Semester III

CSCH 501 : Digital Forensics

UNIT I

Introduction To Digital Forensics : Introduction, Evolution Of Computer Forensics, Stages Of Computer Forensics Process, Benefits Of Computer Forensics, Uses Of Computer Forensics, Objectives Of Computer Forensics, Role Of Forensics Investigator, Forensics Readiness, **Computer Forensics Investigation Process** : Introduction To Computer Crime Investigation, Assess The Situation, Acquire The Data, Analyze The Data, Report The Investigation, Digital Evidence And First Responder Procedure, Digital Evidence, First Responder Toolkit, Issues Facing Computer Forensics, Types Of Investigation, Techniques Of Digital Forensics

(16 hours)

UNIT II

Understanding Storage Media And File System : Hard Disk Drive, Details Of Internal Structure Of Hdd, The Booting Process, File System, **Windows Forensics** : Introduction, Recovering Deleted Files And Partitions, More About Recovering Lost Files/Data, **Logs & Event Analysis And Password Cracking** : Introduction, Windows Registry, Windows Event Log File, Windows Password Storage, Application Passwords Crackers, **Network Forensics** : Introduction, Network Components And Their Forensics Importance, Osi, Forensics Information From Network, Log Analysis, Forensics Tools, **Wireless Attacks** : Introduction, 4.3wireless Fidelity (Wi-fi)(802.11), Wireless Security, Wireless Attacks Detection Techniques, Wireless Intrusion Detection Systems   (**16 hours**)

UNIT III

Investigating Web Attacks : Introduction, Types Of Web Attacks, Web Attack Forensics, Web Application Forensics Tools, **Investigating Email Attacks** : Introduction, Email Attacks And Crimes, Privacy In Emails, Email Forensics, Email Forensic Tools, **Mobile Device Forensics** : Introduction, Challenges In Mobile Forensics, Mobile Communication, Evidences In A Mobile Device, Mobile Forensic Process, Forensic Acquisition Tools, Investigative Reports, **Expert Witness And Cyber Regulations** : Introduction, Report Preparation, Legal Aspects Of Computing

(16 hours)

Text Books:

(1).   "Digital Forensics"- Dr.Jeetendra Pande, Dr. Ajay Prasad, Uttarakhand Open University, Haldwani - 2016

(2).   "Computer Forensics and Cyber Crime An Introduction"- Marjie T. Britz, Pearson, Third Edition, 2013

(3).   " Learning Python for Forensics - Leverage the power of Python in forensic investigations", Preston Miller, Chapin Bryce, Packt Publishing, Second Edition, 2019

(4).   " A Practical Guide to Computer Forensics Investigations", Dr. Darren R. Hayes, Pearson Education, 2015