# C. U. Shah University, Wadhwan City

**Faculty of Computer Science**

**Name of Program: Master of Science Information Technology (Web Technology)**

**Semester : II**

**w.e.f. June-2014**

**Teaching & Evaluation Scheme**

| Sr. No | Subject Code | Subject Name | Teaching Hours/Week | | | | Credits | Evaluation Scheme/Semester | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Theory | | | | Practical | | | |
| | | | | | | | | Sessional Exam | | University Exam | | Internal | | Uni. | Total Marks |
| | | | Th | Tu | Pr | Total | | Mks | Hrs | Mks | Hrs | Pr | Case Study | Pr | |
| 1 | 5CS01WCY1 | Cyber Security & Forensic Investigator-I | 4 | 2 | - | 6 | 5 | 30 | 1.5 | 70 | 3 | - | - | - | 100 |

**Objectives:-**

**The Course provides a State-of-Art in Cybercrime, Cyber Laws, IT Act 2000, Cyber Forensics, Application Password Crackers, Logs Investigating, and Network Forensics & Traffic.**

**Pre-requisites:-**

**Fundamental of Computer Networking, Cyber Laws, Cyber Security & Network Forensics**

| Ch. No. | Chapter Name | Chapter Topics | Total Hours |
|---|---|---|---|
| 1 | Introduction | Cybercrime Definition & Origins of the Word, Cybercrime and Information Security, Cybercriminals | 02 |
| 2 | Cybercrime: The Legal Perspectives | Indian Information Technology Act 2000(ITA 2000), The Indian Laws, Provisions in Indian Cybercrime Laws and Punishment, Cybercrime Era: Survival Mantra for the Netizens | 03 |
| 3 | Cyber Forensics Essentials | Windows Forensics: Volatile Information, Network and Process Information, Non-Volatile Information, Memory Dump, Parsing Process Memory, Inside the Registry, System Information, User Activity, Analysing Restore Point Registry Settings, Cache, Cookie and History Analysis, Message Digest Function:MD5, Prefetch Files, Static Analysis Process, Export Table Analysis, Types of Metadata, Understanding Events, Parsing IIS Logs, FTP Logs and Firewall Logs, Evaluating Account Management Events, Searching with Event Viewer & Forensics Tools | 20 |
| 4 | Application Password Crackers | Password Terminology, Types of Password, Password Cracker, How does a Password Cracker Work?, Password Cracking Techniques, Types of Password Attacks, System Software Password Cracking, Application Software Password Cracking, Default Passwords & Password Cracking | 15 |

| | | | |
|---|---|---|---|
| | | **Tools** | |
| **5** | **Network Forensics, Investing Logs & Network Traffic** | **Introduction of Network Forensics, Network Forensics Mechanism, Intrusion Detection System(IDS), Firewall, Honeypot, Network Vulnerabilities, Types of Network Attack, New Line Injection Attack, Timestamp Injection Attack, Investigating Network Traffic, Acquiring Traffic using DNS Poisoning Techniques, Evidence Gathering From ARP Table, Traffic Capturing and Analysis Tools.** | **15** |
| | **Total Marks** | | **55** |

**Learning Outcomes:-**

**Design & Provide Cyber Security to Various organization, Identify Cybercrime & Investigation, Network Forensics &Cyber Laws, Recognize and Implement the effect of Cyber Security in Today's World**

**Teaching Methodology:**

**Revision, Paper Solving, Seminar, Expert Talk, MCQ Quiz, Viva Test,**

**Books Recommended:-**

1. **"Cyber Security Understanding Cyber Crimes, Computer Forensics & Legal Perspectives", Wiley India,Belapure&Godbole , ISBN No:8126521791**
2. **"Cybersecurity and Cyberwar", Oxford University Press, P.W. Singer, ISBN No: 0199918112**
3. **"Computer Forensics: Investigating Network Intrusion and Cyber Crime". Ec-Council Press Series, ISBN No: 1435483529**

**Reference Books:-**

1. **"Cyber Forensics: A Field Manual for Collecting, Examining & Preserving Evidence of Computer Crimes", Alberta Marcella & Robert Greenfield,ISBN No: 0849309557**
2. **"CEH Certified Ethical Hacker All-in-One Exam Guide",McGraw-Hill Osborne Media,Matt Walker,ISBN No:0071836489**