B.Sc. Computer Science

Semester: II

Name of the Course: Object Oriented Programming in C++

Subject Code: SC1721

Teaching Plan

Unit	Module	Topics	Lecture hours	Learning Outcome	Pedagogy	Assessment/ Evaluation
I	**Principles of OOP and Control Structures**					
	1.	Procedure and Object Oriented programming Paradigm	1	To distinguish the difference between procedure and object oriented programming	Lecture, Discussion	Evaluation through: short test Multiple choice questions Formative Assessment
	2.	Basic Concepts and Benefits of OOP	2	To understand the OOPs concept and its uses	Lecture with PPT	
	3.	Definition of C++, Simple C++ Program, Structure of C++ program	1	To understand an overview of a C program	Lecture, Discussion	
	4.	Tokens, Keywords, Identifiers and Constants & Basic Data Types, Operators in C++, Scope Resolution Operator	2	To understand the basic program elements	Lecture, Discussion	
	6.	Manipulators, Memory management operators	2	To recall the format used to display data	Lecture, Discussion	
	7.	Control Structures	1	To analyze the various programming constructs and implement it to perform specific task	Lecture with PPT Illustration, Discussion	

II		Functions in C++, Classes & Objects				
	1.	Main Function & Function Prototyping	1	To be able to define function and write programs using function prototyping	Lecture, Discussion	Short test Quiz Formative Assessment
	2.	Call by Reference, Return by Reference, Inline functions, Default Arguments	3	To develop programs by passing address as arguments, passing default values as arguments To recall that developing programs using inline function will save memory space and time	Lecture with PPT Illustration	
	3.	Function Overloading, Friend Functions, Virtual Functions	3	To write programs with same function names to perform many tasks To develop programs to handle some specific tasks related to class objects	Lecture with PPT Illustration	
	4.	Specifying a Class	1	To be able to create programs using class	Lecture with PPT Illustration	
	5.	Defining Member Function & Private Member Functions, Static Data Members	2	To recall the member functions and data members	Lecture	
	6.	Arrays of Objects	1	To develop programs using arrays of objects	Lecture, Discussion	
III		Constructors, Operator Overloading & Inheritance				
	1.	Constructors,	1	To distinguish the	Lecture	Short test

		Multiple Constructors in a Class		difference between constructors and multiple constructors	with PPT Illustration	Formative Assessment
	2.	Destructors, Overloading Unary Operators	1	To be able to destroy constructor To develop programs using unary operators	Lecture, Illustration	
	3.	Overloading Binary Operators	1	To develop programs using binary operators	Lecture, Illustration	
	4.	Single Inheritance, Multilevel Inheritance, Multiple Inheritance, Hierarchical Inheritance, Hybrid Inheritance	3	To analyze the different types of inheritance and the difference between them	Lecture with PPT Illustration	
	5.	Abstract Classes , Member Classes: Nesting of Classes	1	To define abstract and member classes	Lecture with Illustration	
IV	**Pointers, Managing Console I/O Operations & Manipulating Strings**					
	1.	Pointers to Objects, This Pointer	2	To define pointer and can create programs using pointers	Lecture with Illustration	Short test Formative Assessment
	2.	C++ Streams, C++ Stream Classes	1	To define stream and stream classes	Lecture with PPT Illustration	
	4.	Formatted Console I/O Operations, Managing output with Manipulators	3	To understand the format for displaying the output	Lecture with PPT Illustration	
	5.	Creating Objects, Manipulating String Objects, Relational Operations, String Characteristics	2	To understand the string functions that are supported by C library	Lecture with PPT Illustration	
V	**Files & Templates**					

	1.	Classes for File Stream Operations, Opening and Closing a File, Detecting end-of-file, File Modes	3	To understand file, able to open and close a file, able to use end of file condition in a program	Lecture with PPT Illustration
	2.	File Pointers and their Manipulators, Sequential Input and Output Operations	3	To understand the functions designed for handling a single character To be able to write and read blocks of data	Lecture with Illustration
	3.	Updating a File, Error handling during File Operations	2	To be able to display, modify, add or delete contents of a file	Lecture with PPT Illustration
	4.	Command-line Arguments	1	To develop programs by supplying the arguments to the main function	Lecture with PPT Illustration
	5.	Class Templates, Class Templates with Multiple Parameters, Function Templates, Function Templates with Multiple Parameters	3	To understand class and functions template To differentiate the difference between them	Lecture with PPT Illustration Videos

Note: "Short test" and "Formative Assessment" appear in the rightmost column spanning rows, and they are in the final column.

Course Instructor: Sr. Jothi Antony   **HOD:** Sr. Jothi Antony

Name of the Course: PC Hardware and Troubleshooting

Subject Code: SA1721

Teaching Plan

Unit	Module	Topics	Lecture hours	Learning Outcome	Pedagogy	Assessment/ Evaluation
I	**Introduction to PC , Processor**					
	1.	Definition of PC, Types	2	To be able to operate PC and came to know the types of PC	Lecture, Discussion	Multiple choice questions
	2.	System Components	1	To understand the System Components	Lecture	
	3.	Processor Specifications, Modes, Features	2	To know the processor and that features	Lecture, Discussion	Evaluation through: short test
	4.	Manufacturing, Physical Packaging	2	To understand the basic concept of hardware manufacturing and packaging	Lecture, Discussion	
	6.	Multi Core Processors	1	To analyze all the core processors	Lecture with PPT Illustration,	Formative Assessment
	7.	Processor Upgrades Processor Troubleshooting Techniques	3	To analyze the various processor techniques and be able to upgrade the processor	Lecture, Discussion	
II	**Motherboards and Buses**					
	1.	Motherboard Form Factors	1	To analyze various form factors and apply it to motherboard	Lecture, Discussion	Quiz Short test

	2.	Motherboard Connectors	2	To be able to connect the connections in motherboard	Lecture, Discussion	Formative Assessment
	3.	System Bus Types Functions & Features	2	To recall all the types and methods in bus connections	Lecture with PPT Illustration	
	4.	Types of I/O Buses	1	To learn about input output path in motherboard	Lecture	
	5.	System Resources	1	To be able to identify the features in System	Lecture	
	6.	Resolving Resource Conflicts	1	To find out the conflicts in motherboard	Lecture, Discussion	
	7.	Processor Troubleshooting Techniques	1	To be able to debug the errors in processor	Lecture, Discussion	
III	**Memory , Memory Modules , Hard Disk Storage**					
	1.	Memory Basics: ROM , DRAM	1	To distinguish the difference between ROM and DRAM	Lecture with PPT Illustration	Short test Formative Assessment Quiz
	2.	Cache Memory, SD RAM , DDR SDRAM	2	To be able to identify the different types of memory	Lecture, Illustration	
	3.	SIMM , DIMM RIMM	2	To distinguish the difference between SIMM , DIMM and RIMM	Lecture, Illustration	
	4.	Definition of Hard Disk	2	To be able to define the hard disk	Lecture with PPT Illustration	
	5.	Hard disk Drive Components	1	To define the components of hard disk	Lecture with Illustration	
	6.	Drive Operation, Features	1	To know about the secondary storage devices	Lecture	
IV	**BIOS**					
	1.	BIOS Basics	2	To understand the Basic input output	Lecture with	Short test

				system	Illustration	Formative Assessment
	2.	BIOS Hardware/Software	1	To distinguish the difference between Hardware/Software	Lecture with PPT Illustration	
	4.	Motherboard ROM BIOS, Upgrading the BIOS	2	To understand the format for memory and upgrading	Lecture with PPT Illustration	
	5.	Preboot Environment, CMOS Setup Specifications	2	To understand the platform and setup operations	Lecture with PPT Illustration	
	6.	Plug and Play BIOS, BIOS Error Messages	2	To be able to know about the basic error messages	Lecture	
V	**System Assembling and Maintenance**					
	1.	System Assembly	1	To understand language of the system	Lecture with PPT Illustration	Short test

Formative Assessment

Quiz |
	2.	Motherboard Installation – Troubleshooting New Installations	2	To know the installing process of motherboard	Lecture with Illustration	
	3.	Installing the Operating Systems	1	To know the installing process of operating systems	Lecture with PPT Illustration	
	4.	PC Diagnostics – Diagnostics Software - PC Maintenance Tools	2	To develop and maintain the system using PC tools	Lecture with PPT Illustration	
	5.	Preventive Maintenance	1	To be able to know how to prevent the system from virus	Lecture with PPT Illustration

Videos | |

Course Instructor: V. Abisha   **HOD:** Sr. Jothi Antony

Semester: II

Name of the Course: Internet and its Applications

Subject Code: SNM172

Teaching Plan

Unit	Module	Topics	Lecture hours	Learning Outcome	Pedagogy	Assessment/ Evaluation
I	**Introduction to Computers Programming Language**					
	1.	Introduction to Computers Programming Language	1	To understand about different levels in programming languages	Lecture	Evaluation through: short test
	2.	History of Internet	1	To understand the history of computers	Lecture	Multiple choice questions
	3.	History of World Wide Web , Micro Software	2	To understand about WWW and the Microsoftwares	Lecture	
	4.	Personal Computers	1	To know about PC and there parts	Lecture	Formative Assessment
	5.	.NET , Java	2	To generate an idea about .Net and Java	Lecture	
	6.	Web Resources	1	To understand about the resources of web	Lecture	
II	**Web Browsers**					
	1.	Web Browsers	2	To understand about web browsers	Lecture with e-resources	Short test
	2.	Internet Explorer	1	To understand about Internet explorer	Lecture	Quiz Formative Assessment
	3.	Connecting to Internet ,Features of Internet Explorer 6 For statement	3	To understand about the connections of Internet and internet explore's features	Lecture	
	4.	Searching the Internet , Online help and tutorials	2	To understand about how to search in internet	Lecture using online resources	
	5.	File Transmission Protocol (FTP) ,	2	To gain knowledge about FTP	Lecture	

		Browser Settings				
III	**Electronic mail**					
	1.	Electronic mail	1	To know about e-mail	Lecture, Illustration	Short test
	2.	Creating an E-mail ID	2	To be able to create emails	Lecture, Illustration	Formative Assessment
	3.	Sending and Receiving Mails , Attaching a File	3	To be able to Send and Receive Mails and Attaching a File into it	Lecture and ppt illustrations	
	4.	Instance Messaging	2	To be able to message instantly	Lecture	
	5.	Other Web Browsers	2	To understand about Other Web Browsers	Lecture with PPT Illustration	
IV	**Introduction to HTML**					
	1.	Introduction to HTML: Headers	2	To understand Introduction to HTML	Lecture	Short test
	2.	Linkers , Images	2	To understand about linkers and images	Lecture	Assignment on category of functions
	3.	Special Characters and Line Breaks	3	To understand about Special Characters and Line Breaks	Lecture	Formative Assessment
	4.	Lists	2	To develop List	Lecture with PPT Illustration	
	5.	Simple HTML Programs	1	To create simple HTML programs	Lecture	
V	**Tables and Forms**					
	1.	Tables and Forms	2	To introduce about tables and forms	Lecture,	Short test
	2.	Creating a Table	2	To be able to Create a Form	Lecture with PPT Illustration	Formative Assessment

	3.	Formatting a Form	2	To be able to Format a Form	Lecture, Discussion	
	4.	Frames	2	To be able to define Frames	Lecture,	

Course Instructor: P. Jasmine Lizy   **HOD:** Sr. Jothi Antony

Semester: IV

Name of the Course: Web Programming
Subject Code: SC1741
Teaching Plan

Unit	Module	Topics	Lecture hours	Learning Outcome	Pedagogy	Assessment/ Evaluation
I	**ASP.Net 3.5 Essentials and Web Forms: Standard Control**					
	1.	New Features in ASP.Net 3.5	1	To understand the features in ASP.Net	Lecture with PPT	Evaluation through: short test
	2.	The ASP.Net Life Cycle and Overview of Visual Studio 2008	2	To understand the life cycle of Asp.Net and overview of visual studio 2008	Lecture with PPT	
	3.	Exploring a sample ASP.Net and Creating a sample ASP.Net Website.	1	To be able to create a website in Asp.Net	Illustration	Multiple choice questions
	4.	The Label Control , The Button Control and The Textbox	2	To be able to create a website using label, textbox and button controls.	Lecture, Demonstration, Illustration	Formative Assessment
	5.	The Hidden Field Control and File Upload Control	1	To be able to create a website using File upload and hidden field control.	Lecture, Demonstration, Illustration	
	6.	The Image Control and The Image Map Control	1	To be able to display an image using image control. To be able to create hotspot using imagemap control.	Lecture, Demonstration, Illustration	

		7	The ListBox Control and The Drop-Down List Control	1	To be able to display a website with listbox and drop-down list control	Lecture, Demonstration, Illustration	
		8	The Checkbox Control and The Radio Button Control	1	To be able to display a website with checkbox and radio button control.	Lecture, Demonstration, Illustration	
		9	User Controls and Custom Controls	1	To understand about user and custom control.	Lecture, Demonstration, Illustration	
		10	Working with User Control and Working with Custom Controls	2	To be able to display a website with user and custom controls.	Lecture, PPT, Illustration	
II	**Navigation Control and Validation Control**						
		1.	The TreeView Control , Creating the TreeView Control and Generating TreeView form a Database	4	To be able to create a hierarchical tree using TreeView Control.	Lecture with PPT Illustration	Short test Quiz Formative Assessment
		2.	Using the Menu Class, The Menu Control, Creating Static Menus and Creating Dynamic Menus.	3	To be able to create a hierarchical tree using menu Control. To be able to create static menu and dynamic menu in Asp.Net.	Lecture, Illustration	
		3.	Introduction for validation Control , The Required Field Validation Control and The Range Validator Control	2	To analyze the various validation control. To be able to create programs using validation controls.	Lecture, Illustration Discussion	
		4.	The Compare Validator Control ,	3	To analyze the various validation control.	Lecture,	

		The Custom Validator Control and The Validation Summary Control		To be able to create programs using validation controls.	Illustration\n\nDiscussion	
III	**Working with Database Controls and Login Controls**					
	1.	The Grid View Control and The Data List Control	1	To be able to define grid view and data list control.\nTo be able to display contents in grid view and data list control.	Lecture,\n\nPPT,\n\nIllustration	Short test\n\n\nFormative Assessment
	2.	The Details View Control, The Form View Control, The List View Control and The Repeater Control	3	To be able to define details view, list view and form view control.\nTo be able to display contents in these controls.	Lecture,\n\nIllustration	
	3.	The Sql Data Source Control	1	To be able to create a database in SQL Server and link it with grid view, data list, details view etc., controls and display contents.	Lecture,\n\nPPT,\n\nIllustration	
	4.	The Access Data Source Control and The Object Data Source Control, Xml Data Source Control	3	To be able to create a database in SQL Server, MS Access, XML and link it with grid view, data list, details view etc., controls and display contents.	Lecture,\n\nPPT,\n\nIllustration\n\nDiscussion	
	5.	The Login Control, The Login View Control , The Login Status Control, The Login Name Control and The Password Recovery Control	4	To be able to implement authentication and authorization of users logging on to a website.	Lecture,\n\nPPT,\n\nIllustration	
IV	**Introducing C# 2008 and Namespace, Classes, Objects, Structs**					
	1.	Need of C# , C# Preprocessor	2	To be able to say the use of C#, preprocessor	Lecture	Short test

		Directives, New Features of 2008 and Creating A Simple C# 2008 Console Application		directives used in C#. To be able to write a program in C#.		Assignment on data types, variables
	2.	Identifiers And Keywords, Data Types	2	To be able to define identifiers, keywords and data types used in C#.	Lecture with PPT Discussion	
	3.	Variables and Constants, Expressions and Operators	2	To be able to define variables, constants, Operators used in C#.	Lecture with PPT Discussion	Formative Assessment
	4.	Namespaces, Classes and Objects, Constructors and Destructors	2	To be able to define namespace, class and objects. To develop programs using constructors and destructors.	Lecture with PPT Illustration	
	5.	Static Classes and Static Class Members, Properties, Indexers and Structs	4	To be able to define static class, static class members, indexers and structs.	Lecture	
V	**Object Oriented Programming, Pointers, Delegates and Events , Flow Control and Exceptional Handling**					
	1.	Encapsulation, Inheritance	3	To be able to define encapsulation and inheritance. To be able to write programs using inheritance concept.	Lecture, Illustration, Discussion	Short test
	2.	Polymorphism, Abstraction and Interfaces	3	To be able to define polymorphism, abstraction and interfaces.	Lecture with PPT Illustration	Formative Assessment
	3.	Control Flow statements	3	To analyze the various programming constructs and implement it to perform specific task	Lecture, PPT, Discussion	
	4.	Exceptional handling	2	To be able to define exception handling and write program using it.	Lecture, Discussion	

Course Instructor: J. Anto Hepzie Bai **HOD:** Sr. Jothi Antony

Semester: IV

Name of the Course: RDBMS with Oracle

Course Code: SC1742

Teaching Plan

Unit	Module	Topics	Lecture hours	Learning Outcome	Pedagogy	Assessment/ Evaluation
I	**Introduction to the Relational Model, SQL, Database Design and the E-R Model**					
	1.	Database, System Applications, View of Data	3	To understand about database	Lecture	Evaluation through: short test
	2.	Database Languages, Relational Databases	2	To understand the Relational Databases	Lecture	
	3.	Structure of Relational Database, Database Schema, Keys, Schema Diagrams	3	To understand Database Schema	Lecture	Multiple choice questions
	4.	Set Operations, Aggregate Functions	2	To know about **SQL**	Lecture	Formative Assessment
	5.	The Entity-Relationship Model, Constraints, Entity-Relationship Diagrams.	4	To generate an idea about Database Design	Lecture	
	6.	First Normalization Form, Second Normalization Form, Third Normalization.	3	To understand about the Normalization Form	Lecture	
II	**The Basic Parts of Speech in SQL, Getting Text Information and Changing It**					
	1.	Creating the Newspaper Table, Select, from, where, and order by, Logic and Value	3	To understand about The Basic Parts of Speech in SQL	Lecture using online resources	Short test
	2.	Data types	2	To understand about Data types	Lecture	Quiz Formative Assessment
	3.	Define String, Notation, Concatenation	3	To understand about the String , Notation ,Concatenation	Lecture	
	4.	Cut and Paste Strings	1	To understand	Lecture	

				about Cut and Paste Strings	using online resources	
	5.	Order by and where with String Functions	1	To gain knowledge about Order by and where with String Functions	Lecture	
III	**Playing The Numbers, Dates: Then, Now, and the Difference:**					
	1.	The Three Classes of Number Functions, Notation	2	To know about Number Functions	Lecture, Illustration	Short test
	2.	Single, Value Functions, Group, Value Functions, List Functions	2	To be able to create Group Value Functions	Lecture, Illustration	Formative Assessment
	3.	Finding Rows with MAX or MIN, Precedence and Parentheses.	2	To be able to Finding Rows with MAX or MIN	Lecture and ppt illustrations	
	4.	Date Arithmetic, ROUND and TRUNC in Date Calculations, TO_DATE and TO_CHAR Formatting, Dates in where Clauses, Using the EXTRACT Function, Using the TIMESTAMP Data Types.	4	To be able to know about EXTRACT Function	Lecture	
	5.	The Use of Group by and Having, Views of Groups	2	To understand about Grouping Things Together	Lecture with PPT Illustration	
IV	**Dependent Queries, Changing Data, Creating, Dropping, and Altering Tables and Views, PL/SQL**					
	1.	Advanced Subqueries	2	To understand Advanced Subqueries	Lecture	Short test
	2.	Outer Joins, NATURAL and INNER Joins, UNION, INTERSECT, and MINUS.	2	To understand about Outer Joins	Lecture	Assignment on category of functions

	3.	Insert, Update, Merge, and Delete, Insert, Rollback, Commit, and Autocommit, Multitable Inserts, Delete, Update, Using the Merge Command.	3	To understand about Multitable Inserts	Lecture	Formative Assessment
	4.	Creating a Table, Dropping Tables, Altering Tables, Creating a View, Creating a Table from a Table, Creating an Index, Organized Table, Using Partitioned Tables.	2	To develop Creating, Dropping, and Altering Tables and Views	Lecture with PPT Illustration	
	5.	PL / SQL Overview, Declarations Section, Executable Commands Section, Exception Handling Section	2	To create idea of PL / SQL Overview	Lecture	
V	**Triggers, Procedures, Functions, and Packages**					
	1.	Required System, Privileges, Required Table Privileges, Types of Triggers	3	To introduce about Required System Privileges	Lecture,	Short test
	2.	Trigger Syntax, Enabling and Disabling Triggers, Replacing Triggers, Dropping Triggers	2	To be able to Create a Trigger	Lecture with PPT Illustration	Formative Assessment
	3.	Required System Privileges, Required Table Privileges	2	To be able to Format a Procedures, Functions, and Packages	Lecture, Discussion	
	4.	Procedures VS Functions, Procedures VS Packages, Create Procedure Syntax, Create Function Syntax, Create Package Syntax	2	To be able to define procedures	Lecture,	
	5	Viewing Source Code for Procedural Objects,	4	To be able to define Views	Lecture	Formative Assessment

		Compiling Procedures, Functions, and Packages, Replacing Procedures, Functions, and Packages, Dropping Procedures, Functions, and Packages.				

Course Instructor: M.Nithila   **HOD:** Sr. Jothi Antony

Semester: IV
Name of the Course: System Analysis and Design

Subject Code: SC1743
Teaching Plan

Unit	Section	Topics	Lecture hours	Learning Outcome	Pedagogy	Assessment/ Evaluation
I	**Introduction to C programming**					
	1.	Definition of system , Need for system analysis.	2	To understand system and need for it	Lecture	Evaluation through: short test
	2.	**Typical Information Systems:** Introduction to typical information systems - Human resource system	4	To understand about Typical Information Systems	Lecture	
	3.	Customer or Client System - Inventory control system - Accounting system - Marketing system	3	To understand different systems	Lecture	Multiple choice questions
	4.	**Problem Solving Steps:** The linear cycle.	3	To know about problem solving steps	Lecture with PPT Illustration	Formative Assessment
	5.	**Gathering Information:** A frame work for gathering information	2	To understand about the frame work for gathering information	Lecture with PPT	
	6.	Search procedures	2	To be able to	Lecture	

				know about different Search procedures	with PPT Illustration	
II	**Starting a Project**					
	1.	**Starting a Project:** Setting the project goal	5	To understand about Setting the project goal	Lecture with PPT Illustration	Short test Quiz Formative Assessment
	2.	Generating the broad alternative solution	2	To develop the broad alternative solution	Lecture, Illustration	
	3.	Economic feasibility	2	To analyze about Economic feasibility	Lecture, Illustration	
	4.	**Data Flow Diagram:** Data flow symbols , Describing systems by data flow diagram	5	To develop DFD	Lecture	
	5.	**Describing Data:** Conceptual modelling Entity relationship analysis , E_R diagram and DFDs.	6	To describe data	Lecture with PPT Illustration	
III	**Advanced Modelling Methods**					
	1.	Some advanced topics on the entity relationship model , Alternative modelling methods	3	To know about Alternative modelling methods	Lecture	Short test Formative Assessment
	2.	Documentation	2	To understand about documentation	Lecture, demonstration	
	3.	Project dictionary entries, Using the project dictionary	3	To be able to use different Project dictionary entries	Lecture	
	4.	**Designing a New System:** Problem solving and design	2	To be able to Design a New System	Lecture	
	5.	Problem solving with structured system techniques - Designing the new logical model	3	To understand Designing the new logical model	Lecture with PPT Illustration	
IV	**Relational Analysis**					

	1.	Introduction - Structured system analysis	2	To understand Structured system analysis	Lecture	Short test
	2.	**Database Design:** Conversion to logical record structure	2	To acquire the skills to design DB	Lecture with PPT Illustration Discussion	Assignment on category of functions
	3.	Completing the database specification - Conversion to a set of files - Conversion to DBMS structure.	2	To acquire the skills to convert the files to DBMS Structure	Lecture	Formative Assessment
	4.	**Program Design**: Steps in program design - Structure	2	To develop programs	Lecture	
	5.	Conversion from DFD to structured char	1	To be able to Convert from DFD to structured char	Lecture	
V	**Practical Design Methodologies**					
	1.	Structure System analysis	2	To be able to define Structure System analysis	Lecture,	Short test
	2.	HIPO - SSADM.	4	To understand HIPO - SSADM	Lecture with PPT Illustration	Formative Assessment
	3.	Project Management: Choosing project management entities , Organizing project management entities, Tools used in project	4	To analyze how to manage project	Lecture, Discussion	
	4.	Reviewing project progress - Project reviews and walkthroughs.	2	To be able to review the project	Lecture, Discussion	

Course Instructor: P.Jasmine Lizy   **HOD:** Sr. Jothi Antony