



**THIRUVALLUVAR UNIVERSITY**

**SERKKADU, VELLORE-632115**

**B.Sc. INFORMATION SYSTEM  
MANAGEMENT**

**SEMESTER - II  
SYLLABUS**

**FROM THE ACADEMIC YEAR  
2023 - 2024**

**First Year – Semester – II**

S.No.	Part	Study Components		Ins. Hrs /week	Credit	Title of the Paper	Maximum Marks		
		Course Title					CIA	Uni. Exam	Total
SEMESTER II									
1.	I	Language	Paper-2	6	3	Tamil/Other Languages	25	75	100
2.	II	English	Paper-2	4	3	English	25	75	100
3.	II	NMSDC: Language Proficiency for Employability	Paper-1	2	2	Overview of English Communication	25	75	100
4.	III	Core Course –CC III	Paper-2	5	5	Object Oriented Programming Language C++	25	75	100
5.	III	Core Course –CC IV	Paper -3	5	5	Object Oriented Programming Language C++ LAB	25	75	100
6.	III	Elective II Generic/ Discipline Specific	Elective II	6	3	(Choose any one from the following list) A. Numerical Analysis II  Financial Accounting II	25	75	100
7.	IV	Skill Enhancement Course SEC-2	Paper2	2	2	Office Automation	25	75	100
8.	IV	Skill Enhancement Course SEC-3 (Discipline Specific)	Paper 1	2	2	Basics of Internet	25	75	100
		Sem. Total		32	25		200	600	800

## 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 objects – String Attributes – Miscellaneous functions.								15
TOTAL								75	

CO	Course Outcomes
	Upon completion of the course the students would be able to:
CO1	Remember the program structure of C++ with its syntax 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-Oriented Programming with C++", TMH 2013, 7th Edition.
Reference Books	
1.	Ashok N Kamthane, "Object-Oriented Programming with ANSI and Turbo C++", Pearson Education 2003.
2.	Maria Litvin & Gray Litvin, "C++ for you", Vikas publication 2002.
<b>NOTE: Latest Edition of Textbooks May be Used</b>	
Web Resources	
1.	<a href="https://alison.com/course/introduction-to-c-plus-plus-programming">https://alison.com/course/introduction-to-c-plus-plus-programming</a>

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
<b>Weightage of course contributed to each PSO</b>	<b>15</b>	<b>13</b>	<b>14</b>	<b>12</b>	<b>14</b>	<b>14</b>

S-Strong-3    M-Medium-2    L-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

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

**FIRST YEAR – SEMESTER – II**

## SKILL ENHANCEMENT COURSE : OFFICE AUTOMATION

Subject Code	L	T	P	S	Credits	Inst. Hours	Marks		
							CIA	External	Total
	2		2		2	2	25	75	100
<b>Learning Objectives</b>									
<b>LO1</b>	The major objective in introducing the Computer Skills course is to impart training for students in Microsoft Office which has different components like MS Word, MS Excel and Power point.								
<b>LO2</b>	The course is highly practice oriented rather than regular class room teaching.								
<b>LO3</b>	To acquire knowledge on editor, spread sheet and presentation software.								
<b>Prerequisites: Should have studied Commerce in XII Std</b>									
<b>Unit</b>	<b>Contents</b>							<b>No. of Hours</b>	
I	Introductory concepts: Hardware and Software - Memory unit – CPU-Input Devices: Key board, Mouse and Scanner. Output devices: Monitor, Printer. Introduction to Operating systems - Introduction to Programming Languages.								
II	Word Processing: File menu operations - Editing text – tools, formatting, bullets and numbering - Spell Checker - Document formatting – Paragraph alignment, indentation, headers and footers, printing – Preview, options, merge.								
III	Spreadsheets: Excel – opening, entering text and data, formatting, navigating; Formulas – entering, handling and copying								
IV	Charts – creating, formatting and printing, analysis tables, preparation of financial statements, introduction to data analytics.								
V	Power point: Introduction to Power point - Features – Understanding slide typecasting & viewing slides – creating slide shows. Applying special object – including objects & pictures – Slide transition – Animation effects, audio inclusion, timers.								
	<b>Total</b>								
<b>Course Outcomes</b>									
<b>CO1</b>	Understand the basics of computer systems and its components.								
<b>CO2</b>	Understand and apply the basic concepts of a word processing package.								
<b>CO3</b>	Understand and apply the basic concepts of electronic spreadsheet software.								
<b>CO4</b>	Understand and apply the basic concepts of database management system.								
<b>CO5</b>	Understand and create a presentation using PowerPoint tool.								
<b>Textbooks</b>									

1	Peter Norton, “Introduction to Computers” –Tata McGraw-Hill.
<b>Reference Books</b>	
1	Jennifer Ackerman Kettel, Guy Hat-Davis, Curt Simmons, “Microsoft 2003”, Tata McGraw- Hill.
<b>NOTE: Latest Edition of Textbooks May be Used</b>	
<b>Web Resources</b>	
1	Web content from NDL / SWAYAM or opensource web resources



**FIRST YEAR – SEMESTER – II**

**SKILL ENHANCEMENT COURSE : BASICS OF INTERNET**

Subject Code	L	T	P	S	Credits	Inst. Hours	Marks		
							CIA	External	Total
SEC3	2	0	0	II	2	2	25	75	100

Course Objectives	
CO1	To learn the basics of Internet.
CO2	To impart the knowledge on connecting the internet
CO3	To provide fundamental knowledge in WWW
CO4	To give the knowledge on multimedia.
CO5	To learn the internet security concepts.

UNIT	Details	No. of Hours
I	<b>INTERNET</b> : The wired world of the internet –Information travels across the internet –TCP/IP – Understanding internet addresses and domains –Anatomy of web connections –Internet file types. Internet's Underlying Architecture: Domain name system –Routers –The internet client/server architecture.	6
II	<b>CONNECTING TO THE INTERNET</b> : Connecting your computer – Connecting to the internet from online services –ISDN –The internet/television connection –Network computers –DSL(Digital Subscriber Line). Communicating on the internet: E-mail–Usenet and newsgroups –Internet chat and instant messaging –Making phone calls on the internet.	6
III	<b>WORLD WIDE WEB</b> : Webpages –Web browsers –Markup Languages – Hypertext –Image maps and interactive forms –Web host servers –Websites with databases. Common Internet Tools: Gophers – Telnet –FTP and downloading files –Searching the internet.	6
IV	<b>MULTIMEDIA ON THE INTERNET</b> : Audio on the internet –Video on the internet –Intranet and shopping on the internet.	6
V	<b>SAFE GUARDING THE INTERNET</b> : Firewalls–Viruses –Digital certificates.	6
	<b>Total</b>	<b>30</b>

<b>CO1</b>	The student will be to know about to learn the basics of Internet.
<b>CO2</b>	The student will be to know about to connecting the internet.
<b>CO3</b>	the student will be able to provide fundamental knowledge in WWW.
<b>CO4</b>	The student will be to know about multimedia usage in internet.
<b>CO5</b>	The student will be to understand the internet security concepts.

<b>Text Book</b>	
1	Preston Gralla, —How the Internet worksI, 10thEdition, Que publishers, 2014
<b>ReferenceBooks</b>	
1.	Raj Kamal, —Internet and Web TechnologiesI, Tata McGraw Hill, 2002.
2	C Xavier, —World Wide Web design with HTMLI,TataMc-Graw Hill, 2008.
<b>WebResources</b>	
1.	<a href="http://www.informatics.buzdo.com/p912-internet-principles.html">www.informatics.buzdo.com/p912-internet-principles.html</a>

COs	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	S
CO2	S	S	S	S	S
CO3	S	S	S	S	S
CO4	S	S	S	S	S
CO5	S	S	S	S	S

PO–Programme Outcome, CO –Course outcome

S – Strong, M– Medium,L–Low(maybeavoided)