Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal
Syllabus VII Semester
Bachelor of Engineering (Information Technology)
Credit based Grading System (CBGS)

IT 7004(A) Elective –III Cyber Security & Forensics

Unit I- Cybercrimes and Attacks
Introduction, Classifications of Cybercrimes: E-Mail Spoofing, Spamming, Cyber defamation, Industrial Spying/Industrial Espionage, Hacking, Software Piracy, Password Sniffing, Credit Card Frauds, Cyber stalking, Botnets, Phishing, Pharming, Man-in-the-Middle attack, Password Cracking, Key loggers and Spywares, Virus and Worms, Trojan Horses and Backdoors, DoS and DDoS Attacks, SQL Injection, Buffer Overflow, Malware, Ransomware, Types of Identity Theft, Techniques of ID Theft, Cyber terrorism, Browser Attacks, Reverse Engineering, Cross site scripting

Unit II-Cyber Security Concepts
Introduction to Cyber Security, Cyber Security Goals, Cyber Security policy, Domain of Cyber Security Policy, Elements, Cyber Security Evolution, Implementing Hardware Based Security, Software Based Firewalls, Security Standards, Assessing Threat Levels, Forming an Incident Response Team, Reporting Cybercrime, Difference between cyber forensics and cyber security

Unit III-Cyber Forensics Fundamentals
Introduction to cyber forensics, needs of cyber forensic, cyber forensic and digital evidences, Internet Fraud, Storage Fundamentals, File System Concepts, challenges in cyber forensic, Data and Evidence Recovery- Deleted File Recovery, Data Recovery Tools, Data Recovery Procedures and Ethics, Preserve and safely handle original media, Document a "Chain of Custody", Complete time line analysis of computer files based on file creation, file modification and file access, Recover Internet Usage Data, Recover Swap Files/Temporary Files/Cache Files, Introduction to Encase Forensic Edition, Forensic Tool Kit (FTK) etc,

Unit IV- Cyber Forensics Investigation Introduction to Cyber Forensic Investigation, Investigation Tools, e-Discovery, Digital Evidence Collection, Evidence Preservation, E-Mail Investigation, E-Mail Tracking, IP Tracking, E-Mail Recovery, Encryption and Decryption methods, Search and Seizure of Computers, Recovering deleted evidences, Password Cracking.

Unit V- Cyber Laws
Introduction to IT laws & Cyber Crimes, Cyber Laws, IPR, Legal System of Information Technology, Social Engineering,

Reference Books
1. Nina Godbole and Sunit Belpure , Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives, Wiley
2. Jennifer L. Bayuk, J. Healey, P. Rohmeyer, Marcus Sachs, Jeffrey Schmidt, Joseph Weiss Cyber Security Policy Guidebook, John Wiley & Sons 2012.
3. Vivek sood, Cyber law simplified, Tata Mc GrawHill, Education (India).
4. Eoghan Casey, Handbook of digital forensic and investigation.
5. Clint P Garrison, Digital forensic for network, internet and cloud computing.
6. Panagiotis Kandlis, Digital crime and forensic science in cyberspace, information society S.A Greece IDEA Group Publishing.