B.Sc. Computer Science (Artificial Intelligence)

CHOICE-BASED CREDIT SYSTEM (CBCS)

AND

LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK (LOCF)

CURRICULUM AND SCHEME OF EXAMINATION

SYLLABUS

2023 – 2026 Batch

Programme Learning Outcomes (PLO)

After completion of the Programme, the students will be able to

PLO1: Exhibit technical and technological knowledge in core areas of computer science and Artificial Intelligence.

PL02: Apply technical, problem solving skills and critical thinking to provide solutions for real world complex problems.

PLO3: Acquire professional proficiency to accomplish employability and entrepreneurship

PLO4: Advance skills to gain global competency and innovate in developing and deploying AI applications

PLO5: Acquire holistic development with strong emphasis on values and ethics

PLO6: Uphold social responsibilities in alignment with their roles

Programme Specific Outcomes (PSO)

The students at the time of graduation will

PSO1: Apply technical skills attained through laboratory exercises, projects, internships and value added programmes to solve multi-disciplinary problems

PSO2: Analyze a problem, identify and define the requirements appropriate to obtain solution

PSO3: Design AI experiments, carry out analysis and interpretation of data, to provide valid conclusions for decision making

PSO4: Adapt to emerging technologies to design and implement solutions for societal needs

PSO5: Create systems by applying modern tools for the complex activities

PSO6: Apply ethical principles and responsibilities in all the activities they involve

PSO7: Function effectively as an individual, and as a member or leader in diverse teams

PSO8: Recognize the need and have the ability to engage in independent and life-long learning in the broadest context of technological changes

PSGR Krishnammal College for Women

B.Sc. Computer Science (Artificial Intelligence)

CHOICE BASED CREDIT SYSTEM (CBCS) & LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK (LOCF)

Curriculum and Scheme of Examination

BACHELOR OF COMPUTER SCIENCE (ARTIFICIAL INTELLIGENCE)

SEMESTER I to IV (2023 - 2026 Batch onwards)

Semester	Part	Subject Code	Title of the Course	Category	Instruction Hours / Week	Contact Hours	Tutorial Hours	Duration of Examination	Examination Marks			Credits
									CA	ESE	Total	
I	I	TAM2301A/ HIN2301A / FRE2301A	Language Paper I	Language	4	58	2	3	25	75	100	3
	II	ENG2301A	English Paper I	English	4	58	2	3	25	75	100	3
	III	IN23C01	**Core 1:** Computer Programming	CC	4	58	2	3	25	75	100	3
	III	AI23CP1	**Programming Lab 1:** Computer Programming Lab	CC	3	45	-	3	15	35	50	2
	III	PP22C02	**Core 2:** Computational and Algorithmic Thinking for Problem Solving	CC	3	45	-	-	100#	-	100	3
	III	AP23C03	**Core 3:** Operating Systems Fundamentals - Linux	CC	4	58	2	3	25	75	100	3
	III	TH23A25	**Allied A1:** Linear Algebra	GE	6	88	2	3	25	75	100	5
	IV	NME23ES	Introduction to Entrepreneurship	AEC	2	30	-	-	100#	-	100	2
		NME23A1/ NME23B1	Advanced Tamil 1 / Basic Tamil 1	AEC	2	28	2	-				
	I	TAM2302A/ HIN2302A/ FRE2302A	Language II	Language	4	88	2	3	25	75	100	3

II	II	ENG2302A	English Paper II	English	4	73	2	3	25	75	100	3
	III	AI23C04	**Core 4:** Java Programming	CC	4	58	2	3	25	75	100	4
	III	AI23C05	**Core 5:** Data Structures	CC	4	58	2	3	25	75	100	3
	III	AI23CP2	**Core Practical Lab II:** Java Programming Lab	CC	3	45	-	3	25	25	50	2

II	III	AI23CP3	**Core Practical Lab III:** Statistical Tools for AI	CC	3	45	-	3	50	50	50	2
	III	TH23A26	**Allied A2:** Statistics for Computer Science	GE	6	88	2	3	25	75	100	5
	IV		Online Course – Self Study	AEC	-	-	-	-	-	-	-	Grade
	V	23PEPS1	Professional Englishfor Physical sciences	AEC	2	25	5	-	100	-	100#	2
	IV	NME23A2/ NME23B2	Advanced Tamil II / Basic Tamil II (Outside Class Hours)	AEC	2	-	-	-	100	-	100	Grade
	VI	NM23GAW	General Awareness	Self-Study			OT	-	100	-	-	Grade
III	I	TAM2303A/ HIN2303A/ FRE2303A	Language III	Language	4	58	2	3	25	75	100	3
	II	ENG2303A	English III	English	4	58	2	3	25	75	100	3
	III	AI23C06	**Core 4:** Principles of Artificial Intelligence	CC	4	58	2	3	25	75	100	3
	III	AI23C07	**Core 5:** Computer Networks	CC	4	58	2	3	25	75	100	3
	III	AI22CP4	**Programming Lab 4:** DBMS Lab	CC	5	75	-	3	15	35	50 *	4
	III	TH23A27	**Allied A3:** Discrete Mathematics	GE	4	58	2	3	25	75	100	3
III/ IV	III	CS23SBGP/ AI23SCE1	**Skill Based Subject I:** Gen AI / **Coursera** : IBM Applied AI	SEC	3	44/ 45	1/-	-	100	-	100	3
III	IV	NM23DTG	Design Thinking	AEC	2	30	-	-	100	-	100	2
	IV	NM22UHR	**Foundation Course II:** Universal Human Values and Human Rights (Self Study)	AECC	Self-Study	-	-	-	100	-	100#	Grade
III & IV	IV		**Job Oriented Course** (Amazon Web service / Cisco Certified Network Associate/ Microsoft windows server administration / Microsoft Power BI)	-	-	-	-	-	-	-	-	Grade

I-V	VI	16BONL1/ 16BONL2/	Online Course-I Online Course-II	AC C	-	-	-	-	-	-	-	

* CA conducted for 25 converted to 15, ESE conducted for 75 converted to 35.
# Only internal assessment

CC : Core Course, GE : Generic Elective, AEC : Ability Enhancement Course,
OT : Online Test, CA : Continuous Assessment, ESE : End Semester Examination

QUESTION PAPER PATTERN

CORE & ALLIED PAPERS

CA Question Paper Pattern and distribution of marks UG Core and Allied - (First 3 Units)

Question from each unit comprising of (Semester I to IV)

SECTION	MARKS	TOTAL
A – 3 X 2 Marks (No Choice)	06	45
B – 3 X 5 Marks (Internal Choice at the same CLO level)	15	
C - 3 X 8 Marks (Internal Choice at the same CLO level)	24	

End Semester Examination: 5 x 15 = 75 Marks (Semester I to IV)

SECTION	WORD LIMIT	MARKS	TOTAL
A - 5 x 2 Marks (No Choice)	One or Two Sentences	10	75
B – 5 x 5 Marks (Internal Choice at same CLO Level)	300	25	
C – 5 x 8 Marks (Internal Choice at same CLO Level)	600-800	40	

VALUE EDUCATION.AND HUMAN RIGHTS / ENTREPRENEURSHIP / DESIGN THINKING

QUIZ	ASSIGNMENT	PROJECT / CASE STUDY	TOTAL
50 Marks	25 Marks	25 Marks	100 Marks

WEIGHTAGE ASSIGNED TO VARIOUS COMPONENTS OF CONTINUOUS INTERNAL ASSESSMENT (Semester I to **IV)**

Theory

	CIA Test	Model Exam	Seminar/Assignment/ Quiz	Class Participation	Attendance	Max. Marks
Core / Allied	5	7	5	5	3	25

Practical

	Model Exam	Lab Performance	Regularity in Record Submission	Attendance	Maximum Marks
Core / Allied	10	7	5	3	25

*Departments can plan the above pattern according to their course as Test 1 & 2 - Theory / one theory and one practical / both as practical / one theory or practical with one project.

SKILL BASED SUBJECT PRACTICAL – [100 MARKS]

Test 1 (Theory / Practical) : 50 marks
Test 2 (Theory / Practical / Project) : 50 marks
Total : 100 Marks

*Departments can plan the above pattern according to their course as Test 1 & 2 - Theory / one theory and one practical / both as practical / one theory or practical with one project.

RUBRICS Assignment/ Quiz / Seminar

Maximum - 20 Marks (converted to 4 marks)

Criteria	4 Marks	3 Marks	2 Marks	1 Mark
Focus Purpose	Clear	Shows awareness	Shows little awareness	No awareness
Main idea	Clearly presents a main idea.	Main idea supported throughout	Vague sense	No main idea
Organization: Overall	Well planned	Good overall organization	There is a sense of organization	No sense of organization
Content	Exceptionally well presented	Well presented	Content is sound	Not good
Style: Details and Examples	Large amounts of specific examples and detailed description	Some use of examples and detailed descriptions	Little use of specific examples and details	No use of examples

CLASS PARTICIPATION

Maximum - 20 Marks (Converted to 5 marks)

Criteria	5 Marks	4 Marks	3 Marks	2 Marks	1 Mark	Points scored
Level of Engagement in Class	Student proactively contributes to class by offering ideas and asks questions more than once per class.	Student proactively contributes to class by offering ideas and asks questions once per class	Student contributes to class and asks questions occasionally	Student rarely contributes to class by offering ideas and asking no questions	Student never contributes to class by offering ideas	
Listening Skills	Student listens when others talk, both in groups and in class. Student incorporates or builds off of the ideas of others.	Student listens when others talk, both in groups and in class.	Student listens when others talk in groups and in class occasionally	Student does not listen when others talk, both in groups and in class.	Student does not listen when others talk, both in groups and in class. Student often interrupts when others speak.	
Behavior	Student almost never displays disruptive behavior during class	Student rarely displays disruptive behavior during class	Student occasionally displays disruptive behavior during class	Student often displays disruptive behavior during class	Student almost always displays disruptive behavior during class	
Preparation	Student is almost always prepared for class with required class materials	Student is usually prepared for class with required class materials	Student is occasionally prepared for class with required class materials	Student is rarely prepared for class with required class materials	Student is almost never prepared for class.	
					Total	

MAPPING OF PLOs WITH CLOs

COURSE	PROGRAMME LEARNING OUTCOMES					
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
COURSE- IN23C01						
CLO1	S	S	S	M	S	L
CLO2	S	S	M	S	M	L
CLO3	M	S	S	S	S	M
CLO4	S	M	S	S	S	M
COURSE – AI23CP1						
CLO1	S	S	M	S	M	L
CLO2	S	S	S	S	S	M
CLO3	S	S	S	S	M	M
CLO4	S	S	M	S	S	M
COURSE - PP22C02						
CLO1	M	S	S	S	S	S
CLO2	S	S	S	M	S	S
CLO3	S	M	S	S	S	S
CLO4	S	S	M	S	S	S
COURSE - AP23C03						
CLO1	M	M	S	S	S	L
CLO2	S	S	S	S	S	L
CLO3	S	S	S	S	S	L
CLO4	S	S	M	S	S	M
COURSE – AI23C04						
CLO1	S	S	S	M	L	L
CLO2	S	S	S	M	L	L
CLO3	S	S	S	M	L	L
CLO4	S	S	S	M	L	L
COURSE - AI23C05						
CLO1	S	S	S	M	L	L
CLO2	S	S	S	M	L	L
CLO3	S	S	S	M	L	L
CLO4	S	S	S	M	L	L

COURSE – AI23CP2						
CLO1	M	M	S	S	L	L
CLO2	M	M	S	M	M	S
CLO3	S	M	M	S	S	M
CLO4	M	M	S	S	L	S
COURSE - AI23CP3						
CLO1	S	S	S	M	L	L
CLO2	S	S	S	M	L	L
CLO3	S	S	S	M	L	L
CLO4	S	S	S	M	L	L

COURSE - AI23C06						
CLO1	S	S	S	M	M	L
CLO2	S	S	S	S	L	L
CLO3	S	S	S	M	L	L
CLO4	S	S	S	S	L	M

COURSE – AI23C07						
CLO1	S	S	S	M	L	L
CLO2	S	S	S	M	L	L
CLO3	S	S	S	M	L	L
CLO4	S	S	S	M	L	L
COURSE - AI22CP4						
CLO1	S	S	S	M	L	L
CLO2	S	S	S	M	L	L
CLO3	S	S	S	M	L	L
CLO4	S	S	S	M	L	L
COURSE - CS23SBGP						
CLO1	S	S	S	S	M	S
CLO2	S	S	S	S	S	S
CLO3	S	S	M	S	S	S
CLO4	S	M	S	M	S	S

SEMESTER-I

SEMESTER - ICOURSE NUMBER	COURSE NAME	CATEGORY	L	T	P	CREDIT
IN23C01	**COMPUTER PROGRAMMING**	**Theory**	**58**	**2**	**-**	**3**

Preamble

The course covers basic knowledge of Python Programming. It defines the Conditional Statements & Loops, Functions, Tuples, Python data structures, and Exception & its tools.

Course Learning Outcomes

On the successful completion of the course, students will be able to

CLO Number	CLO Statement	Knowledge Level
CLO1	Recall the technical strengths, Python Interpreter, and program execution.	K1
CLO2	Understand the purpose of operations, strings, lists, and tuples to solve problems	K2
CLO3	Apply functions to solve problems using the procedure-oriented approach	K3
CLO4	Analyze the problems and solve it by applying appropriate logic	K4

Mapping with Programme Learning Outcomes

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1	S	S	S	M	S	L
CLO2	S	S	M	S	M	L
CLO3	M	S	S	S	S	M
CLO4	S	M	S	S	S	M

S- Strong; M-Medium; L-Low

COMPUTER PROGRAMMING (IN23C01) – [58 Hrs]

UNIT I **(10 Hrs)**

Introduction: Why do people use Python- Python a scripting language- **Users of Python- Need of Python- Python's Technical Strengths**- How Python runs programs: Introducing the Python Interpreter- Program Execution-Execution Model Variation: Python Implementation Alternatives.

UNIT II **(12 Hrs)**

Types & Operations: Numbers Types: Numeric type basics, Numbers in action, Other numeric types- Strings Fundamentals: String Basics, String Literals, Strings in action, String Methods – Lists and Dictionaries-Tuples- Files.

UNIT III **(12 Hrs)**

Control Flow: Statements & Syntax: Assignment - Expressions & Print- if tests – While & for loops. Functions: Function Basics: Why use functions- Coding Functions- Definition & Calls. Scopes: Python Basics-Global Statement-Scopes Nested functions. Arguments: Arguments passing Basics- Special Arguments Matching Modes.

UNIT IV **(14 Hrs)**

Classes & OOP: OOP: Introduction-Class Coding Basics- Class Coding details: Class statement-**Methods-Inheritance**. Designing with classes: Python and OOP-OOP Inheritance, **Composition, Delegation-Methods and Classes act as Objects**-Multiple Inheritance.

UNIT V **(10 Hrs)**

Introduction to Industry 4.0 - Need -Reasons for Adopting Industry 4.0 - Definition- Goals and Design Principles - **Technologies of Industry 4.0** - Skills required for Industry 4.0 - Advancements in Industry 4.0- **Impact of Industry 4.0 on Society, Business, Government and People - Introduction to 5.0.**

Text Books

1. Mark Lutz, Learning Python, O'Reilly Publication, 5th edition, 2013 (Unit I - IV).
2. P. Kaliraj, T. Devi, Higher Education for Industry 4.0 and Transformation to Education 5.0, CRC Press – Taylor and Francis Group, 1st Edition, 2021 (Unit V).

Reference Books

1. Mark Summerfield, Programming in Python 3, Pearson Education 2009.
2. Mark Pilgrim, Dive into Python 3, A press publication 2011.
3. Richard L. Halterman, Fundamentals of Python, Programming Southern Adventist University, 2017.

Pedagogy

Lectures, Group discussions, Demonstrations

Course Designer

1. Mrs.M.Selvanayaki
2. Ms. A.Deepika

COURSE NUMBER	COURSE NAME	CATEGORY	L	T	P	CREDIT
AI23CP1	COMPUTER PROGRAMMING LAB	PRACTICAL	-	-	45	2

Preamble

The course gives hands-on experience in Python Programming and improves the practical skill set. The learner will be able to develop the logic for the given problem and recognize and understand the syntax and construction of Python code. The course involved compiling, linking, and debugging Python code and developing some complex programs.

Course Learning Outcomes

On the successful completion of the course, students will be able to

CLO Number	CLO Statement	Knowledge Level
CLO1	Identify the basic terminologies of Python programming such asdata types, conditional statements, looping statements, and functions.	K1
CLO2	Develop programs with the implementation of operators & I/O operations	K2
CLO3	Construct programs with features of Lists, Strings.	K3
CLO4	Develop readable programs with files for Exception handling concepts.	K4

Mapping with Programming Learning Outcomes

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1	S	S	M	S	M	L
CLO2	S	S	S	S	S	M
CLO3	S	S	S	S	M	M
CLO4	S	S	M	S	S	M

S- Strong; M-Medium; L-Low

COMPUTER PROGRAMMING LAB (AI23CP1) – [45 Hrs]

LIST OF EXERCISES

1. Exercise programs on basic control structures & loops.
2. Exercise programs on operators & I/O operations.
3. Exercise programs on Python Script.
4. Exercise programs on Lists.
5. Exercise programs on Strings.
6. Exercise programs on functions.
7. Exercise programs on recursion & parameter passing techniques.
8. Exercise programs on Tuples.
9. Exercise programs on file.
10. Exercise programs on Exception handling concepts.
11. Exercise program to Hash Encryption and Decryption giving data.

PEDAGOGY

Demonstration of working environment/Tools/Software/Program

COURSE DESIGNER

1. Mrs. M. Selvanayaki
2. Ms. A. Deepika

COURSE NUMBER	COURSE NAME	CATEGORY	L	T	P	CREDIT
PP22C02	COMPUTATIONAL AND ALGORITHMIC THINKING FOR PROBLEM-SOLVING	Theory	45	-	-	3

Preamble

This course aims to kindle young minds to think like computer scientists with the idea that Computing and computers will enable the spread of computational thinking. Computational thinking is thinking recursively, reformulating a seemingly difficult problem into one which we know how to solve, and taking an approach to solving problems, designing systems, and understanding human behavior that draws on concepts fundamental to computer science.

Course Learning Outcomes

On the successful completion of the course, students will be able to

CLO Number	CLO Statement	Knowledge Level
CLO1	Define the basic principles of Logical reasoning, Problem Solving in Computational Thinking.	K1
CLO2	Understanding the applications of propositional logic, Problem representation, and techniques.	K2
CLO3	Apply algorithmic thinking to problem-solving using tools Flow algorithm, Scratch, and iPython.	K3
CLO4	Apply and analyze to solve domain-specific problems using computational thinking concepts.	K4

Mapping with Programme Learning Outcomes

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1	M	S	S	S	S	S
CLO2	S	S	S	M	S	S
CLO3	S	M	S	S	S	S
CLO4	S	S	M	S	S	S

S - Strong; M - Medium; L – Low

COMPUTATIONAL AND ALGORITHMIC THINKING FOR PROBLEM-SOLVING (PP22C02)

UNIT I **(7 Hrs)**

Basics: Introduction to Computational Thinking- Data Logic - History of Computational Thinking- Applications of Computational Thinking.

UNIT II **(8 Hrs)**

Data- Information and Data - Data Encoding - Logic - Boolean logic - Applications of simple Propositional Logic. Tool: Flow Algorithm and Scratch.

UNIT III **(10 Hrs)**

Problem-Solving and Algorithmic Thinking: Problem definition- Logical reasoning- Problem decomposition- Abstraction- Problem representation via Algorithmic thinking: Name binding- Selection- Repetition and Control Abstraction- Simple Algorithms – Comparison of performance of Algorithms.

UNIT IV **(8 Hrs)**

Activities in Class: Sudoku-Towers of Hanoi- Graph Coloring-Geographical Map reading- Poem Reading-Novel reading- Data analysis on news.

UNIT V **(12 Hrs)**

Problem-Solving Techniques- Factoring and Recursion Techniques- Greedy Techniques-Divide and Conquer- Search and Sort Algorithms- Text Processing and Pattern Matching. Tool: iPython

TEXTBOOK

1. David Riley and Kenny Hunt, Computational Thinking for Modern Solver, Chapman & Hall/CRC, 2014.
2. Paolo Ferragina, Fabrizio Luccio, Computational Thinking First Algorithms, Springer, 2018.
3. Karl Beecher, Computational Thinking – A beginner's guide to problem-solving, BSC publication, 2017.

PEDAGOGY

Lectures, Group discussions, Demonstrations, Case studies

COURSE DESIGNER

Mrs. R. Jayasree

EVALUATION PATTERN

ASSESSMENT	NUMBER	MARKS
Quiz (online or offline)	5	50
Class Activity	5	25
Group Project (Domain Specific)	1	25
TOTAL		100

COURSE NUMBER	COURSE NAME	CATEGORY	L	T	P	CREDIT
AP23C03	OPERATING SYSTEMS FUNDAMENTALS - LINUX	Theory	58	2	-	3

Preamble

This subject is designed to provide the students with a thorough discussion of the fundamentals of operating system. To explore the various memory management scheme and to perform administrative tasks on LINUX servers.

Course Learning Outcomes

On the successful completion of the course, students will be able to

CLO Number	CLO Statement	Knowledge Level
CLO12rt	Recall the basic concepts with functions of operating systems and Linux systems.	K1
CLO2	Understand the operating systems objectives and functionality along with system programs and system calls.	K2
CLO3	Compare and contrast various memory management schemes.	K2
CLO4	Demonstrate deadlock, prevention and avoidance algorithms, storage management, various scheduling algorithms, and shell programming.	K3

Mapping with Programme Learning Outcomes

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1	M	M	S	S	S	L
CLO2	S	S	S	S	S	L
CLO3	S	S	S	S	S	L
CLO4	S	S	M	S	S	M

S- Strong; M-Medium; L-Low

OPERATING SYSTEMS FUNDAMENTALS – LINUX (AP23C03) – [58 Hrs]

UNIT I **(12 Hrs)**

Introduction: What operating systems do - **Computer System Architecture- Operating System Operations.** Process Management: **Process Concept**-Process Scheduling- Operations on Processes- Interprocess communication.

UNIT II **(12 Hrs)**

Process Scheduling: **Basic Concepts- Preemptive and Non-preemptive Scheduling**-Scheduling Criteria Scheduling Algorithms (FCFS, SJF & Round Robin only). Synchronization: **Background** - The Critical Section Problem-Peterson's Solution-Semaphores-The Dining Philosopher's Problem. Deadlock: **Deadlock Characterization** - Methods Handling Deadlocks-Recovery from Deadlock.

UNIT III **(11 Hrs)**

Memory Management Strategies: **Background - Contiguous Memory Allocation -** Paging- Basic Method. Virtual Memory Management: Demand Paging-Page Replacement - Basic Page Replacement, **FIFO Page Replacement**, Optimal Page Replacement, LRU Page Replacement, Counting-Based Page Replacement.

UNIT IV **(11 Hrs)**

What Linux Is – Becoming a Linux Power User: About Shells and Terminal Windows - Choosing your shell - **Running Commands - Recalling Commands Using Command History**-Connecting and Expanding Commands-Using Shell Variables.

UNIT V **(12 Hrs)**

Moving Around the File System: Using Basic File System Commands - Using Meta characters and Operators-**Listing Files and Directories**-Understanding File Permissions and Ownership-Moving, Copying, and Removing Files.

Text Books

1. Abraham Silberschatz, Peter Baer Galvin, G Gagne, OPERATING SYSTEM CONCEPTS, Wiley Publishers, 10th Edition, 2018.
2. Christopher Negus, LINUX BIBLE, Wiley,10th Edition 2020.

Reference Books

1. Archer J harries, Operating System, Tata Mc Graw Hill 2nd Edition, 2011.
2. Williams E. Shotts, The Linux Command Line: A Complete Introduction, John Wiley & Sons, 2nd Edition, 2019.
3. Jason Cannon, Linux for Beginners, Create space Independent Pub, 2014.

Pedagogy:

Lectures, Discussion, Quiz, PPT

Course Designers

1. Mrs. S.Mohanapriya
2. Mrs. T.S. Anushya Devi
3. Dr.R.Hepziba Gnanamalar

SEMESTER II

Course Number	Course Name	Category	L	T	P	Credit
AI23C04	**JAVA PROGRAMMING**	**III**	**58**	**2**	**-**	**4**

PREAMBLE

This course introduces object-oriented programming concepts and also java programming. It covers the concept of loops, arrays, input/output structures, events, exceptions and threads using Java.

PREREQUISITE

- Programming Language
- Basics of computers

COURSE LEARNING OUTCOMES

On the successful completion of the course, students will be able to

CLO Number	CLO Statement	Knowledge Level
CLO1	Remember the principles of object-oriented programming, Java language syntax and semantics	K1
CLO2	Understand the concepts of object-oriented programming and java	K2
CLO3	Apply the principles of inheritance, packages and interfaces in simple java applications	K3
CLO4	Analyze the working features of java language	K4

MAPPING WITH PROGRAMME OUTCOMES

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1	S	S	S	M	L	L
CLO2	S	S	S	M	L	L
CLO3	S	S	S	M	L	L
CLO4	S	S	S	M	L	L

S- Strong; M-Medium; L-Low

JAVA PROGRAMMING - (AI23C04) – [58 Hrs]

UNIT I **(11 Hrs.)**

Fundamentals of Object-Oriented Programming: Object-Oriented Paradigm, **Basic Concepts of Object-Oriented Programming, Benefits of Object-Oriented Programming, Application of Object-Oriented Programming.** Java Evolution: History, Features, Comparison of Java with C and C++. Java and Internet, Java and World Wide Web, Web Browsers. Overview of Java: Simple Java program, Structure, Java Tokens, Statements, Java Virtual Machine.

UNIT II **(12 Hrs.)**

Constants, Variables, Data Types - Operators and Expressions – Decision Making and Branching: if, if...Else, nested if, switch, ?: operator. Decision Making and Looping: while, do, for – Labelled loops.

UNIT III **(12 Hrs.)**

Classes, objects and methods: Introduction-Defining a class-method declaration-creating objects-accessing class methods-method overloading-nesting of methods-inheritance-overriding methods

UNIT IV **(11 Hrs.)**

Interfaces: Multiple Inheritance: Introduction-Defining Interfaces-Extending interfaces-implementing interfaces-Accessing interface variables-packages-Introduction-using system packages-java API packages- creating packages-accessing a package- multi threaded – creating Thread- Life cycle of a Thread

UNIT V **(12 Hrs)**

Exception-Exception handling code- multiple catch statements-using finally statements-managing Input and Output files- Introduction – creation of files-Reading /Writing character-Reading/Writing bytes- Concatenating and Buffering Files – Random Access File

TEXT BOOK

E. Balaguruswamy, Programming with JAVA – 6th Edition A Primer, Mc-Graw Hill Professional, 2015.

REFERENCE BOOKS

1. R.G. Dromey, "How to solve it by Computer", Pearson Education, 2008.
2. Walter Savitch, Java: An Introduction to Problem Solving and Programming, Eighth Edition, Pearson Education Ltd, 2019.
3. Core Java Volume I—Fundamentals, Cay.S.Horstmann, 11th Edition, 2018, Pearson Education
4. Herbert Schildt - Java: A Beginner's Guide, 8th Edition, McGraw Hill Education, 2018.

PEDAGOGY

Lectures, Case Studies, Demonstrations

COURSE DESIGNERS

1. Mrs Loganayaki. M
2. Mrs K. Geethalakshmi

Course Number	Course Name	Category	L	T	P	Credit
AI23C05	DATA STRUCTURES	III	58	2	-	3

PREAMBLE

This course covers various data structures, including arrays, structures, stacks, queues, linked lists and trees. It also includes sorting and searching techniques.

PREREQUISITE

- Programming
- Operating System

COURSE LEARNING OUTCOMES

On successful completion of the course, the students will be able to

CLO Number	CLO Statement	Knowledge Level
CLO1	Remember primitive and non-primitive data structures and their operations	K1
CLO2	Understand the principles and operations of various data structures	K2
CLO3	Apply the techniques and algorithms of data structures in solving simple tasks	K3
CLO4	Analyze data structures algorithms suitable for appropriate applications	K4

MAPPING WITH PROGRAMMING LEARNING OUTCOMES

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1	S	S	S	M	L	L
CLO2	S	S	S	M	L	L
CLO3	S	S	S	M	L	L
CLO4	S	S	S	M	L	L

S- Strong; M-Medium; L-Low

DATA STRUCTURES (AI23C05) – [58 Hrs]

UNIT-I **(12 Hrs.)**

Introduction and Overview: - Introduction - Basic Terminology: Elementary Data Organization - Data Structures - Data structure operations - Algorithms: Complexity, Time-Space Trade-off. Preliminaries: Algorithmic Notation - **Control Structures, Variables, Data Types. Arrays,**

Records, and Pointers: Introduction - Linear Arrays - Representation of Linear Arrays in Memory - Traversing Linear Arrays - Inserting and Deleting.

UNIT-II **(11 Hrs.)**

Linked Lists: Introduction - Linked Lists - **Representation of Linked Lists in Memory**-Traversing a Linked List – Searching a Linked List- **Memory Allocation-Garbage Collection** – Insertion into a Linked List-Deletion from a Linked List.

UNIT-III **(11 Hrs.)**

Stack, Queues, Recursion: Introduction – Stacks - Array Representation of Stacks -Linked Representation of Stacks - **Arithmetic Expressions - Polish Notation** - Recursion-**Towers of Hanoi** - Implementation of Recursive Procedures by Stacks – Queues - Linked Representation of Queues – Dequeue - Priority Queues.

UNIT-IV **(12 Hrs.)**

Trees: Introduction - Binary Trees - Representing Binary Trees in Memory-Traversing binary trees-**Binary search Trees-Searching**-Inserting-Deleting in a Binary Search Trees-Graphs: **Terminology–Sequential Representation of Graphs**-Adjacency Matrix, Path Matrix**.**

UNIT-V **(12 Hrs.)**

Sorting and Searching: Introduction – Sorting – Bubble Sort-Insertion Sort - Selection Sort - Merging - **Merge Sort - Radix Sort** - **Searching and Data Modification** –Searching: Linear Search - Binary Search.

TEXTBOOK

1. Seymour Lipschutz, Data Structures Tata McGraw Hill Company, Revised First Edition, Tenth Reprinted 2017

REFERENCE BOOKS

1. Ellis Horowitz, SartajSahni, Fundamentals of Data Structures,Galgotia Book Source, 2003, Reprinted 2014.
2. K.Sharma, Data Structures using C, Pearson education 2014.
3. Rajdew Tiwari and Nagesh Sharma, Design and Analysis of Algorithms, Pearson education 2014.

PEDAGOGY

Lectures**,** Demonstrations, Discussions

COURSE DESIGNERS

1. Dr. J. Athena
2. Ms. A. Sheela Rini

Course Number	Course Name	Category	L	T	P	Credit
AI23CP2	JAVA PROGRAMMING LAB	III	-	-	45	2

PREAMBLE

This course provides hands-on training to implement Object Oriented programming concept using basic syntaxes of control Structures, strings and functions It demonstrates inheritance, interfaces and packages It also explores different exception handling mechanisms and concept of multithreading.

PREREQUISITE

1. Basics of programming
2. Object oriented principles

COURSE LEARNING OUTCOMES

On the successful completion of the course, students will be able to

CLO Number	CLO Statement	Knowledge Level
CLO1	Identify the logic for the given problem, recognize and understand the syntax and construct JAVA code	K1
CLO2	Understand the java programming constructs and methods	K2
CLO3	Apply OOPs concepts and implement java programs	K3
CLO4	Analyse and implement advanced java programming techniques	K4

MAPPING WITH PROGRAMME LEARNING OUTCOMES

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1	M	M	S	S	L	L
CLO2	M	M	S	M	M	S
CLO3	S	M	M	S	S	M
CLO4	M	M	S	S	L	S

S- Strong; M-Medium; L-Low

JAVA PROGRAMMING LAB – (AI23CP2) – 45 Hrs

LIST OF EXERCISES:

- Exercises using classes and objects
- Exercises using control statements
- Exercises using different inheritance
- Exercises using interfaces
- Exercises using packages
- Exercises using string functions
- Exercises using mouse events
- Exercises using thread methods
- Exercises to implement Exception Handling
- Exercises to implement files using Read and Write methods

PEDAGOGY

Demonstrations

COURSE DESIGNERS

1. Mrs Loganayaki. M
2. Mrs K. Geethalakshmi

Course Number	Course Name	Category	L	T	P	Credit
AI23CP3	STATISTICAL TOOLS FOR AI	III	-	-	45	2

PREAMBLE

This course provides hands on training in data analysis methods using statistical analysis software package PSPP. It also covers statistical methods in Excel to perform data analysis and forecasting.

PREREQUISITE

Basic statistics

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

CLO Number	CLO Statement	Knowledge Level
CLO1	Recall the excel operations like pivot tables, scenarios, goal seek, lookup and advanced filters	K1
CLO2	Understand the features of PSPP and the advanced features in excel	K2
CLO3	Apply the descriptive and inferential statistical techniques using PSPP and excel	K3
CLO4	Analyze and interpret various descriptive tests in PSPP to supplement decision making in business scenario	K4

MAPPING WITH PROGRAMME OUTCOMES

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1	S	S	S	M	L	L
CLO2	S	S	S	M	L	L
CLO3	S	S	S	M	L	L
CLO4	S	S	S	M	L	L

S- Strong; M-Medium; L-Low

STATISTICAL TOOLS FOR AI – (AI23CP3) – [45 Hrs]

LIST OF EXERCISES:

- Exercises to Introduction: Statistical Analysis in MS-Excel to Understand and Identify the basic statistical concepts
- To experiment Diagrammatic representation of Data – Bar Diagram, Pie Diagram to understand the data in an easier manner.
- To experiment Diagrammatic Representation of Data – Histogram and Ogives to understand the data in an easier manner.
- Exercises to implement correlation analysis
- Exercises to implement regression analysis
- Exercises to implement T-test
- Exercises to implement F-test
- Exercises to implement Chi-square test
- Exercises to One way or Two way ANOVA to analyze the numerical data
- Exercises to implement Advanced Filters in Excel
- Exercises to implement Data Validation in Excel
- Exercises to implement Scenarios, Goal seek
- Exercises to implement Vlookup, Hlookup in Excel
- Exercises to implement Pivot Tables and Pivot Charts in Excel
- Exercises to implement Timeline using Gantt chart
- Exercises to implement Macros in Excel
- Exercises to implement Dashboards in Excel

PEDAGOGY

Demonstrations

COURSE DESIGNERS

Dr C. R. Parvathy

SEMESTER III

Course Number	Course Name	Category	L	T	P	Credit
AI23C06	**PRINCIPLES OF ARTIFICIAL INTELLIGENCE**	**Theory**	**58**	**2**	**-**	**3**

Preamble

This course introduces the concepts of Artificial Intelligence and the various methods of solving problems using Artificial Intelligence. It also provides insights into AI techniques and its applications.

Prerequisite

- Principles of Problem-solving
- Discrete Structures

Course Learning Outcomes

On successful completion of the course, students will be able to

CLO Number	CLO Statement	Knowledge Level
CLO1	Recall the fundamental principles of Artificial Intelligence	K1
CLO2	Understand problem-solving techniques for complex problems	K2
CLO3	Apply AI knowledge for reasoning, planning and decision making	K3
CLO4	Analyse various real-world problems to find suitable solutions	K4

Mapping with Programme Learning Outcomes

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1	S	S	S	M	M	L
CLO2	S	S	S	S	L	L
CLO3	S	S	S	M	L	L
CLO4	S	S	S	S	L	M

S- Strong; M-Medium; L-Low

SYLLABUS

UNIT I **(12 hrs)**

Artificial Intelligence Introduction – Intelligent Systems – Foundations of AI – Tic-Tac-Toe Game Playing - Problem Solving : State Space Search and Control Strategies – Introduction – General Problem Solving – **Characteristics of Problem - Exhaustive Searches – Heuristic Search Techniques.**

UNIT II **(12 hrs)**

Knowledge Representation : Introduction – Approaches to Knowledge Representation – Knowledge Representation Using Semantic Work – Extended Semantic Networks for KR – **Uncertainity Measure : Probability Theory - Bayesian Belief Networks.**

UNIT III **(12 hrs)**

Logic and Inferences : Formal Logic – History of Logic and Knowledge – Propositional Logic – First Order Logic – Forward Chaining – Resolution Refutation in FOL – Deductive Retrieval – **Complexity of Resolution Method in FOL – Backward Chaining – Second Order Logic.**

UNIT IV **(11 hrs)**

Expert System & Applications : Introduction – Phases in Building Expert Systems – Expert System Architecture – Application of Expert System. Fuzzy Sets and Fuzzy Logic : Introduction – Fuzzy Sets – Fuzzy Set Operations- **Fuzzy Logic-Inference Rules for Fuzzy Propositions.**

UNIT V **(11 hrs)**

Natural Language Processing : Basic NLP Techniques – Applications – Natural Language Generation. Machine Learning : Naïve Bayes Classifiers – **Hidden Markov Models – Decision Trees – The K-Means Clustering Algorithm** – Artificial Neural Network.

TEXTBOOKS

S.NO	AUTHOR	TITLE OF THE BOOK	YEAR OF PUBLICATION	PUBLISHERS\ EDITION
1.	Saroj Kaushik	Artificial Intelligence	2019	Cengage Learning India Pvt. Ltd, 1st Edition.
2.	pak Khemani	First Course in Artificial Intelligence	2022	Graw Hill Publications, Edition.

REFERENCE BOOK

S.NO	AUTHOR	TITLE OF THE BOOK	YEAR OF PUBLICATION	PUBLISHERS\ EDITION
1.	Patrick Henny Winston	Artificial Intelligence	2012	Pearson Publications, Third Edition,
2.	George F Luger	Artificial Intelligence Structures and Strategies for Complex Problem Solving	2020	Pearson Publications, Fifth Edition
3.	Elaine Rich, Kevin Knight & Shivashankar B Nair	Artificial Intelligence	2017	Mc Graw Hill, Third Edition.

PEDAGOGY

Chalk & Board, Demonstration, Lecture, Group Discussion

COURSE DESIGNERS

1. Mrs. S. Shanthi

Ms.M. Loganayaki

Course Number	Course Name	Category	L	T	P	Credits
AI23C07	COMPUTER NETWORKS	Theory	58	2	-	3

PREAMBLE

This course provides basic concepts of computer networks and its applications. This course provides an understanding of different components of computer networks, layers, various protocols and their applications.

PREREQUISITES

Computer Hardware

COURSE LEARNING OUTCOMES

On successful completion of the course, the students will be able to

CLO Number	CLO Statement	Knowledge Level
CLO1	Recall the different building blocks of computer networks and its architecture	K1
CLO2	Understand the fundamental concepts of computer networking, Protocols, architectures and applications.	K2
CLO3	Apply the principles of network architecture in data communication	K3
CLO4	Analyze the protocols available in different layers of computer network architecture	K4

MAPPING WITH PROGRAMME LEARNING OUTCOMES

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1.	S	S	S	M	L	L
CLO2.	S	S	S	M	L	L
CLO3.	S	S	S	M	L	L
CLO4.	S	S	S	M	L	L

S- Strong; M-Medium; L-Low

SYLLABUS

UNIT I **(11 Hrs)**

Introduction: Uses of Computer networks: Business Applications, Home Applications, Mobile Users- **Network Hardware: PAN, LAN, MAN, WAN, Internetworks.** Network Software: Protocol Hierarchies, Design Issues for the layers, **Connection – oriented Vs. Connectionless services**. Service Primitives. OSI reference model, TCP/IP reference model.

UNIT II **(12 Hrs)`**

Physical Layer: Guided Transmission media: Magnetic media, Twisted Pairs, Coaxial Cable, Power Lines, Fiber Optics, Fiber cables – Digital Modulation and Multiplexing-**Baseband Transmission,**Passband Transmission**,Frequency Division Multiplexing**,Time Division Multiplexing,Code division Multiplexing. Public switched telephone network-Structure of the Telephone System. **Mobile Telephone System-First Generation ,Second Generation and Third Generation.**

UNIT III **(12 Hrs)**

Data link layer: Design Issues- Error Detection and Correction- Elementary data link protocols- A Utopian Simplex Protocol,A Simplex Stop-and-Wait Protocol for an Error -Free Channel ,A Simplex Stop-and -Wait Protocol for a Noisy Channel**. Sliding window protocol.**-A One Bit Sliding Window Protocol,A Protocol Using Go-Back-N-A Protocol Using Selective Repeat. **Bluetooth-Architecture,Application,Protocol Stack,Radio Layer,Link Layers,Frame Structure.**

UNIT IV **(12 Hrs)**

Network Layer: Design Issues-Store and Forward Packet Switching,Services Provided to the Transport Layer,Implementation of Connectionless Service,Implementation of Connection -Oriented Service,**Comparison of Virtual -Circuit and Datagram Networks.** Routing Algorithms- The Optimality Principle,Shortest Path Algorithm.Congestion Control Algorithm-Approaches to Congestion Control,Admission Control,Traffic Aware Routing. **Internetworking-How Networks Differ. IPV4 Protocol.**

UNIT V **(11 Hrs)**

Transport Layer: Services –Transport Service Primitives. -Elements of Transport Protocols-Addressing,Connection Establishment,Connection Release,Error Control and Flow Control,Multiplexing,Crash Recovery.**,UDP-Remote Procedure Call,TCP-TCP service Model protocols**. Application Layer: DNS, **Electronic mail.**

TEXTBOOKS

S.NO.	AUTHOR	TITLE OF THE BOOK	YEAR OF PUBLICATION	PUBLISHERS\ EDITION
1.	Andrew S Tanenbaum	Computer Networks	2014	Pearson Education, 5th Edition

REFERENCE BOOK

S.NO.	AUTHOR	TITLE OF THE BOOK	YEAR OF PUBLICATION	PUBLISHERS\ EDITION
1.	Behrouz A. Forouzan	Data Communications and Networking	2019	Tata McGraw Hill Companies, 5th Edition.
2.	Jim Kurose and Keith Ross	Computer Networking: A Top-Down Approach	2020	Pearson Publications, 5th Edition,

PEDAGOGY

Chalk & Board, Demonstration, Lecture, Group Discussion

COURSE DESIGNERS

1. Ms. S. Shanthi
2. Ms. T. Prabakumari

Course Number	Course Name	Category	L	T	P	Credit
AI22CP4	DBMS LAB	Practical	-	-	75	4

Preamble

The lab course provides a way to explore storing and accessing data in a database through query languages and PL/SQL programming language. It enables to learn database functionality on real-time projects.

Course Learning Outcomes

Upon the successful completion of the course, students will be able to

CLO Number	CLO Statement	Knowledge Level
CLO1	Understand basic SQL query statements	K2
CLO2	Gain knowledge of primary and foreign key constraints	K2
CLO3	Apply functions and joins to data	K3
CLO4	Demonstrate PL/SQL programming on databases and differentiate Key/value store databases from a relational database	K4

Mapping with Programme Learning Outcomes

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CLO1.	S	S	S	M	L	L
CLO2.	S	S	S	M	L	L
CLO3.	S	S	S	M	L	L
CLO4.	S	S	S	M	L	L

S- Strong; M-Medium; L-Low

LIST OF EXERCISES:

1. A Case study and formulate the problem statement on a specific project.
2. Draw ER Diagrams with entities, attributes, keys, and relationships between entities, and cardinalities.
3. Draw tables with Normalization
4. Perform Data Definition Language statements
5. Perform Data Manipulation Language statements
6. Perform Transaction Control Language and Data Control Language statements
7. Perform Data Integrity Constraints Operations
8. Perform Aggregate Function and Sorting
9. Perform Joins Operations
10. Implement Sub Queries
11. Write PL/SQL program to perform Function
12. Write PL/SQL program to perform Procedure
13. Write a program to perform Triggers in PL/SQL
14. Write a program to perform Cursor operation in PL/SQL

PEDAGOGY

Demonstrations of working environment / Tools / Software / Program

COURSE DESIGNERS

1. Dr. R. Suriyagrace
2. Ms.M.Loganayaki

Course Number	Course Name	Category	L	T	P	Credit
CS23SBGP	SKILL-BASED SUBJECT I: GEN AI LAB	Practical	44	1	-	3

Preamble

The objective of this course is to understand the breadth and depth of Generative Artificial Intelligence (Gen AI) and to impart knowledge on its ethical implications, practical applications, and emerging trends.

Course Learning Outcomes

On Completion of the course, the students should be able to

CLO Number	CLO Statement	Knowledge Level
CLO1	Understand the fundamental concepts and ethical considerations of Generative AI.	**K2**
CLO2	Apply AI principles in practical settings using basic AI tools and platforms	**K3**
CLO3	Develop advanced skills in specialized AI applications such as text analysis, natural language processing, and image recognition.	**K3**
CLO4	Explore emerging trends in AI, integrating advanced AI tools into diverse professional practices.	**K4**

Mapping with Programme Learning Outcomes

CLOs	PLO1	PLO2	PLO3	PLO4	PLO5
CLO1	S	S	S	S	M
CLO2	S	S	S	S	S
CLO3	S	S	M	S	S
CLO4	S	M	S	M	S

S - Strong;
M - Medium;
L - Low

Syllabus

Unit 1: Introduction to Gen AI (9 hours)

Understanding Gen AI: Definition and scope of Gen AI - Overview of its applications in various fields -

Introduction to essential skills needed for Gen AI. Ethical Considerations: Discussion on ethical guidelinesand responsible use of AI - Understanding the impact of AI on society and individuals.

Hands-on Activity: Exploring AI Tools

- Working with appropriate content creation Gen-AI tools to engage with ChatGPT to explore varioussubjects, simulate interviews, or create imaginative written content.
- Working with appropriate writing and rephrasing Gen-AI tools to drafting essays on designated topics and refining the content with improved clarity, coherence, and correctness.

Unit 2: Basic AI Concepts (8 hours)

Introduction to AI: Basic concepts and terminology of artificial intelligence - Examples of AI in everyday life - Real-world examples of AI applications in different domains. Machine Learning Basics: Understanding the principles of machine learning - Overview of supervised and unsupervised learning.

Hands-on Activity: Simple AI Projects

- Working with appropriate educational content creation Gen-AI tools to generate quizzes and flashcardsbased on classroom material.
- Working with appropriate language learning Gen-AI tools to practice and enhance language skills through interactive exercises and games across multiple languages.

Unit 3: AI in Practice (9 hours)

Text Analysis and Natural Language Processing (NLP): Introduction to NLP concepts and techniques - Hands- on exercises analyzing text data and extracting insights. Image Recognition and Processing: Basics of image recognition algorithms and techniques - AI Tools for Text and Image Processing

Hands-on Activity: Text and Image Projects

- Working with appropriate image processing Gen-AI tools to experiment with AI-generated images.
- Working with appropriate object recognition Gen-AI tools to identify various objects such as text, images, products, plants, animals, artworks, barcodes, and QR codes.

Unit 4: AI for Productivity and Creativity (9 hours)

AI-enhanced Productivity and creativity Tools: Overview of productivity and creativity tools enhanced with AI capabilities - Tips for integrating AI into daily tasks and workflows. AI and Jobs: Exploring how AI impacts jobs and industries - Discussion on opportunities and challenges - Exploration of AI-powered creative tools andapplications.

Hands-on Activity: Productivity and Creativity

- Working with appropriate content creation Gen-AI tools to generate interactive videos / blog posts / art / drawing / music and storytelling experience.
- Working with appropriate resume generation Gen-AI tools to create professional resumes efficiently.

Unit 5: Future of Gen AI and Final Project (9 hours)

Emerging Trends in Gen AI - Applications of Generative AI - Ethical and Societal Impact of Gen AI - Future Directions and Challenges - Case Studies in Generative AI.

Hands-on Activity: Trends in Gen AI

- Working with appropriate speech generation Gen-AI tools to customize synthetic speech for virtual assistance across different applications.
- Working with appropriate data analysis Gen-AI tools to perform data analysis, visualization, andpredictive modeling tasks.
- Working with appropriate Gen-AI design tools to simplify the creation of visually appealing presentations.
- Working with appropriate website builder Gen-AI tools to develop professional websites with AIassistance.

Pedagogy

Demonstration of AI Tools, Lectures and Case studies.

Course Designer

Mrs. S. Ponmalar

Evaluation Pattern for Gen-AI

Quiz : 50 Marks
(5 quizzes with each 10 marks)
Case study : 25 Marks
Online Exam : 25 Marks
Total : 100 Marks

Course Number	Course Name	Category	L	T	P	Credits
AI23SCE1	**COURSERA: IBM APPLIED AI**	**Practical**	**45**	**-**	**-**	**3**

COURSERA-IBM AI Developer (IBM Applied AI)- AI23SCE1

S. NO.	COURSE NAME	COURSE LINK	HOURS
1	Introduction to Artificial Intelligence	https://www.coursera.org/learn/introduction-to-ai?specialization=applied-artifical-intelligence-ibm-watson-ai	8
2	Generative AI : Introduction & Applications	https://www.coursera.org/learn/generative-ai-introduction-and-applications?specialization=applied-artifical-intelligence-ibm-watson-ai	6
3	Generative AI : Prompt Engineering Basics	https://www.coursera.org/learn/generative-ai-prompt-engineering-for-everyone?specialization=applied-artifical-intelligence-ibm-watson-ai	7
4	Introduction to HTML,CSS & Javascript	https://www.coursera.org/learn/introduction-html-css-javascript?specialization=applied-artifical-intelligence-ibm-watson-ai	10
5	Building Generative AI-Powered Applications with Python	https://www.coursera.org/learn/building-gen-ai-powered-applications?specialization=applied-artifical-intelligence-ibm-watson-ai	14
		TOTAL HOURS	**45**