 242, 244-245 till two-factor authentication, 252-254 till definition of OTP)[1] Incident Response Plan (pg 565-566 introduction only) | February  February+March |
| **Information Gathering Techniques:** Tools of the attacker, scanning and spoofing, password cracking, malicious software, session hijacking  | [1] Sec 3.3 (pg 133-138, including Kinds of malicious code)[2] Ch 3 (pg 46 Introduction)[2] Ch 6 (pg 127 introduction of password crackers)[2] Ch 7 (pg 138)[2] Ch 8 (pg 158 session hijacking introduction) |
| **Safety Tools and Issues :** Firewalls, logging and intrusion detection systems, Windows and windows XP / NT security, Unix/Linux security, ethics of hacking and cracking  | [1] What is Firewall (pgs 514, 518),What Firewalls Can-and-Cannot-Block, IDS definition (pgs 526-527)[1] Difference between the Law and Ethics (pg 739)[1] Crackers or Malicious Hackers (pg 20), Classification of Hackers (pg 24) [2] Ch 16 (Vulnerabilities in Windows Pgs 313-315 till File Sharing)[2] Ch 17 (Vulnerabilities Pgs 323-324 till Login Passwords) | March |
| **Digital Crime:** Overview of digital crime, criminology of computer crime. Cyber Forensics | [3] Chapter 1 (Sec 1.1, 1.2, 1.4, 1.5, 1.7) |
| **Cyber laws to be covered as per IT 2008:** Definitions, Digital Signature And Electronic Signature [Section 43] [Section 65] [Section 66 A] [Section 66 B] [Section 66C] [Section 66D] [Section 66E] [Section 66F] [Section 67] [Section 67A] [Section 67B] [Section 72A]  | [3] Digital Signature (pg 2.21), Electronic Signature (pg 2.22) [3] (pgs 4.19-4.21), (pgs 4.39-4.49), (pgs 4.54)[3] Corresponding case laws given in Ch 5 *(Case Laws for discussion only, not mandatory for examination)*  | April  |

**Reference Books:**

**[1]** Charles P. Pfleeger, Shari Lawrence Pfleeger, Security in Computing, 4th Edition, Pearson

**[2]** A. Basta, N. Basta, and M. Brown, Computer Security and Penetration Testing, 2nd Edition,

Cengage Learning India

**[3]** Sushila Madan, Cyber Crimes and Laws, Scholar Tech Press (MKM Publishers Pvt. Ltd) Second Revised Edition, 2017

**Suggested Reading:**Sushma Arora, Raman Arora, Cyber Crimes and Laws, Taxmann, January 2017 Edition