



# GUJARAT TECHNOLOGICAL UNIVERSITY

## Bachelor of Engineering Syllabus

Subject Code : 3174502

Subject Name: Cyber Crime and Mitigation

WEF Academic Year :	2021 - 22
Semester :	7
Category of the Course :	Professional Core

<b>Prerequisite :</b>	Basic knowledge of computer security and cyber world concepts.
<b>Rationale :</b>	The course provide an insight of cybercrime and mitigation concepts along with different use cases for the real world applications.

### Course Scheme :

Teaching Scheme			Total Credits	Assessment Pattern and Marks				Total Marks
L	T	PR		C	Theory		Practical	
			ESE (E)		PA(M)	ESE (V)	PA (I)	
4	0	2	5	70	30	30	20	150

### Course Content :

Sr. No.	Course Content	No. of Hours	% of Weightage
<b>UNIT I</b>	Overview of cyber world, Cyber Crimes and Cyber Laws, Hacking, Cracking, Software Piracy, Intellectual property, Legal System of Information Technology, Social Engineering web security, Internet infrastructure for data transfer and storage, Internet society, Concept of cyber security, Issues and challenges of cyber security, regulation of cyber world.	6	10
<b>UNIT II</b>	Classification of cyber crimes, common cyber crimes, cyber crime against women and children, ransomware attacks, zero day and zero click attacks, Cybercriminals modus-operandi , Reporting of cyber crimes, Remedial and mitigation measures, Legal perspective of cyber crime, IT Act 2000 and its amendments.	8	20
<b>UNIT III</b>	Introduction to Social networks. Types of Social media, Social media platforms, Social media monitoring, Hashtag, Viral content, Social media marketing and privacy, Challenges and opportunities in online social network, Security issues related to social media, Flagging and reporting of inappropriate content.	6	20
<b>UNIT IV</b>	E-Commerce security, E-Commerce threats, Digital payments, Components of digital payment and stake holders, Modes of digital	6	20



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	payments viz. Banking Cards, Unified Payment Interface (UPI), e-Wallets, Digital payments related common frauds and preventive measures.		
<b>UNIT V</b>	Mobile phone security, Password policy, Security patch management, Data backup, Management of third party software, Device security policy, Cyber Security best practices, Significance and Management of host firewall and Ant-virus, Wi-Fi security, Configuration of basic security policy and permissions.	6	20
<b>UNIT VI</b>	Defining data, meta-data, big data. Data protection, Data privacy and data security, Personal Data Protection Bill and its compliance, Data protection principles, Big data security issues and challenges.	6	10
<b>Total</b>		<b>38</b>	<b>100</b>

#### Reference Book :

1. Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives by Sumit Belapure and Nina Godbole, Wiley India Pvt. Ltd. (latest edition).
2. Electronic Commerce by Elias M. Awad, Prentice Hall of India Pvt Ltd. (latest edition).
3. Network Security Bible, Eric Cole, Ronald Krutz, James W. Conley, 2nd Edition, Wiley India Pvt. Ltd. (latest edition).
4. Fundamentals of Network Security by E. Maiwald, McGraw Hill (latest edition).

#### Course Outcome :

After Completion of the Course, Student will able to:

No.	Course Outcomes	RBT Level*
01	Remember the basic terminologies of cybercrime and cyber security.	RM
02	Understand the fundamental concepts related to cybercrime and cyber law.	UN
03	Apply the security applications used for social media and ecommerce platforms.	AP
04	Apply the tools and technologies used for cyber security and attack mitigation.	AP
05	Analyse the data protection bill and regulations for diverse use cases.	AN

\*RM: Remember, UN: Understand, AP: Apply, AN: Analyze, EL: Evaluate, CR: Create

#### Suggested Course Practical List :

- The practical work will be carried out based on the content covered during the academic sessions.

#### List of Laboratory/Learning Resources Required :

- Course-related online MOOCs on NPTEL/SWAYAM platform.

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