

B.C.A. (Honours) & B.C.A. (Honours with Research)
(Semester - 5 and Semester - 6)
To be effective from June – 2025
Saurashtra University

CS-31: Cyber Security		
<p>Objectives:</p> <ul style="list-style-type: none"> • Learn the foundations of Cyber Security and threat landscape. • To equip students with the technical knowledge and skills needed to protect and defend against cyber threats. • To expose students to governance, regulatory, legal, economic, environmental, social and ethical contexts of cyber security. • To develop skills in students that can help them plan, implement, and monitor cyber security mechanisms to ensure the protection of information technology assets. <p>Prerequisites:</p> <ul style="list-style-type: none"> • Basic Computer Skills. • OS and Programming knowledge, Networking Fundamentals • Critical Thinking and Problem-Solving Skills 		
Unit No.	Topic	Detail
1	Introduction to Cyber Security	<ul style="list-style-type: none"> • Defining Cyberspace and Overview of Computer and Web-technology • Architecture of cyberspace, • Communication and web technology, • Internet, World wide web, • Advent of internet, • Internet infrastructure for data transfer and governance, • Internet society, • Regulation of cyberspace • Concept of cyber security • Issues and challenges of cyber security
2	Cyber Crime and Cyber law	<ul style="list-style-type: none"> • Classification of cyber crimes • Common cyber crimes <ul style="list-style-type: none"> ▪ cyber crime targeting computers and mobiles ▪ Cyber crime against women and children ▪ Financial frauds ▪ Social engineering attacks ▪ Malware and 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 • Cyber crime and offences • Organisations dealing with Cyber crime and Cyber Security in India

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		<ul style="list-style-type: none"> • Case studies
3	Social Media Overview and Security	<ul style="list-style-type: none"> • Introduction to Social networks • Types of Social media • Social media platforms • Social media monitoring • Hashtag • Viral content • Social media marketing • Social media privacy • Challenges, opportunities and pitfalls in Online Social Network • Security issues related to social media • Flagging and reporting of inappropriate content • Laws regarding posting of inappropriate content • Best practices for the use of Social media • Case studies
4	E-commerce and Digital Payments	<ul style="list-style-type: none"> • Definition of E-Commerce • Main components of E-Commerce • Elements of E-Commerce security • E-Commerce threats • E-Commerce security best practices • Introduction to digital payments • Components of digital payment and stake holders • Modes of digital payments: <ul style="list-style-type: none"> ○ Banking Cards ○ Unified Payment Interface (UPI) ○ e-Wallets ○ Unstructured Supplementary Service Data (USSD) ○ Aadhar enabled payments • Digital payments related common frauds and preventive measures • RBI guidelines on digital payments and customer protection in unauthorized banking transactions • Relevant provisions of Payment Settlement Act, 2007.
5	Digital Devices Security, Tools and Technologies for Cyber Security	<ul style="list-style-type: none"> • End Point device and Mobile Phone security • Password policy • Security patch management • Data backup • Downloading and management of third party software • Device security policy • Cyber Security best practices • Significance of host firewall and Anti-virus • Management of host firewall and Anti-virus

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	<ul style="list-style-type: none">• Wi-Fi security• Configuration of basic security policy and permissions
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Reference Books:

- Cyber Crime Impact in the New Millenium, by R. C. Mishra, Auther Press. Edition 2010.
- Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives by Sumit Belapure and nina Godbole, Wiley India Pvt. Ltd. (First Edition, 2011)
- Security in the Digital Age: Social Media Security Threats and Vulnerabilities by Henry A. Oliver, Create Space Independent Publishing Platform (Pearson, 13th November, 2001)
- Electronic Commerce by Elias M. Awad, Prentice Hall of India Pvt. Ltd.
- Cyber Laws: Intellectual Property & E-Commerce Security by Kumar K, Dominant Publishers
- Network Security Bible, Eric Cole, Ronald Krutz, James W. Conley, 2nd Edition, Wiley India Pvt. Ltd.
- Fundamentals of Network Security by E. Maiwald, McGraw Hill.

Course Outcomes:

- After completion of this module, students would be able to understand the concept of Cyber security and issues and challenges associated with it.
- Understand the cyber crimes, their nature, legal remedies and as to how report the crimes through available platforms and procedures.
- Able to appreciate various privacy and security concerns on online Social media and understand the reporting procedure of inappropriate content, underlying legal aspects and best practices for the use of Social media platforms.
- Understand the basic concepts related to E-commerce and digital payments.
- Familiar with various digital payment modes and related cyber security aspects, RBI guidelines and preventive measures against digital payment frauds.
- Understand the basic security aspects related to Computer and Mobiles.
- Able to use basic tools and technologies to protect their devices.