



B.Sc. INFORMATION SYSTEM MANAGEMENT

SYLLABUS

**FROM THE ACADEMIC YEAR
2023 - 2024**

**THIRUVALLUVAR UNIVERSITY
SERKKADU, VELLORE-632115**

B.Sc., INFORMATION SYSTEM MANAGEMENT

First Year – Semester – II

Part	List of courses	Credits	No. of Hrs
PART I	Language – Tamil II	3	6
PART II	English II	3	6
PART III	Core Course 3 –Object Oriented Programming Language C++	5	5
	Core Course 4 – Object Oriented Programming Language C++ LAB	5	5
	Elective Course 2 (Generic / Discipline Specific) (Choose any one from the following list) A. Numerical Analysis II B. Financial Accounting II	3	4
Part IV	Skill Enhancement Course SEC 2 Office Automation	2	2
	Skill Enhancement Course SEC 3 Basics of Internet	2	2
TOTAL		23	30

FIRST YEAR – SEMESTER – II

CORE 3: OBJECT ORIENTED PROGRAMMING CONCEPTS USING C++

Subject Code	L	T	P	S	Credits	Inst. Hours	Marks		
							CIA	External	Total
CC3	5	0	0	II	5	5	25	75	100
Learning Objectives									
LO1	Describe the procedural and object oriented paradigm with concepts of streams, classes, functions, data and objects								
LO2	Understand dynamic memory management techniques using pointers, constructors, destructors, etc								
LO3	Describe the concept to function over loading, operator over loading, virtual functions and polymorphism								
LO4	Classify inheritance with the understanding of early and late binding, usage of exception handling, generic programming								
LO5	Demonstrate the use of various OOPs concepts with the help of programs								
Unit	Contents							No. of Hours	
I	Introduction to C++ - key concepts of Object-Oriented Programming – Advantages – Object Oriented Languages – I/O in C++ - C++ Declarations.ControlStructures:-DecisionMaking andStatements:If. else, jump, goto, break, continue, Switch case statements - Loops inC++ :for, while, do - functions in C++ - inline functions – Function Overloading.							15	
II	Classes and Objects: Declaring Objects – Defining Member Functions – Static Member variables and functions – array of objects –friendfunctions – Overloading member functions – Bit fields and classes – Constructor and destructor with static members.							15	
III	Operator Overloading: Overloading unary, binary operators – Overloading Friend functions –type conversion – Inheritance: Types of Inheritance – Single, Multilevel, Multiple, Hierarchal, Hybrid, Multi path inheritance – Virtual base Classes – Abstract Classes.							15	
IV	Pointers–Declaration–PointertoClass, Object –thispointer–Pointers to derived classes and Base classes – Arrays – Characteristics – array of classes – Memory models – new and delete operators – dynamic object – Binding, Polymorphism and Virtual Functions.							15	
V	Files – File stream classes – file modes – Sequential Read / Write operations – Binary and ASCII Files – Random Access Operation – Templates – Exception Handling - String – Declaring and Initializing string							15	

	objects – String Attributes – Miscellaneous functions.	
TOTAL		75
CO	Course Outcomes	
	Upon completion of the course the students would be able to:	
CO1	Remember the program structure of C++with it ssyntax and semantics	
CO2	Understand the programming principles in C++(datatypes, operators, branching and looping, arrays, functions, structures, pointers and files)	
CO3	Apply the programming principles learnt in real-time problems	
CO4	Analyze the various methods of solving a problem And choose the best method	
CO5	Code, debug and test the programs with appropriate test Cases	
Textbooks		
➤	E.Balagurusamy,“Object-OrientedProgrammingwithC++”,TMH2013, 7thEdition.	
Reference Books		
1.	AshokNKamthane,“Object-OrientedProgrammingwithANSIandTurboC++”, PearsonEducation2003.	
2.	MariaLitvin&GrayLitvin,“C++foryou”,Vikaspublishation2002.	
NOTE: Latest Edition of Textbooks May be Used		
Web Resources		
1.	https://alison.com/course/introduction-to-c-plus-plus-programming	

CO/PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO1	3	3	3	3	3	3
CO2	3	3	3	2	3	3
CO3	3	2	2	2	3	2
CO4	3	3	3	3	2	3
CO5	3	2	3	2	3	3
Weightage of course contributed to each PSO	15	13	14	12	14	14

S-Strong-3 M-Medium-2L-Low-1

FIRST YEAR – SEMESTER – II

CORE COURSE 4: OBJECTORIENTED PROGRAMMING CONCEPTS USING C++ LAB

Subject Code	L	T	P	S	Credits	Inst. Hours	Marks		
							CIA	External	Total
CC4	0	0	5	II	5	5	25	75	100
Learning Objectives									
LO1	Understanding concepts of streams, classes, functions, data and objects with coding								
LO2	Understanding the concepts and implementing the pointers, constructors, destructors, etc.								
LO3	Implementing the concepts of function overloading, operator overloading								
LO4	Understanding inheritance and usage of exception handling								
LO5	Demonstrate the use of virtual functions and polymorphism								
List of Exercises									
1. Write a C++ program to demonstrate Class and Objects 2. Write a C++ program to demonstrate the concept of Passing Objects to functions 3. Write a C++ program to demonstrate the Friend Functions. 4. Write a C++ program to demonstrate Constructor and Destructor 5. Write a C++ program to demonstrate Unary Operator Overloading 6. Write a C++ program to demonstrate Single Inheritance 7. Write a C++ program to demonstrate Multiple Inheritance 8. Write a C++ program to manipulate Text File. 9. Write a C++ program to find the Biggest Number using Command Line Arguments 10. Write a C++ program to demonstrate Exception Handling.									
TOTAL								75	
CO	Course Outcomes								
CO1	Understanding basic the programming principles in C++								
CO2	Understanding the programming concepts of Functions and Friend Functions								

CO3	Understanding the programming concepts of Constructor Destructor and Operator Overloading
CO4	Understanding the programming concepts of Inheritance
CO5	Understanding the programming concepts of Exception Handling and file concepts

CO/PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO1	3	3	3	3	3	3
CO2	3	2	3	3	2	3
CO3	3	3	3	3	3	3
CO4	3	2	2	3	3	3
CO5	3	2	3	3	3	2
Weightage of course contributed to each PSO	15	12	14	15	14	14