



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Bachelor of Engineering

Level: UG

Subject Code: BE04048011

Subject Name: Cyber Security law and compliance

w. e. f. Academic Year:	2024-25
Semester:	4
Category of the Course:	Professional Core Course

Prerequisite:	None
Rationale:	Every citizen is vulnerable to cyber threats. Every business and government organization prefers an employee with cyber security knowledge. There is a need for in depth insight on how the law is developed outside the regulatory framework and Industry standards of security measures. The cyber security law is going to be highly contentious and would require more experts to operationalize matters.

Course Outcomes:

Sr. No.	CO statement	Marks% weightage
CO-1	Understanding of cyber offences and cyber crimes and how criminals plan to attack.	10
CO-2	Understanding of various attacks on mobile devices and organizational security policies	20
CO-3	Elaborate the various aspects of Information Technology Act 2000.	20
CO-4	Understands the concept of cyber space and cyber laws.	20
CO-5	Describe Information security standards and various compliances.	30

Teaching and Examination Scheme:

Teaching - Learning Scheme (in Hours per Semester)					Total Credits = TH/30	Assessment Pattern and Marks					Total Marks
L	T	P	PBL*	TH		Theory		Tutorial / Practical			
						ESE (E)	PA (M)	PA (I)	PBL (I)	ESE (V)	
45	0	30	15	90	03	70	30	20	30	50	200

Content:

Sr. No.	Content	Total Hrs
1	Introduction to cybercrime – cyberspace, cybersquatting, cyberpunk, cyberwarfare Origins of Cybercrime Cybercrime and Information Security Classification of Cybercrime Cybercrime and Indian IT Act 2000	7



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2	Introduction to Cyber offences and Cybercrime, Strategic attacks, types of attacks – Botnets, Attack vector Proliferation of Mobile and Wireless devices – trend in mobility, credit card frauds, security challenges faced by mobile devices, Registry setting for mobile devices, Authentication service security, attacks on mobile phones Security Implications for organizations Security policies and measures in Mobile computing Era and Laptops	10
3	Introduction to e-commerce, Contract aspects in cyber law, security aspects of cyber law, Intellectual property aspect in cyber law and evidence aspect in cyber law, the criminal aspects in cyber law, Global trends in cyber law Legal framework for electronic data interchange law relating to electronic banking Need for Indian cyber law	10
4	Cyberspace, Cyber security and cyber law, Cyber security policy Objectives of Indian Information Technology Act 2000, Salient features of Indian Information Technology Act 2000, scheme of IT Act, Intermediary liability Penalties, Adjudication and Appeals Under the Information Technology Act,2000 Offences under Information Technology Act,2000 Cyber Appellate Tribunal Information Technology Act, 2008 and Its Amendment	8
5	Importance of Information security Standards, Information security challenges Sarbanes Oxley Act(SOX) Gramm Leach Bliley Act(GLBA) Health Insurance Portability and Accountability Act(HIPAA) Federal Information Security Management Act(FISMA) The North American Electric reliability Corporation(NERC) PCI(Payment Card Industry) Compliance ISO/IEC 27000	10
TOTAL		45

Suggested Specification table with Marks (Theory): (For B.E. only)

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
20	50				

R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.



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Reference Books:

1. **Cyber Security and Cyber Laws** by Nilakshi Jain , Ramesh Menon, WILEY Publication
2. **Cybersecurity Law**, By Jeff Kosseff , John Wiley & Sons, Inc.
3. **cyber Law** By Dr. Pavan Duggal , LexisNexis Publication
4. **Introduction to Information Security and Cyber Laws** By Tripathi Surya Prakash Dreamtech Press India Pvt. Ltd

List of Experiments:

1. Create a simulated phishing attack to test the awareness of phishing threats in organization. Analyse the results and find out the security compliance for this.
2. Develop a scenario involving access control challenges within an organisation involving access through mobile phones and Laptops. Propose the security measures.
3. Check the organization server is vulnerable to DoS or Ddos attacks. What are the provisions in act for such crime?
4. Consider the credit card frauds. Analyze the reasons for such frauds. Which laws are designed for such frauds?
5. Simulate E-mail spoofing by setting up Mail Server. What are the provisions in law for spoofing?

Major Equipment:

Laptops, computers

List of Open Source Software/learning website:

1. https://youtu.be/F7mH5vz1qEI?si=9u39r_6VPETF1KEh
2. https://www.indiacode.nic.in/bitstream/123456789/13116/1/it_act_2000_updated.pdf
3. <https://cybercrime.gov.in/>

• List of suggested activities for Problem Based Learning:

Sl. No.	Name of the activity	No. of hours	Evaluation Criteria
1	Assignment writing. Numerical based assignment is preferable.	5 assignments of 3h each. Total = 15h	Based on the assignment submitted.
2	Problem solving/Coding using C, C++, Python, SCILAB, MATLAB, MS-EXCEL or any other relevant software	5 small coding-based problems of 3h each. Total = 15h	Based on the coding solution submitted.
3	Technical Video based learning related to the subject	Duration of video = 5h Report preparation & Presentation = 10h Total = 15h	Report /presentation based on the video learning outcomes.



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4	Discussion on research paper based on relevant subject	3 research paper = 15h	Summarize research paper and evaluation critical parameters
5	Poster/chart/power point preparation on technical topics	Duration = 10 h	Based on poster/chart preparation and presentation skills
6	Application/Software development	Duration = 15 h	Depending on the complexity of the Application/Software
7	Group Discussion on emerging/trending technical topics based on subject	Duration = 1 h each	Based on performance in group discussion, technical depth, knowledge etc.
8	Seminar / Presentation	Duration for study and preparation =5h Report writing=3h Presentation=2 h Total=10h	Topic can be selected technical content beyond syllabus
9	Real world case studies-based learning	Duration of data collection/study = 5h Report preparation = 10h Total = 15h	Based on in-depth study, technical depth, data collected, fact finding, etc.
10	Working/non-working model on technical topics	Working = 12 h Non-working = 8 h	Based on inter department/external evaluation
11	Self-learning on-line course	Minimum duration of the course should be 15h.	Examination based assessment at the end of course. Based on the certificate produced.
12	Complex problem solving	Maximum 3 problem. Study of the problem and solution finding, Total = 15h	Based on the depth of the solution submitted.
13	Industry/Research laboratory visit	Visit = 5h, Report preparation = 5h Total = 10h	Based on report submitted. Report should contain observations and calculations based on industry/ lab data.
14	Videos on Industrial safety aspects based on subject	Duration of video = 5h Report preparation = 5h Total = 10h	Based on quiz/report submitted



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15	Industrial exposure for 2-3 days to observe and provide tentative solutions on society/environment /health/any other issue	Duration = 15 h for industrial exposure Problem identification and tentative solution = 10 h Total = 20 h	Based on evaluation of critical problems and solutions
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Note:

- All the suggested activity should be related to the subject.
- Min 3 activities must be carried out as per the availability of faculties and students.
- The number of hours is suggestive. Faculty can sub-divide the number of hours based on the activity. However, total number of hours is fixed.
- Rubrics for the evaluation can be prepared by the faculty.
