

**ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM,
VISAKHAPATNAM.**

DEPARTMENT OF COMMERCE

COURSE OUTCOMES

2023–2024

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.**Programme:B.Com . Computer Applications (Major)****w.e.f. AY 2023-24****COURSESTRUCTURE**

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits
I	I	1	Fundamental of Commerce	4	4
		2	Business Organization	4	4
	II	3	Financial Accounting	3	3
			Financial Accounting Practical Course	2	1
		4	Office Automation Tools	3	3
			Office Automation Tools Practical Course	2	1
II	III	5	Advanced Accounting	3	3
			Advanced Accounting Practical Course	2	1
		6	Income Tax	3	3
			Income Tax Practical Course	2	1
		7	Ecommerce &Web designing	3	3
			Ecommerce &Web designing Practical Course	2	1
		8	Digital Marketing	3	3
			Digital Marketing Practical Course	2	1
	IV	9	Corporate Accounting	3	3
			Corporate Accounting Practical Course	2	1
		10	Cost & Management Accounting	3	3
			Cost & Management Accounting Practical Course	2	1
		11	DBMS with Oracle	3	3
			DBMS with Oracle Practical Course	2	1

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-I

COURSE1:FUNDAMENTALS OF COMMERCE

Theory

Credits:4

4 hrs/week

Learning Objectives:

The objective of this paper is to help students to acquire conceptual knowledge of the Commerce, Economy and Role of Commerce in Economic Development. To acquire Knowledge on Accounting and Taxation.

Learning Outcomes:

At the end of the course ,the student will able to
Identify the role commerce in Economic Development and Societal Development. Equip with the knowledge of imports and exports and Balance of Payments. Develop the skill of accounting and accounting principles. They acquire knowledge on micro and micro economics and factors determine demand and supply. An idea of Indian Tax system and various taxes levied on in India. They will acquire skills on web design and digital marketing.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-I

COURSE2: BUSINESS ORGANIZATION

Theory

Credits: 4

4 hrs/week

Learning Objectives:

The course aims to acquire conceptual knowledge of business, formation various business organizations. To provide the knowledge on deciding plant location, plan layout and business combinations.

Learning outcomes:

After completing this course a student will have:

Ability to understand the concept of Business Organization along with the basic laws and norms of Business Organization. The ability to understand the terminologies associated with the field of Business Organization along with their relevance and to identify the appropriate types and functioning of Business Organization for solving different problems. The application of Business Organization principles to solve business and industry related problems and to understand the concept of Sole Proprietorship, Partnership and Joint Stock Company etc.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-II

COURSE3: FINANCIAL ACCOUNTING

Theory

Credits:4

4 hrs/week

Learning Objectives

The course aims to help learners to acquire conceptual knowledge of financial accounting, to impart skills for recording various kinds of business transactions and to prepare financial statements.

Learning Outcomes:

At the end of the course, the student will be able to identify transactions and events that need to be recorded in the books of accounts. Equip with the knowledge of accounting process and preparation of final accounts of sole trader. Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP. Know the difference between Joint Ventures and Consignment. Critically examine the balance sheets of a sole trader for different accounting periods. Design new accounting formulas & principles for business organizations.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-II

COURSE4: OFFICE AUTOMATION TOOLS

Theory

Credits: 3

3 hrs/week

Course Objectives:

The objective of this paper is to help students to acquire knowledge on the environment of GUI in Ms-Word and its features. To introduce the fundamentals concepts of using Ms-Word and its features to make it more useful and provide hands on use of Word, Excel and PowerPoint.

Learning Outcomes:

The students will be able:

Understand concept of Word Processor and use its features. To use the advanced features of Ms-Word to make day to day usage easier. To work comfortably with Ms-Excel Environment. To create work sheets and user advanced feature of Excel. To create make presentations and inserting multimedia in them.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-III

COURSE5: ADVANCED ACCOUNTING

Theory

Credits: 3

3 hrs/week

Learning Objectives

The course aims to help learners to acquire conceptual knowledge of Non-Profit Organizations, understand the accounting procedure of single entry system, hire purchase system and partnership accounts.

Learning Outcomes:

At the end of the course ,the student will able to;

Understand the concept of Non-profit organizations and its accounting process, Comprehend the concept of single-entry system and preparation of statement of affairs, Familiarize with the legal formalities at the time of dissolution of the firm, Prepare financial statements for partnership firm on dissolution of the firm and Employ critical thinking skills to understand the difference between the dissolution of the firm and dissolution of partnership.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-III

COURSE6: INCOME TAX

Theory

Credits: 3

3 hrs/week

Learning Objectives:

The objective of this paper is to help students to acquire knowledge and provisions of income tax concepts and various heads of incomes. To impart skills for calculating various incomes and online filling of tax returns.

Learning Outcomes:

At the end of the course ,the student will able to;

Acquire the complete knowledge of the tax evasion, tax avoidance and tax planning, Understand the provisions and compute income tax for various sources, Grasp amendments made from time to time in Finance Act, Compute total income and define tax complicacies and structure and Prepare and File IT returns of individual at his own.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-III

COURSE6: INCOME TAX

Theory

Credits: 3

3 hrs/week

Learning Objectives:

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At the end of the course ,the student will able to;

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ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-III

COURSE8: DIGITAL MARKETING

Theory

Credits: 3

3 hrs/week

Course Objectives:

The course aims to identify the impact of digital space and digital marketing in reaching out to customers. Understand the importance of Search Engines and explain the working of Search Engines. Able to Define email Marketing and have knowledge on how Social Media Marketing is to be used by marketers?

Learning Outcomes:

The Students will be able to:

Use digital media for the creation of products and services and relate Search Engines in the digital marketing ecosystem. Use Search Engine Marketing for advertisements and know the Social Media platforms like Face book, Twitter, YouTube & LinkedIn for Marketing. Outline email Marketing and strategy to craft email marketing campaign.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-IV

COURSE9:CORPORATEACCOUNTING

Theory

Credits: 3

3 hrs/week

LearningObjectives:

This course enables the student to develop awareness about corporate accounting in conformity with the provisions of company act.

LearningOutcomes:

At the end of the course, the student will be able to;

Understand the Accounting treatment of Share Capital and aware of process of book building, Demonstrate the procedure for issue of bonus shares and buyback of shares, Comprehend the important provisions of Companies Act, 2013 and prepare final accounts of a company with Adjustments, Participate in the preparation of consolidated accounts for a corporate group Understand analysis of complex issues, formulation of well-reasoned arguments and reaching better conclusions and Communicate accounting policy choices with reference to relevant laws and accounting standards.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-IV

COURSE10: COST AND MANAGEMENT ACCOUNTING

Theory

Credits: 3

3 hrs/week

Learning Objectives:

The aim of this course is to expose the students to the basic concepts and the tools used in cost accounting.

Learning Outcomes:

At the end of the course, the student will able to;

Understand various costing methods and management techniques, Apply Cost and Management accounting methods for both manufacturing and service industry, Prepare cost sheet, quotations, and tenders to organization for different works, Analyze cost-volume-profit techniques to determine optimal managerial decisions, Compare and contrast the financial statements of firms and interpret the results and Prepare analysis of various special decisions, using relevant management techniques.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-IV

COURSE11: DATABASE MANAGEMENT SYSTEM WITH ORACLE

Theory

Credits: 3


3 hrs/week

Course Objectives:

The course aims to help the Students will have the expertise in analyzing real time problems and providing appropriate solutions related to Computer Science & Engineering. The Students will have the knowledge of fundamental principles and innovative technologies to succeed in higher studies and research. They continue to learn and to adapt technology developments combined with deep awareness of ethical responsibilities in profession.

Learning Outcomes:

An ability to apply Knowledge of computing and mathematics in Computer Science & Engineering. They will analyze a problem, identify and define the computing requirements appropriate to its solution. An ability to design, implement and evaluate a computer-based system to meet desired needs with appropriate societal considerations. The will have knowledge on to conduct investigations, interpret data and provide conclusions in investigating complex problems related to Computer Science & Engineering. An ability to engage in continuing professional development and life-long learning.


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**ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM,
VISAKHAPATNAM.**

DEPARTMENT OF MANAGEMENT

COURSE OUTCOMES

2023–2024

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

Program me : B.B.A. Honors (Major)

w.e.f. AY 2023-24

COURSE STRUCTURE

Semester	Course Number	Course Name	No. of Hrs/Week	No. of Credits
Semester-I	1	Fundamentals of Commerce	4	4
	2	Business Organization	4	4
Semester-II	3	Principles of Management	4	4
	4	Business Economics	4	4
Semester-III	5	Business Law	4	4
	6	Organizational Behaviour	4	4
	7	Business Environment	4	4
	8	Business Statistics and Mathematics	4	4
Semester-IV	9	Marketing Management	4	4
	10	Human Resource Management	4	4
	11	Financial Management	4	4

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-I

COURSE1: FUNDAMENTALS OF COMMERCE

Theory

Credits:4

4 hrs/week

Learning Objectives:

The objective of this paper is to help students to acquire conceptual knowledge of the Commerce, Economy and Role of Commerce in Economic Development. To acquire Knowledge on Accounting and Taxation.

Learning Outcomes:

At the end of the course ,the student will able to Identify the role commerce in Economic Development and Societal Development. Equip with the knowledge of imports and exports and Balance of Payments. Develop the skill of accounting and accounting principles. They acquire knowledge on micro and micro economics and factors determine demand and supply. An idea of Indian Tax system and various taxes levied on in India. They will acquire skills on web design and digital marketing.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-I

COURSE2: BUSINESS ORGANIZATION

Theory

Credits: 4

4 hrs/week

Learning Objectives:

The course aims to acquire conceptual knowledge of business, formation various business organizations. To provide the knowledge on deciding plant location, plan layout and business combinations.

Learning outcomes:

After completing this course a student will have:

Ability to understand the concept of Business Organization along with the basic laws and norms of Business Organization. The ability to understand the terminologies associated with the field of Business Organization along with their relevance and to identify the appropriate types and functioning of Business Organization for solving different problems. The application of Business Organization principles to solve business and industry related problems and to understand the concept of Sole Proprietorship, Partnership and Joint Stock Company etc.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-II

COURSE3: PRINCIPLES OF MANAGEMENT

Theory

Credits:4

4 hrs/week

Course Objectives

- To outline the fundamental activities of managers
- To explain the basic concepts ,principles and theories of management
- To examine the broad functions of management
- To comprehend the contemporary issues and challenges in the field of management
- To understand various control techniques practiced at organizations.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-II

COURSE4: BUSINESS ECONOMICS

Theory

Credits:4

4 hrs/week

Course Objectives:

- Understand the concept of economics and its relevance to business.
- Comprehend the concept of Demand analysis for making important business decisions
- Learn to apply the concepts of cost and Break-even analysis and learn various theories on production.
- Understand concepts of perfect competition and monopoly for fixation of prices.
- Understand the international business scenario and concepts of BOP.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-III

COURSE5: BUSINESS LAW

Theory

Credits:4

4 hrs/week

Course Objectives:

- To equip the student with fundamental concepts, principles relating to Contract Act that applies to business situations.
- To provide an overview on Negotiable Instruments Act and Partnership Act in India.
- To understand the regulatory framework of companies with reference to various provisions of Companies Act.
- To understand the essentials and execution of Sale contracts.
- To acquire knowledge on Right to Information Act and Consumer Protection Act.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-III

COURSE6: ORGANIZATIONAL BEHAVIOUR

Theory

Credits:4

4 hrs/week

Course Objectives:

- To understand individual and group behavior at work place to improve the effectiveness of an organization.
- To understand different types of personality and learning styles.
- Comprehend concepts relating to group dynamics and conflict management.
- To understand leadership and its impact on group dynamics.
- To understand the process of Change management and issues involved in it.
- To understand organizational culture and organizational effectiveness.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-III

COURSE7: BUSINESS ENVIRONMENT

Theory

Credits:4

4 hrs/week

Course objectives:

- To enable the students to develop an understanding on Indian Business Environment and various factors impacting the business.
- To help them make effective decisions based on analysis of business environment.
- To develop an understanding of the MSME sector and challenges there in.
- To familiarize the students with international trade and issues related to Balance of Payments.
- To comprehend the role of International institutions in the growth of international business.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-III

COURSE 8: BUSINESS STATISTICS AND MATHEMATICS

Theory

Credits:4

4 hrs/week

Course Objectives:

- Understand the importance of Statistics in real world business applications.
- Formulate complete ,concise and correct mathematical proofs.
- Frame problems using multiple mathematical and statistical tools, measuring relationships by using standard techniques.
- Build and assess data-based models, learn and apply the statistical tools to business.
- Createquantitativemodelstosolverealworldproblemsinappropriatecontexts.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-IV

COURSE9: MARKETING MANAGEMENT

Theory

Credits:4

4hrs/week

Course Objectives:

- To give an overview of marketing environment.
- To interpret the link between strategic planning and marketing.
- To develop a detailed marketing plan.
- To understand role of intermediaries in marketing activities.

To acquire knowledge on various promotional tools in marketing

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-IV

COURSE 10:HUMAN RESOURCE MANAGEMENT

Theory

Credits:4

4 hrs/week

Course Objectives:

- To understand the significance of human resource management and role of HR Executives.
- To acquire knowledge on procurement and development functions.
- To understand the sources of recruitment and the stages in selection process.
- To gain knowledge on training and development methods.
- To understand the concept of Industrial relations and its impact on HRM.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-IV

COURSE11: FINANCIAL MANAGEMENT


Theory

Credits:4

4 hrs/week

Course objectives:

- To gain basic knowledge of objectives of Financial Management and its functions.
- To understand the capital budgeting process and risk analysis in capital budgeting.
- To gain familiarization with different financial decisions that impact any organization.
- Understand decisions relating to dividend policies and their valuation.
- Knowledge regarding significance of working capital management to organization.


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ST.ANN'S COLLEGE FOR WOMEN (A),MALKAPURAM,
VISAKHAPATNAM.

DEPARTMENT OF COMPUTER APPLICATION
MAJOR

COURSE OUTCOMES

2023–2024

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

Programme: B.C.A.(HONOURS) Computer Applications(Major)
w.e.f. AY 2023-24

COURSESTRUCTUR

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Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits	
I	I	1	Fundamentals of Commerce	3+2	4	
		2	Business Organization	3+2	4	
	II	3	Office Automation Tools	3	3	
			Office Automation Tools Lab	2	1	
		4	Programming in C	3	3	
			Programming in C Lab	2	1	
II	III	5	Database Management System	3	3	
			Database Management System Lab	2	1	
		6	Data Structures	3	3	
			Data Structures Lab	2	1	
		7	Object Oriented Programming Through JAVA	3	3	
			Object Oriented Programming Through JAVA Lab	2	1	
		8	Software Engineering	3	3	
			Software Engineering Lab	2	1	
		IV	9	Python Programming	3	3
				Python Programming Lab	2	1
			10	Operating Systems	3	3
	Operating Systems Lab			2	1	
	11		Mobile Application Development using Android	3	3	
		Mobile Application Development using Android Lab	2	1		

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-I

COURSE1: FUNDAMENTALS OF COMMERCE

Theory

Credits:4

4 hrs/week

Learning Objectives:

The objective of this paper is to help students to acquire conceptual knowledge of the Commerce, Economy and Role of Commerce in Economic Development. To acquire Knowledge on Accounting and Taxation.

Learning Outcomes:

At the end of the course ,the student will able to Identify the role commerce in Economic Development and Societal Development. Equip with the knowledge of imports and exports and Balance of Payments. Develop the skill of accounting and accounting principles. They acquire knowledge on micro and micro economics and factors determine demand and supply. An idea of Indian Tax system and various taxes levied on in India. They will acquire skills on web design and digital marketing.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-I

COURSE2: BUSINESS ORGANIZATION

Theory

Credits: 4

4 hrs/week

Learning Objectives:

The course aims to acquire conceptual knowledge of business, formation various business organizations. To provide the knowledge on deciding plant location, plan layout and business combinations.

Learning outcomes:

After completing this course a student will have:

Ability to understand the concept of Business Organization along with the basic laws and norms of Business Organization. The ability to understand the terminologies associated with the field of Business Organization along with their relevance and to identify the appropriate types and functioning of Business Organization for solving different problems. The application of Business Organization principles to solve business and industry related problems and to understand the concept of Sole Proprietorship, Partnership and Joint Stock Company etc.

Course Objectives:

- ✓ To introduce the environment of GUI in Ms-Word and its features..
- ✓ To introduce the fundamental concepts using Ms-Word and its features to make it more useful.
- ✓ To provide hands-on use of Word ,Excel and PowerPoint.

Course Outcomes:

The students will be able:

- ✓ To understand concept of Word Processor and use its features.
- ✓ To use the advanced features of Ms-Word to make day today usage easier.
- ✓ To work comfortably with Ms-Excel Environment.
- ✓ To Create worksheets and use advanced features of Excel.
- ✓ To create presentations and inserting multimedia items in them.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-II
COURSE4: PROGRAMMING IN C

Theory

Credits: 3

3 hrs/week

Course Objectives:

- Provides knowledge on Algorithms, Flowchart and basic programming language.
- Provides complete knowledge of C language.
- Helps to develop logics which will help them to create program and applications in C.
- Learning the basic programming constructs, they can easily switch over to any other language in future.

Course Outcomes:

Upon successful completion of this course, students will be able to-

- Understand the basic terminology used in computer programming.
- Write, compile and debug programs in C language.
- Use different data types in a computer program.
- Design programs involving decision structures, loops and functions.
- Understand the dynamics of memory by the use of pointers and Structures.
- Apply different operations in File handling.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-III
COURSE5: DATABASE MANAGEMENT SYSTEM

Theory

Credits: 3

3 hrs/week

Course Objectives:

- Graduates will have the expertise in analyzing real time problems and providing appropriate solutions related to Computer Science & Engineering.
- Graduates will have the knowledge of fundamental principles and innovative technologies to succeed in higher studies and research.
- Graduates will continue to learn and to adapt technology developments combined with deep awareness of ethical responsibilities in profession.

Course Outcomes:

- An ability to apply Knowledge of computing and mathematics in Computer Science & Engineering.
- An ability to analyze a problem, identify and define the computing requirements appropriate to its solution.
- An ability to design, implement and evaluate a computer-based system to meet desired needs with appropriate societal considerations.
- An ability to conduct investigations, interpret data and provide conclusions in investigating complex problems related to Computer Science & Engineering.
- An ability to engage in continuing professional development and life-long learning.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

**SEMESTER-III
COURSE6: DATA STRUCTURES**

Theory Credits: 3 3 hrs/week

Course Objectives:

- The objective of the course is to make a student to implement data structures and organize and manage data, based on data structures for efficient access.

Course Outcomes:

- Identify data structures suitable to solve any specific problem.
- Identifying various data structures and their real-time applications
- Identifying the use of Time and Space Complexity.
- Implementing different sorting & searching techniques

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-III

COURSE7:OBJECT ORIENTED PROGRAMMING THROUGH JAVA

Theory Credits: 3 3 hrs/week

Course Objectives:

- To make the students understand the fundamentals of Java programming.
- To expose the students to Window based applications using AWT
- To make the students to design appropriate Exception Handling in Java
- To make the students to understand the concepts of Threads Files and
- I/O Stream ,Applets Networking in java.

Course Outcomes:

The student would become competent enough to write, debug, and document well-structured java applications

- Demonstrate good object-oriented programming skills in Java
- Able to describe recognize ,apply, and implement selected design patterns in Java
- Understand the capabilities and limitations of Java
- Be familiar with common errors in Java and its associated libraries
- Develop excellent debugging skills

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-III

COURSE8: SOFTWARE ENGINEERING

Theory Credits: 3 3 hrs/week

Course Objectives:

The Objective of the course is to assist the student in understanding the basic theory of software engineering, and to apply these basic theoretical principles to a group software development project.

Course Outcomes

1. Ability to gather and specify requirements of the software projects.
 2. Ability to analyze software requirements with existing tools
 3. Able to differentiate different testing methodologies
 4. Able to understand and apply the basic project management practices in real life projects
 5. Ability to work in a team as well as independently on software projects
-

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-IV

COURSE9: PYTHON PROGRAMMING

Theory

Credits: 3

3 hrs/week

Course Outcomes:

- Study the features that make Python different from Procedural Languages.
- Present a report of how Exception handling is different from JAVA Exceptional Handling.
- What are the special features of dictionaries and try to analyze about the same features in any other language
- Present a paper on advanced features of NumPy and Pandas.
- Present a paper on the features and advantages of My SQL compared too their commercial Databases.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-IV

COURSE10: OPERATING SYSTEMS

Theory

Credits: 3

3 hrs/week

Course Objectives:

1. To know the basic Structure, Components and Organization of Operating System.
2. To learn the notation of a Process- a Program in Execution , Management, Scheduling and Classic Problems of Synchronization.
3. To gain knowledge in various Memory Management Techniques.
4. To understand Unix Operating System and Various File operations.

Course Outcomes:

The students will be able to:

1. Understand the main components and Structure of Operating System & their functions.
2. Analyze various ways of Process Management & CPU Scheduling Algorithms.
3. Evaluate various device and resources like Memory, Time and CPU Management techniques in distributed systems.
4. Apply different methods for Preventing Dead locks in a Computer System.
5. Create and build an Application/Service over the UNIX operating system.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

SEMESTER-IV

COURSE11: MOBILE APPLICATION DEVELOPMENT USING ANDROID

Theory Credits: 3 3 hrs/week


COURSEOBJECTIVES:

1. To facilitate students understanding android SDK
2. To help students to gain a basic understanding of Android application development
3. To instill working knowledge of Android Studio development tool

COURSEOUTCOMES:

The theory, practical experiences and relevant soft skills associated with this course are to be taught and implemented, so that the student demonstrates the following industry-oriented COs associated with the above-mentioned competency:

1. Identify various concepts and features of Android operating system.
2. Configure Android environment and development tools.
3. Develop rich user Interfaces by using layouts and controls.
4. Use User Interface components for android application development.
5. Create Android application using database.
6. Publish Android applications.


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**ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM,
VISAKHAPATNAM.**

**DEPARTMENT OF COMPUTER SCIENCE
COURSE OUTCOMES**

2023–2024

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

B.Sc., Honours in Computer Science MAJOR
w.e.fAY2023-24onwards

COURSESTRUCTURE

Year	Semester	Course	Title	Hrs./ Week	Credits	
I	I	1	Essentials and applications of Mathematical, Physical and Chemical Sciences	5	4	
		2	Advances in Mathematical, Physical and Chemical Sciences	5	4	
	II	3	Problem Solving using C-(T)	3	3	
			Problem Solving using C-(P)	2	1	
		4	Digital Logic Design- (T)	3	3	
			Digital Logic Design- (P)	2	1	
II	III	5	Object Oriented Programming using Java-(T)	3	3	
			Object Oriented Programming using Java- (P)	2	1	
		6	Data Structures using C-(T)	3	3	
			Data Structures using C-(P)	2	1	
		7	Computer Organization-(T)	3	3	
			Computer Organization-(P)	2	1	
		8	Operating Systems- (T)	3	3	
			Operating Systems- (P)	2	1	
		IV	9	Database Management System- (T)	3	3
				Database Management System- (P)	2	1
	10		Object Oriented Software Engineering-(T)	3	3	
			Object Oriented Software Engineering-(P)	2	1	
	11		Data Communications and Computer Networks -(T)	3	3	
			Data Communications and Computer Networks -(P)	2	1	

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

I SEMESTER

COURSE I : ESSENTIALS AND APPLICATIONS OF MATHEMATICAL, PHYSICAL AND CHEMICAL SCIENCES

Hours: 5hrs/week

Credits: 4

COURSE OBJECTIVES:

The objective of this course is to provide students with a comprehensive understanding of the essential concepts and applications of mathematical, physical, and chemical sciences. The course aims to develop students' critical thinking, problem-solving, and analytical skills in these areas, enabling them to apply scientific principles to real-world situations.

COURSE OUTCOMES:

1. Apply critical thinking skills to solve complex problems involving complex numbers, trigonometric ratios, vectors, and statistical measures.
2. To Explain the basic principles and concepts underlying a broad range of fundamental areas of physics and to Connect their knowledge of physics to everyday situations
3. To Explain the basic principles and concepts underlying a broad range of fundamental areas of chemistry and to Connect their knowledge of chemistry to daily life.
4. Understand the interplay and connections between mathematics, physics, and chemistry in various applications. Recognize how mathematical models and physical and chemical
5. Principles can be used to explain and predict phenomena in different contexts.
6. To explore the history and evolution of the Internet and to gain an understanding of network security concepts, including threats, vulnerabilities, and countermeasures.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

I Semester

Course2: ADVANCES IN MATHEMATICAL,PHYSICAL AND CHEMICAL SCIENCES

Hours:5hrs/week

Credits:4

COURSEOBJECTIVES:

The objective of this course is to provide students with an in-depth understanding of the recent advances and cutting-edge research in mathematical, physical, and chemical sciences. The course aims to broaden students' knowledge beyond the foundational concepts and expose them to the latest developments in these disciplines, fostering critical thinking, research skills, and the ability to contribute to scientific advancements.

COURSEOUTCOMES:

Explore the applications of mathematics in various fields of physics and chemistry, to understand how mathematical concepts are used to model and solve real-world problems.

To Explain the basic principles and concepts underlying a broad range of fundamental areas of physics and to Connect their knowledge of physics to everyday situations.

Understand the different sources of renewable energy and their generation processes and advances in nano materials and their properties, with a focus on quantum dots. To study the emerging field of quantum communication and its potential applications. To gain an understanding of the principles of biophysics in studying biological systems. Explore the properties and applications of shape memory materials.

Understand the principles and techniques used in computer-aided drug design and drug delivery systems, to understand the fabrication techniques and working principles of nano sensors. Explore the effects of chemical pollutants on ecosystems and human health.

Understand the interplay and connections between mathematics, physics, and chemistry in various advanced applications .Recognize how mathematical models and physical and chemical principles can be used to explain and predict phenomena in different contexts.

5 Understand and convert between different number systems, such as binary, octal, decimal, and hexadecimal. Differentiate between analog and digital signals and understand their characteristics. Gain knowledge of different types of transmission media, such as wired (e.g., copper cables, fiber optics) and wireless (e.g., radio waves, microwave, satellite)..

II Semester

Course3: Problem Solving using C

Credits-3

COURSE OBJECTIVES:

1. To explore basic knowledge on computers
2. Learn how to solve common types of computing problems.
3. Learn to map problems to programming features of C.
4. Learn to write good portable C programs.

COURSE OUTCOMES:

Upon successful completion of the course, a student will be able to:

1. Understand the working of a digital computer and Fundamental constructs of Programming
2. Analyze and develop a solution to a given problem with suitable control structures
3. Apply the derived data types in program solutions
4. Use the 'C' language constructs in the right way

Apply the Dynamic Memory Management for effective memory utilization

II Semester

Course4: Digital Logic Design

Credits-3

Course Objective

To familiarize with the concepts of designing digital circuits.

Course Outcomes

Upon successful completion of the course, the students will be able to

1. Understand how to Convert numbers from one radix to another radix and perform arithmetic operations.
2. Simplify Boolean functions using Boolean algebra and k-maps
3. Design adders and subtractors circuits
4. Design combinational logic circuits such as decoders, encoders, multiplexers and de multiplexers.
5. Use flip flops to design registers and counters.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

III Semester

Course5: Object Oriented Programming using Java

Credits-3

Course Objectives

To introduce the fundamental concepts of Object-Oriented programming and to design & implement object-oriented programming concepts in Java.

Course Outcomes

Upon successful completion of the course ,a student will be able to:

1. Understand the basic concepts of Object-Oriented Programming and Java Program Constructs
2. Implement classes and objects and analyze Inheritance and Dynamic Method Dispatch
3. Demonstrate various classes in different packages and can design own packages
4. Manage Exceptions and Apply Threads
5. Create GUI screens along with event handling

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III Semester

Course6: Data Structures using C

Credits-3

Course Objectives

To introduce the fundamental concept of data structures and to emphasize the importance of various data structures in developing and implementing efficient algorithms.

Course Outcomes

Upon successful completion of the course, a student will be able to:

1. Understand various Data Structures for data storage and processing.
2. Realize Linked List Data Structure for various operations
3. Analyze step by step and develop algorithms to solve real world problems by implementing Stacks, Queues data structures.
4. Understand and implement various searching & sorting techniques.

Understand the Non-Linear Data Structures such as Binary Trees and Graphs


Course Objectives

To familiarize with organizational aspects of memory ,processor and I/O.

Course Outcomes

Upon successful completion of the course, the students will be able to

1. Identify different types of instructions
2. Differentiate between micro-programmed and hard-wired control units.
3. Analyse the performance of hierarchical organization of memory.
4. Summarize different data transfer techniques.
5. Demonstrate arithmetic operations on fixed-and floating-point numbers and illustrate concepts of parallel processing.


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III Semester

Course8:OperatingSystems

Credits-3

Course Objectives

To gain knowledge about various functions of an operating system like memory management, process management, device management, etc.

Course Outcomes:

Upon successful completion of the course, a student will be able to:

1. Demonstrate knowledge and comprehension of operating system functions.
2. Analyze different process scheduling algorithms and apply them to manage processes and threads effectively
3. Create strategies to prevent, detect, and recover from deadlocks, and design solutions for inter-process communication and synchronization problems.
4. Compare and contrast different memory allocation strategies and evaluate their effectiveness
5. Evaluate disk Scheduling algorithms while implementing OS security measures

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IV Semester

Course9:DatabaseManagementSystems

Credits-3

Course Objectives

To familiarize with concepts of database design

Course Outcomes:

On successful completion of the course ,students will be able to

1. Differentiate between database systems and file based systems
2. Design a data base using ER model
3. Use relational model in database design
4. Use SQL commands for creating and manipulating data stored in databases.

Write PL/SQL programs to work with databases.

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IV Semester

Course10: Object Oriented Software Engineering

Credits-3

Course Objective:

To introduce Object-oriented software engineering (OOSE) - which is a popular technical approach to analyzing, designing an application, system, or business by applying the object- oriented paradigm and visual modeling.

Course Outcomes:

Upon successful completion of the course, a student will be able to:

1. Understand and apply the fundamental principles of Object-Oriented Programming (OOP) concepts and Unified Modeling Language (UML) basics, in the development of software solutions.
2. Analyze and specify software requirements, develop use cases and scenarios, apply object-oriented analysis and design (OOAD) principles
3. Familiar with the concept to test-driven development(TDD) and its practical implementation
4. Analyze and Evaluate Software Maintenance and Evolution Strategies
5. Apply Advanced Object-Oriented Software Engineering Concepts

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IV Semester

Course11: Data Communication and Computer Networks

Credits-3

Course Objectives

To provide students with a comprehensive understanding of networking principles, protocols, and technologies, enabling them to design, analyze, and evaluate efficient and reliable network solutions.

Course Outcomes

Upon successful completion of the course, a student will be able to:

1. Understand and apply network applications ,hardware, software, and reference models for network communication.
2. Design and analyze data link layer protocols, multiple access protocol ,and wireless LAN technologies.
3. Design routing algorithms, congestion control algorithms, and evaluate network layer protocols for internetworking.
4. Analyze transport service, transport protocols, and evaluate UDP and TCP in the internet.

Understand and evaluate application layer protocols, including DNS, email, WWW, and network management protocols.

**ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM,
VISAKHAPATNAM.**

**DEPARTMENT OF SPECIAL ENGLISH
COURSE OUTCOMES**

2023–2024

5.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM.

PROGRAMME: B.A. Honours in Special English

(w.e.f. Academic Year-2023-24)

Semester	Papers	Hours	Credits
I	1. Fundamentals of Social Sciences	4	4
	2. Perspectives on Indian Society	4	4
II	3. An Introduction to English Literature(600-1500)	4	4
	4. An Introduction to Elizabethan Literature(1558-1603)	4	4
III	5. An Introduction to Jacobean Literature(1603-1625)	4	4
	6. An Introduction to Restoration Literature(1660-1689)	4	4
	7. An Introduction to Augustan Literature(1700-1750)	4	4
	8. An Introduction to Romantic Literature(1798-1837)	4	4
IV	9. An Introduction to Victorian Literature(1837-1900)	4	4
	10. An Introduction to Modern Literature(1900-1940)	4	4
	11. Glimpses of World Literature	4	4

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Paper – 1 Fundamentals of Social Sciences

Learning objectives:

The student will be able to understand the nature, various approaches, organs of the state, social perspectives, and application of ICT.

Learning Outcomes:

On successful completion of the course the student will be able to :

1. Learn about the nature and importance of social science.
2. Understand the Emergence of Culture and History
3. Know the psychological aspects of social behavior
4. Comprehend the nature of Polity and Economy
5. Knowledge on application of computer technology

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**Paper – II
Perspectives on Indian Society**

Learning objectives:

The student is expected to demonstrate the significance of social sciences through better understanding of various fields of social experience and would be able to apply methods and approaches to social phenomena.

Learning Outcomes:

On successful completion of the course the student will be able to :

1. Learn about the significance of human behavior and social dynamics.
2. Remembers the Indian Heritage and freedom struggle
3. Comprehend the philosophical foundations of Indian Constitution
4. Knowledge on Indian Economy

3. AN INTRODUCTION TO ENGLISH LITERATURE (600-1500)

Objectives& Outcomes:

After going through the course the learner would be able to

- Learn the features of Old English, Middle English and Renaissance Periods.
- Review the aspects of literary genres, forms and terms of the period.
- Identify the characteristics of poetry, drama and literary criticism.
- Have a detailed understanding of the literary texts.

4. AN INTRODUCTION TO ELIZABETHAN LITERATURE (1558-1603)

Objectives& Outcomes:

After going through the course the learner would be able to

- Learn the features of Elizabethan literature.
- Review the aspects of literary genres, forms and terms of the period.
- Identify the characteristics of poetry, drama and literary criticism.
- Have a detailed understanding of the literary texts.

5. AN INTRODUCTION TO JACOBEAN LITERATURE (1603-1625)

Objectives& Outcomes:

After going through the course the learner would be able to

- Learn the features of Jacobean literature.
- Analyze the aspects of literary genres, forms and terms of the period.
- Identify the characteristics of poetry, prose, drama and literary criticism.
- Have a detailed understanding of the literary texts.
- Understand the evolution of prose as a literary genre.

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6.AN INTRODUCTION TO RESTORATION LITERATURE (1660-1689)

Objectives& Outcomes:

After going through the course the learner would be able to

- Learn the features of Restoration literature.
- Recognize the aspects of literary genres, forms and terms of the period.
- Distinguish the characteristics of poetry, prose, drama and literary criticism.
- Have a detailed understanding of the literary texts.

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7.ANINTRODUCTIONTOAUGUSTANLITERATURE(1700-1750)

Objectives& Outcomes:

After going through the course the learner would be able to

- Learn the features of Augustan literature.
- Understand the aspects of literary genres, forms and terms of the period.
- Identify the characteristics of poetry, prose, drama and literary criticism.
- Have a detailed understanding of the literary texts with the progression of age.
- Critically appreciate the literary texts of the period.


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8.ANINTRODUCTIONTOVICTORIANLITERATURE(1837-1900)

Objectives& Outcomes:

After going through the course the learner would be able to

- Identify the influences of the Victorian society on its literary period.
- Understand the aspects of literary genres, forms and terms of the period.
- Analyze the characteristics of poetry, drama, fiction and literary criticism.
- Have a detailed understanding of the literary texts with the progression of age.
- Critically appreciate the literary texts of the period.


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9. AN INTRODUCTION TO MODERN LITERATURE (1900-1940)

Objectives & Outcomes:

After going through the course the learner would be able to

- Identify the features of Modern literature.
- Understand the aspects of literary genres, forms and terms of the period.
- Analyze the characteristics of poetry, drama, fiction and literary criticism.
- Have a detailed understanding of the literary texts with the progression of age.
- Critically appreciate the literary texts of the period.

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10. GLIMPSES OF WORLD LITERATURE

Objectives & Outcomes:

After going through the course the learner would be able to

- Learn the salient features of world literatures.
- Analyze the sense and sensibilities across the globe.
- Understand the influence of various –isms on literary texts.
- Interpret the meaning of a literary text by reading between the lines.
- Identify cultural influences on Modern English literature.

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11. WRITING FOR THE MEDIA

Objectives & Outcomes:

At the end of the course the student will be able to:

- Write with confidence
- Use Correct Grammar, Punctuation and Appropriate Style
- Differentiate between various types of media writing
- Gather and synthesize information from authentic sources
- Use digital resources for media writing

**ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM,
VISAKHAPATNAM.**

DEPARTMENT OF PHYSICS

COURSE OUTCOMES

2023–2024

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM

Programme: B.Sc. Honours in Physics(Major)

w.e.f.AY2023-24

COURSESTRUCTURE

Year	Semester	Course	Titleofthe Course	No.of Hrs /Week	No. of Credits
I	I	1	Essentials and Applications of Mathematical, Physical and Chemical Sciences	3+2	4
		2	Advances in Mathematical, Physical and Chemical Sciences	3+2	4
	II	3	Mechanics and Properties of Matter	3	3
			Mechanics and Properties of Matter Practical Course	2	1
		4	Waves and Oscillations	3	3
			Waves and Oscillations Practical Course	2	1
II	III	5	Optics	3	3
			Optics Practical Course	2	1
		6	Heat and Thermodynamics	3	3
			Heat and Thermo dynamics Practical Course	2	1
		7	Electronic Devices and Circuits	3	3
			Electronic Devices and Circuits Practical Course	2	1
		8	Analog and Digital Electronics	3	3
			Analog and Digital Electronics Practical Course	2	
	IV	9	Electricity and Magnetism	3	
			Electricity and Magnetism Practical Course	2	
		10	Modern Physics	3	
			Modern Physics Practical Course	2	
		11	Introduction to Nuclear and Particle Physics	3	3
			Introduction to Nuclear and Particle Physics Practical Course	2	

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM

SEMESTER-II

COURSE3: MECHANICS AND PROPERTIES OF MATTER

Theory

Credits:3

3 hrs/week

COURSEOBJECTIVE:

The course on Mechanics and Properties of Matter aims to provide students with a fundamental understanding of the behavior of physical systems, both in terms of mechanical motion and in terms of the properties of matter

LEARNINGOUTCOMES:

1. Students will be able to understand and apply the concepts of scalar and vector fields, calculate the gradient of a scalar field, determine the divergence and curl of a vector field.
2. Students will be able to apply the laws of motion, solve equations of motion for variable mass systems
3. Students will be able to define a rigid body and comprehend rotational kinematic relations, derive equations of motion for rotating bodies, analyze the precession of a top and gyroscope, understand the precession of the equinoxes
4. Students will be able to define central forces and provide examples, understand the characteristics and conservative nature of central forces, derive equations of motion under central forces.
5. Students will be able to differentiate between Galilean relativity and the concept of absolute frames, comprehend the postulates of the special theory of relativity, apply Lorentz transformations, understand and solve problems

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM
SEMESTER-II

COURSE4: WAVES AND OSCILLATIONS

Theory

Credits:3

3hrs/week

COURSEOBJECTIVE:

This course provides students with a broad understanding of the physical principles of the oscillations, to help them develop critical thinking and quantitative reasoning skills, to empower them to think creatively and critically about scientific problems and experiments.

LEARNINGOUTCOMES:

The student should be able

1. To describe the basic characteristics of waves such as frequency, wavelength, amplitude, period, and speed.
2. To utilize mathematical relationships related to wave characteristics.
3. To compare particle motion and wave motion in different types of waves.
4. To distinguish between Longitudinal and Transverse waves.
5. To get the knowledge about how to construct and analyze the square waves, saw tooth waves, etc. from Fourier analysis

COURSEOBJECTIVE:

The course on Optics aims to provide students with a fundamental understanding of the behaviour and properties of light and its interaction with matter.

LEARNINGOUTCOMES:

On successful completion of this course ,the student will be able to:

1. Explain about the different aberrations in lenses and discuss the methods of minimizing them
2. Understand the phenomenon of interference of light and its formation in (i) Lloyd's single mirror due to division of wave front and (ii) Thin films, Newton's rings and Michelson interferometer due to division of amplitude.
3. Distinguish between Fresnel's diffraction and Fraunhofer diffraction and observe the diffraction patterns in the case of single slit and the diffraction grating and to describe the construction and working of zone plate and make the comparison of zone plate with convex lens
4. Explain the various methods of production of plane, circularly and polarized light and their detection and the concept of optical activity.
5. Comprehend the basic principle of laser, the working of He-Ne laser and Ruby lasers and their applications in different fields. To understand the basic principles of fibre optic communication and explore the field of Holography and Nonlinear optics and their applications.

COURSEOBJECTIVE:

The course on Heat and Thermodynamics aims to provide students with a fundamental understanding of the principles of heat and energy transfer and their applications in various fields

LEARNINGOUTCOMES:

On successful completion of this course, the student will be able to:

1. Understand the basic aspects of kinetic theory of gases ,Maxwell –Boltzmann distribution law, equi partition of energies, mean free path of molecular collisions and the transport phenomenon in ideal gases
2. Gain knowledge on the basic concepts of thermodynamics, the first and the second law of thermo dynamics, the basic principles of refrigeration, the concept of entropy, the thermodynamic potentials and their physical interpretations. Understand the working of Carnot's ideal heat engine, Carnot cycle and its efficiency
3. Develop critical understanding of concept of Thermo dynamic potentials ,the formulation of Maxwell's equations and its applications.
4. Differentiate between principles and methods to produce low temperature, liquefy air, and understand the practical applications of substances at low temperatures.
5. Examine the nature of black body radiations and the basic theories

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM
SEMESTER-III

COURSE7: ELECTRONIC DEVICES AND CIRCUITS

Theory

Credits:3

3 hrs/week

COURSEOBJECTIVE:

The course on Electronic Devices and Circuits aims to provide students with a fundamental understanding of electronic devices and their applications in various circuits.

LEARNINGOUTCOMES:

1. Understand the behavior of P-N junction diodes in forward and reverse bias
2. Conditions and analyze the impact of junction capacitance on diode characteristics.
3. Analyze and compare the characteristics and operation of different BJT configurations (CB, CE, and CC) and demonstrate proficiency in biasing techniques.
4. Comprehend the operation and characteristics of FETs, including JFET and MOSFETs, and explain the working principles and characteristics of UJT.
5. Describe the operation and applications of various photo electric devices such as LEDs, photodiodes, phototransistors, and LDRs.
6. Understand the operation of rectifiers (half-wave, full-wave, and bridge), analyze the ripple factor and efficiency, and demonstrate knowledge of different filter types and three-terminal voltage regulators

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM
SEMESTER-III

COURSE8:ANALOGANDDIGITALELECTRONICS

Theory

Credits:3

3 hrs/week

COURSEOBJECTIVE:

The course on Analog and Digital Electronics aims to provide students with a fundamental understanding of the principles of electronic circuits and their applications in both analog and digital systems.

LEARNINGOUTCOMES:

On successful completion of this course, the student will be able to:

1. Understand Principles and Working of Operational Amplifier
2. Apply their knowledge on OP-Amp in different Applications
3. To understand the number systems, Binary codes and Complements.
4. To understand the Boolean algebra and simplification of Boolean expressions.
5. To analyze logic processes and implement logical operations using combinational logic circuits.
6. To understand the concept of sequential circuits and to analyze sequential systems in terms of state machines

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SEMESTER-IV

COURSE9:ELECTRICITYANDMAGNETISM

Theory

Credits:3


3 hrs/week

COURSEOBJECTIVE:

The course on Electricity and Magnetism aims to provide students with a fundamental understanding of the principles of electricity, magnetism, and their interactions

LEARNINGOUTCOMES:

1. On successful completion of this course, the students will be able to:
UnderstandtheGausslawanditsapplicationtoobtainelectricfieldindifferentcasesandformulate the relationship between electric displacement vector, electric polarization, Susceptibility, Permittivity and Dielectric constant.
2. Tolearnthemethodsusedtosolveproblemsusingloopanalysis,Nodalanalysis,Thvenin'stheorem, Norton's theorem, and the Superposition theorem
3. Distinguishbetweenthemagneticeffectofelectriccurrentandelectromagneticinductionandapply the related laws in appropriate circumstances.
4. UnderstandBiotandSavart'slawandAmpere'scircuitallawtodescribeandexplainthegeneration of magnetic fields by electrical currents.
5. Develop an understanding on the unification of electric, and magnetic fields and Maxwell's equations governing electromagnetic waves.
6. PhenomenonofresonanceinLCRAC-circuits,sharpnessofresonance,Q-factor,Powerfactorand the comparative study of series and parallel resonant circuits


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ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM
SEMESTER-IV
COURSE 10: MODERN PHYSICS

Theory

Credits:

3 hrs/week

COURSE OBJECTIVE:

The course on Modern Physics aims to provide students with an understanding of the principles of modern physics and their applications in various fields.

LEARNING OUTCOMES:

On successful completion of this course, the students will be able to:

1. Understand the principles of atomic structure and spectroscopy.
2. Understand the principles of molecular structure and spectroscopy
3. Develop critical understanding of concept of Matter waves and Uncertainty principle.
4. Get familiarized with the principles of quantum mechanics and the formulation of Schrodinger wave equation and its applications.

Increase the awareness and appreciation of superconductors and their practical applications

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNA
SEMESTER-IV
COURSE 11: INTRODUCTION TO NUCLEAR AND PARTICLE PHYSICS
Theory Credits: 3 3 hrs/week

COURSE OBJECTIVE:

The course aims to provide students with an understanding of the principles of Nuclear and Particle physics and their applications in various fields.

LEARNING OUTCOMES

By successful completion of the course, students will be able to

1. Know about high energy particles and their applications which prepares them for further study and research in particle physics
2. Students can explain important concepts on nucleon-nucleon interaction, such as its short-range, spin dependence, isospin, and tensors.
3. Students can show the potential shapes from nucleon nucleon interactions.
4. Students can explain the single particle model, its strengths, and weaknesses
5. Students can explain magic numbers based on this model

**ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM,
VISAKHAPATNAM.**

DEPARTMENT OF CHEMISTRY

COURSE OUTCOMES

2023–2024

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM
HONOURS CHEMISTRY: MAJOR

w.e.fAY2023-2

Course structure

SEMESTER	Course Code	Title	Hr/week	Credits
I	1	Essentials and applications of Mathematical ,Physical and Chemical sciences	5	4
	2	Advances in Mathematical ,Physical and Chemical sciences	5	4
II	3	General & Inorganic Chemistry-(T)	3	3
		General & Inorganic Chemistry-(P)	2	1
		Inorganic Chemistry-I- (T)	3	3

	4	Inorganic Chemistry-I- (P)	2	1
III	5	Fundamentals in Organic Chemistry- (T)	3	3
		Fundamentals in Organic Chemistry- (P)	2	1
	6	Organic Chemistry (Halogen& Oxygen Organic Compounds)- (T)	3	3
		Organic Chemistry (Halogen &Oxygen Organic Compounds)- (P)	2	1
	7	Physical Chemistry-I(Solutions and Electrochemistry)-(T)	3	3
		Physical Chemistry-I(Solutions and Electrochemistry)-(P)	2	1
	8	Inorganic &Physical Chemistry-(T)	3	3
			Inorganic & Physical Chemistry-(P)	2
IV	9	Physical Chemistry-II (States of Matter ,Phase Rule & surface Chemistry) - (T)	3	3
		Physical Chemistry-II(States of Matter, Phase Rule &surface Chemistry) - (P)	2	1
	10	General & Physical Chemistry- (T)	3	3
		General & Physical Chemistry- (P)	2	1
	11	Nitrogen containing Organic Compounds & Spectros copy.- (T)	3	3
		Nitrogen containing Organic Compounds &Spectroscopy.- (P)	2	1

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM

II-SEMESTER

Course Code 3: GENERAL AND INORGANIC CHEMISTRY

Credits: 03

Course Outcomes:

At the end of the course the student will be able to-

1. Understand the structure of atom and the arrangement of elements in the periodic table.
2. Understand the nature and properties of ionic compounds.
3. Identify the structure of a given inorganic compound.
4. Explain the existence of special types of compounds through weak chemical forces.
5. Define acid and bases and predict the nature of salts.

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II-SEMESTER

Course Code 4: INORGANIC CHEMISTRY-I

Credits: 03

Course outcomes:

At the end of the course, the student will be able to:

1. Understand the basic concept of s and p-block elements.
2. Explain the concepts of d-block elements
3. Distinguish lanthanides and actinides.
4. Describe the importance of radioactivity.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM
III-SEMESTER

Course Code 5:FUNDAMENTALS IN ORGANIC CHEMISTRY

Credits : 03

Course outcomes:

At the end of SEMESTER the student will be able to

1. Understand and explain the differential behavior of organic compounds based on fundamental concepts learnt.
2. Formulate the mechanism of organic reactions by recalling and correlating the fundamental properties of the reactants involved.
3. Learn and identify many organic reaction mechanisms.
4. Correlate and describe the stereo-chemical properties of organic compounds and reactions.

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III-SEMESTER

Course Code 6 :ORGANIC CHEMISTRY

(Halogen and Oxygen containing organic compounds)

Credits: 03

Course outcomes:

At the end of the course, the student will be able to:

1. Understand the concept of SN_1 and SN_2 and SN_i mechanisms.
2. Describe the activity of alcohol and phenols.
3. Achieve the skills required to propose various mechanisms
4. Apply the concepts for synthesis in various oxygen containing organic compounds
5. Inter convert the mono saccharides.

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III-SEMESTER

Course Code 7:PHYSICAL CHEMISTRY - I

(Solutions &Electro Chemistry)

Credits: 03

Course outcomes:

At the end of the SEMESTER the student will be able to

1. Understand the ideal and non ideal behavior of solutions.
2. Determine the molecular mass of non-volatile solutes.
3. Discuss the basic concepts of Photochemistry.
4. Apply the principles of electrical conductivity.
5. Explain the importance of emf and its applications.

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III-SEMESTER

COURSECODE 8: INORGANIC AND PHYSICAL CHEMISTRY

Credits: 03

I. Course outcomes:

At the end of the SEMESTER the student will be able to:

- 1) Apply IUPAC nomenclature for Coordination compounds
- 2) Understand the various theories ,structure and stereo chemistry of coordination compounds.
- 3) Explain there action mechanism in complexes.
- 4) Applythe18electronrule.
- 5) Discuss the basic concepts of thermo dynamics.

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IV-SEMESTER

COURSE CODE 9: PHYSICAL CHEMISTRY -II
(States of Matter ,Phase Rule & Surface Chemistry)

Credits: 03

I. Course outcomes:

At the end of the SEMESTER the student will be able to:

1. Explain the difference between solids liquids and gases in terms of inter molecular inter actions.
2. Differentiate ideal and real gases.
3. Discuss the basic concepts of two component systems
4. Apply the concepts of adsorption.

Understand the basic concepts of crystallography.

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IV-SEMESTER

Course Code 10: GENERAL AND PHYSICAL CHEMISTRY

Credits: 03

I. Course outcomes:

At the end of the SEMESTER the student will be able to:

1. Correlate and describe the stereo chemical properties of organic compounds.
2. Explain the biological significance of various elements present in the human body.
3. Apply the concepts of ionic equilibrium for the qualitative and quantitative analysis.
4. Determine the order of a chemical reaction.
5. Describe the basic concepts of enzyme catalysis.

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IV-SEMESTER

CourseCode11: Nitrogen containing Organic Compounds &


Spectroscopy Credits: 03

Nitrogen containing Organic Compounds & Spectroscopy

I. Course outcomes:

At the end of the SEMESTER the student will be able to:

1. Distinguish primary secondary and tertiary amines and their properties.
2. Describe the preparation and properties of amino acids.
3. Explain their activity of nitro hydrocarbons.
4. Discuss hetero cyclic compounds with N, O and S.
5. Apply the concepts of UV and IR to ascertain the functional group in an organic compound.


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**ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM,
VISAKHAPATNAM.**

DEPARTMENT OF BOTANY

COURSE OUTCOMES

2023–2024

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM

B.Sc.,HonoursinBOTANY:MAJOR

w.e.fAY 2023-24 onwards

COURSESTRUCTURE

Year	Semester	Course	Title	No. Hrs./ Week	No. of Credits
I	I	1	Introduction to Classical Biology	5	4
		2	Introduction to Applied Biology	5	4
	II	3	Non-vascular Plants–(T)	3	3
			Non-vascular Plants–(P)	2	1
		4	Origin of Life and Diversity of Microbes–(T)	3	3
			Origin of Life and Diversity of Microbes–(P)	2	1
II	III	5	Vascular Plants–(T)	3	3
			Vascular Plants–(P)	2	1
		6	Plant Pathology and Plant Diseases–(T)	3	3
			Plant Pathology and Plant Diseases –(P)	2	1
		7	Plant Breeding–(T)	3	3
			Plant Breeding –(P)	2	1
		8	Plant Biotechnology–(T)	3	3
			Plant Biotechnology–(P)	2	1
	IV	9	Anatomy and Embryology of Angiosperms–(T)	3	3
			Anatomy and Embryology of Angiosperms–(P)	2	1
		10	Plant Ecology ,Biodiversity and Phyto geography –(T)	3	3
			Plant Ecology, Biodiversity and Phyto geography–(P)	2	1
		11	Plant Resources and Utilization–(T)	3	3
			Plant Resources and Utilization–(P)	2	1

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM

I-Semester

Course: 1 INTRODUCTION TO CLASSICAL BIOLOGY

Hours/Week: 5

Credits:4

Learning objectives

The student will be able to learn the diversity and classification of living organisms and understand their chemical, cytological, evolutionary and genetic principles.

Learning Outcomes

1. Learn the principles of classification and preservation of biodiversity
2. Understand the plant anatomical, physiological and reproductive processes.
3. Knowledge on animal classification, physiology, embryonic development and their economic importance.
4. Outline the cell components, cell processes like cell division, heredity and molecular processes.
5. Comprehend the chemical principles in shaping and driving the macro molecules and life processes.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM

I-Semester

Course: 2 INTRODUCTION TO APPLIED BIOLOGY

Hours/Week: 5

Credits: 4

Learning objectives

The student will be able to learn the foundations and principles of microbiology, immunology, biochemistry, biotechnology, analytical tools, quantitative methods, and bioinformatics.

Learning Outcomes

1. Learn the history, ultra structure, diversity and importance of microorganisms.
2. Understand the structure and functions of macro molecules.
3. Knowledge on biotechnology principles and its applications in food and medicine.
4. Outline the techniques, tools and their uses in diagnosis and therapy.
5. Demonstrate the bioinformatics and statistical tools in comprehending the complex biological data.

ST.ANN'S COLLEGE FOR WOMEN (A), MALKAPURAM, VISAKHAPATNAM

II Semester

Course3: Non-Vascular Plants (Algae, Fungi ,Lichens and Bryophytes)

Credits-3

I. Learning Objectives:

By the end of this course the learner has:

1. To realize the characteristics and diversity of non-vascular plants.
2. To recognize the ecological and economic value of algae, fungi, lichen and bryophytes.
3. To inquire the habit, habitat ,morphological features and lifecycles of selected genera of non-vascular plants.

II. Learning Outcomes:

On completion of this course students will be able to:

1. Compile the general characteristics of algae and their significance in nature.
2. Compare and contrast the characteristics of different groups of algae.
3. Summarise the important features of fungi and their economic value.
4. Distinguish the characteristics of different groups of fungi.
5. Elaborate the features and significance of amphibian so plant kingdom
6. Explain the diversity among non-vascular plants.

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II Semester

Course4: Origin of Life and Diversity of Microbes

Credits-3

I. Learning Objectives:

By the end of this course the learner has:

1. To get awareness on origin and evolution of life.
2. To understand the diversity of microbial organisms.
3. To get awareness on importance of microbes in nature and agriculture.

II. Learning Outcomes:

On completion of this course students will be able to:

1. Illustrate diversity of viruses , multiplication and economic value.
2. Discuss the general characteristics, classification and economic importance of special groups of bacteria
3. Explain the structure ,nutrition, reproduction and significance of eukaryotic bacteria.
4. Evaluate the interactions among soil microbes.

Compile the value and applications of microbes in agriculture

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III Semester

Course5:VascularPlants

(Pteridophytes , Gymnosperms and Taxonomy of Angiosperms)

Credits-3

I. Learning Objectives:

By the end of this course the learner has:

1. To recognize the morphology, anatomy and reproduction in two groups of arch ego niates.
2. To acquire knowledge of the taxonomic aid sand classification systems.
3. Toreadthevegetativeandfloralcharacteristicsofsomeformsofangiospermicfamilies along with their economic value.
4. To study the significance of other branches of botany in relation to plant taxonomy.

II. Learning Outcomes:

On completion of this course students will be able to:

1. Infer the evolution of vasculature ,hetero spory and seed habit in Pteridophytes.
2. Illustrate the general characteristics of Gymnosperms along with their uses
3. Discuss about some Taxonomic aids and their applications in plant systematics.
4. Compare and contrast the vegetative and floral characteristics of some angiospermic families
5. Evaluate the economic value of plant species from the families under the study.
6. Defend the utility of evidences from different branches of botany in solving the taxonomic lineages of some species.

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II Semester

Course6: Plant Pathology and Plant Diseases

Credits-3

I. Learning Objectives:

By the end of this course the learner has:

1. To study various plant pathogens ,their survival and dispersal mechanisms.
2. To understand the processes involved in infection and pathogenesis in plants.
3. To study the common diseases of some important field and horticultural crops.

II. Learning Outcomes:

1. Identify major groups of plant pathogens and classify plant diseases.
2. Explain various stages in infection, plant pathogenesis and responsible factors.
3. Elaborate the preventive and control measures for plant diseases.
4. Discuss about some diseases of field crops and their management.
5. Discuss about some diseases of horticultural crops and their management.

I. Learning Objectives:

By the end of this course the learner has:

1. To learn the objectives and scope of plant breeding along with reproductive methods in plants.
2. To understand the breeding methods in plant for production of new varieties.
3. To have a comprehensive knowledge on tools and techniques in plant breeding.

II. Learning Outcomes:

1. Compare and contrast the methods of reproduction and also pollination mechanisms.
2. Design appropriate pollination method for a given crop plant.
3. Recommend the best possible breeding method for a crop species.
4. Propose the steps for production of hybrid varieties of crop plants.
Apply molecular techniques to develop a tailored plant variety

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III Semester

Course8: Plant Biotechnology

Credits-3

I. Learning Objectives:

By the end of this course the learner has:

1. To acquire knowledge of sterilization techniques use in plant tissue culture.
2. To learn about various types of plant tissue culture practices.
3. To know the applications of plant bio technology in production of novel plants.

II. Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Explain the scientific techniques and tools used in plant tissue culture laboratories.
2. Appraise the applications of plant tissue culture in agriculture and horticulture sectors.
3. Acquire skills related to various aspects in plant tissue culture.
4. Evaluate the role of transgenic plants in solving certain plant related beneficiary issues.
5. Justify the role of plant biotechnology in bio energy and phyto remediation.

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IV Semester

Course9: Anatomy and Embryology of Angiosperms

Credits-3

I. Learning Objectives:

By the end of this course the learner has:

1. To know about various types of tissues in plants and their organization.
2. To obtain awareness on anomalous secondary growth in plants and economic value of woods.
3. To acquire knowledge on development of male and female gametes in plants.
4. To probe into embryonic development in angiosperms.

II. Learning Outcomes:

On completion of this course students will be able to:

1. Categorize various tissues and evaluate their role in plants.
2. Explain anomalous secondary growth in some plants and justify the value of timber plants.
3. Summarize the events in micro-sporogenesis and development of male gametophyte.
4. Discuss the events in megasporogenesis and development of female gametophyte.
5. Propose the incidents in embryonic development of an angiospermic plant species.
6. Compile the aspects of developmental and reproductive biology in plants.

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IV Semester

Course10: Plant Ecology, Biodiversity and Phyto geography

Credits-3

I. Learning Objectives:

By the end of this course the learner has:

1. To figure-out the components of ecosystem and energy flow among different trophic levels.
2. To apprise the characteristics of autecology and synecology.
3. To understand the climatic change and associated impacts on biotic components.
4. To discern the value of biodiversity, threats and conservation strategies.
5. To know the distribution of various plant groups in different geographical areas.

II. Learning Outcomes:

On completion of this course students will be able to:

1. Explain the interactions among the biotic and abiotic components in an ecosystem.
2. Summarize the characteristics of a population and a community.
3. Anticipate the environmental problems arising due to climate change.
4. Assess the value of biodiversity and choose appropriate conservation strategy.
5. Make a survey on the distribution of various plant groups in a specified geographical area.

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IV Semester

Course11: Plant Resources and Utilization

Credits-3

I. Learning Objectives:


By the end of this course the learner has:

1. To know different plants domesticated by humans and utility of their products.
2. To gain knowledge on commercial and timber products obtained from plants.
3. To know the facts on economic value of plants products in relation to human welfare.

II. Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Explain the significance of plants in human nutrition.
2. List out different plant products used by human beings.
3. Evaluate the commercial plant products and their utilization
4. Discuss the uses of medicinal and aromatic plants for human health care.
5. Appraise the importance of timber and non-timber products for value added products.


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