



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Information Technology
Choice Based Credit System (CBCS) in Light of NEP-2020
B.Tech. (CSE - Big Data and Cloud Engineering - Impetus
Technologies) Semester-VII (2020-2024)

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			ENDESEM University Exam	Two Term Exam	Teachers Assessment*	ENDESEM University Exam	Teachers Assessment*				
BBAI501	AECC	Human Values and Professional Ethics	60	20	20	0	0	4	0	0	4

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;
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Course Objectives:

1. The objective of the course is to disseminate the theory and practice of moral code of conduct and familiarize the students with the concepts of “right” and “good” in individual, social and professional context

Course Outcomes:

1. Help the learners to determine what action or life is best to do or live.
2. Right conduct and good life.
3. To equip students with understanding of the ethical philosophies, principles, models that directly and indirectly affect business.

Syllabus:

Unit I: Human Value

1. Definition, Essence, Features and Sources
2. Sources and Classification
3. Hierarchy of Values
4. Values Across Culture

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UNIT II: Morality

1. Definition, Moral Behaviour and Systems
2. Characteristics of Moral Standards
3. Values Vs Ethics Vs Morality
4. Impression Formation and Management

UNIT III: Leadership in Indian Ethical Perspective.

1. Leadership, Characteristics
2. Leadership in Business (Styles), Types of Leadership (Scriptural, Political, Business and Charismatic)
3. Leadership Behaviour, Leadership Transformation in terms of Shastras (Upanihads, Smritis and Manu-smriti) .

UNIT IV: Human Behavior – Indian Thoughts

1. Business Ethics its meaning and definition
2. Types, Objectives, Sources, Relevance in Business organisations.
3. Theories of Ethics, Codes of Ethics

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UNIT V: Globalization and Ethics

1. Sources of Indian Ethos & its impact on human behavior
2. Corporate Citizenship and Social Responsibility – Concept (in Business),
3. Work Ethics and factors affecting work Ethics.

Text Books:

1. Beteille, Andre (1991). **Society and Politics in India**. Athlone Press: New Jersey.
2. Chakraborty, S. K. (1999). **Values and Ethics for Organizations**. oxford university press
3. Fernando, A.C. (2009). **Business Ethics - An Indian Perspective** .India: Pearson Education: India
4. Fleddermann, Charles D. (2012). **Engineering Ethics**. New Jersey: Pearson Education / Prentice Hall.
5. Boatright, John R (2012). **Ethics and the Conduct of Business**. Pearson. Education: New Delhi.
6. Crane, Andrew and Matten, Dirk (2015). **Business Ethics**. Oxford University Press Inc: New York.
7. Murthy, C.S.V. (2016). **Business Ethics – Text and Cases**. Himalaya Publishing House Pvt. Ltd: Mumbai
8. Naagrajan, R.R (2016). **Professional Ethics and Human Values**. New Age International Publications: New Delhi.

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BTCS601	DCC	Compiler Design	60	20	20	30	20	3	1	2	5

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Course Objectives:

1. To introduce the major concept areas of language translation and compiler design
2. To enrich the knowledge in various phases of compiler and its use
3. To provide understanding of steps of programming necessary for constructing a compiler

Course Outcomes:

1. Ability to apply the knowledge of lex tool & yacc tool to develop a scanner & parser
2. Ability to design and develop software system for backend of the compiler
3. Ability to comprehend and adapt to new tools and technologies in compiler design
1. To introduce the major concept areas of language translation and compiler design

Syllabus

Unit – I

Introduction: Compiler, Compilers analysis of the source program, Phases of a compiler, Cousins of the Compiler, Grouping of Phases and Compiler construction tools, Lexical Analysis, Role of Lexical Analyzer, Input Buffering and Specification of Tokens.

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Unit – II

Syntax Analysis: Role of the parser, Writing Grammars, Context-Free Grammars, Top Down parsing, Recursive Descent Parsing, Predictive Parsing, Bottom-up parsing, Shift Reduce Parsing, Operator Precedent Parsing, LR Parsers, SLR Parser – Canonical LR Parser – LALR Parser.

Unit – III

Intermediate Code Generation: Syntax Directed Definitions, Evaluation Orders for Syntax Directed Definitions, Intermediate languages, Declarations, Assignment Statements, Boolean Expressions, Case Statements, Three Address code, Back patching, Procedure calls.

Unit – IV

Code Optimization and Run Time Environments: Introduction, Principal Sources of Optimization, Optimization of basic Blocks, DAG representation of Basic Blocks - Introduction to Global Data Flow Analysis, Runtime Environments, Source Language issues, Storage Organization, Storage Allocation strategies, Access to non-local names, Parameter Passing, Error detection and recovery.

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Unit – V

Code Generation: Issues in the design of code generator, the target machine, Runtime Storage management, Basic Blocks and Flow Graphs, Next-use Information, A simple Code generator, Peephole Optimization.

Text Books:

1. Alfred V. Aho, Jeffrey D Ullman, “Compilers: Principles, Techniques and Tools”, Pearson Education Asia, 2012
2. Jean Paul Tremblay, Paul G Serenson, "The Theory and Practice of Compiler Writing", BS Publications, 2005
3. Dhamdhare, D. M., "Compiler Construction Principles and Practice", 2nd edition, Macmillan India Ltd., New Delhi, 2008.

References:

1. Allen I. Holub, “Compiler Design in C”, Prentice Hall of India, 2003.
2. C. N. Fischer and R. J. LeBlanc, “Crafting a compiler with C”, Benjamin Cummings, 2003
3. Henk Alblas and Albert Nymeyer, “Practice and Principles of Compiler Building with C”, PHI, 2001

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- Kenneth C. Loudon, “Compiler Construction: Principles and Practice”, Thompson Learning, 2003.

List of Experiments:

- To study the Lex Tool.
- To study the Yacc Tool.
- Write a program to implement Lexical Analyzer to recognize few patterns of C.
- Write a program to implement the Recursive Descent Parser.
- Write a program to implement the Computation of FIRST and FOLLOW of variables of grammar.
- Write a program to compute the leading and trailing symbols of grammar.
- Write a program to implement Operator Precedence Parser.
- Write a program to implement SLR parser.
- Write a program to check the data types.
- Write a program to implement the generation of three address code.
- Write a program to implement the computation of postfix notation.
- Write a program to implement the computation of Quadruple.

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BTIT604	DCC	Object Oriented Analysis and Design	60	20	20	30	20	2	0	2	3

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Course Objectives:

1. To learn the concept of Object Oriented Software Development Process
2. To get acquainted with UML Diagrams
3. To understand Object Oriented Analysis Processes.

Course Outcomes:

1. Understand Object Oriented Software Development Process
2. Gain exposure to Object Oriented Methodologies & UML Diagrams
3. To apply Object Oriented Analysis Processes for projects.
2. To introduce the major concept areas of language translation and compiler design

Syllabus

Unit – I

Introduction: About Object Oriented Technology, Development and OO Modeling History. Modeling Concepts: Modeling design Technique, Three models, Class Model, State model and Interaction model.

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UNIT-II

Class Modeling: Object and class concepts, link and association, Generalization and Inheritance, Advanced class modeling- aggregation, Abstract class meta data, constraints. State Modeling: Event, state, Transition and conditions, state diagram, state diagram behavior, concurrency, Relation of Class and State models. Interaction Modeling: Use case Models, sequence models, activity models

UNIT-III

Analysis and Design: Development Life cycle, Development stages, Domain Analysis-Domain class model, domain state model, domain interaction model, Iterating and analysis. Application Interaction model, Application class model, Application state Model, Adding operation.

UNIT-IV

System Design: Estimating Performance, Making a reuse plan, breaking system into sub systems identifying concurrency, allocation of subsystems, management of data storage, Handling Global resources, choosing a software control strategy, Handling boundary condition, common Architectural style.

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UNIT-V

Class design: Overview of class design, designing algorithms recursing downward, refactoring, design optimization, Adjustment of Inheritance, Rectification of Behavior.

TEXT BOOKS:

1. Michael Blaha and J. Rumbaugh, “Object oriented Modeling and design with UML”, Pearson Education

REFERENCES:

1. Satzinger, Jackson and Burd, “Object oriented Analysis and design with the Unified Process”, CENGAGE Learning.
2. O’Docherty, “Object Oriented Analysis and Design Understanding, System Development with UML2.0”, Wiley India.

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LIST OF EXPERIMENTS

1. How to write a Problem Statement
2. Perform the system analysis: Requirement analysis, SRS.
3. Perform the function oriented diagram: DFD and Structured chart.
4. Perform the user's view analysis: Use case diagram.
5. Draw the structural view diagram: Class diagram, object diagram.
6. Draw the behavioral view diagram: Sequence diagram, Collaboration diagram.
7. Draw the behavioral view diagram: State-chart diagram, Activity diagram.
8. Draw the implementation view diagram: Component diagram.
9. Draw the environmental view diagram: Deployment diagram.

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BTCS711	DSE	Soft Computing	60	20	20	0	0	2	1	0	3

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Course Objectives:

1. Apply soft computing techniques to real word problems
2. Understand the concepts of fuzzy sets, knowledge representation using fuzzy rules, approximate reasoning, fuzzy inference systems, and fuzzy logic control and other machine intelligence applications of fuzzy logic.
3. Understand the fundamental theory and concepts of neural networks, neuro-modeling, several neural network paradigms and its applications.
4. Understand the basics of an evolutionary computing paradigm known as genetic algorithms and its application to engineering optimization problems.
5. Apply hybrid techniques to improve efficiency of the algorithms.

Course Outcomes:

At the end of the course, students shall be able to:

1. Design asystems using approaches of soft computing for solving various real-world problems.
2. Applythe rules of fuzzy logic forfuzzy control and Competent with issues related fuzzy systems.
3. Learn training, verification and validation of neural network models.
4. Design Engineering applications that can be optimized using genetic algorithms.
5. Design a robust and low-cost intelligent machines with knowledge of tolerance of imprecision and uncertainty.

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SYLLABUS

UNIT-I

Introduction to Soft Computing, Historical Development, Definitions, advantages and disadvantages, solution of complex real life problems, Soft Computing and its Techniques, Soft Computing verses Hard Computing. Applications of Soft Computing in the Current industry.

UNIT-II

Introduction to Fuzzy Logic, Crisp Sets, Fuzzy Sets, Fuzzy Relations, Membership Functions and features, Fuzzification, Methods of Membership Value Assignments, Defuzzification and methods, Lambda cuts. Fuzzy Measure, Fuzzy Reasoning, Fuzzy Inference System.

UNIT-III

Neural Network (NN), Biological foundation of Neural Network, Neural Model and Network Architectures, Perceptron Learning, Supervised Hebbian Learning, Back-propagation, Associative Learning, Competitive Networks, Hopfield Network, Computing with Neural Nets and applications of Neural Network

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UNIT-IV

Genetic Algorithm, Fundamentals, basic concepts, working principle, encoding, fitness function, reproduction, Genetic modeling: Inheritance operator, cross over, inversion & deletion, mutation operator, Bitwise operator, Generational Cycle, Convergence of GA, Applications & advances in GA, Differences & similarities between GA & other traditional methods.

UNIT-V

Neuro-Fuzzy and Soft Computing, Adaptive Neuro-Fuzzy Inference System Architecture, Hybrid Learning Algorithm, Learning Methods that Cross-fertilize ANFIS and RBFN. Coactive Neuro Fuzzy Modeling, Framework Neuron Functions for Adaptive Networks, Neuro Fuzzy Spectrum. Hybridization of other techniques

TEXT BOOKS:

1. S.N. Deepa and S.N. Sivanandam, Principles of Soft Computing, 2ed., Wiley, 2011
2. Vojislav Kecman, Learning and Soft Computing - Support Vector Machines, Neural Networks, and Fuzzy Logic Models, 1ed., The MIT Press, 2001.
3. D. K. Pratihari, Soft Computing, 1ed., Alpha Science, 2007.

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COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			ENDESEM University Exam	Two Term Exam	Teachers Assessment*	ENDESEM University Exam	Teachers Assessment*				
BTCS711	DSE	Soft Computing	60	20	20	0	0	2	1	0	3

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.

4. Timothy J. Ross, Fuzzy logic with Engineering Applications, 3ed., John Wiley and Sons, 2010.
5. S. Rajasekaran and G.A.V. Pai, Neural Networks, Fuzzy Logic and Genetic Algorithms, 2ed. PHI
6. David E. Goldberg, Genetic Algorithms in search, Optimization & Machine Learning, 1ed., Addison-Wesley Publishing Company, 1989

REFERENCES:

1. Jang, Sun and Mizutani, Neuro-Fuzzy and Soft Computing: A Computational Approach to Learning and Machine Intelligence, 1ed., Pearson, 1997.
2. George J. Klir and Bo Yuan, Fuzzy Sets and Fuzzy Logic: Theory and Applications, 1ed., Prentice Hall, 1995
3. Simon Haykin, Neural Networks: A Comprehensive Foundation, 2ed. Prentice Hall, 1998
4. Samir Roy and Udit Chakraborty, A Beginners Approach to Soft Computing, 1ed., Pearson, 2013

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BTCS715	DSE	Quantum Computing	60	20	20	0	0	2	1	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;
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COURSE OBJECTIVES

The objective of this course is to impart necessary knowledge to the learner so that he/she can develop and implement algorithm and write programs using these algorithm.

COURSE OUTCOMES

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

1. Explain the working of a Quantum Computing program, its architecture and program model
2. Develop quantum logic gate circuits
3. Develop quantum algorithm
4. Program quantum algorithm on major toolkits

SYLLABUS

UNIT-I

Introduction to Quantum Computing: Motivation for studying Quantum Computing, Major players in the industry (IBM, Microsoft, Rigetti, D-Wave etc.), Origin of Quantum Computing, Overview of major concepts in Quantum Computing: Qubits and multi-qubits states, Bra-ket notation, Bloch Sphere representation, Quantum Superposition, Quantum Entanglement

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BTCS715	DSE	Quantum Computing	60	20	20	0	0	2	1	0	3

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UNIT-II

Math Foundation for Quantum Computing: Matrix Algebra: basis vectors and orthogonality, inner product and Hilbert spaces, matrices and tensors, unitary operators and projectors, Dirac notation, Eigen values and Eigen vectors.

UNIT-III

Building Blocks for Quantum Program: Architecture of a Quantum Computing platform, Details of q-bit system of information representation: Block Sphere, Multi-qubits States, Quantum superposition of qubits (valid and invalid superposition), Quantum Entanglement, Useful states from quantum algorithmic perceptive e.g. Bell State, Operation on qubits: Measuring and transforming using gates, Quantum Logic gates and Circuit: Pauli, Hadamard, phase shift, controlled gates, Ising, Deutsch, swap etc, Programming model for a Quantum Computing Program: Steps performed on classical computer, Steps performed on Quantum Computer, Moving data between bits and qubits.

UNIT-IV

Quantum Algorithms: Basic techniques exploited by quantum algorithms, Amplitude amplification, Quantum Fourier Transform, Phase Kick-back, Quantum Phase estimation, Quantum Walks, Major Algorithms: Shor's Algorithm, Grover's Algorithm, Deutsch's Algorithm, Deutsch -Jozsa Algorithm,

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BTCS715	DSE	Quantum Computing	60	20	20	0	0	2	1	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;
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UNIT-V

OSS Toolkits for implementing Quantum program: IBM quantum experience, Microsoft Q, Rigetti PyQuil (QPU/QVM)

TEXT BOOKS and REFERENCES:

1. Michael A. Nielsen, “Quantum Computation and Quantum Information”, Cambridge University Press.
2. David McMahon, “Quantum Computing Explained”, Wiley.
3. IBM Experience:
4. <https://quantumexperience.ng.bluemix.net>
5. Microsoft Quantum Development Kit
6. <https://www.microsoft.com/en-us/quantum/development-kit>
7. Forest SDK PyQuil:
8. <https://pyquil.readthedocs.io/en/stable/>

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BTCS716	DSE	Virtual Reality	60	20	20	0	0	2	1	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

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COURSE OBJECTIVES

1. The objective of this course is to provide a detailed understanding of the concepts of Virtual Reality and its applications.

COURSE OUTCOMES

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

1. Understand geometric modelling and Virtual environment.
2. Study about Virtual Hardware and Software
3. Develop Virtual Reality applications

SYLLABUS

UNIT-I

Introduction to Virtual Reality: Virtual Reality and Virtual Environment: Introduction, Computer graphics, Real time computer graphics, Flight Simulation, Virtual environment requirement, benefits of virtual reality, Historical development of VR, Scientific Landmark.

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BTCS716	DSE	Virtual Reality	60	20	20	0	0	2	1	0	3

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.

3D Computer Graphics: Introduction, The Virtual world space, positioning the virtual observer, the perspective projection, human vision, stereo perspective projection, 3D clipping, Colour theory, Simple 3D modelling, Illumination models, Reflection models, Shading algorithms, Radiosity, Hidden Surface Removal, Realism-Stereographic image.

UNIT-II

Geometric Modelling: Geometric Modelling: Introduction, From 2D to 3D, 3D space curves, 3D boundary representation.

Geometrical Transformations: Introduction, Frames of reference, Modelling transformations, Instances, Picking, Flying, Scaling the VE, Collision detection.

Generic VR system: Introduction, Virtual environment, Computer environment, VR technology, Model of interaction, VR Systems.

UNIT-III

Virtual Environment: Animating the Virtual Environment: Introduction, The dynamics of numbers, Linear and Nonlinear interpolation, the animation of objects, linear and non-linear translation, shape & object inbetweening, free from deformation, particle system.

Physical Simulation: Introduction, Objects falling in a gravitational field, Rotating wheels, Elastic collisions, projectiles, simple pendulum, springs, Flight dynamics of an aircraft.

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BTCS716	DSE	Virtual Reality	60	20	20	0	0	2	1	0	3

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

VR Hardware and Software: Human factors: Introduction, the eye, the ear, the somatic senses.
VR Hardware: Introduction, sensor hardware, Head-coupled displays, Acoustic hardware, Integrated VR systems.
VR Software: Introduction, Modelling virtual world, Physical simulation, VR toolkits, Introduction to VRML

UNIT-V

VR Applications: Introduction, Engineering, Entertainment, Science, Training.
The Future: Virtual environment, modes of interaction

TEXT BOOKS and REFERENCES:

1. John Vince, “Virtual Reality Systems “, Pearson Education Asia, 2007.
2. Anand R., “Augmented and Virtual Reality”, Khanna Publishing House, Delhi.
3. Adams, “Visualizations of Virtual Reality”, Tata McGraw Hill, 2000.
4. Grigore C. Burdea, Philippe Coiffet , “Virtual Reality Technology”, Wiley Inter Science, 2nd Edition, 2006.
5. William R. Sherman, Alan B. Craig, “Understanding Virtual Reality: Interface, Application and Design”, Morgan Kaufmann, 2008.
6. www.vresources.org
7. www.vrac.iastate.edu
8. www.w3.org/MarkUp/VRM

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BTCS705	SEC	Industrial Training	0	0	0	0	50	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

Guidelines available on the website.

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BTCS706	PW	Project	0	0	0	120	80	0	0	8	4

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

*Teacher Assessment shall be based following components: Quiz

Guideline and instruction for Project

S.No	Particular
1.	Group formation and Submission of Project Topic (At least three(03))
2.	Guide allotment and Topic Finalization
3.	Presentation –I Contents: 1. Problem Domain 2. Literature Survey 3. Feasibility Study 4. References
4.	Synopsis Submission
5.	Presentation – II Contents: 1. SRS / URD 2. Conceptual Design
6.	Presentation – III Contents: 1. Detail Design 2. Implementation & Test Plan
7.	Project Report Submission

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BTCSIT703	DCC	Artificial Intelligence Applications	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 inClass, 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.
5. Learn model building using supervised and unsupervised algorithm and model evaluation using python

SYLLABUS

UNIT-I

Introduction: Concept of AI, history, current status, scope, Introduction to Machine Learning, Types of Machine Learning, Workflow of model learning, Review of tree and graph structures, State space representation, Search graph and Search tree.

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BTCST703	DCC	Artificial Intelligence Applications	60	20	20	30	20	3	0	2	4

UNIT-II

Search Algorithms: Random search, Depth first and Breadth first search, Heuristic search, A* algorithms.

Probability and Statistics: Probability, Conditional Probability, Probability distribution, Bayes Rule, Inference Statistics – Central limit theorem, empirical rule, population, sample, hypothesis testing, type-I/type-II error.

UNIT-III

Feature Engineering: Introduction, Important of Feature Engineering in Machine Learning, Imputation, Discretization, Categorical Encoding, Feature Splitting, Handling Outliers, Scaling, Variable Transformations to create transformed features.

UNIT-IV

Supervised Machine Learning Algorithms: Linear Regression, Logistic Regression, Naïve Bayes Classification Algorithm. Tree Based Algorithm (Decision Tree Algorithm – Bagging and Boosting), Hidden Markov Model.

UNIT-V

Unsupervised Machine Learning Algorithms: Partition Based Clustering (K-Means), Density based clustering (DBSCAN Clustering), Gaussian Mixture Model (GMM), Bayesian Gaussian Mixture Model (BGMM).

TEXT BOOKS:

1. Stuart Russell and Peter Norvig, “Artificial Intelligence: A Modern Approach”, 3rd Edition, Prentice Hall.
2. Elaine Rich and Kevin Knight, “Artificial Intelligence”, Tata McGraw Hill.
3. Trivedi, M.C., “A Classical Approach to Artificial Intelligence”, Khanna Publishing House, Delhi.
4. Saroj Kaushik, “Artificial Intelligence”, Cengage Learning India, 2011.
5. David Poole and Alan Mackworth, “Artificial Intelligence: Foundations for Computational Agents”, Cambridge University Press 2010.
6. Alice Zheng and Amanda Casari, “Feature Engineering for Machine Learning”, O’Reilly.

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BTCST703	DCC	Artificial Intelligence Applications	60	20	20	30	20	3	0	2	4

WEBSITES FOR REFERENCE:

1. <https://nptel.ac.in/courses/106105077>
2. <https://nptel.ac.in/courses/106106126>
3. <https://nptel.ac.in/courses/106106139>
4. <https://mrcet.com/pdf/Lab%20Manuals/MACHINE%20LEARNING%20LAB.pdf> (for Practical)

LIST OF PRACTICALS:

1. Write a programme to conduct uninformed and informed search.
2. Write a Python program to import and export data using Pandas library functions.
3. Demonstrate various data pre-processing techniques for a given dataset like Imputation (Mean/Mode/Median), Categorical Encoding (Dummy Variables), Scaling (Min-Max Scaling).
4. Develop Linear and Logistic Regression Model for a given dataset.
5. Develop Decision Tree Classification model for a given dataset and use it to classify a new sample.
6. Write a Python program to implement K-Means clustering algorithm.
7. Mini Project work.

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