LOYOLA COLLEGE OF ARTS AND SCIENCE (CO-ED.)

DEPARTMENT OF COMPUTER SCIENCE

PROGRAMME OUTCOMES (PO):

PO1 - Scientific aptitude will be developed in Students

PO2 - Students will acquire basic Practical skills & Technical knowledge along with domain knowledge of different subjects in the Computer Science & humanities stream.

PO3 - Students will become employable; Students will be eligible for career opportunities in education field, Industry, or will be able to opt for entrepreneurship.

PO4 - Students will possess basic subject knowledge required for higher studies, professional and applied courses.

PO5 - Students will be aware of and able to develop solution oriented approach towards various Social and Environmental issues.

PO6 - Ability to acquire in-depth knowledge of several branches of Computer Science and aligned areas. This Programme helps learners in building a solid foundation for higher studies in Computer Science and applications.

PO7 - The skills and knowledge gained leads to proficiency in analytical reasoning, which can be utilized in modelling and solving real life problems.

PO8 - Utilize computer programming skills to solve theoretical and applied problems by critical understanding, analysis and synthesis.

PO9 - To recognize patterns and to identify essential and relevant aspects of problems.

P10 - Ability to share ideas and insights while seeking and benefitting from knowledge and insight of others.

P11 - Mould the students into responsible citizens in a rapidly changing interdependent society.

The above expectations generally can be pooled into 6 broad categories and can be modified according to institutional requirements:

PO1: Knowledge

PO2: Problem Analysis

PO3: Design / Development of Solutions

PO4: Conduct investigations of complex problems

PO5: Modern tool usage

PO6: Applying to society

PROGRAMME SPECIFIC OUTCOMES (PSO):

PSO1: Think in a critical and logical based manner

PSO2: Familiarize the students with suitable software tools of computer science and Industrial applications to handle issues and solve problems in mathematics or Statistics and realtime application related sciences.

PSO3: Know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand.

PSO4: Understand, formulate, develop programming model with logical approaches to a Address issues arising in social science, business and other contexts.

PSO5: Acquire good knowledge and understanding to solve specific theoretical and applied problems in advanced areas of Computer science and Industrial statistics.

PSO6: Provide students/learners sufficient knowledge and skills enabling them to undertake further studies in Computer Science or Applications or Information Technology and its allied areas on multiple disciplines linked with Computer Science.

PSO7: Equip with Computer science technical ability, problem solving skills, creative talent and power of communication necessary for various forms of employment.

PSO8: Develop a range of generic skills helpful in employment, internships & social activities.

PSO9: Get adequate exposure to global and local concerns that provides platform for further exploration into multi-dimensional aspects of computing sciences.

COURSE OUTCOME (CO)

SUBJECT CODE	SUBJECT NAME	CO	DESCRIPTION
		SEMESTER I	
23UCS01	Python Programming	CO1	Learn the basics of python, Do simple programs on python, Learn how to use an array.
		CO2	Develop program using selection statement, Work with Looping and jump statements, Do programs on Loops and jump statements.
		CO3	Concept of function, function arguments, Implementing the concept strings in various application, Significance of Modules, Work with functions, Strings and modules.
		CO4	Work with List, tuples and dictionary, Write program using list, tuples and dictionary.
		CO5	Usage of File handlings in python, Concept of reading and writing files, Do programs using files.
23UCSP01	Python Programming Lab	CO1	Demonstrate the understanding of syntax and semantics of PYTHON language
		CO2	Identify the problem and solve using PYTHON programming techniques.
		CO3	Identify suitable programming constructs for problem solving.
		CO4	Analyze various concepts of PYTHON language to solve the problem in an efficient way.
		CO5	Develop a PYTHON program for a given problem and test for its correctness.
23UCSFC01	Problem Solving Techniques	CO1	Study the basic knowledge of Computers. Analyze the programming languages.
		CO2	Study the data types and arithmetic operations. Know about the algorithms. Develop program using flow chart and pseudocode.
		CO3	Determine the various operators. Explain about the structures. Illustrate the concept of Loops
		CO4	Study about Numeric data and character-based data. Analyze about Arrays.
		CO5	Explain about DFD Illustrate program modules. Creating and reading Files
		SEMESTERII	
23UCS02	Data Structure and Algorithms	CO1	Understand the concept of Dynamic memory management, data types, algorithms, Big O notation
		CO2	Understand basic data structures such as arrays, linked lists, stacks and queues
		CO3	Describe the hash function and concepts of collision and its resolution methods
		CO4	Solve problem involving graphs, trees and heaps
		CO5	Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data

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SEMESTER III			
23UCS03	Microprocessor and Microcontroller	CO1	Remember the Basic binary codes and their conversions. Binary concepts are used in Microprocessor programming and provide a good understanding of the architecture of 8085 introduce the internal organization of Intel 8085 Microprocessor
		CO2	Understanding the 8085 instruction set and their classifications, enables the students to write the programs easily on their own using different logic
		CO3	Applying different types of instructions to convert binary codes and analyzing the outcome. The instruction set is applied to develop programs on multibyte arithmetic operations.
		CO4	Analyze how peripheral devices are connected to 8085 using Interrupts and DMA controller.
		CO5	An exposure to create real time applications using microcontroller.
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SEMESTER IV			
23UCS04	Java Programming	CO1	Understand the basic Object-oriented concepts.Implement the basic constructs of Core Java.
		CO2	Implement inheritance, packages, interfaces and

			exception handling of Core Java.
		CO3	Implement multi-threading and I/O Streams of Core Java
		CO4	Implement AWT and Event handling.
		CO5	Use Swing to create GUI.
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		CO4	Implement AWT and Event handling.
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SEMESTER V			
23UCS05	Software Engineering	CO1	Gain basic knowledge of analysis and design of systems
		CO2	Ability to apply software engineering principles and techniques
		CO3	Model a reliable and cost-effective software system
		CO4	Ability to design an effective model of the system
		CO5	Perform Testing at various levels and produce an efficient system.
23UCS06	Database Management System	CO1	Understand the various basic concepts of Data Base System. Difference between file system and DBMS and compare various data models.
		CO2	Define the integrity constraints. Understand the basic concepts of Relational Data Model, Entity-Relationship Model.
		CO3	Design database schema considering normalization and relationships within database. Understand and construct database using Structured Query Language. Attain a good practical skill of managing and retrieving of data using Data Manipulation Language (DML)
		CO4	Classify the different functions and various join operations and enhance the knowledge of handling multiple tables.
		CO5	Learn to design Data base operations and implement using PL/SQL programs. Learn basics of PL/SQL and develop programs using Cursors, Exceptions
23UCSP05	Database Management System lab	CO1	Understand the various basic concepts of Data Base System. Difference between file system and DBMS and compare various data models.
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	SEMESTER VI		
23UCS07	Computer Networks	CO1	To Understand the basics of Computer Network architecture, OSI and TCP/IP reference models
		CO2	To gain knowledge on Telephone systems using wireless network
		CO3	To understand the concept of MAC
		CO4	To analyze the characteristics of Routing and Congestion control algorithms
		CO5	To understand network security and define various protocols such as FTP, HTTP, Telnet, DNS
23UCS08	.Net Programming	CO1	To develop working knowledge of C# programming constructs and the .NET Framework
		CO2	To develop a software to solve real-world problems using ASP.NET
		CO3	To Work on Various Controls Files
		CO4	To create a web application using MicrosoftADO.NET.
		CO5	To develop web applications using XML
23UCSP06	.Net Programming Lab	CO1	To create web applications and implement various controls
		CO2	Create web pages in Rich control.
		CO3	Develop knowledge about file handling operations
		CO4	An ability to design XML classes
		CO5	To develop a software to solve real-world problems using ASP.NET
	Elective Courses		
23UCSE01	Analytics for Service Industry	CO1	Understand and critically apply the concepts and methods of business analytics
		CO2	Identify, model and solve decision problems in different settings.
		CO3	Interpret results/solutions and identify appropriate courses of action for a given managerial situation whether a problem or an opportunity.
		CO4	Create viable solutions to decision making problems.
		CO5	Instill a sense of ethical decision-making and a commitment to the long-run welfare of both organizations and the communities they serve.
23UCSE02	Cryptography	CO1	Analyze the vulnerabilities in any computing system and hence be able to design a security solution.

		CO2	Apply the different cryptographic operations of symmetric cryptographic algorithms
		CO3	Apply the different cryptographic operations of public key cryptography
		CO4	Apply the various Authentication schemes to simulate different applications.
		CO5	Understand various Security practices and System security standards
23UCSE03	Introduction to Data Science	CO1	Understand the basics in Data Science and Big data.
		CO2	Understand overview and building process in Data Science.
		CO3	Understand various Algorithms in Data Science.
		CO4	Understand Hadoop Framework in Data Science.
		CO5	Case study in Data Science.
23UCSE04	Cloud Computing	CO1	Understand the fundamental concepts and Technologies in Cloud Computing.
		CO2	Able to understand various cloud service types and their uses and pitfalls.
		CO3	Able to understand Cloud Architecture and Application design.
		CO4	Understand the various aspects of application design, benchmarking and security in the Cloud.
		CO5	Understand various Case Studies in Cloud Computing.
Skill Enhancement Courses			
23UCSS01	Fundamentals of Information Technology	CO1	Learn the basics of computer, Construct the structure of the required things in computer, learn how to use it.
		CO2	Develop organizational structure using for the devices present currently under input or output unit.
		CO3	Concept of storing data in computer using two header namely RAM and ROM with different types of ROM with advancement in storage basis.
		CO4	Work with different software, Write program in the software and applications of software.
		CO5	Usage of Operating system in information technology which really acts as a interpreter between software and hardware.
23UCSS02	Introduction to HTML	CO1	Knows the basic concept in HTML Concept of resources in HTML
		CO2	Knows Design concept. Concept of Meta Data Understand the concept of save the files.
		CO3	Understand the page formatting. Concept of list
		CO4	Creating Links. Know the concept of creating link to email address
		CO5	Concept of adding images Understand the table creation.
23UCSS03	Web Designing	CO1	Develop working knowledge of HTML
		CO2	Ability to Develop and publish Web pages using

			Hypertext Markup Language (HTML).
		CO3	Ability to optimize page styles and layout with Cascading Style Sheets (CSS).
		CO4	Ability to develop a java script
		CO5	An ability to develop web application using Ajax.
23UCSS04	PHP Programming	CO1	Write PHP scripts to handle HTML forms
		CO2	Write regular expressions including modifiers, operators, and metacharacters.
		CO3	Create PHP Program using the concept of array.
		CO4	Create PHP programs that use various PHP library functions
		CO5	Manipulate files and directories.
23UCSS05	SoftwareTesting	CO1	Students learn to apply software testing knowledge and engineering methods
		CO2	Have an ability to identify the needs of software test automation, and define and develop a test tool to support test automation.
		CO3	Have an ability understand and identify various software testing problems, and solve these problems by designing and selecting software test models, criteria, strategies, and methods.
		CO4	Have basic understanding and knowledge of contemporary issues in software testing, such as component-based software testing problems
		CO5	Have an ability to use software testing methods and modern software testing tools for their testing projects.
23UCSS06	Understanding Internet	CO1	Knows the basic concept in internet Concept of mass medium and world wide web
		CO2	Knows the concept of internet as a technology.
		CO3	Understand the concept of infotainment and classification based on content and style
		CO4	Can be able to know about Demographic and psychographic description of internet
		CO5	Understand the concept of cybercrime and future possibilities
23UCSS07	Office Automation	CO1	Possess the knowledge on the basics of computers and its components
		CO2	Gain knowledge on Creating Documents, spreadsheet and presentation.
		CO3	Learn the concepts of Database and implement the Query in Database.
		CO4	Demonstrate the understanding of different automation tools.
		CO5	Utilize the automation tools for documentation, calculation and presentation purpose.
23UCSS08	Quantitative Aptitude	CO1	Understand the concepts, application and the problems of numbers
		CO2	To have basic knowledge and understanding about

			percentage, profit & loss related processing
		CO3	To understand the concepts of time and work
		CO4	Speaks about the concepts of probability, discount
		CO5	Understanding the concept of problem solving involved in stocks & shares, graphs

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