Part A Introduction

Program: Degree	Class :	Year: III	Session: 2023-24

Subject: BCA

1	**Course Code**	S3-BCAC2G	
2	**Course Title**	**Cyber Security**	
3	**Course Type (Core Course/ Discipline Specific Elective/Elective/Generic Elective/Vocational/.....)**	Elective	
4	**Pre-requisite (if any)**		
5	**Course Learning outcomes (CLO)**	**On successful completion of this course, the students will be able to:** 1. Identify the key components of cyber security network architecture. 2. Employ, design and implement appropriate security technologies and policies to protect computers and digital information 3. Analyze threats and risks within context of the cyber security architecture. 4. Apply cyber security architecture principles. 5. Gain familiarity with prevalent network and distributed system attacks.	
6	**Credit Value**	**6**	
7	**Total Marks**	Max. Marks: 30 + 70	Min. Passing Marks:35

Part B- Content of the Course

Total No. of Lectures- 90 Tutorials-Practical (in hours per week):4-0-0
L-T-P:

Unit	Topics	No. of Lectures (1 Hour Each)
I	Cyber Security : Introduction, Need for security, Basics of Cryptography : Plain text and Cipher Text, Substitution techniques, Caesar Cipher, Mono-alphabetic Cipher, Polygram, Polyalphabetic Substitution, Playfair, Hill Cipher, Transposition Cipher.	**18**
II	Encryption and Decryption ,Symmetric Key Algorithms and AES: Brief history of Asymmetric Key Cryptography, Overview of Asymmetric Key Cryptography, RSA algorithm. Overview of Symmetric key Cryptography, Data Encryption Standard (DES)	**18**
III	Network Security, Types of Attacks, Firewalls and Virtual Private Networks: Brief Introduction to TCP/IP, Firewalls, Virtual Private Networks (VPN), Secure Socket Layer (SSL), Transport Layer Security (TLS), Secure Hyper Text Transfer Protocol (SHTTP), Time Stamping Protocol (TSP), Secure Electronic Transaction (SET), Secure Sockets Layer (SSL), E-mail Security	**18**
IV	Introduction to information systems, Types of information Systems, Development of Information	**18**

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	Systems, Need for Information security, Threats to Information Systems, Information Assurance, Cyber Security and Security Risk Analysis	
V	Security Policies, Why Policies should be developed, WWW policies, Email Security policies, Policy Review Process-Corporate policies-Sample Security Policies, Publishing and Notification Requirement of the Policies. Information Security Standards-ISO, IT Act, Copyright Act, Patent Law, IPR	**18**

Keywords/Tags:

Part C-Learning Resources

Text Books, Reference Books, Other resources

Suggested Readings:

1. Bernard Menezes, "Network Security and Cryptography", CEGAGE Learning , ISBN-10:81-315-1349-1, ISBN-13: 978-81-315-1349-1, 2014.
2. Charles Pfleeger, "Security in Computing", Prentice Hall, 4 th Edition, ISBN-10: 0132390779, ISBN-13: 978-01323907744, 2006.
3. Ulysess Black, "Internet Security Protocols: Protecting IP Traffic", Prentice Hall PTR; 1st edition, ISBN-10: 0130142492, ISBN-13: 978-0130142498, 2000.
4. William Stallings, "Cryptography and Network Security", Pearson Education, 6th Edition, ISBN 10: 0133354695, 2013.
5. Jonathan Rosenoer,"Cyber Law: The law of the Internet", Springer-Verlag, 1997.
6. Mark F Grady, Fransesco Parisi, "The Law and Economics of Cyber Security", Cambridge University Press, 2006.
6. मध्य प्रदेश हिन्दी ग्रंथ अकादमी की पुस्तकें।

Suggestive digital platforms/ web links

1. https://onlinecourses.swayam2.ac.in/nou19_cs08/preview
2. https://onlinecourses.swayam2.ac.in/cec20_cs15/preview
3. https://nptel.ac.in/courses/106106129
4. https://nptel.ac.in/courses/106105031
5. https://nptel.ac.in/courses/106106199

Suggested equivalent online courses:

1. https://www.simplilearn.com/cyber-security/certification
2. https://study.torontosom.ca/cybersecurity/diploma
3. https://aws.amazon.com/securitycourses/by_aws_experts
4. https://www.udemy.com/topic/cyber-security/

Part D-Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks : 100

Continuous Comprehensive Evaluation (CCE) : 30 Marks University Exam (UE):70 Marks

Internal Assessment : Continuous Comprehensive Evaluation (CCE)	Class Test Assignment/Presentation	30
External Assessment : University Exam Section Time : 03.00 Hours	**Section(A)** : Very Short Questions **Section (B) :** Short Questions **Section (C) :**Long Questions	70

Any remarks/ suggestions:

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