

Vikram University, Ujjain

Board of studies in Computer science (Faculty of Engineering Science)

**SYLLABUS of
Diploma in Cyber Security**

Exclusively for University Teaching Department (ICS, VUU)

**Diploma in Cyber Security
PROGRAMME of UTD (ICS, VUU)**

(Effective from Academic Session 2020-21)

[Modified as according to the provision of “Ordinance”]

Programme Objectives:

- To create awareness of Cyber security issues and challenges in IT environment.
- To impart basic knowledge and skills to protect one's personal IT assets.
- To learn the techniques needed for providing protection and security to our personal data and information resources.
- To experiment and learn the skills to provide protection and security to organizational data and information to build a secured IT infrastructure in the companies.
- To develop high level of professional ethics in providing security in the cyber world.
- To develop awareness in taking precautions in protecting them from cyber crimes and fraudulent activities.

COURSE STRUCTURE**Diploma in Cyber Security**

Paper code	Title of Paper	Theory External Marks	Min. Pass marks	Internal Marks	Min. Pass marks	Total
DCS-101	Information Security	75	27	25	09	100
DCS- 102	Cyber Security and Cyber Law	75	27	25	09	100
DCS-103	Internship/Industrial Training/Project Work	<u>150</u>	<u>54</u>	50	28	200
	Total	<u>300</u>		100		400

DCS-101: Information Security

UNIT-1

System Security: Desktop Security, Programming Bugs and Malicious code, Database Security, Operating System Security, OS Security Vulnerabilities.

UNIT-2

Security Management: Disaster Recovery, Digital Signature, Ethical Hacking, Penetration Testing, Computer Forensics

UNIT-3

Network Security: Network Security Model, Network Security Threats, Firewalls: Overview, Types, Features, User Management, Intrusion Detection System, Intrusion Prevention System, Public Key Infrastructure, Digital Signature Schemes

UNIT-4

Internet and Web Application Security: Email security: PGP and SMIME, Web Security: Web authentication, Injection Flaws, SQL Injection, Web Browser Security, E-Commerce Security

UNIT-5

Wireless Network Security: Wireless Network Components, Security issues in Wireless Networks, Securing a Wireless Network, Mobile Security

Reference Books:

1. Charlie Kaufman, Radia Perlman, Mike Speciner, "Network Security", Prentice Hall, 2nd edition, 2002, ISBN-10: 0130460192, ISBN-13: 978-0130460196.
2. Charles Pfleeger, "Security in Computing", Prentice Hall, 4th Edition, 2006, ISBN-10: 0132390779, ISBN-13: 978-0132390774.
3. Ulysess Black, "Internet Security Protocols: Protecting IP Traffic", Prentice Hall PTR; 1st edition, 2000, ISBN-10: 0130142492, ISBN-13: 978-0130142498.
4. Amir Ranjbar 2007, CCNP OWT Official Exam Certification Guide, Cisco Press [ISBN: 978-1-58720-176-3].

DCS–102 : Cyber Security and Cyber Law

UNIT-1

Cyber World: An Overview: The internet and online resources, Security of information, Digital signature
An Overview of Cyber Law: Introduction about the cyber space, Regulation of cyber space – introducing cyber law, UNCITRAL Model Law on Electronics Commerce 1996.

UNIT-2

An Overview of Cyber Crimes: Defining Crime, Crime in context of Internet –Actus Rea/Mens Rea, Types of crime in Internet, Computing damage in Internet crime. **An Overview of Indian Penal Law & Cyber Crimes:** Fraud, Hacking, Mischief, Trespass, Defamation, Stalking, Spam.

UNIT-3

An Overview of Human Rights Issues in Internet: Freedom of Expression in Internet, Issues of Censorship, Hate speech, Sedition, Libel, Subversion, Privacy Issues, International Positions on Free Speech in Internet

UNIT-4

An Overview of Electronic Contracts: The Indian Law of Contract, Construction of Electronic Contracts, Issues of Security Issues of Privacy Technical Issues in Cyber Contracts

UNIT-5

Types of Electronic Contracts: Employment Contracts Consultant Agreements Contractor Agreements Sales, Re-Seller and Distributor Agreements Non-Disclosure Agreements, Software Development & Licensing Agreements Shrink Wrap Contract, Source Code Escrow Agreements. **An Overview of Copy Right in Information Technology:** Understanding the technology of Software, Software - Copyrights vs. Patents debate, Authorship and Assignment Issues, Commissioned Work and Work for Hire, Idea/Expression dichotomy, Copyright in Internet.

Reference Books:

1. Vivek Sood, Cyber law Simplified, Tata Mcgraw-Hill Publishing (2001).
2. Chris Reed and John Angel, Cyber law (2007)
3. Sudhir Naib, The Information Technology Act, 2005: A Handbook, OUP, New York, (2011)
4. S. R. Bhansali, Information Technology Act, 2000, University Book House Pvt. Ltd.