



B.Sc. INFORMATION SYSTEM MANAGEMENT

SYLLABUS

**FROM THE ACADEMIC YEAR
2023 - 2024**

**THIRUVALLUVAR UNIVERSITY
SERKKADU, VELLORE-632115**

Introduction

B.Sc. Information System Management

Education is the key to development of any society. Role of higher education is crucial for securing right kind of employment and also to pursue further studies in best available world class institutes elsewhere within and outside India. Quality education in general and higher education in particular deserves high priority to enable the young and future generation of students to acquire skill, training and knowledge in order to enhance their thinking, creativity, comprehension and application abilities and prepare them to compete, succeed and excel globally. Learning Outcomes-based Curriculum Framework (LOCF) which makes it student-centric, interactive and outcome-oriented with well-defined aims, objectives and goals to achieve. LOCF also aims at ensuring uniform education standard and content delivery across the state which will help the students to ensure similar quality of education irrespective of the institute and location.

Computer Science is the study of quantity, structure, space and change, focusing on problem solving, application development with wider scope of application in science, engineering, technology, social sciences etc. throughout the world in last couple of decades and it has carved out a space for itself like any other disciplines of basic science and engineering. Computer science is a discipline that spans theory and practice and it requires thinking both in abstract terms and in concrete terms. Nowadays, practically everyone is a computer user, and many people are even computer programmers. Computer Science can be seen on a higher level, as a science of problem solving and problem solving requires precision, creativity, and careful reasoning. The ever-evolving discipline of computer science also has strong connections to other disciplines. Many problems in science, engineering, health care, business, and other areas can be solved effectively with computers, but finding a solution requires both computer science expertise and knowledge of the particular application domain. Computer science has a wide range of specialties. These include Computer Architecture, Software Systems, Graphics, Artificial Intelligence, Computational Science, and Software Engineering. Drawing from a common core of computer science knowledge, each specialty area focuses on specific challenges. Computer Science is practiced by mathematicians, scientists and engineers. Mathematics, the origins of Computer Science, provides reason and logic. Science provides the methodology for learning and refinement. Engineering provides the techniques for building hardware and software.

The Students completing this programme will be able to present Software application clearly and precisely, make abstract ideas precise by formulating them in the Computer languages. Completion of this programme will also enable the learners to join teaching profession, enhance their employability for government jobs, jobs in software industry, banking, insurance and investment sectors, data analyst jobs and jobs in various other public and private enterprises.

LEARNING OUTCOMES-BASED CURRICULUM FRAMEWORK GUIDELINES BASED REGULATIONS FOR UNDER GRADUATE PROGRAMME	
Programme:	B.Sc., Information System Management
Programme Code:	
Duration:	3 years [UG]
Programme Outcomes:	<p>PO1: Disciplinary knowledge: Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate Programme of study</p> <p>PO2: Communication Skills: Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one’s views and express herself/himself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups.</p> <p>PO3: Critical thinking: Capability to apply analytic thought to a body of knowledge; analyse and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development.</p> <p>PO4: Problem solving: Capacity to extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one’s learning to real life situations.</p> <p>PO5: Analytical reasoning: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints.</p>

PO6: Research-related skills: A sense of inquiry and capability for asking relevant/appropriate questions, problem arising, synthesising and articulating; Ability to recognise cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyse, interpret and draw conclusions from data, establish hypotheses, predict cause-and-effect relationships; ability to plan, execute and report the results of an experiment or investigation

PO7: Cooperation/Team work: Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team

PO8: Scientific reasoning: Ability to analyse, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences from an open-minded and reasoned perspective.

PO9: Reflective thinking: Critical sensibility to lived experiences, with self awareness and reflexivity of both self and society.

PO10 Information/digital literacy: Capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data.

PO 11 Self-directed learning: Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.

PO 12 Multicultural competence: Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups.

PO 13: Moral and ethical awareness/reasoning: Ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work. Capable of demonstrating the ability to identify ethical issues related to one's work, avoid unethical behaviour such as fabrication, falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights; appreciating environmental and sustainability issues; and adopting objective, unbiased and truthful actions in all aspects of work.

PO 14: Leadership readiness/qualities: Capability for mapping out the tasks of a team or an organization, and setting direction, formulating an inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members to engage with that vision, and using management

	<p>skills to guide people to the right destination, in a smooth and efficient way.</p> <p>PO 15: Lifelong learning: Ability to acquire knowledge and skills, including „learning how to learn“, that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to changing trades and demands of work place through knowledge/skill development/reskilling.</p>
Programme Specific Outcomes:	<p>PSO1: To enable students to apply basic microeconomic, macroeconomic and monetary concepts and theories in real life and decision making.</p> <p>PSO 2: To sensitize students to various economic issues related to Development, Growth, International Economics, Sustainable Development and Environment.</p> <p>PSO 3: To familiarize students to the concepts and theories related to Finance, Investments and Modern Marketing.</p> <p>PSO 4: Evaluate various social and economic problems in the society and develop answer to the problems as global citizens.</p> <p>PSO 5: Enhance skills of analytical and critical thinking to analyze effectiveness of economic policies.</p>

	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
PSO 1	Y	Y	Y	Y	Y	Y	Y	Y
PSO 2	Y	Y	Y	Y	Y	Y	Y	Y
PSO3	Y	Y	Y	Y	Y	Y	Y	Y
PSO 4	Y	Y	Y	Y	Y	Y	Y	Y
PSO 5	Y	Y	Y	Y	Y	Y	Y	Y

3 – Strong, 2- Medium, 1- Low

Highlights of the Revamped Curriculum:

- Student-centric, meeting the demands of industry & society, incorporating industrial components, hands-on training, skill enhancement modules, industrial project, project with viva-voce, exposure to entrepreneurial skills, training for competitive examinations, sustaining the quality of the core components and incorporating application oriented content wherever required.
- The Core subjects include latest developments in the education and scientific front, advanced programming packages allied with the discipline topics, practical training, devising mathematical models and algorithms for providing solutions to industry / real life situations. The curriculum also facilitates peer learning with advanced mathematical topics in the final semester, catering to the needs of stakeholders with research aptitude.

- The General Studies and Mathematics based problem solving skills are included as mandatory components in the 'Training for Competitive Examinations' course at the final semester, a first of its kind.
- The curriculum is designed so as to strengthen the Industry-Academia interface and provide more job opportunities for the students.
- The Industrial Statistics course is newly introduced in the fourth semester, to expose the students to real life problems and train the students on designing a mathematical model to provide solutions to the industrial problems.
- The Internship during the second year vacation will help the students gain valuable work experience, that connects classroom knowledge to real world experience and to narrow down and focus on the career path.
- Project with viva-voce component in the fifth semester enables the student, application of conceptual knowledge to practical situations. The state of art technologies in conducting a Explain in a scientific and systematic way and arriving at a precise solution is ensured. Such innovative provisions of the industrial training, project and internships will give students an edge over the counterparts in the job market.
- State-of Art techniques from the streams of multi-disciplinary, cross disciplinary and inter disciplinary nature are incorporated as Elective courses, covering conventional topics to the latest - Artificial Intelligence.

Value additions in the Revamped Curriculum:

Semester	Newly introduced Components	Outcome / Benefits
I	Foundation Course To ease the transition of learning from higher secondary to higher education, providing an overview of the pedagogy of learning Literature and analysing the world through the literary lens gives rise to a new perspective.	<ul style="list-style-type: none"> ➤ Instill confidence among students ➤ Create interest for the subject
I, II, III, IV	Skill Enhancement papers (Discipline centric / Generic / Entrepreneurial)	<ul style="list-style-type: none"> ➤ Industry ready graduates ➤ Skilled human resource ➤ Students are equipped with essential skills to make them employable
		<ul style="list-style-type: none"> ➤ Training on language and communication skills enable the students gain knowledge and exposure in the competitive world.
		<ul style="list-style-type: none"> ➤ Discipline centric skill will improve the Technical knowhow of solving real life problems.
III, IV, V & VI	Elective papers	<ul style="list-style-type: none"> ➤ Strengthening the domain knowledge ➤ Introducing the stakeholders to the State-of Art techniques from the streams of multi-disciplinary, cross disciplinary and inter disciplinary nature ➤ Emerging topics in higher education/ industry/ communication network / health sector etc. are introduced with hands-on-training.

IV	Elective Papers	<ul style="list-style-type: none"> ➤ Exposure to industry moulds students into solution providers ➤ Generates Industry ready graduates ➤ Employment opportunities enhanced
V Semester	Elective papers	<ul style="list-style-type: none"> ➤ Self-learning is enhanced ➤ Application of the concept to real situation is conceived resulting in tangible outcome
VI Semester	Elective papers	<ul style="list-style-type: none"> ➤ Enriches the study beyond the course. ➤ Developing a research framework and presenting their independent and intellectual ideas effectively.
Extra Credits: For Advanced Learners / Honors degree		<ul style="list-style-type: none"> ➤ To cater to the needs of peer learners / research aspirants
Skills acquired from the Courses		Knowledge, Problem Solving, Analytical ability, Professional Competency, Professional Communication and Transferrable Skill

Credit Distribution for UG Programmes

Sem I	Credit	H	Sem II	Credit	H	Sem III	Credit	H	Sem IV	Credit	H	Sem V	Credit	H	Sem VI	Credit	H
Part 1. Language – Tamil	3	6	Part..1. Language – Tamil	3	6	Part..1. Language – Tamil	3	6	Part..1. Language – Tamil	3	6	5.1 Core Course – \CC IX	4	5	6.1 Core Course – CC XIII	4	6
Part.2 English	3	6	Part..2 English	3	6	Part..2 English	3	6	Part..2 English	3	6	5.2 Core Course – CC X	4	5	6.2 Core Course – CC XIV	4	6
1.3 Core Course – CC I	5	5	2..3 Core Course – CC III	5	5	3.3 Core Course – CC V	5	5	4.3 Core Course – CC VII Core Industry Module	5	5	5. 3.Core Course CC -XI	4	5	6.3 Core Course – CC XV	4	6
1.4 Core Course – CC II	5	5	2.4 Core Course – CC IV	5	5	3.4 Core Course – CC VI	5	5	4.4 Core Course – CC VIII	5	5	5. 4.Core Course –/ Project with viva-voce CC -XII	4	5	6.4 Elective -VII Generic/ Discipline Specific	3	5
1.5 Elective I Generic/ Discipline Specific	3	4	2.5 Elective II Generic/ Discipline Specific	3	4	3.5 Elective III Generic/ Discipline Specific	3	4	4.5 Elective IV Generic/ Discipline Specific	3	3	5.5 Elective V Generic/ Discipline Specific	3	4	6.5 Elective VIII Generic/ Discipline Specific	3	5
1.6 Skill Enhancement Course SEC-1	2	2	2.6 Skill Enhancement Course SEC-2	2	2	3.6 Skill Enhancement Course SEC-4, (Entrepreneurial Skill)	1	1	4.6 Skill Enhancement Course SEC-6	2	2	5.6 Elective VI Generic/ Discipline Specific	3	4	6.6 Extension Activity	1	-
1.7 Skill Enhancement -(Foundation Course)	2	2	2.7 Skill Enhancement Course –SEC-3	2	2	3.7 Skill Enhancement Course SEC-5	2	2	4.7 Skill Enhancement Course SEC-7	2	2	5.7 Value Education	2	2	6.7 Professional Competency Skill	2	2
						3.8 E.V.S.	-	1	4.8 E.V.S	2	1	5.8 Summer Internship /Industrial Training	2				
	23	30		23	30		22	30		25	30		26	30		21	30
Total – 140 Credits																	

Choice Based Credit System (CBCS), Learning Outcomes Based Curriculum Framework (LOCF) Guideline Based Credit and Hours Distribution System for all UG courses including Lab Hours

First Year – Semester-I

Part	List of Courses	Credit	No. of Hours
Part-1	Language – Tamil	3	6
Part-2	English	3	6
Part-3	Core Courses & Elective Courses [in Total]	13	14
Part-4	Skill Enhancement Course SEC-1	2	2
	Foundation Course	2	2
		23	30

Semester-II

Part	List of Courses	Credit	No. of Hours
Part-1	Language – Tamil	3	6
Part-2	English	3	6
Part-3	Core Courses & Elective Courses including laboratory [in Total]	13	14
Part-4	Skill Enhancement Course -SEC-2	2	2
	Skill Enhancement Course -SEC-3 (Discipline / Subject Specific)	2	2
		23	30

Second Year – Semester-III

Part	List of Courses	Credit	No. of Hours
Part-1	Language – Tamil	3	6
Part-2	English	3	6
Part-3	Core Courses & Elective Courses including laboratory [in Total]	13	14
Part-4	Skill Enhancement Course -SEC-4 (Entrepreneurial Based)	1	1
	Skill Enhancement Course -SEC-5 (Discipline / Subject Specific)	2	2
	E.V.S	-	1
		22	30

Semester-IV

Part	List of Courses	Credit	No. of Hours
Part-1	Language – Tamil	3	6
Part-2	English	3	6
Part-3	Core Courses & Elective Courses including laboratory [in Total]	13	13
Part-4	Skill Enhancement Course -SEC-6 (Discipline / Subject Specific)	2	2
	Skill Enhancement Course -SEC-7 (Discipline / Subject Specific)	2	2
	E.V.S	2	1
		25	30

**Third Year
Semester-V**

Part	List of Courses	Credit	No. of Hours
Part-3	Core Courses including Project / Elective Based	22	26
Part-4	Value Education	2	2
	Internship / Industrial Visit / Field Visit	2	2
		26	30

Semester-VI

Part	List of Courses	Credit	No. of Hours
Part-3	Core Courses including Project / Elective Based & LAB	18	28
Part-4	Extension Activity	1	-
	Professional Competency Skill	2	2
		21	30

Consolidated Semester wise and Component wise Credit distribution

Parts	Sem I	Sem II	Sem III	Sem IV	Sem V	Sem VI	Total Credits
Part I	3	3	3	3	-	-	12
Part II	3	3	3	3	-	-	12
Part III	13	13	13	13	22	18	92
Part IV	4	4	3	6	4	1	22
Part V	-	-	-	-	-	2	2
Total	23	23	22	25	26	21	140

*Part I, II, and Part III components will be separately taken into account for CGPA calculation and classification for the under graduate programme and the other components. IV, V have to be completed during the duration of the programme as per the norms, to be eligible for obtaining the UG degree.

Methods of Evaluation		
Internal Evaluation	Continuous Internal Assessment Test	25 Marks
	Assignments	
	Seminars	
	Attendance and Class Participation	
External Evaluation	End Semester Examination	75 Marks
	Total	100 Marks
Methods of Assessment		
Recall (K1)	Simple definitions, MCQ, Recall steps, Concept definitions	
Understand/ Comprehend (K2)	MCQ, True/False, Short essays, Concept explanations, Short summary or Overview	
Application (K3)	Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain	
Analyze (K4)	Problem-solving questions, Finish a procedure in many steps, Differentiate between various ideas, Map knowledge	
Evaluate (K5)	Longer essay/ Evaluation essay, Critique or justify with pros and cons	
Create (K6)	Check knowledge in specific or offbeat situations, Discussion, Debating or Presentations	

B.Sc., INFORMATION SYSTEM MANAGEMENT

FIRST YEAR – SEMESTER – I						
PART	LIST OF COURSES	CREDITS	NO. OF HRS	EXAM DURATION	MAX. MARKS	
					CIA	EXT
Part I	Language – Tamil	3	6	3	25	75
Part II	English	3	6	3	25	75
Part-III	Core Course 1 Programming in C	5	5	3	25	75
	Core Course 2 C Programming Lab – Practical	5	5	3	25	75
	Generic Elective Course 1 (Choose any one from the following list i. Numerical Methods ii. Financial Accounting	3	4	3	25	75
Part-IV	Skill Enhancement Course SEC1 Introduction to HTML	2	2	3	25	75
	Foundation Course Introduction to Information Technology	2	2	3	25	75
	TOTAL	23	30		175	525

FIRST YEAR – SEMESTER – I

CORE COURSE 1: PROGRAMMING IN C

Subject Code	L	T	P	S	Credits	Inst. Hours	Marks		
							CIA	External	Total
CC1	5	0	0	I	4	5	25	75	100
Learning Objectives									
LO1	To familiarize the students with the understanding of code organization								
LO2	To improve the programming skills								
LO3	Learning the basic programming constructs.								
Unit	Contents								No. of Hours
I	Studying Concepts of Programming Languages- Language Evaluation Criteria - Language design - Language Categories - Implementation Methods – Programming Environments - Overview of C: History of C- Importance of C- Basic Structure of C Programs-Executing a C Program- Constants, Variables and Data types - Operators and Expressions - <u>Managing Input and Output Operations</u>								15
II	Decision Making and Branching: Decision Making and Looping - <u>Arrays - Character Arrays and Strings</u>								15
III	User Defined Functions: Elements of User Defined Functions- Definition of Functions- Return Values and their Types- Function Call- Function Declaration- Categories of Functions- Nesting of Functions-Recursion								15
IV	Structures and Unions: Introduction- Defining a Structure- Declaring Structure Variables Accessing Structure Members- Structure Initialization- Arrays of Structures- Arrays within Structures- Unions- Size of Structures.								15
V	Pointers: Understanding Pointers- Accessing the Address of a Variable- Declaring Pointer Variables- Initializing of Pointer Variables- Accessing a Variable through its Pointer- Chain of Pointers- Pointer Expressions- Pointer and Scale Factor- Pointer and Arrays- Pointers and Character Strings- Array of Pointers- Pointer as Function Arguments- Functions Returning Pointers- Pointers to Functions- File Management in C								15
TOTAL								75	
CO	Course Outcomes								
CO1	Outline the fundamental concepts of C programming languages, and its features								
CO2	Demonstrate the programming methodology.								
CO3	Identify suitable programming constructs for problem solving.								
CO4	Select the appropriate data representation, control structures, functions and concepts based on the problem requirement.								
CO5	Evaluate the program performance by fixing the errors.								

Textbooks	
➤	Robert W. Sebesta, (2012), —Concepts of Programming Languages, Fourth Edition, Addison Wesley (Unit I : Chapter – 1)
➤	E. Balaguruswamy, (2010), —Programming in ANSI C, Fifth Edition, Tata McGraw Hill Publications
Reference Books	
1.	Ashok Kamthane, (2009), —Programming with ANSI & Turbo C, Pearson Education
2.	Byron Gottfried, (2010), —Programming with C, Schaums Outline Series, Tata McGraw Hill Publications
NOTE: Latest Edition of Textbooks May be Used	
Web Resources	
1.	http://www.tutorialspoint.com/cprogramming/
2.	http://www.cprogramming.com/
3.	http://www.programmingsimplified.com/c-program-examples
4.	http://www.programiz.com/c-programming
5.	http://www.cs.cf.ac.uk/Dave/C/CE.html
6.	http://fresh2refresh.com/c-programming/c-function/

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO1	3	2	2	3	2	2
CO2	3	3	2	3	2	2
CO3	3	3	3	3	2	2
CO4	3	3	2	3	2	2
CO5	3	3	2	3	2	2
Weightage of course contributed to each PSO	15	14	11	15	10	10

FIRST YEAR – SEMESTER – I

CORE COURSE 2: C PROGRAMMING LAB - PRACTICAL

Subject Code	L	T	P	S	Credits	Inst. Hours	Marks		
							CIA	External	Total
CC2	0	0	5	I	4	5	25	75	100
Learning Objectives									
LO1	The Course aims to provide exposure to problem-solving through C programming								
LO2	It aims to train the student to the basic concepts of the C -Programming language								
LO3	Apply different concepts of C language to solve the problem								
Contents									
1. Programs using Input/ Output functions 2. Programs on conditional structures 3. Command Line Arguments 4. Programs using Arrays 5. String Manipulations 6. Programs using Functions 7. Recursive Functions 8. Programs using Pointers 9. Files 10. Programs using Structures & Unions									
CO Course Outcomes									
CO1	Demonstrate the understanding of syntax and semantics of C programs.								
CO2	Identify the problem and solve using C programming techniques.								
CO3	Identify suitable programming constructs for problem solving.								
CO4	Analyze various concepts of C language to solve the problem in an efficient way.								
CO5	Develop a C program for a given problem and test for its correctness.								

CO/ PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO1	3	2	2	3	2	2
CO2	3	3	2	3	2	2
CO3	3	3	3	3	2	2
CO4	3	3	2	3	2	2
CO5	3	3	2	3	3	2
Weightage of course contributed to each PSO	15	14	11	15	11	10

FIRST YEAR – SEMESTER – I

GENERIC ELECTIVE COURSE 1: (i) NUMERICAL METHODS

Subject Code	L	T	P	S	Credits	Inst. Hours	Marks		
							CIA	External	Total
GEC 1	4	0	0	I	3	4	25	75	100
Learning Objectives									
LO1	To acquire knowledge of basic concepts of numerical methods, partial differential								
LO2	To understand numerical methods, curl and divergence of a vector function, types of								
LO3	To evaluate numerical solutions of ODE by numerical methods , PDEs, line, surface								
Unit	Contents								No. of Hours
I	Simultaneous Linear Algebraic Equations - Gauss Elimination Method – Iteration Method: Gauss Seidel Method -Numerical Solution of O.D.E - Solution by Taylor’s Methods - Euler’s Method –Runge-Kutta Method (4th Order).								12
II	Derivation of partial differential equations - by Elimination of Arbitrary Functions - Different Integrals of partial differential equations - Standard type of First Order Equations - Lagrange’s Equation.								12
III	Gradient - Divergence and Curl - Gauss Divergence Theorem - Green Theorem - Stokes Theorem (No proofs of theorem, only simple applications)								12
IV	Expansion of and - Powers of Sines and Cosines of in terms of function of multiple of - Hyperbolic Functions - Inverse Hyperbolic Functions .								12
V	Analytic function - Cauchy Riemann equations (No derivation, only simple applications) - Residues - Evaluation of definite integrals (Integral over the unit circle only)								12
TOTAL								60	
CO	Course Outcomes								
CO1	To acquire knowledge of basic concepts of numerical methods, partial differential equations, vector analysis, trigonometry and complex analysis								
CO2	To understand numerical methods, curl and divergence of a vector function, types of PDEs, series expansion , analyticity of a function.								
CO3	To evaluate numerical solutions of ODE by numerical methods , PDEs, line, surface and volume integrals, series expansion, complex integration								
CO4	To apply various methods in solving problems.								
CO5	To illustrate with suitable examples.								

Textbooks	
	<ol style="list-style-type: none"> 1. M.K.Venkataraman, Numerical Methods in Science and Engineering, The National Publishing Company, 5th Edition, 2013. 2. UNIT I: Chapter IV (Sec: 2, 6), Chapter XI (Sec: 6, 10, 16). 2. S. Narayanan, R. Hanumantha Rao, T.K. Manicavachagom Pillay and Kandaswamy, Ancillary Mathematics Vol-II, 2010 Edition. 3. UNIT II: Chapter 6-Sec 1-6, pp: 252-274. 4. UNIT III: Chapter 8 - Sec 1.17-1.20, 6, 8 and 9, pp: 335-350, 381-389, 399-407. 3. S. Narayanan, R. Hanumantha Rao, T.K. Manicavachagom Pillay and Kandaswamy, Ancillary Mathematics Vol-I, 2009 Edition. 5. UNIT IV: Chapter 5 - Sec 5.1, 5.2 and 5.4, pp: 220-232, 242-256. 4. S. Narayanan and T.K. Manickavachagom Pillay, Complex Analysis, 1997 Edition. 6. UNIT V: Chapter 1 - Sec 11, pp : 43-57, Chapter 5 - Sec 1-3, (pp : 185-196).
Reference Books	
1.	S.Narayanan & T.K. Manichavachagom Pillay, Differential equations and its applications, Viswanathan Pvt Ltd 2013.
2.	2. M.K.Venkataraman, Higher Mathematics for Engineering and Science, Third Edition, The National Publishing Co., Madras, 1986.
NOTE: Latest Edition of Textbooks May be Used	

FIRST YEAR – SEMESTER – I
GENERIC ELECTIVE COURSE 1: FINANCIAL ACCOUNTING

Subject Code	L	T	P	S	Credits	Inst. Hours	Marks		
							CIA	External	Total
GEC 1	4	0	0	I	3	4	25	75	100
Learning Objectives									
LO1	To familiarize the students with the understanding of Accounting								
LO2	To improve the Financial Accounting skills								
LO3	Learning the basic Financial Accounting constructs.								
Unit	Contents								No. of Hours
I	Introduction To Accounting Meaning- Definition- Functions- Objectives- Users of Accounting Information Accounting Concepts and Conventions – Advantages and Limitations of Accounting.								12
II	Double Entry System Of Accounting Meaning and concepts - Golden Accounting Rules- Journal Entries- Ledger-Trail Balance – Rectification of Errors (Simple Problems).								12
III	Final Accounts Preparation of Trading Account, Profit and Loss Account and Balance Sheet Adjustment Entries (Simple Problems).								12
IV	Single Entry System Meaning - Features - Advantages - Limitations - Methods- Net Worth Method– Conversion Method (Simple Problems).								12
V	Average Due Date And Bank Reconciliation Statement Average Due Date - Meaning -Uses – Problems - Bank Reconciliation Statement Meaning- Reasons for Preparation- Procedures and Preparation of Bank Reconciliation statement (Simple Problems).								12
TOTAL								60	
CO	Course Outcomes								
CO1	To introduce the basic concepts and conventions to the students, this would help in development of accounting knowledge.								
CO2	To understand the concept of Double entry system this helps in preparation of various books of accounts.								
CO3	To develop the capability of students to prepare the Final Accounts of a Small Business Concern.								
CO4	To introduce the concept of Single entry system of Accounting								
CO5	To enhance the Accounting Knowledge by introducing the practical uses of Average Due Date and Bank Reconciliation Statement.								

Textbooks	
	T.S.Reddy and Murthy, Financial Accounting, Margham Publications 2018
Reference Books	
1.	M.C. Shukla and T.S. Grewal&co, Advanced Accounts S. Chand & Co 2016
2 .	S.P. Jain &K.L Narang, Financial Accounting Kalyani Publication 2017
3.	R.L. Gupta Financial Accounting Sultan chand 2014
4.	R.S.N Pillai&V.Bagavathi, Fundamental of Advanced Accounting, Volume – I S. Chand & Co 2013
NOTE: Latest Edition of Textbooks May be Used	

FIRST YEAR – SEMESTER – I

SKILL ENHANCEMENT COURSE (SEC1) : INTRODUCTION TO HTML

Subject Code	Subject Name	Category	L	T	P	S	Credits	Marks		
								CIA	External	Total
	INTRODUCTION TO HTML	Specific Elective	2	-	-		2	25	75	100
Learning Objectives										
LO1	Insert a graphic within a web page.									
LO2	Create a link within a web page.									
LO3	Create a table within a web page.									
LO4	Insert heading levels within a web page.									
LO5	Insert ordered and unordered lists within a web page. Create a web page.									
UNIT	Contents								No. Of. Hours	
I	Introduction :Web Basics: What is Internet – Web browsers – What is Web page – HTML Basics:Understanding tags.								6	
II	Tags for Document structure(HTML, Head, Body Tag). Block level text elements: Headingsparagraph(<p> tag) – Font style elements: (bold, italic, font, small, strong, strike, big tags)								6	
III	Lists: Types of lists: Ordered, Unordered – Nesting Lists – Other tags: Marquee, HR, BR- Using Images – Creating Hyperlinks.								6	
IV	Tables: Creating basic Table, Table elements, Caption – Table and cell alignment – Rowspan, Colspan –Cell padding.								6	
V	Frames: Frameset – Targeted Links – No frame – Forms : Input, Textarea, Select, Option.								6	
TOTAL HOURS								30		
Course Outcomes								Programme Outcomes		
CO	On completion of this course, students will									
CO1	Knows the basic concept in HTML Concept of resources in HTML								PO1, PO2, PO3, PO4, PO5, PO6	
CO2	Knows Design concept. Concept of Meta Data Understand the concept of save the files.								PO1, PO2, PO3, PO4, PO5, PO6	
CO3	Understand the page formatting. Concept of list								PO1, PO2, PO3, PO4, PO5, PO6	
CO4	Creating Links. Know the concept of creating link to email address								PO1, PO2, PO3, PO4, PO5, PO6	
CO5	Concept of adding images Understand the table creation.								PO1, PO2, PO3, PO4, PO5, PO6	

Textbooks	
1	“Mastering HTML5 and CSS3 Made Easy”, TeachUComp Inc., 2014.
2	Thomas Michaud, “Foundations of Web Design: Introduction to HTML & CSS”
Web Resources	
1.	https://www.teachucomp.com/samples/html/5/manuals/Mastering-HTML5-CSS3.pdf
2.	https://www.w3schools.com/html/default.asp

Mapping with Programme Outcomes:

CO/PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	3	3	3	3	3	3
CO 2	3	3	2	3	3	3
CO 3	2	3	3	3	3	3
CO 4	3	3	3	3	3	3
CO 5	3	3	3	2	3	3
Weightage of course contributed to each PSO	14	15	14	14	15	15

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

FIRST YEAR – SEMESTER – I

FOUNDATION COURSE: INTRODUCTION TO INFORMATION TECHNOLOGY

Subject Code	L	T	P	S	Credits	Inst. Hours	Marks		
							CIA	External	Total
FC	2	-	-	I	2	2	25	75	100
Learning Objectives									
LO1	Understand basic concepts and terminology of information technology.								
LO2	Have a basic understanding of personal computers and their operation								
LO3	Be able to identify data storage and its usage								
LO4	Get great knowledge of software and its functionalities								
LO5	Understand about operating system and their uses								
UNIT	Contents								No. Of. Hours
I	Introduction to Computers: Introduction, Definition, .Characteristics of computer, Evolution of Computer, Block Diagram Of a computer, Generations of Computer, Classification Of Computers, Applications of Computer, Capabilities and limitations of computer								6
II	Basic Computer Organization: Role of I/O devices in a computer system. Input Units: Keyboard, Terminals and its types. Pointing Devices, Scanners and its types, Voice Recognition Systems, Vision Input System, Touch Screen, Output Units: Monitors and its types. Printers: Impact Printers and its types. Non Impact Printers and its types, Plotters, types of plotters, Sound cards, Speakers.								6
III	Storage Fundamentals: Primary Vs Secondary Storage, Data storage & retrieval methods. Primary Storage: RAM ROM, PROM, EPROM, EEPROM. Secondary Storage: Magnetic Tapes, Magnetic Disks. Cartridge tape, hard disks, Floppy disks Optical Disks, Compact Disks, Zip Drive, Flash Drives								6
IV	Software: Software and its needs, Types of S/W. System Software: Operating System, Utility Programs Programming Language: Machine Language, Assembly Language, High Level Language their advantages & disadvantages. Application S/W and its types: Word Processing, Spread Sheets Presentation, Graphics, DBMS s/w								6
V	Operating System: Functions, Measuring System Performance, Assemblers, Compilers and Interpreters. Batch Processing, Multiprogramming, Multi Tasking, Multiprocessing, Time Sharing, DOS, Windows, Unix/Linux.								6
TOTAL HOURS								30	
Course Outcomes									Programme

		Outcomes
CO1	Learn the basics of computer, Construct the structure of the required things in computer, learn how to use it.	PO1, PO2, PO3, PO4, PO5, PO6
CO2	Develop organizational structure using for the devices present currently under input or output unit.	PO1, PO2, PO3, PO4, PO5, PO6
CO3	Concept of storing data in computer using two header namely RAM and ROM with different types of ROM with advancement in storage basis.	PO1, PO2, PO3, PO4, PO5, PO6
CO4	Work with different software, Write program in the software and applications of software.	PO1, PO2, PO3, PO4, PO5, PO6
CO5	Usage of Operating system in information technology which really acts as a interpreter between software and hardware.	PO1, PO2, PO3, PO4, PO5, PO6
Textbooks		
1	Anoop Mathew, S. Kavitha Murugesan (2009), “ Fundamental of Information Technology”, Majestic Books.	
2	Alexis Leon, Mathews Leon,” Fundamental of Information Technology”, 2 nd Edition.	
3	S. K Bansal, “Fundamental of Information Technology”.	
Reference Books		
1.	Bhardwaj Sushil Puneet Kumar, “Fundamental of Information Technology”	
2.	GG WILKINSON, “Fundamentals of Information Technology”, Wiley-Blackwell	
3.	A Ravichandran , “Fundamentals of Information Technology”, Khanna Book Publishing	
Web Resources		
1.	https://testbook.com/learn/computer-fundamentals	
2.	https://www.tutorialsmate.com/2020/04/computer-fundamentals-tutorial.html	
3.	https://www.javatpoint.com/computer-fundamentals-tutorial	
4.	https://www.tutorialspoint.com/computer_fundamentals/index.htm	
5.	https://www.nios.ac.in/media/documents/sec229new/Lesson1.pdf	

Mapping with Programme Outcomes:

CO/PSO	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO 1	3	3	3	3	3	3
CO 2	3	3	3	3	3	3
CO 3	3	3	3	3	3	3
CO 4	3	3	3	3	2	3
CO 5	3	3	2	3	3	2
Weightage of course contributed to each PSO	15	15	14	15	14	14