Semester – III

Code of the course   : MCA9004T
Title of the course   : Information Systems & Cyber Security
Level of the Course   : NHEQF Level 6.5
Credit of the Course   : 4
Type of the Course   : DCC Course for MCA in computer science
Delivery Type   : Lecture.
Total Lectures   : 60(40+20), 40 lectures for content delivery and 20 hours on diagnostic, formative assessment, class activity and problem solving.

Prerequisites:
1. Basic knowledge of computer security is desired.
2. Understanding Copyright and Related Rights.
3. Understanding knowledge and application of laws governing copyrights, patents, trademarks and trade secrets.
4. Understanding fundamentals underpinning copyright law and practice, and describe the different types of rights which copyright and related rights law protects

Objectives of the Course:
1. To provide an in-depth understanding of Cyber Security concepts and techniques
2. To introduce various tools and technologies used in Cyber Security.
3. Describe the concept of intellectual property, explain the classification of intellectual property rights, and elaborate on the justification and scope of IPRs.
4. Create awareness of the rights and infringements of rights and related protections of inventions, creations, and ideas using various IPRs under IP Laws of India.
5. Understand the circumstances under which a granted patent/copyright/design etc. could be revoked, opposed, taken away, or licensed.

Learning Outcomes:
1. To understand the elements of information security and techniques of network.
2. Define and describe the nature and scope of cybercrime.
3. Identify the Information Technology Act, 2000.
4. Define the key concepts of Intellectual Property and IP Infringements.
5. Understand and acquire knowledge of IPR policy followed in India

UNIT I

Security Essentials
Introduction, Elements of Information security, Security Policy, Techniques, steps, Categories, Operational Model of Network Security, Basic Terminologies in Network Security.

(**12 lectures)**

UNIT II

Cyber Crime
Introduction to cyber crime, Categories of cyber crime, Types of Cyber crimes, cyber space and information technology, Nature and scope of cyber crime, Jurisdiction of cyber crime
Cyber crime issues: unauthorized access, white collar crimes, viruses, malwares, worms, Trojans, logic bomb, Cyber stalking, Cyber Pornography, Hacking, Phishing, espionage , e-fraud, threatening email, Cyber Terrorism.

(
12 lectures)

UNIT III

Cyber Laws and Security
Introduction to Cyber Law, Definition, Objectives of Cyber Law, Need, Scope, Copyright issues in Cyberspace, Data encryption, Cryptography, Digital Signatures, Password, Encrypted smart card, Bio-metric, firewall. Information Security Management System and other Security Compliances, Security Assurance, Security Laws, International Standards, Security Audit, SSE-CMM / COBIT etc.

(
12 lectures)

UNIT IV

Information Technology Act
Background of Information Technology Act 2000, Preliminary, Definitions, amendments, Authentication of electronic records, Legal recognition of electronic records, Legal recognition of digital signatures, Attribution, Regulation of Certifying Authorities, Acknowledgment and Dispatch of electronic records, Secure records and secure digital signatures, Functions of controller, Duties of Subscribers, Penalties and Offences.
Overview of amended laws by the IT Act, 2000: The Indian Penal Code, The Indian Evidence Act, The Banker's Book Evidence Act, The Reserve Bank of India Act, Cyber Theft and the Indian Telegraph Act, Digital Signatures and certificate- legal issues.

(
12 lectures)

UNIT V

Intellectual Property Rights
Introduction to Intellectual Property (IP), different types of IPs and its importance in the present scenario, objectives of copyright, Requirement and meaning of copyright, copyright as a bundle of rights, Copyright acts: Copyright Act, 1957,Trade Mark Act, 1999, Framing, Linking and

Infringement, Information Technology act related to copyright, Linking and Infringement, information Technology act related to Copyright.

(12 lectures)

Books
1. Cyber Laws, Dr. Gupta & Agrawal, Premier publishing Company
2. Nature of Cyber Laws, S.R. Sharma, Anmol Publications
3. Dimensions of Cyber Crime, S.R. Sharma, Anmol Publications
4. Computer Forensics & Cyber Crimes, MarjieBritz , Pearson.
5. 5.   e-Commerce - Concepts, Models, Strategies, C S V Murthy, Himalaya Publishing House
6. Cyber Laws and IT Protection 2nd ed. , 2022, Gagandeep Chander, Harish Kaur, PHI

Suggested E-Resources:
1. National IPR Policy 2016 - http://cipam.gov.in/wpcontent/uploads/2017/10/National-IPR-Policy-English-.pdf
2. Intellectual Property – The Future, CIPAM, 2017 – 2.http://cipam.gov.in/wp-content/uploads/2017/09/bookletIPR.pdf
3. https://www.startupindia.gov.in/
4. https://dipp.gov.in/
5. http://ipindia.nic.in/