Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Institute of Information Technology

Choice Based Credit System (CBCS) in the light of NEP-2020
Bachelor of Technology (CSE with Specialization in Information and Cyber Security) SEMESTER-V(2023-2027)

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTCS501N	DCC	Theory of Computation	60	20	20	0	0	3	1	0	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES:

The student will have ability to:

1. To introduce concepts in automata theory and theory of computation.
2. To identify different formal language classes and their relationships.
3. To design grammars and recognizers for different formal languages.

COURSE OUTCOMES:

Upon completion of the subject, students will be able to:

1. Ability to relate practical problems to languages, automata, and computability.
2. Ability to demonstrate an increased level of mathematical sophistication.
3. Ability to apply mathematical and formal techniques for solving problems.

SYLLABUS

UNIT I — 10 HOURS

Introduction: Alphabets, Strings and Languages; Automata and Grammars, Deterministic finite Automata (DFA)-Formal Definition, Simplified notation: State transition graph, Transition table, Language of DFA, Nondeterministic finite Automata (NFA), NFA with epsilon transition, Language of NFA, Equivalence of NFA and DFA, Minimization of Finite Automata, Distinguishing one string from other, Myhill-Nerode Theorem.

UNIT II — 8 HOURS

Regular Expression (RE): Definition, Operators of regular expression and their precedence, Algebraic laws for Regular expressions, Kleen's Theorem, Regular expression to FA, DFA to Regular expression, Arden's Theorem, Non-Regular Languages, Pumping Lemma for regular Languages. Application of Pumping Lemma, Closure properties of Regular Languages, Decision properties of Regular Languages, FA with output: Moore and Mealy machine, Equivalence of Moore and Mealy Machine, Applications and Limitation of FA.

UNIT III — 9 HOURS

Context Free Grammar (CFG) and Context Free Languages (CFL): Definition, Examples, Derivation, Derivation trees, Ambiguity in Grammar, Inherent ambiguity, Ambiguous to Unambiguous CFG, Useless symbols, Simplification of CFGs, Normal forms for CFGs: CNF and GNF, Closure properties of CFLs, Decision Properties of CFLs: Emptiness, Finiteness and Membership, Pumping lemma for CFLs.

UNIT IV — 7 HOURS

Push Down Automata (PDA): Description and definition, Instantaneous Description, Language of PDA, Acceptance by Final state, Acceptance by empty stack, Deterministic PDA, Equivalence of PDA and CFG, CFG to PDA and PDA to CFG.

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
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BTCS501N	DCC	Theory of Computation	60	20	20	0	0	3	1	0	4

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UNIT V 8 HOURS

Turing machines (TM): Basic model, definition and representation, Instantaneous Description, Language acceptance by TM, Variants of Turing Machine, TM as Computer of Integer functions, Universal TM, Church's Thesis, Recursive and recursively enumerable languages, Halting problem, Introduction to undecidability, undecidable problems about TM, NP hard and NP complete problem, Post correspondence problem (PCP), Modified PCP, Introduction to recursive function theory.

TEXTBOOKS:

1. J. E. Hopcraft, R. Motwani and J. D. Ullman, *Introduction to Automata Theory, Languages, and Computation*, 3rd Ed., Pearson, 2013.
2. P. Linz, S. H. Rodger, *An Introduction to Formal Languages and Automata*, 7th Ed., Jones & Bartlett Learning, 2023.

REFERENCE:

1. J. C. Martin, *Introduction to Languages and Theory of Computations*, 4th Ed., Tata McGraw Hill, 2010.
2. C. Papadimitriou, and C. L. Lewis, *Elements of the Theory of Computation*, PHI, 1997.
3. Michael Sipser, *Introduction to Theory of Computation*, 3th Ed., Cengage Learning, 2013.
4. K. L. P Mishra & N. Chandrasekaran, *Theory of Computer Science*, 3th Ed., PHI Learning, 2006

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			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTCS502N	DCC	**Introduction to Artificial Intelligence**	**60**	**20**	**20**	**30**	**20**	**3**	**0**	**2**	**4**

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES:
The student will have ability to:
1. Know how computer system adapts, evolves and learns.
2. To gain expertise in one of fastest growing areas of Computer Science that covers topics related to human intelligence and its applications in industry, defense, healthcare, agriculture and many other areas.
3. Provides a rigorous, advanced and professional graduate-level foundation in Artificial Intelligence

COURSE OUTCOMES:
Upon completion of the subject, students will be able to:
1. Build intelligent agents for search and games
2. Solve AI problems through programming with Python
3. Learning optimization and inference algorithms for model learning
4. Design and develop programs for an agent to learn and act in a structured environment.

SYLLABUS
UNIT I — 10 HOURS
Introduction: Concept of AI, history, current status, scope, agents, environments, Problem Formulations, Review of tree and graph structures, State space representation, Search graph and Search tree.

UNIT II — 9 HOURS
Search Algorithms: Random search, Search with closed and open list, Depth first and Breadth first search, Heuristic search, Best first search, A* algorithm, Game Search.

UNIT III — 8 HOURS
Probabilistic Reasoning: Probability, conditional probability, Bayes Rule, Bayesian Networks- representation, construction and inference, temporal model, hidden Markov model.

UNIT IV — 7 HOURS
Markov Decision process: MDP formulation, utility theory, utility functions, value iteration, policy iteration and partially observable MDPs.

UNIT V — 8 HOURS
Reinforcement Learning: Passive reinforcement learning, direct utility estimation, adaptive dynamic programming, temporal difference learning, active reinforcement learning- Q learning.

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			THEORY			PRACTICAL					
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BTCS502N	DCC	**Introduction to Artificial Intelligence**	**60**	**20**	**20**	**30**	**20**	**3**	**0**	**2**	**4**

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

TEXTBOOKS:

1. Stuart Russell and Peter Norvig, *Artificial Intelligence: A Modern Approach*, 3rd Ed., Prentice Hall.
2. Elaine Rich and Kevin Knight, *Artificial Intelligence*, Tata McGraw Hill.

REFERENCE:

1. M. C. Trivedi, *A Classical Approach to Artificial Intelligence*, Khanna Publishing House, Delhi.
2. Saroj Kaushik, *Artificial Intelligence*, Cengage Learning India, 2011.
3. David Poole and Alan Mackworth, *Artificial Intelligence: Foundations for Computational Agents*, Cambridge University Press, 2010.
4. https://nptel.ac.in/courses/106105077
5. https://nptel.ac.in/courses/106106126
6. https://aima.cs.berkeley.edu
7. https://ai.berkeley,edu/project_overview.html (for Practical)

LIST OF PRACTICALS

1. Write a program to conduct uninformed and informed search.
2. Write a program to conduct game search.
3. Write a program to construct a Bayesian network from given data.
4. Write a program to infer from the Bayesian network.
5. Write a program to run value and policy iteration in a grid world.
6. Write a program to do reinforcement learning in a grid world.
7. Mini Project work.

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BTCS503M	**DCC**	**Network Security & Cryptography**	**60**	**20**	**20**	**30**	**20**	3	0	2	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES:

The student will have ability to:

1. To understand the different aspects of Network Security.
2. To learn about different Cryptography, Encryption and Decryption Technique.

COURSE OUTCOMES:

Upon completion of the subject, students will be able to:

1. Understand Need of Security in and Type of threats.
2. Understand Security mechanism and basic and Advance Ciphers.
3. Understand Advance encryption Techniques.
4. Understand the Key exchange protocols used in Public Key Cryptography.
5. Understand the Authentication and Steganography concept.

SYLLABUS

UNIT I — 8 HOURS

Introduction to Network Security: Computer Security Concept, Need for Security, Security in Networks: Threats in networks, Network Security Controls– The OSI Security Architecture, Fundamental Security Design Principle, Security Attacks, Security Services, Security mechanism, Attack Surface and Attack trees, A Model of Network Security Content Integrity, Strong Authentication, Access Controls, Wireless Security, Honey pots. Proxy Servers and Anonymizers, Firewall, Types of firewall, Password Cracking Techniques.

UNIT II — 9 HOURS

Cryptography Concepts & Techniques: Introduction, Plaintext & Cipher text, Creaser Cipher, Substitution Techniques, Substitution Boxes (S-Boxes), Permutation Cipher, Transposition Techniques, Encryption & Decryption, Symmetric & Asymmetric key Cryptography, Key Range & Key Size, Cryptographic Attacks.

UNIT III — 8 HOURS

Symmetric Key Algorithm: Introduction of Block Ciphers, Overview of Symmetric Key Cryptography, DES (Data Encryption Standard) algorithm, Double DES Triple DES, AES, IDEA (International Data Encryption Algorithm) algorithm.

UNIT IV — 10 HOURS

Asymmetric Key Algorithm: Overview of Asymmetric key Cryptography, RSA algorithm, Symmetric & Asymmetric key Cryptography together, Random Oracle Model, Diffie-Hellman Key Exchange, Digital Signature, Basic concepts of Message Digest and Hash Function. Man in Middle Attack, DoS and DDoS Attacks.

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BTCS503M	**DCC**	**Network Security & Cryptography**	**60**	**20**	**20**	**30**	**20**	3	0	2	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

UNIT V 9 HOURS

Internet Security Protocols: User Authentication Basic Concepts, SSL Architecture, SSL protocol Authentication Basics, Password, Authentication Token, Certificate based Authentication, Biometric Authentication. Steganography its importance. Basics of mail security, Pretty Good Privacy, S/MIME, ISAKMP.

TEXTBOOKS:

1. William Stallings, *Cryptography and Network Security*, 2nd Ed., Pearson Education Asia.
2. C. Kaufman, R. Perlman and M. Speciner, *Network Security private communication in a public world*, Pearson.

REFERENCE:

1. William Stallings, *Cryptography And Network Security Principles And Practice*, 4th Ed., Pearson Education
2. Wenbo Mao, *Modern Cryptography: Theory and Practice*, Prentice Hall PTR
3. William Stallings, *Network Security Essentials: Applications and Standards*, Prentice Hall
4. Douglas R. Stinson, *Cryptography: Theory and Practice*, CRC press.
5. Elizabeth D. Zwicky, Simon Cooper, D. Brent Chapman, *Building Internet Firewalls*, 2nd Ed., O'Reilly.
6. Atul Kahate, *Cryptography & Network Security*, Tata McGraw Hill.
7. http://nptel.ac.in/

LIST OF PRACTICALS

1. Write a Program to implement Ceaser Cipher
2. Write a Program to implement Substitution Cipher with equation c=3x+12
3. Write a Program to implement poly alphabetic Cipher
4. Write a Program to implement Rail fence technique
5. Write a Program to implement Simple Columner Transposition technique
6. Write a Program to implement Advanced Columner Transposition technique
7. Write a Program to implement Rotation Cipher
8. Create a Virtual Private Network.
9. Write a Program to implement Simple RSA Algorithm with small numbers.
10. Write a Program to implement Simple Diffie- Hellman Key Exchange Algorithms with small numbers.

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BTDSE541 M	DSE	Cyber Law, Ethics, and Social Media Analysis	60	20	20	30	20	3	0	2	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES:

The student will have ability to:

1. Understand the fundamentals of Cyber Law.
2. Understand the social impact of Cyber Law.
3. Understand the security parameters of Cyber Crimes.
4. Understand various techniques used to provide security in Cyber Law.

COURSE OUTCOMES:

Upon completion of the subject, students will be able to:

1. To understand the basics of Cyber Law.
2. To understand the basics of Cyber Security.
3. To understand the basics of Copyright law.
4. To understand the security policies in Cyber Law.
5. To understand the impact of Cyber Law Services in the Virtual World.

SYLLABUS

UNIT I — 10 HOURS

Introduction Computers and its Impact in Society, Overview of Computer and Web Technology, Need for Cyber Law, Cyber Jurisprudence at International and Indian Level, Cyber Law - International Perspectives UN & International Telecommunication Union (ITU) Initiatives Council of Europe - Budapest Convention on Cybercrime, Asia-Pacific Economic Cooperation (APEC), Organization for Economic Co-operation and Development (OECD), World Bank, Commonwealth of Nations.

UNIT II — 9 HOURS

Constitutional & Human Rights Issues in Cyberspace Freedom of Speech and Expression in Cyberspace, Right to Access Cyberspace – Access to Internet, Right to Privacy, Right to Data Protection, Cyber Crimes & Legal Framework Cyber Crimes against Individuals, Institution and State, Hacking, Digital Forgery, Cyber Stalking/Harassment, Cyber Pornography, Identity Theft & Fraud Cyber terrorism, Cyber Defamation.

UNIT III — 10 HOURS

Cyber Ethics and Cyber-Crime Case Study: Ethics, Legal Developments, Cyber security in Society, Security in cyber laws case studies, General Law and Cyber Law-a Swift Analysis. Social media and Network Analysis: Phenomenology of Social Media, Network Analysis Types of Networks: General Random Networks, Small World Networks, Scale-Free Networks; Examples of Information Networks; Network Centrality Measures; Strong and Weak ties. Influence and Centrality in Social Networks.

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BTDSE541 M	DSE	Cyber Law, Ethics, and Social Media Analysis	60	20	20	30	20	3	0	2	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

UNIT IV **7 HOURS**

E-commerce concept, E-commerce-Salient Features, Online approaches like B2B, B2C & C2C Online contracts, Click Wrap Contracts, Applicability of Indian Contract Act, 1872.

UNIT V **6 HOURS**

Dispute Resolution in Cyberspace, Concept of Jurisdiction, Indian Context of Jurisdiction and IT Act, 2000. International Law and Jurisdictional Issues in Cyberspace, Dispute Resolutions

TEXTBOOKS:

1. Chris Reed & John Angel, Computer Law, OUP, New York.
2. Justice Yatindra Singh, Cyber Laws, Universal Law Publishing Co, New Delhi.
3. Verma S, K, Mittal Raman, Legal Dimensions of Cyber Space, Indian Law Institute.
4. Jonthan Rosenoer, Cyber Law, Springer, New York.
5. Sudhir Naib, The Information Technology Act, 2005: A Handbook, OUP, New York.
6. S. R. Bhansali, Information Technology Act, 2000, University Book House Pvt. Ltd.

REFERENCE:

1.

LIST OF PRACTICALS

1. **Case study of Data Protection and Privacy Laws**
   - GDPR (General Data Protection Regulation)
   - CCPA (California Consumer Privacy Act)

   HIPAA (Health Insurance Portability and Accountability Act)
2. **Case study of Intellectual Property Rights**
   - Copyright, trademarks, and patents in the digital space
   - DMCA (Digital Millennium Copyright Act)
3. **Case study of Cybercrime Regulations**
   - Laws against hacking, identity theft, and online fraud
   - Computer Fraud and Abuse Act (CFAA)
4. **Case study of E-Commerce Regulations**
   - Laws governing online transactions and consumer protection
   - Electronic Signatures in Global and National Commerce Act (ESIGN)

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BTDSE541 M	DSE	**Cyber Law, Ethics, and Social Media Analysis**	60	20	20	30	20	3	0	2	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

5. **Case study of Content Regulation**
   - Laws concerning hate speech, misinformation, and online defamation
   - Section 230 of the Communications Decency Act

6. **Case study of Cybersecurity Compliance**
   - NIST Cybersecurity Framework
   - ISO/IEC 27001 standards

7. **Case study of International Cyber Law**
   - Treaties and agreements governing cross-border cyber issues
   - United Nations' initiatives on cyber norms

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BTICS605N	DCC	Concepts of System Security	60	20	20	30	20	3	0	2	4

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COURSE OBJECTIVES:

The student will have ability to:

1. In this course, students will learn the fundamental principles of computers by studying attacks on computer systems. Students will learn how those attacks work and how to prevent and detect them.

COURSE OUTCOMES:

Upon completion of the subject, students will be able to:

1. Ability to understand the underlying vulnerabilities of the system from a software standpoint
2. Ability to understand the fundamental principles of computer security and techniques, authentication, and secure system design.
3. Ability to understand techniques used to hack the computer system.
4. Ability to understand the concepts of hardware security.
5. Ability to analyze and evaluate software systems for their security properties.

SYLLABUS

UNIT I — 8 HOURS

Introduction to System Security: Definition of System Security, Goals, characteristics and importance of system security, the principle of easiest penetration, Three pillars of security CIA (Confidentiality, Integrity, and Availability), basic introduction of attacks, threat, vulnerability, risk, system policy, security concepts, and relationship, system security threats.

UNIT II — 9 HOURS

Vulnerabilities: hardware vulnerability, software vulnerability, data vulnerability, Security vulnerability detection tools, and techniques, introduction of primary vulnerabilities in network. Multics: Fundamentals, Multics protection system models, Multics reference model, Multics security, Multics vulnerability analysis.

UNIT III — 7 HOURS

OS Security: Introduction: Secure OS, Security Goals, Trust Model, Threat Model, Access Control. Fundamentals: Protection system, Lampson‘s Access Matrix, Mandatory protection system.

UNIT IV — 7 HOURS

Security in ordinary operating systems: UNIX security, windows security Verifiable security goals: Information flow, information flow secrecy, models, information flow integrity model, the challenges of trusted, process, covert channels.

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME					L	T	P	CREDITS
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BTICS605N	DCC	Concepts of System Security	60	20	20	30	20	3	0	2	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

UNIT V 6 HOURS

Smartphone Security: Introduction, importance, and characteristics of Smartphone security, Access control in the Android operating system, Rooting Android devices, Repackaging attacks, Attacks on apps, and Whole-disk encryption.

TEXTBOOKS:

1. Trent Jaeger, Operating system security, Morgan & Claypool Publishers, 2008
2. Michael T. Goodrich and Roberto Tamassia, Introduction to Computer Security, Addison Wesley, 2011.

REFERENCE:

1. Michael Palmer, Guide to Operating System Security Thomson.
2. Andrew S Tanenbaum, Modern Operating Systems, 3rd Edition
3. Secure Operating Systems. John Mitchell. Multics-Orange Book-Claremont
4. William Stallings, Network Security Essentials: Applications and Standards, Prentice Hall, 4th edition, 2010.
5. William Stallings, Network Security Essentials: Applications and Standards, Prentice Hall, 4th edition, 2010
6. Alfred J. Menezes, Paul C. van Oorschot and Scott A. Vanstone, Handbook of Applied Cryptography, CRC Press, 2001.

LIST OF PRACTICALS

1. Study of Viruses, Malware, and Worms.
2. Study of security policies for devices.
3. Study of attack on Smartphone security
4. Study of attacks on Android applications
5. Study of UNIX security architecture
6. Study of DoS attacks
7. Study of Physical security challenges
8. Study of data and hardware vulnerabilities
9. Study of Trojan Horse and trapdoor
10. Study of different SQL injection attacks

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BTICS508N	DCC	Ethical Hacking Lab-II	0	0	0	30	20	0	0	2	1

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

COURSE OBJECTIVES:

The student will have ability to:

1. In this course, students will learn the fundamental principles with advanced tools and techniques of Hacking. Students will learn how those secure the world through these attacks.

COURSE OUTCOMES:

Upon completion of the subject, students will be able to:

1. Understand the fundamentals of Wire shark.
2. Acquire the knowledge about malicious software.
3. Apply security concepts to real-world cases.
4. Acquire the knowledge about malicious software.

SYLLABUS

UNIT I — 6 HOURS

Introduction to Network Security:

Introduction to Wire Shark: Introduction, Functionalities, Uses, features of Wire Shark, color coding in Wire Shark, installation. Concepts of network traffic, filters used in wore shark.

UNIT II — 7 HOURS

Cryptography: Concepts & Techniques:

System hacking: System hacking methodology, steganography, steganalysis attacks, and covering tracks. Different types of Trojans, Trojan analysis, and Trojan countermeasures.

UNIT III — 6 HOURS

Symmetric Key Algorithm:

Packet Sniffing: Introduction, types of sniffing, Packet Sniffing tools and techniques, and how to defend against Sniffing. Network scanning techniques and scanning countermeasures.

UNIT IV — 5 HOURS

Asymmetric Algorithm:

ARP and DNS Poisoning: Introduction, ARP spoofing, Introduction of MITM, defenses against DNS Poisoning.

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BTICS508N	DCC	Ethical Hacking Lab-II	0	0	0	30	20	0	0	2	1

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit; ***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

UNIT V 8 HOURS

Internet Security Protocols:

SQL Injection: Introduction, working of SQL injection, SQL injection types and attacks, automation tools for SQL injection, and Prevention techniques from SQL injection.

TEXTBOOKS:

1. Stuart McClure, Joel Scambray and Goerge Kurtz, Hacking Exposed 7: Network Security Secrets & Solutions, Tata McGraw Hill Publishers, 2010.
2. Bensmith, and Brian Komer, Microsoft Windows Security Resource Kit, Prentice Hall of India, 2010.

REFERENCE:

1. Stuart McClure, Joel Scambray and Goerge Kurtz, ―Hacking Exposed Network Security Secrets & Solutions‖, 5th Edition, Tata McGraw Hill Publishers, 2010.
2. Rafay Baloch, ―A Beginners Guide to Ethical Hacking‖.
3. Allen Harper, Shon Harris, Jonathan Ness, Chris Eagle, ―Gray Hat Hacking The Ethical Hackers Handbook‖, 3rd Edition, McGraw-Hill Osborne Media Paperback (January 27, 2011).

LIST OF PRACTICALS

1. Study and Installation of WI reshark.
2. Wireshark: Experiment to monitor live network capturing packets and analyzing over the live network.
3. LOIC: DoS attack using LOIC.
4. FTK: Bit level forensic analysis of evidential image and reporting the same.
5. Dark comet : Develop a malware using Remote Access Tool Dark comet to take a remote access over network.
6. HT Track: Website mirroring using Ht track and hosting on a local network.
7. XSS: Inject a client side script to a web application.
8. Email tracker pro: Email analysis involving header check, and tracing the route. Also perform a check on a spam mail and non-spam mail.
9. Study different ARP and DNS poisoning tools.
10. Study different Packet sniffing tools.

Chairperson	Chairperson	Controller of Examination	Registrar
Board of Studies, Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore	Faculty of Studies, Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore	Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore	Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore