



SMT N P S GOVT COLLEGE (W), CHITTOOR



DEPARTMENT OF CHEMISTRY

B.SC

(Revised on 2021-2022)

COURSE OUTCOMES

The chemistry course curriculum for the undergraduates includes the main areas of chemistry: organic, inorganic, physical and general chemistry. The purpose of the program is to provide the key knowledge base and laboratory resources to prepare students for careers as professionals in the field of chemistry. The department of chemistry works towards the development in the fundamentals and application of current chemical and scientific theories. The students are taught how to design and carry out scientific experiments as well as accurately record and analyze the results of such experiments. The course is so designed that the students understand the central role of chemistry in our society and become potent enough to explore new areas of research both in chemistry and in allied fields of research and technology. They are familiar with application of safety and chemical hygiene regulations and practices. They are able to understand the chemical basis for biological phenomena and cellular structure and how physiological conditions influence the structures and reactivities of biomolecules.

They are able to use modern library searching and retrieval methods to obtain information about a topic, chemical, chemical technique, or an issue relating to chemistry. The students have effective written and oral communication skills, especially the ability to transmit complex technical information in a clear and concise manner. They will have an ability to work effectively in diverse teams in both classroom and laboratory. They are able to conduct experiments, analyze data, and interpret results, while observing responsible and ethical scientific conduct.

Semester-1: Course Code:3-1-106 : (INORGANIC,& PHYSICAL CHEMISTRY)

1.At the end of the course, the student will be able to Understand the basic concepts of P-Block elements. After learning 'P-block elements', students are expected to recall the various definitions, concepts related to them and apply these concepts as and when required. Realize, the industrial significance of these elements and their compounds.

2. Understand the differences between solid, Liquid and gases in terms of intermolecular interactions. Learning 'Gaseous state' by students empowers them with the ability to differentiate between real and ideal gases. Also, they will be in a position to explain why only real gases show Joule-Thomson effect and why only real gases can be liquified

3. Apply the concepts of gas equations, pH and electrolyte while studying other chemistry courses.

4. 'Organometallic chemistry', students should be able to realize the potential applications of these compounds in the synthesis of various chemicals and polymers of day today use both at laboratory level in micro scale and industrially in macro scale.

Semester-II Course Code:3-2-106 organic&General Chemistry

1. Understand and explain the differential behaviour of organic compounds based on fundamental concepts learnt. After learning 'Structural theory in organic chemistry', students are expected to be well versed with all the fundamental concepts of organic chemistry such as bond fission, inductive effect, mesomeric effect, hyper conjugation etc.
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 including Free radical substitution, Electrophilic Addition and Electrophilic Aromatic substitution. Understand the concept of 'Benzene and its reactivity', students are to be in a position to apply the concept of resonance in explaining different phenomena such as acidity, basicity of acids, phenols and amines. Also, they are expected to be in a position to explain the preference of electrophilic and nucleophilic substitutions for ortho, para or meta positions.
4. Correlate and describe the stereo chemical properties of organic compounds and reactions.
5. Students must have developed the skills related to practicals such as safe handling of chemicals and the apparatus, recording the observations, drawing diagrams and graphs.

Semester-III Course Code:3-3-106 ORGANIC CHEMISTRY &SPECTROSCOPY

1. Understand preparation, properties and reactions of haloalkanes, haloarenes and oxygen containing functional groups.

2. To do functional group transformations by the use of synthetic chemistry learnt in this course.

3. To propose plausible mechanisms for any relevant reaction.

4. Name the carboxylic acids according to IUPAC, describe the acidity, write the methods of preparation and reactivity.

5. Able to describes the importance of carbanion in the organic synthesis, write the synthetic applications of malonic ester and acetoacetic ester.

Semester-IV Course Code:3-4-106 (INORGANIC,ORGANIC & PHYSICAL CHEMISTRY)

1. Understand the types of organo metallic compounds, concept of hapticity, study stability of organo metallic compounds by the counting of valence electrons surrounded by metal and bonding between metal and carbon monoxide.
2. Learnt about structures of bio molecules Glucose, fructose, Amino acids and Proteins and also synthetic transformations.
3. Propose different mechanism involved in nitro compounds and Amines. Understand the dye formation.
4. To learnt about the laws of absorption of light energy and the subsequent photochemical reactions, its mechanisms and Quantum efficiency.
5. Understand the laws of thermodynamics and different thermodynamic processes.
6. To learnt about coordination compounds, theories of bonding in coordination chemistry, different geometries, strengths of different ligands, also their mechanisms and stability of metal complexes.
7. Understand the role of metals in biological process and role of Haemoglobin and Myoglobin.
8. To learnt the phases of system, phase diagram and freezing mixture.
9. Understand the different types of conductance, theories of electrolytes, conductometric titrations, electrochemical cells and Determination of EMF of a cell.
10. Understand the concepts of reaction rates, factors affecting the reaction rate, identify the order of the reaction and theories of reaction rates.

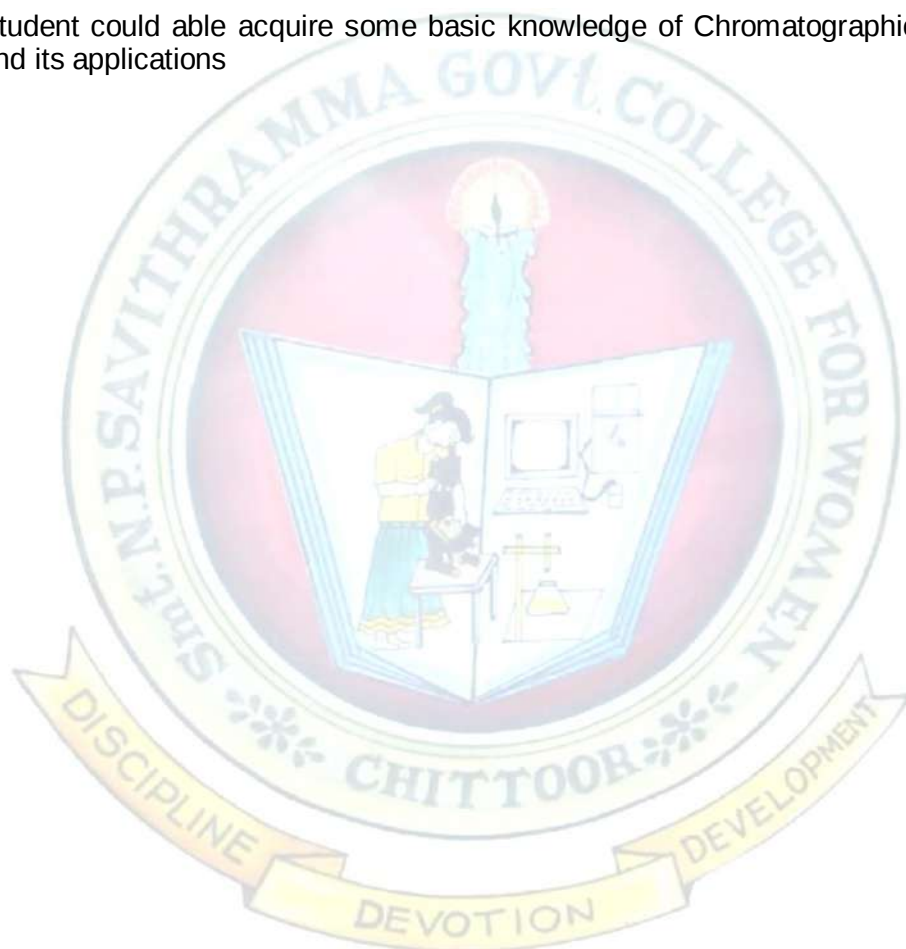
Semester-V: Course Code: 3-5-107 Chemistry Paper V : (INORGANIC, ORGANIC & PHYSICAL CHEMISTRY)

1. Students able to learn the bonding in the coordinate compounds, stability, colour and magnetic properties, Learn the CFSE calculations, Isomerism in complex compounds
2. Able to know the colour phenomenon and calculation of magnetic moment.
3. Able to know the stability and reactivity of the complexes, labile and inert complexes, Methods for determination of composition of the complexes
4. Students understand the nomenclature of amines, Basicity of amines, comparison of basicity, separation of amines. Chemical properties of amines Able to learn the different types of thermodynamic systems, reaction energies, feasibility of the chemical reactions, entropy and its significance.

Semester-VI: Course Code: 3-6-105 Chemistry Elective Paper – VII-(A)- Analytical Methods In Chemistry

1. Student could able to learn and acquired skill on different titrations for quantitative determinations.
2. Acquire skill on choice of indicators in titrations.

3. Learn Chemical calculations in gravimetric and volumetric analysis.
4. Could able to process the analytical data.
5. Could learn how to minimise errors in chemical experiments.
6. Could aware on the Batch extraction, continuous extraction and counter current extraction and their applications.
7. Student could able to know the basics of chromatographic techniques and their applications.
8. Student could able acquire some basic knowledge of Chromatographic techniques and its applications





SMT N P S GOVT COLLEGE (W), CHITTOOR



DEPARTMENT OF COMMERCE

B.Com

(Revised on 2021-2022)

COURSE OUTCOMES

Semester-wise Syllabus under CBCS(w.e.f. 2020-21 admitted Batch)

I Year B Com (Gen & CA)–Semester – I

Course1A: Fundamentals of Accounting

At the end of the course, the student will 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.
- Analyze the difference between cash book and pass book in terms of balance and make reconciliation.
- Critically examine the balance sheets of a sole trader for different accounting periods.
- Design new accounting formulas & principles for business organisations.

I Year B Com (Gen & CA) – Semester – I

Course 1B: Business Organization and Management

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

- Understand different forms of business organizations.
- Comprehend the nature of Joint Stock Company and formalities to promote a Company.
- Describe the Social Responsibility of Business towards the society.
- Critically examine the various organizations of the business firms and judge the best among them.
- Design and plan to register a business firm. Prepare different documents to register a company at his own.
- Articulate new models of business organizations.

I Year B Com (Gen & CA) – Semester – I

Course 1C: Business Environment

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

- Understand the concept of business environment.
- Define Internal and External elements affecting business environment.
- Explain the economic trends and its effect on Government policies.
- Critically examine the recent developments in economic and business policies of the Government.
- Evaluate and judge the best business policies in Indian business environment.
- Develop the new ideas for creating good business environment.

PROGRAMME: THREE-YEAR B COM

(General and Computer Applications)

Commerce

Semester-wise Syllabus under CBCS (w.e.f. 2020-21 Admitted Batch)

I Year B Com (Gen & CA) – Semester – II

Course 2A: Financial Accounting

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

- Understand the concept of consignment and learn the accounting treatment of the various aspects of consignment.
- Analyze the accounting process and preparation of accounts in consignment and joint venture.
- Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under Joint Venture.
- Determine the useful life and value of the depreciable assets and maintenance of Reserves in business entities.
- Design an accounting system for different models of businesses at his own using the principles of existing accounting system.

I Year B Com (Gen & CA)– Semester – II

Course 2B: Business Economics

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

- Describe the nature of economics in dealing with the issues of scarcity of resources.
- Analyze supply and demand analysis and its impact on consumer behaviour.
- Evaluate the factors, such as production and costs affecting firms behaviour.
- Recognize market failure and the role of government in dealing with those failures.
- Use economic analysis to evaluate controversial issues and policies.
- Apply economic models for managerial problems, identify their relationships, and formulate the decision making tools to be applied for business.

I Year B Com (Gen)– Semester – II

Course 2C: Banking Theory and Practice

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

- Understand the basic concepts of banks and functions of commercial banks.
- Demonstrate an awareness of law and practice in a banking context.
- Engage in critical analysis of the practice of banking law.
- Organize information as it relates to the regulation of banking products and services.
- Critically examine the current scenario of Indian Banking system.
- Formulate the procedure for better service to the customers from various banking innovations.

PROGRAMME: THREE-YEAR B COM

(General and Computer Applications)

Subject: Commerce

Semester-wise Syllabus under CBCS(w.e.f. 2020-21 Admitted Batch)

II Year B Com (Gen &CA)– Semester – III

Course 3A:Advanced Accounting

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

- Understand the concept of Non-profit organisations 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.
- Employ critical thinking skills to understand the difference between the dissolution of the firm and dissolution of partnership

II Year B Com (Gen & CA)– Semester – III

Course 3B: Business Statistics

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

- Understand the importance of Statistics in real life
- 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 in day life.
- Create quantitative models to solve real world problems in appropriate contexts.

II Year B Com (Gen)– Semester – III

Course 3C:Marketing

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

- Develop an idea about marketing and marketing environment.
- Understand the consumer behavior and market segmentation process.
- Comprehend the product life cycle and product line decisions.
- Know the process of packaging and labeling to attract the customers.
- Formulate new marketing strategies for a specific new product.
- Develop new product line and sales promotion techniques for a given product.
- Design and develop new advertisements to given products.

II Year B Com (Gen & CA)– Semester – IV

Course 4A:Corporate Accounting

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

- Understand the Accounting treatment of Share Capital and aware of process of bookbuilding.
- 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.
- Communicate accounting policy choices with reference to relevant laws and accounting standards.

II Year B Com (Gen & CA)– Semester – IV

Course 4B: Cost and Management Accounting

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.
- Prepare analysis of various special decisions, using relevant management techniques.

PROGRAMME: THREE-YEAR B COM

(General and Computer Applications)

Subject: Commerce

Semester-wise Syllabus under CBCS(w.e.f. 2020-21 Admitted Batch)

II Year B Com (Gen& CA)– Semester – IV

Course 4C: Income Tax

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 complications and structure.
- Prepare and File IT returns of individual at his own.

II Year B Com (Gen & CA)– Semester – IV

Course 4D:Business Law

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

- Understand the legal environment of business and laws of business.
- Highlight the security aspects in the present cyber-crime scenario.
- Apply basic legal knowledge to business transactions.
- Understand the various provisions of Company Law.
- Engage critical thinking to predict outcomes and recommend appropriate action on issues relating to business associations and legal issues.
- Integrate concept of business law with foreign trade.

II Year B Com (Gen& CA)– Semester – IV

Course 4E:Auditing

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

- Understanding the meaning and necessity of audit in modern era
- Comprehend the role of auditor in avoiding the corporate frauds
- Identify the steps involved in performing audit process
- Determine the appropriate audit report for a given audit situation
- Apply auditing practices to different types of business entities
- Plan an audit by considering concepts of evidence, risk and materiality

II Year B Com (Gen)– Semester – IV

Course 4F: Goods and Service Taxes

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

- Understand the basic principles underlying the Indirect Taxation Statutes.
- Examine the method of tax credit. Input and Output Tax credit and Cross Utilisation of Input Tax Credit.
- Identify and analyze the procedural aspects under different applicable statutes related to GST.
- Compute the assessable value of transactions related to goods and services for levy and determination of duty liability.
- Develop various GST Returns and reports for business transactions in Tally.

Commerce

Semester-wise Syllabus under CBCS(w.e.f. 2020-21 admitted Batch)

I Year B Com (Gen & CA)–Semester – I & II Semester

COURSE OUTCOMES

- Develop the skill of recording financial transactions and preparation of reports, Design new accounting formulas & principles for business organizations.
- Understand different forms of business organizations and articulate new models of business organizations.
- Understand the concept of business environment and Develop the new ideas for creating good business environment.
- Analyze the accounting process and preparation of accounts Design an accounting system for

different models of businesses at his own using the principles of existing accounting system. Describe the nature of economics in dealing with the issues of scarcity of resources and Use economic analysis to evaluate controversial issues and policies. Apply economic models for managerial problems, identify their relationships, and formulate the decision making tools to be applied for business.

- Understand the basic concepts of banks and functions of commercial banks.
- Formulate the procedure for better service to the customers from various banking innovations.

PROGRAMME: THREE-YEAR B COM

(General and Computer Applications)

Subject: Commerce

Semester-wise Syllabus under CBCS(w.e.f. 2020-21 Admitted Batch)

II Year B Com (Gen & CA) – Semester – III & IV Semester

- Understand the concept of and its accounting process
- Understand the importance of Statistics in real life and formulate complete, concise, and correct mathematical proofs.
- Develop an idea about marketing and marketing environment Understand the consumer behavior.
- Understand the Accounting treatment and understand analysis of complex issues, formulation of well-reasoned arguments and reaching better conclusions.
- Understand various costing methods and management techniques and prepare analysis of various special decisions, using relevant management techniques.
- Acquire the complete knowledge of the tax evasion, tax avoidance and tax planning
- Understand the legal environment of business and laws of business.
- Understanding the meaning and necessity of audit in modern era and understand the basic principles underlying the Indirect Taxation Statutes and Examine the method of tax credit. Input and Output Tax credit and Cross Utilisation of Input Tax Credit.



**SMT N P S GOVT COLLEGE (W),
CHITTOOR**



DEPARTMENT OF COMPUTER APPLICATIONS

B.A., B.COM.

(Revised on 2021-2022)

COURSE OUTCOMES

**I Year B Com (CA), Semester- I
Discipline: COMPUTER APPLICATIONS
Course 1A: Information Technology**

Learning Outcomes:

At the end of the course, the students is expected to DEMONSTRATE the following cognitive abilities (thinking skill) and psychomotor skills.

A. Remembers and states in a systematic way (Knowledge)

1. Describe the fundamental hardware components that make up a computer's hardware and the role of each of these components
2. understand the difference between an operating system and an application program, and what each is used for in a computer
3. Use technology ethically, safely, securely, and legally
4. Use systems development, word-processing, spreadsheet, and presentation software to solve basic information systems problems

B. Explains (Understanding)

5. Apply standard statistical inference procedures to draw conclusions from data
6. Retrieve information and create reports from databases
7. Interpret, produce, and present work-related documents and information effectively and accurately

C. Critically examines, using data and figures (Analysis and Evaluation**)

8. Analyse compression techniques and file formats to determine effective ways of securing, managing, and transferring data
9. Identify and analyse user needs and to take them into account in the selection, creation, integration, evaluation, and administration of computing based systems.
10. Analyse a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
11. Identify and analyse computer hardware, software

D. Working in ‘Outside Syllabus Area’ under a Co-curricular Activity(Creativity)

Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program’s discipline.

E. Efficiently learn and use Microsoft Office applications.

I Year B Com (CA), Semester – II

Discipline: COMPUTER APPLICATIONS

Course 2C: E- Commerce & Web Designing

Learning Outcomes:

At the end of the course, the students is expected to DEMONSTRATE the following cognitive abilities (thinking skill) and psychomotor skills.

A. Remembers and states in a systematic way (Knowledge)

1. Understand the foundations and importance of E-commerce
2. Define Internet trading relationships including Business to Consumer, Business-to-Business, Intra-organizational
3. Describe the infrastructure for E-commerce
4. Discuss legal issues and privacy in E-Commerce
5. Understand the principles of creating an effective web page, including an in-depth consideration of information architecture

B. Explains (Understanding)

6. Recognize and discuss global E-commerce issues
7. Learn the language of the web: HTML and CSS.

C. Critically examines, using data and figures (Analysis and Evaluation)

8. Analyze the impact of E-commerce on business models and strategy
9. Assess electronic payment systems
10. Exploring a web development framework as an implementation example and create dynamically generated web site complete with user accounts, page level security, modular design using css

D. Working in 'Outside Syllabus Area' under a Co-curricular Activity (Creativity)

Use the Systems Design Approach to implement websites with the following steps:

- ☐ Define purpose of the site and subsections
- ☐ Identify the audience
- ☐ Design and/or collect site content
- ☐ Design the website theme and navigational structure
- ☐ Design & develop web pages including: CSS Style Rules, Typography, Hyperlinks, Lists, Tables, Frames, Forms, Images, Behaviours, CSS Layouts

E. Build a site based on the design decisions and progressively incorporate tools and techniques covered

I Year B Com (CA), Semester – III

Discipline: COMPUTER APPLICATIONS

Course 3C: Programming with C & C++

Learning Outcomes:

At the end of the course, the students is expected to DEMONSTRATE the following cognitive abilities (thinking skill) and psychomotor skills.

A. Remembers and states in a systematic way (Knowledge)

1. Develop programming skills
2. Declaration of variables and constants use of operators and expressions
3. learn the syntax and semantics of programming language
4. Be familiar with programming environment of C and C++
5. Ability to work with textual information (characters and strings) & arrays

B. Explains (Understanding)

6. Understanding a functional hierarchical code organization
7. Understanding a concept of object thinking within the framework of functional model

8. Write program on a computer, edit, compile, debug, correct, recompile and run it

C. Critically examines, using data and figures (Analysis and Evaluation)

9. Choose the right data representation formats based on the requirements of the problem

10. Analyze how C++ improves C with object-oriented features

11. Evaluate comparisons and limitations of the various programming constructs and choose correct one for the task in hand.

D. Working in ‘Outside Syllabus Area’ under a Co-curricular Activity(Creativity)

Planning of structure and content, writing, updating and modifying computer programs for user solutions

E. Exploring C programming and Design C++ classes for code reuse (Practical skills*)**

II Year B Com (CA)– Semester – IV

Course 4E: Object Oriented Programming with Java

Learning Outcomes:

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

- Understanding the meaning and necessity of audit in modern era
- Comprehend the role of auditor in avoiding the corporate frauds
- Identify the steps involved in performing audit process
- Determine the appropriate audit report for a given audit situation
- Apply auditing practices to different types of business entities
- Plan an audit by considering concepts of evidence, risk and materiality

II Year B Com (CA)– Semester – IV

Course 3F:Database Management System

Learning Outcomes:

At the end of the course, the students is expected to DEMONSTRATE the following cognitive abilities (thinking skill) and psychomotor skills.

A. Remembers and states in a systematic way (Knowledge)

1. Understand the role of a database management system in an organization.
2. Understand basic database concepts, including the structure and operation of the relational data model.
3. Understand and successfully apply logical database design principles, including E-R diagrams and database normalization
4. Understand Functional Dependency and Functional Decomposition

B. Explains (Understanding)

5. To design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS.
6. Perform PL/SQL programming using concept of Cursor Management, Error Handling, Packages

C. Critically examines, using data and figures (Analysis and Evaluation)

7. Apply various Normalization techniques
8. Model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas based on the conceptual model

D. Working in 'Outside Syllabus Area' under a Co-curricular Activity (Creativity)

Design and implement a small database project

E. Construct simple and moderately advanced database queries using Structured Query Language (SQL)(Practical skills)



SMT N P S GOVT COLLEGE (W), CHITTOOR



DEPARTMENT OF COMPUTER SCIENCE

B.SC

(Revised on 2021-2022)

COURSE OUTCOMES

SEMESTER I: PROBLEM SOLVING IN C

Objectives:

This course aims to provide exposure to problem-solving through programming. It introduces the concepts of the C Programming language.

Course Learning Outcomes:

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

1. Understand the evolution and functionality of a Digital Computer.
2. Apply logical skills to analyse a given problem
3. Develop an algorithm for solving a given problem.
4. Understand 'C' language constructs like Iterative statements, Array processing, Pointers, etc.
5. Apply 'C' language constructs to the algorithms to write a 'C' language program.

SEMESTER II: DATA STRUCTURES USING C

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 Learning Outcomes:

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

1. Understand available Data Structures for data storage and processing.
2. Comprehend Data Structure and their real-time applications - Stack, Queue, LinkedList, Trees and Graph
3. Choose a suitable Data Structures for an application
4. Develop ability to implement different Sorting and Search methods
5. Have knowledge on Data Structures basic operations like insert, delete, search update and traversal
6. Design and develop programs using various data structures
7. Implement the applications of algorithms for sorting, pattern matching etc

SEMESTER III: DATABASE MANAGEMENT SYSTEMS

Course Objective:

The objective of the course is to introduce the design and development of databases with special emphasis on relational databases.

Course Learning Outcomes:

On completing the subject, students will be able to:

1. Gain knowledge of Database and DBMS.
2. Understand the fundamental concepts of DBMS with special emphasis on relational data model.
3. Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database
4. Model database using ER Diagrams and design database schemas based on the model.
5. Create a small database using SQL.
6. Store, Retrieve data in database.

SEMESTER IV:

C4-OBJECT ORIENTATED PROGRAMMING THROUGH JAVA

Objectives:

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

Course Learning Outcomes:

At the end of this course student will:

1. Understand the benefits of a well-structured program
2. Understand different computer programming paradigms
3. Understand underlying principles of Object-Oriented Programming in Java
4. Develop problem-solving and programming skills using OOP concepts
5. Develop the ability to solve real-world problems through software development in high-level programming language like Java

C5-OPERATING SYSTEMS

Objectives:

This course aims to introduce the structure and organization of a file system. It emphasizes various functions of an operating system like memory management, process management, device management, etc.

Course Learning Outcomes:

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

1. Know Computer system resources and the role of operating system in resource management with algorithms
2. Understand Operating System Architectural design and its services.
3. Gain knowledge of various types of operating systems including Unix and Android.
4. Understand various process management concepts including scheduling, synchronization, and deadlocks.
5. Have a basic knowledge about multithreading.
6. Comprehend different approaches for memory management.

7. Understand and identify potential threats to operating systems and the security features design to guard against them.
8. Specify objectives of modern operating systems and describe how operating systems have evolved over time.
9. Describe the functions of a contemporary operating system.

SEMESTER V:

DATA BASE MANAGEMENT SYSTEM

Course Objective:

Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Course Outcomes

On completing the subject, students will be able to:

1. Design and model of data in database.
2. Store, Retrieve data in database.

SOFTWARE ENGINEERING

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

SEMESTER VI:

PAPER-VII: ELECTIVE-C - WEB TECHNOLOGIES

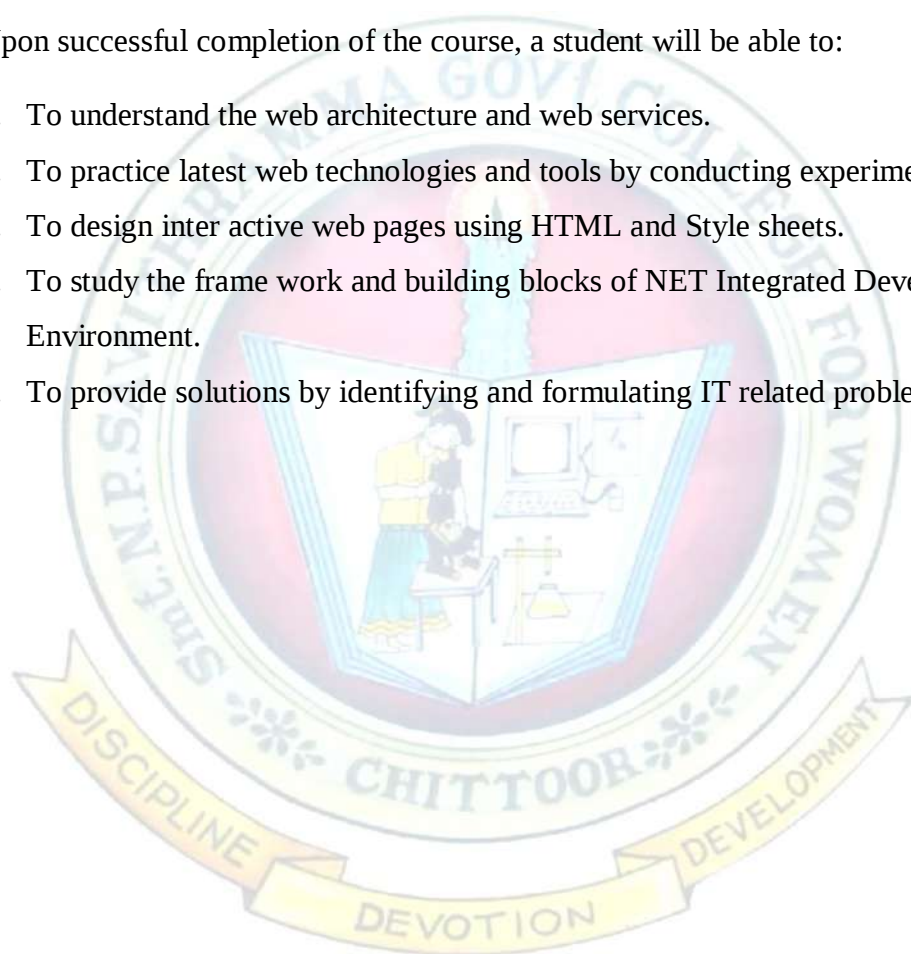
Course Objectives

To provide knowledge on web architecture, web services, client side and server side scripting technologies to focus on the development of web-based information systems and web services. To provide skills to design inter active and dynamic web sites.

COURSEOUTCOME

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

1. To understand the web architecture and web services.
2. To practice latest web technologies and tools by conducting experiments.
3. To design inter active web pages using HTML and Style sheets.
4. To study the frame work and building blocks of NET Integrated Development Environment.
5. To provide solutions by identifying and formulating IT related problems.





**SMT N P S GOVT COLLEGE (W),
CHITTOOR
DEPARTMENT OF ECONOMICS**



B.A.,

(Revised on 2021-2022)

COURSE OUTCOMES

1. Economics students in general will be able to pinpoint and understand the past, present economic conditions of the country. They will also be able to forecast the future course of changes and development through their knowledge of policies and programmes set by the governments and other development agencies. They are equipped with the techniques to find solution of the problems like mobilization of manpower and materials available in the country. Students will be able to analyse historical and current events from an economic perspective.
2. As the Under Graduate Course (UGC) contains the fields like statistics, mathematics and economics principles, it enhances them to compute and assess the real situation of the economy including the size and changes of population, income pattern, nature of an extend of employment, rate of development with pattern of investments and savings, policies in relation to other countries.
3. Basically, economic graduates are familiar with the knowledge and application of microeconomics and macroeconomics for the formulation of policies and planning. They are equipped with all the relevant tools/ knowledge based on economic principles including market functions and structures, efficiency in manpower and resources management, need of credit/finance for initiating and accelerating projects.
4. Students have the knowledge of Financial Institutions and Markets, and understand the structure and functions of banking



SMT N P S GOVT COLLEGE (W), CHITTOOR



DEPARTMENT OF ENGLISH

B.A., B.COM., B.SC., BBA

(Revised on 2021-2022)

COURSE OUTCOMES

Semester I- English Paper I

Unit I- Development of Communication Skills to achieve the required level of linguistic knowledge and skills- To enable to communicate effectively in English- To improve knowledge and for better understanding of the society.

The students learn how important is English or any other foreign language to them? What is the role of language in the lives- Can they neglect their mother tongue

Unit III- The choice in life - When the students have two different ways to go, which one they choose? Do they conform to a norm or not? When they have two options about the career in life, which one do they opt? The importance of the decision making in life.

The Indian superstitions and blind beliefs- Their impact on the individuals and the society- How to overcome them- the mother's true love towards her children.

Unit III- Losing the way in an unknown place- Feelings of a person- Children's attachment towards their parents- Parents can't be substituted by any person.

Foolishness of animals and human beings- Pets disturb our activities- When you fail to achieve your goals because of pets – How to overcome it?

Unit IV- The learners understand the interpretation of drama with attention to ambiguity, complexity and aesthetics values- Learning writing process- Understanding culture and History and critical approaches.

Unit V- The students understand the importance of Grammar in spoken and written English- Understanding the factors that influence use of grammar and vocabulary in speech and writing- understanding the different ways in which grammar has been described.

Semester II- English Paper II

Unit I- The students will understand the term scientific temper- use of science in daily life- Difference between science and technology- Interpreting the scientific point of view properly

Different ways of greeting people- various ways of greeting elders and women- Which way is the best and hygienic one.

Unit II- The students may notice and appreciate nature-Importance of changes in seasons- Impact of nature and environment on human beings.

The learners will understand to overcome gender inequality- How women are ill treated in Indian society- ways to overcome – solving gender inequality in the society.

Unit III – the learners know to play Chinese whisper game- How information is interpreted when travels from one person to another-Rumors’ from facts.

Understanding habits- How do the students measure a person’s worth?-What brings a change in our response- Social consequences of hoarding- remedies.

Unit IV- The students will be able to describe, analyze, interpret and evaluate dramatic literature and theatrical productions- To be able to articulate the formal, technical, historical and theoretical attributes of the drama.

Unit V- The learners will familiarize themselves with practice in the four modes of skills- listening, speaking, reading and writing- To develop critical thinking- Using tools of language effectively.

Semester III- English Paper III

Unit I- the students will develop the skills of identifying and synthesizing information and improving skills drawing inferences.

They can acquire the skills of guessing the meanings of unfamiliar words, using them, understanding the meanings of synonyms and Antonyms, phrases to produce coherent and cohesive piece of text- Using different reading strategies, the skills of comprehension, lexical items to produce good piece of writing.

Unit II- The learners will understand the real feelings of the people in the past against the fake feelings of the people in the present- to express just completed actions and learning about past habits.

Understanding the connotations of poetic language, developing language comprehensions- perceive the deeper nuances of creativity.

Unit III- The learners will understand the diasporic struggle to keep one's one cultural identity against foreign cultures- underlying relationships between males and females juxtaposed to the existing. Analyzing problems in establishing social relationships under changed environment.

The family relationships in middle class Indian society- The multiple roles assumed by a woman in facing life- The issues concerning widowhood, dependency and loneliness- solutions.

Unit IV- The learners will understand the evil traditions of performing child marriages- Highlighting the malady of child marriages using the techniques of comedy- the nuances in translating a play- regarding culture , setting and language.

Unit V- Learning the communicative skills for their immediate needs- Language skills needed to obtain employment- To like and learn language by the students themselves- It helps an organic growth of the learning experience- More responsibility and better understanding of their progress and needs.

Communication And Soft Skills

Semester II

Unit I- The students will learn building vocabulary- Important vocabulary strategies- It helps to build students' own vocabulary- helps to improve their reading ability and self expression- using appropriate sentences- They are exposed to language learning and usage.

Unit II- The students will be able to identify the verb and tense in the sentences- Students will also be able to write sentences using the past , present or future tenses- identifying regular and

irregular verbs-Students will be encouraged to build and improve and will be motivated- Effective learning strategy.

Unit III- The students will give and receive instructions using modules- Students will demonstrate an ability to reason deductively using modal forms- Able to recognize prepositional phrases – distinguish preposition of time and place- using prepositions in sentences- Distinguish there articles and understand how to use them in the sentences.

Unit IV- The learners will understand the process of listening the five steps- Receiving, Understanding, Remembering, Evaluating and responding- To create more effective ,more productive professional and personal relationships- Using appropriate strategies to improve one's ability to listen.

Unit V- The students will Improve the acquaintance and getting confidence in using right words in the right context- To find a good job and qualify in the competitive exams- Develop the imagination and creative thinking- reading helps the students to build a strong correlation between reading and academic success.

Communication And Soft Skills

Semester III

Unit I –The students will know and understand the sounds and symbols of the English language- familiarizes with the correspondence of sound and letter in the English language- properly know the organs of speech and their usage in the utterance of the speech sounds using good pronunciation.

Unit II – The students know what is a syllable- Its structure , how to divide a word into syllables- understanding syllabic consonants- The word stress and how its produced, to mark and use Stress- The role of stress in spoken English- Using accent of stress in connected speech- Strong and weak forms of structure words , understanding different tones used in English- functions of tones and their practical usage in the spoken English.

Unit III- The students will understand the different functions of language- How to greet and introduce on various contexts- understanding different stages of interviews, facing interviews successfully- How to present papers in seminars, conferences, meetings and evaluate presentations- Develop speaking skills and to become a public speaker.

Unit IV- The learners will understand role plays- participate in role plays successfully-nature and parts of a debate- participating in debates- Understanding the features of a group discussion- participating in group discussions with confidence.

Unit V- The learners will understand the different aspects of English spellings- using spelling in a perfect way- Accurate usage of punctuation marks- Interpreting information using right vocabulary.

Communication And Soft Skills

Semester IV

Unit I - Through Soft skills the students will develop a right view about the life skills and writing skills- promotes personal growth and prepares them for success-Instills enthusiasm- They learn the skills through practical activities- Allows the students to evaluate themselves personally through assessment tests-The students develop self learning and investigative spirits- They are made understand life skills through literary texts.

Unit II- The students understand how to write individual paragraphs and connect them to write essay- structure of a paragraph and how to write a good paragraph, and how to develop a single idea into a meaningful paragraph- how to build a good paragraph with combination of unity, cohesion, coherence , balance , variety and emphasis.

Unit III- The learners will understand the difference between paraphrasing and summarizing- How to use strategies to incorporate other writers' ideas in their own words into their writing- How to restate the sense of a passage in other words- how to restate the sense of a passage in other words- How to reproduce the thought of the original passage in similar language- How to write an effective paraphrase- what makes a good summary and how to write a good summary.

Unit IV- The students may understand the different models of correspondence- How to write clear and readable letters- to write good letters- writing formal and informal letters-Analyse and compare various formal and informal letters- the students understand to note differences of conventions, vocabulary, tone- Recognize and demonstrate use of appropriate models for both personal and official letters.

Unit V- The students will understand the differences among Resume, Curriculum Vitae and Bio data- How to prepare a suitable resume or CV with covering letter- How to produce a resume that describes education, skills, experience, achievement with proper grammar, format and brevity- to develop the ability to target the resume to the presenting purpose.



SMT N P S GOVT COLLEGE (W), CHITTOOR

DEPARTMENT OF HINDI

B.A., B.COM., B.SC., BBA

(Revised on 2021-2022)

COURSE OUTCOMES

TITLE OF THE PAPER

**PAPER – I GENERAL HINDI
PROSE SHORT STORIES AND GRAMMAR**

**PAPER- II GENERAL HINDI
PROSE, SHORT STORIES AND GRAMMAR**

**PAPER-III GENERAL HINDI OLD AND MODERN POETRY, HISTORY OF HINDI
LITERATURE GENERAL ESSAY AND OFFICIAL LETTER**

COURSE OUTCOMES

General Hindi/ Hindi Literature

1. Basic knowledge of Hindi Grammar & Literature.
2. Development of effective communication skills in Hindi.

3. Enhanced employability of students by developing their linguistic competence.
4. Creative writing, Translation will be taught in the Programme and students can choose profession like poets, Translators by learning these skills
5. Understanding the origin of Hindi language & literature.
6. Understand various genres of Hindi Literature.
7. Enriched Hindi vocabulary.
8. Understand the philosophy behind Hindi Literature.
9. Evaluate Hindi Literature from past to present and using it as a lens to understand society.
10. Spread the knowledge of our national language to others.
11. Developing skill of writing official letters in functional Hindi.





SMT N P S GOVT COLLEGE (W), CHITTOOR



DEPARTMENT OF HISTORY

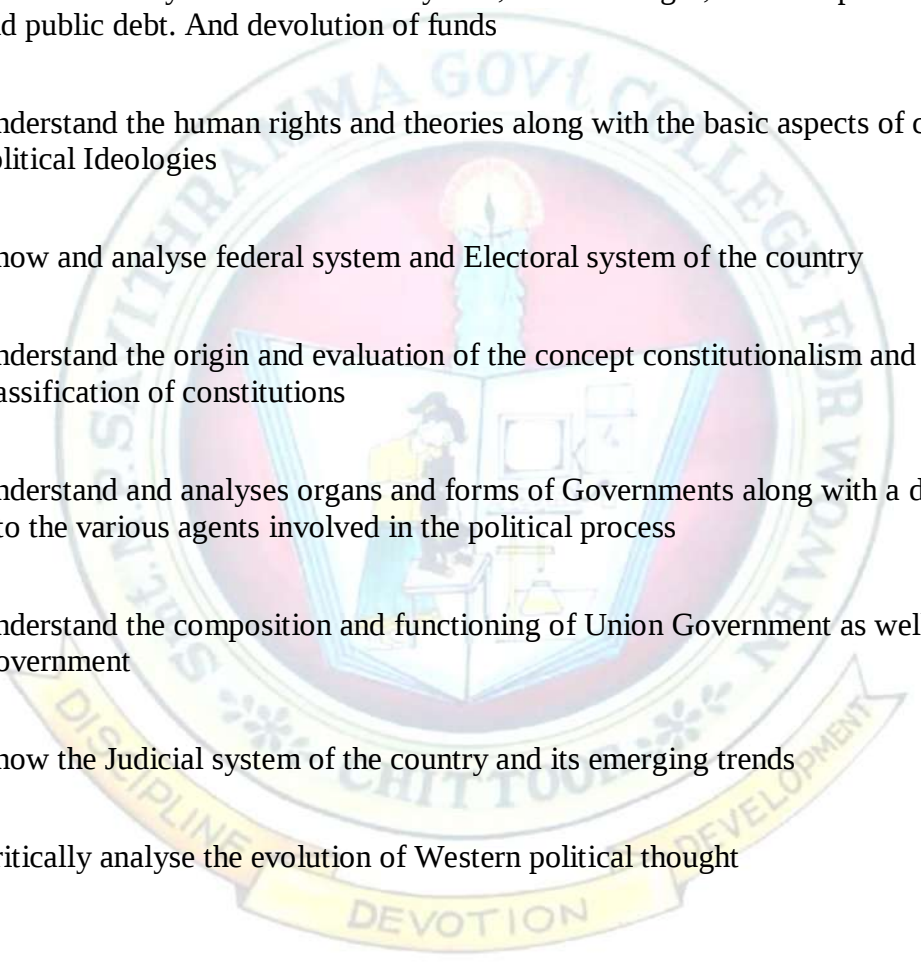
B.A.,

(Revised on 2021-2022)

COURSE OUTCOMES

History is a core subject spread over the 6 semesters. The course is designed with an objective of preparing students able to learn about the History, culture and civilization and it is compared to present situations

1. Understand and evaluate the changes in culture and development in civilization
2. Know and analyse the origin of caste system and its effects on the present society
3. Know and evaluate the impact of new religions on Indian society
4. Learn and recognize the changes in administration, culture and how it inspires in freedom movement
5. Understand and appraise the importance of the effect of renaissance and reformation in the world
6. Assess the revolutions and colonialism leads to world wars
7. Know the development in the culture leads the society of Andhra to form a new state
8. Understand various terms and concepts relating to the Microeconomic analysis with the help of examples in real life

- 
9. Critically examine various laws and principles of Microeconomic analysis and market conditions
 10. Know the difference between various concepts and components of National income with illustrations and methods of measuring
 11. Know the functions of Commercial banks and Central bank
 12. Understand the various concepts and indicators relating to economic growth and development including recent developments
 13. Know and analyse the Indian Tax system, recent changes, issues of public expenditure and public debt. And devolution of funds
 14. Understand the human rights and theories along with the basic aspects of certain political Ideologies
 15. Know and analyse federal system and Electoral system of the country
 16. Understand the origin and evaluation of the concept constitutionalism and classification of constitutions
 17. Understand and analyses organs and forms of Governments along with a deep insight into the various agents involved in the political process
 18. Understand the composition and functioning of Union Government as well as State Government
 19. Know the Judicial system of the country and its emerging trends
 20. Critically analyse the evolution of Western political thought

DEPARTMENT OF HISTORY

LEARNING OBJECTIVES OR COURSE OUTCOMES

HISTORY - SEMESTER – I

Paper – I Ancient Indian History and Culture (from Indus valley to 13th century A.D.)

By the end of the course during the first semester with 5 hours a week and 4 credits a semester students will able to

1. Understand and evaluate the changes in culture and development in civilization
2. Know and analyse the origin of caste system and its effects on the present society
3. Know and evaluate the impact of new religions on Indian society
4. Acquire knowledge and analyse the university education system
5. Acquire knowledge about the Dravidian style of art and architecture

DEPARTMENT OF HISTORY
LEARNING OBJECTIVES OR COURSE OUTCOMES
HISTORY - SEMESTER – II

Paper – II Medieval Indian History and Culture (1206 A.D. to 1764.A.D.)

By the end of the course during the second semester with 5 hours a week and 4 credits a semester students will able to

1. Understand and evaluate the impact of Islam on Indian society
2. Know and examine the new style of architecture i.e. Hindustani style
3. Learn and assess the impact of Christianity on Indian society
4. Analyse the problems of agriculture and cottage industries compared to present situation
5. Know and defend the strength of unity

DEPARTMENT OF HISTORY
LEARNING OBJECTIVES OR COURSE OUTCOMES
HISTORY - SEMESTER – III

Paper – III (Late Medieval History of India 1526 to 1857 A.D)

By the end of the course during the third semester with 5 hours a week and 4 credits a semester students will able to

1. Know and examine the new style of architecture i.e. Hindustani style
2. Learn and assess the impact of Christianity on Indian society
3. Analyse the problems of agriculture and cottage industries compared to present situation
4. Know and measure the impact of English education on the society
5. Know and defend the strength of unity

DEPARTMENT OF HISTORY
LEARNING OBJECTIVES OR COURSE OUTCOMES
HISTORY - SEMESTER – IV

Paper – IV (Social reform movement and freedom struggle 1820 to 1947A.D.)

By the end of the course during the fourth semester with 5 hours a week and 4 credits a semester students will able to

1. Know and examine the impact of renaissance on the society
2. Understand and evaluate the effects of Extremism and Terrorism
3. Acquire knowledge and apply the principles of Ahimsa, Satyagraha and their importance
4. To choose the freedom movement as inspiration
5. Know and estimate the effects of partition of the country

DEPARTMENT OF HISTORY
LEARNING OBJECTIVES OR COURSE OUTCOMES
HISTORY - SEMESTER –V

Paper – V Age of Rationalism and Humanism (The world between 15th and 18th centuries)

By the end of the course during the fifth semester with 5 hours a week and 4 credits a semester students will able to

1. Know and evaluate the Geographical discoveries and its effects on the world
2. Learn and measure the impact of renaissance on the European culture
3. Understand and interpret the reformation of a religion and its effects
4. Know and critique about the effects of colonialism
5. Acquire knowledge and assess the revolutionary effects

DEPARTMENT OF HISTORY
LEARNING OBJECTIVES OR COURSE OUTCOMES
HISTORY - SEMESTER –V

Paper – VI History and Culture of Andhra Desa from 12th to 19th centuries A.D.

By the end of the course during the fifth semester with 5 hours a week and 4 credits a semester students will able to

1. Acquire knowledge about the importance of Telugu language
2. Know and judge the impact of Muslim rule on Andhra
3. Understand and interpret the change in land revenue systems introduced by Europeans
4. Know and evaluate the changes in society of Andhra due to modern education
5. Know the development in the culture of Andhra

DEPARTMENT OF HISTORY
LEARNING OBJECTIVES OR COURSE OUTCOMES
HISTORY - SEMESTER –VI

Paper VII –A History of Modern Europe from 19th century to 1945

By the end of the course during the Sixth semester with 5 hours a week and 4 credits a semester students will able to

1. Know and assess the impact of industrial revolution on the world
2. Learn and understand how the Nazism and Fascism splits the world
3. Able to know the consequences of world wars
4. Learn the importance of world peace organization
5. Understand the meaning of cold war

B. A., HISTORY, ECONOMICS AND POLITICAL SCIENCE

2021 - 22

History is a core subject spread over the 6 semesters. The course is designed with an objective of preparing students able to learn about the History, culture and civilization and it is compared to present situations

1. Understand and evaluate the changes in culture and development in civilization
2. Know and analyse the origin of caste system and its effects on the present society
3. Know and evaluate the impact of new religions on Indian society
4. Learn and recognize the changes in administration, culture and how it inspires in freedom movement
5. Understand and appraise the importance of the effect of renaissance and reformation in the world
6. Assess the revolutions and colonialism leads to world wars
7. Know the development in the culture leads the society of Andhra to form a new state
8. Understand various terms and concepts relating to the Microeconomic analysis with the help of examples in real life
9. Critically examine various laws and principles of Microeconomic analysis and market conditions
10. Know the difference between various concepts and components of National income with illustrations and methods of measuring

11. Know the functions of Commercial banks and Central bank
12. Understand the various concepts and indicators relating to economic growth and development including recent developments
13. Know and analyse the Indian Tax system, recent changes, issues of public expenditure and public debt. And devolution of funds
14. Understand the human rights and theories along with the basic aspects of certain political Ideologies Know and analyse federal system and Electoral system of the country
15. Know and analyse federal system and Electoral system of the country
16. Understand the origin and evaluation of the concept constitutionalism and classification of constitutions
17. Understand and analyses organs and forms of Governments along with a deep insight into the various agents involved in the political process
18. Understand the composition and functioning of Union Government as well as State Government
19. Know the Judicial system of the country and its emerging trends
20. Critically analyse the evolution of Western political thought

DEPARTMENT OF HISTORY

LEARNING OBJECTIVES OR COURSE OUTCOMES

HISTORY - SEMESTER – I

Paper – I Ancient Indian History and Culture (from Indus valley to 13th century A.D.)

By the end of the course during the first semester with 5 hours a week and 4 credits a semester students will able to

1. Understand and evaluate the changes in culture and development in civilization

2. Know and analyse the origin of caste system and its effects on the present society
3. Know and evaluate the impact of new religions on Indian society
4. Acquire knowledge and analyse the university education system
5. Acquire knowledge about the Dravidian style of art and architecture

DEPARTMENT OF HISTORY
LEARNING OBJECTIVES OR COURSE OUTCOMES
HISTORY - SEMESTER – II

Paper – II Medieval Indian History and Culture (1206 A.D. to 1764.A.D.)

By the end of the course during the second semester with 5 hours a week and 4 credits a semester students will able to

1. Understand and evaluate the impact of Islam on Indian society
2. Know and examine the new style of architecture i.e. Hindustani style
3. Learn and assess the impact of Christianity on Indian society
4. Analyse the problems of agriculture and cottage industries compared to present situation
5. Know and defend the strength of unity

DEPARTMENT OF HISTORY
LEARNING OBJECTIVES OR COURSE OUTCOMES
HISTORY - SEMESTER – III

Paper – III (Modern Indian History and Culture 1764 – 1947 A.D)

By the end of the course during the third semester with 5 hours a week and 4 credits a semester students will able to

1. Know and estimate the effects of partition of the country

2. Learn and assess the impact of Christianity on Indian society
3. Analyse the problems of agriculture and cottage industries compared to present situation
4. Know and measure the impact of renaissance and English education on the society
5. Know and defend the strength of unity and Acquire knowledge and apply the principles of Ahimsa, Satyagraha and their importance

DEPARTMENT OF HISTORY

LEARNING OBJECTIVES OR COURSE OUTCOMES

HISTORY - SEMESTER – IV

Paper – IV (History and culture of Andhra from 1512 to 1956 A.D.)

By the end of the course during the fourth semester with 5 hours a week and 4 credits a semester students will be able to

1. Acquire knowledge about the importance of Telugu language
2. Know and judge the impact of Muslim rule on Andhra
3. Understand and interpret the change in land revenue systems introduced by Europeans
4. Know and evaluate the changes in society of Andhra due to modern education
5. Know the development in the culture of Andhra

DEPARTMENT OF HISTORY

LEARNING OBJECTIVES OR COURSE OUTCOMES

HISTORY - SEMESTER – IV

Paper – V (History of Modern world from 15th century to 1945 A.D.)

By the end of the course during the fourth semester with 5 hours a week and 4 credits a semester students will be able to

1. Know and evaluate the Geographical discoveries and its effects on the world
2. Learn and measure the impact of renaissance on the European culture
3. Understand and interpret the reformation of a religion and its effects
4. Know and critique about the effects of colonialism
5. Able to know the consequences of world wars and Learn the importance of world peace organization

DEPARTMENT OF HISTORY
LEARNING OBJECTIVES OR COURSE OUTCOMES
HISTORY - SEMESTER –V

Paper – V Age of Rationalism and Humanism (The world between 15th and 18th centuries)

By the end of the course during the fifth semester with 5 hours a week and 4 credits a semester students will able to

6. Know and evaluate the Geographical discoveries and its effects on the world
7. Learn and measure the impact of renaissance on the European culture
8. Understand and interpret the reformation of a religion and its effects
9. Know and critique about the effects of colonialism
10. Acquire knowledge and assess the revolutionary effects

DEPARTMENT OF HISTORY
LEARNING OBJECTIVES OR COURSE OUTCOMES
HISTORY - SEMESTER –V

Paper – VI History and Culture of Andhra Desa from 12th to 19th centuries A.D.

By the end of the course during the fifth semester with 5 hours a week and 4 credits a semester students will able to

6. Acquire knowledge about the importance of Telugu language

7. Know and judge the impact of Muslim rule on Andhra
8. Understand and interpret the change in land revenue systems introduced by Europeans
9. Know and evaluate the changes in society of Andhra due to modern education
10. Know the development in the culture of Andhra

DEPARTMENT OF HISTORY
LEARNING OBJECTIVES OR COURSE OUTCOMES
HISTORY - SEMESTER –VI

Paper VII –A History of Modern Europe from 19th century to 1945

By the end of the course during the Sixth semester with 5 hours a week and 4 credits a semester students will be able to

6. Know and assess the impact of industrial revolution on the world
7. Learn and understand how the Nazism and Fascism splits the world
8. Able to know the consequences of world wars
9. Learn the importance of world peace organization
10. Understand the meaning of cold war



SMT N P S GOVT COLLEGE (W), CHITTOOR



DEPARTMENT OF MATHEMATICS

B.SC.,

(Revised on 2021-2022)

COURSE OUTCOMES

LEARNING OBJECTIVES OR COURSE OUTCOMES

MATHEMATICS - SEMESTER – I

DIFFERENTIAL EQUATIONS - 1-1-112-R20

By the end of the course during the first semester with 5 hours a week and 4 credits a semester students will able to

- *Solve linear differential equations*
- *Convert non-exact homogeneous equations to exact differential equations by using integrating factors.*
- *Know the methods of finding solutions of differential equations of the first order but not of the first degree.*
- *Solve higher-order linear differential equations, both homogeneous and non homogeneous, with constant coefficients.*
- *Understand the concept and apply appropriate methods for solving differential equations.*

DEPARTMENT OF MATHEMATICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

MATHEMATICS - SEMESTER –II

THREE DIMENSIONAL ANALYTICAL SOLID GEOMETRY - 1-2-112-R20

After successful completion of this course, the student will be able to;

- *Get the knowledge of planes.*
- *Basic idea of lines, sphere and cones.*
- *Understand the properties of planes, lines, spheres and cones.*
- *Express the problems geometrically and then to get the solution.*

DEPARTMENT OF MATHEMATICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

MATHEMATICS - SEMESTER –III

MATHEMATICS ABSTRACT ALGEBRA -1-3-112

After successful completion of this course, the student will be able to;

- *Acquire the basic knowledge and structure of groups, subgroups and cyclic groups.*
- *Get the significance of the notation of a normal subgroups.*
- *Get the behaviour of permutations and operations on them.*
- *Study the homomorphism and isomorphism with applications*
- *Understand the ring theory concepts with the help of knowledge in group theory and to prove the theorems.*
- *Understand the applications of ring theory in various fields.*

DEPARTMENT OF MATHEMATICS
LEARNING OBJECTIVES OR COURSE OUTCOMES
MATHEMATICS - SEMESTER –IV

MATHEMATICS REAL ANALYSIS - 1-4-112

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

- *Get clear idea about the real numbers and real valued functions.*
- *Obtain the skills of analyzing the concepts and applying appropriate methods for testing convergence of a sequence/ series.*
- *Test the continuity and differentiability and Riemann integration of a function.*
- *Know the geometrical interpretation of mean value theorems.*

DEPARTMENT OF MATHEMATICS
LEARNING OBJECTIVES OR COURSE OUTCOMES
MATHEMATICS - SEMESTER –IV

Paper VI: MATHEMATICS LINEAR ALGEBRA - 1-5-125

After successful completion of this course, the student will be able to;

- *Understand the concepts of vector spaces, subspaces, basis , dimension and their properties.*
- *Understand the concepts of linear transformations and their properties.*
- *Apply Cayley - Hamilton theorem to problems for finding the inverse of a matrix and higher powers of matrices without using routine methods.*
- *Learn the properties of inner product spaces and determine orthogonally in inner product spaces.*

DEPARTMENT OF MATHEMATICS
LEARNING OBJECTIVES OR COURSE OUTCOMES
MATHEMATICS - SEMESTER –V

Paper V: RING THEORY 1-5-125

After successful completion of this course, the student will be able to;

- *Understand the basic concepts about rings, fields, sub rings.*
- *Understand the properties of Homomorphism of rings.*
- *Apply the important concepts associated with derivatives of vector fields such as Gradient, Divergence, Curl and Scalar potential etc.*
- *Evaluate the Line, Surface, Volume integrals using various theorems of vector calculus.*
- *Verify Gauss, Green's, Stokes theorem and use the applications.*

DEPARTMENT OF MATHEMATICS
LEARNING OBJECTIVES OR COURSE OUTCOMES
MATHEMATICS - SEMESTER –V

Paper VI : MATHEMATICS LINEAR ALGEBRA 1-5-126

After successful completion of this course, the student will be able to;

- *Understand the concepts of vector spaces, subspaces, basis , dimension and their properties.*
- *Understand the concepts of linear transformations and their properties.*
- *Apply Cayley - Hamilton theorem to problems for finding the inverse of a matrix and higher powers of matrices without using routine methods.*
- *Learn the properties of inner product spaces and determine orthogonally in inner product spaces.*

DEPARTMENT OF MATHEMATICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

MATHEMATICS - SEMESTER –VI

ELECTIVE Paper 7A : LAPLACE TRANSFORMS

After successful completion of this course, the student will be able to;

- *Understand the Laplace transform of elementary functions.*
- *Apply the rules and definition of Laplace transform for analyze the problems*
- *Understand the basic concepts of Laplace transform of Sine and Cosine integrals*
- *Understand the definitions and properties of inverse Laplace transforms*
- *Apply Convolution theorem and Heaviside expansion theorem to analyze the given problems*

DEPARTMENT OF MATHEMATICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

MATHEMATICS - SEMESTER –VI

ELECTIVE Paper 8-A-1 :INTEGRAL TRANSFORMS

After successful completion of this course, the student will be able to;

- *Student should understand the Solving of O.D.E.*
- *Understanding the Application of Laplace Transforms.*
- *Understands How to Transforms L.T to Integral Equations.*
- *Understands the concept of Fourier Transforms-I*
- *Know the methods of F.T , Relation between F.T & L.T. Also Finite Fourier Transforms.*

DEPARTMENT OF MATHEMATICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

MATHEMATICS - SEMESTER –VI

ELECTIVE Paper 8-A-2: ADVANCED NUMERICAL ANALYSIS

After successful completion of this course, the student will be able to;

- *Understanding the procedure of curve fitting , and non-linear curve fitting.*
- *And derivatives of Newton's law of Forward and Backward Difference formula.*
- *Understand the complete Matrix Method.*
- *Understand the Quadrates on Errors , 3/8 rule 1/8 rule and Middle rule.*
- *Should know the Introduction of Taylor's Series, Picard's Rule , Runge-Kutta's Methods.*

DEPARTMENT OF MATHEMATICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

MATHEMATICS - SEMESTER –VI

PROJECT WORK

After successful completion of this course, the student will be able to;

- *Understand the Basics of Laplace Transforms , Integral Transforms & Advanced Numerical Analysis.*
- *Know the Methods of First Shifting Theorem & Second Shifting Theorem.*
- *Application of Diffrential with constant Co-efficients.*
- *Real life Applications.*
- *Understand the concept of Convolution theorem and Heaviside's Expansion theorem.*



SMT N P S GOVT COLLEGE (W), CHITTOOR



DEPARTMENT OF MICROBIOLOGY

B.Sc.,

(Revised on 2021-2022)

COURSE OUTCOMES

Name of the programme: B.Sc

Name of the specific group: MZC

Semester: I

Code	Course title	Course Type	HPW	Credits
MIC -101	Introduction To Microbiology And Microbial Diversity	Core	4	4

CO.No	Expected Course Outcomes	Cognitive Level
	Upon completion of this course, the students will be able to:	
1	Understand the discipline of Microbiology and the contributions made by prominent scientists in this field.	U
2	Understand the basic microbial structure and function and study the comparative characteristics of prokaryotes and eukaryotes and also Understand the structural similarities and differences among various physiological groups of Microorganisms	U
3	Master aseptic techniques and be able to perform routine microscopy and culture handling tasks safely and effectively	AP
4	Understand the characteristics of different types of microorganisms, classify these into.	U
5	Describe various Culture media and their applications and also understand various physical and chemical means of sterilization	C
6	Comprehend the various methods for identification of unknown microorganisms	Com

Name of the programme: B.Sc

Name of the specific group: MZC

Semester: II

Code	Course title	Course Type	HPW	Credits
MIC -201	Microbial Biochemistry & Metabolism	Core	4	4

COURSE OUTCOMES:

CO. No.	Expected Course Outcomes	Cognitive Level
	Upon completion of this course, the students will be able to:	
1	Describe the nutritional requirements of bacteria for growth; and understanding that besides common bacteria there are several other microbes which grow under extreme environments.	U

2	Describing the growth characteristics of the microorganisms and the associated mechanisms of energy generation of autotrophs, heterotrophs, chemolithoautotrophs etc.	U
3	Differentiating concepts of aerobic and anaerobic respiration and how these are manifested in the form of different metabolic pathways in microorganisms.	Com
4	Explain the structure and properties of carbohydrates, Amino acids, Lipids, Nucleic acids, Enzymes	An
5	Identify and differentiate working principle, instrumentation and applications of various bio-analytical instruments	AP
6	Reproduce and design an experiment with step-by-step instructions to address a research problem or bio-analytical practical	C

Name of the programme: B.Sc

Name of the specific group: MZC

Semester: III

Title of the paper: Microbial Genetics and Molecular Biology

Code	Course title	Course Type	HPW	Credits
MIC -301	Microbial Genetics and Molecular Biology	Core	4	4

COURSE OUT COMES:

CO.No.	Expected Course Outcomes Upon completion of this course, the students will be able to:	Cognitive Level
1	Remember the terms and terminologies related to molecular biology and microbial genetics	K

2	Describe DNA as a genetic material, enzymology, and replication strategies	U
3	Predict causes of mutation and identify different types of mutation	C
4	Summarize the different in-vivo DNA repair mechanism	U
5	Illustrate recombination process	An
6	Describe the requirements of protein synthesis and its mechanism in prokaryotes	U
7	Handle and independently work on lab protocols involving molecular techniques	AP

Name of the programme: B.Sc

Name of the specific group: MZC

Semester: IV

Title of the paper

SEMESTER-IV: Immunology and Medical Microbiology

Code	Course title	Course Type	HPW	Credits
MIC -401	Immunology and Medical Microbiology	Core	4	4

CO.No.	Expected Course Outcomes Upon completion of this course, the students will be able to:	Cognitive Level
1	Understood the basic components of the immune system and how this system serve to protect the host against disease-causing microbes	U

2	Understand the importance of pathogenic bacteria in human disease and Recall the relationship of this infection to symptoms, relapse and the accompanying pathology.	U
3	Apply immunological laboratory techniques to understand principles of antigen-antibody reaction.	AP
4	Demonstrate gel-Immunodiffusion and Immuno-electrophoresis	U
5	Evaluate laboratory test outcomes and determine the validity of the test results obtained.	E
6	Design a immunological method to improve our understanding of immunology and its relevance to human health and to our society.	C

Name of the programme: B.Sc

Name of the specific group: MZC

Semester: V

Title of the paper: Environmental and agricultural microbiology

Code	Course title	Course Type	HPW	Credits
MIC -501	Environmental and agricultural microbiology	Core	4	3

CO. No.	Expected Course Outcomes Upon completion of this course, the students will be able to:	Cognitive Level
1	Understand the use of microbes in sustainable agriculture namely role in biogeochemical recycling, nitrogen fixing, organic matter degradation, use as bio fertilizers, as bio pesticides, production of biofuels	U

2	Appreciate the diversity of microorganism and microbial communities inhabiting a multitude of habitats and occupying a wide range of ecological habitats	An
3	Evaluate the quality of water, air and soil and control of environmental pollution	E
4	Understand the basic principles of environment microbiology and be able to apply these principles to understanding and solving environmental problems.	U
5	Comprehend the various methods to determine the Sanitary quality of water and sewage treatment methods employed in waste water treatment	C
6	Explain various aspects of environmental microbiology and microbial ecology and to become familiar with current research in environmental microbiology	U

Name of the programme: B.Sc

Name of the specific group: MZC

Semester: VI

Title of the paper: Food and industrial microbiology

Code	Course title	Course Type	HPW	Credits
MIC -502	Food and industrial microbiology	Core	4	3

CO.No.	Expected Course Outcomes Upon completion of this course, the students will be able to:	Cognitive Level
1	Recognize and describe the characteristics of important pathogens and spoilage microorganisms in foods	K
2	Identify ways to control microorganisms in foods and thus know the principles involving various methods of food preservation	An

3	Understanding of practical aspects commercially produced food and fermentative products.	Ap
4	Practical use of microbiology for better production of home based food and fermentation products for day to day use	C
5	Analyze the portability of water	An
6	Evaluate the microbiological quality	E

Name of the programme: B.Sc

Name of the specific group: MZC

Semester: VI

Title of the paper: Microbial diagnosis in health clinics (Core)

Code	Course title	Course Type	HPW	Credits
MIC -601	Microbial diagnosis in health clinics	Core	4	3

CO.No.	Expected Course Outcomes Upon completion of this course, the students will be able to:	Cognitive Level
1	Understand of practical aspects of collection of different clinical samples, their transport, culture and examination by staining, and molecular and immunological diagnostic methods for diagnosis of microbial diseases	U
2	Analyse of practical aspects of antibiotic sensitivity testing, water and food testing skills using kits available in the market.	An

3	Understand preventive measures for human infections by the use of antibiotics and vaccines	U
4	Apply practical aspects diagnosis of common human infections	Ap
5	Assimilate knowledge on identification of bacterial pathogens	C
6	Understand of preventive measures for human infections by the use of antibiotics and vaccines.	U

Name of the programme: B.Sc

Name of the specific group: MZC

Semester: VI

Title of the paper: Microbial biotechnology (CE-1 VIIIA)

Code	Course title	Course Type	HPW	Credits
MIC -602A	Microbial biotechnology	Core	4	3

CO.No.	Expected Course Outcomes Upon completion of this course, the students will be able to:	Cognitive Level
1	To comprehend the basic principles of Microbial Biotechnology [	Comprehension
2	Apply the gene manipulation techniques Knowledge to Micro biota	App
3	Analyze the different applications of genetically modified organisms related issues	An

4,	Understand the Basics of biotechnological production processes	U
5.	Become familiar with methods to analyse and engineer genes for optimal expression	An
6.	Evaluate explicitly, the metabolic pathways, role of microbes in public health; insight into the physical and chemical control of microorganisms.	E

Name of the programme: B.Sc

Name of the specific group: MZC

Semester: VI

Title of the paper: Microbial quality control in food and pharmaceutical industries (CE2 – VIII B)

Code	Course title	Course Type	HPW	Credits
MIC -602B	Microbial quality control in food and pharmaceutical industries	Core	4	3

CO.No.	Expected Course Outcomes Upon completion of this course, the students will be able to:	Cognitive Level
1	Identify microorganisms of relevance to healthcare and the pharmaceutical industry and their sources	K
2	Discuss Microbial contamination/product spoilage	An
3	Evaluate the sterility testing, microbial assays, pharmacopoeial standards of sterilization process	E

4	Discuss Microbial contamination , product spoilage and antimicrobial preservation of Cosmetic products	An
5	Demonstrate a knowledge and understanding of microbiological assays of growth promoting and growth inhibiting substances	Ap
6	Understand antimicrobial preservation of pharmaceutical formulations during production and in products	U

Name of the programme: B.Sc

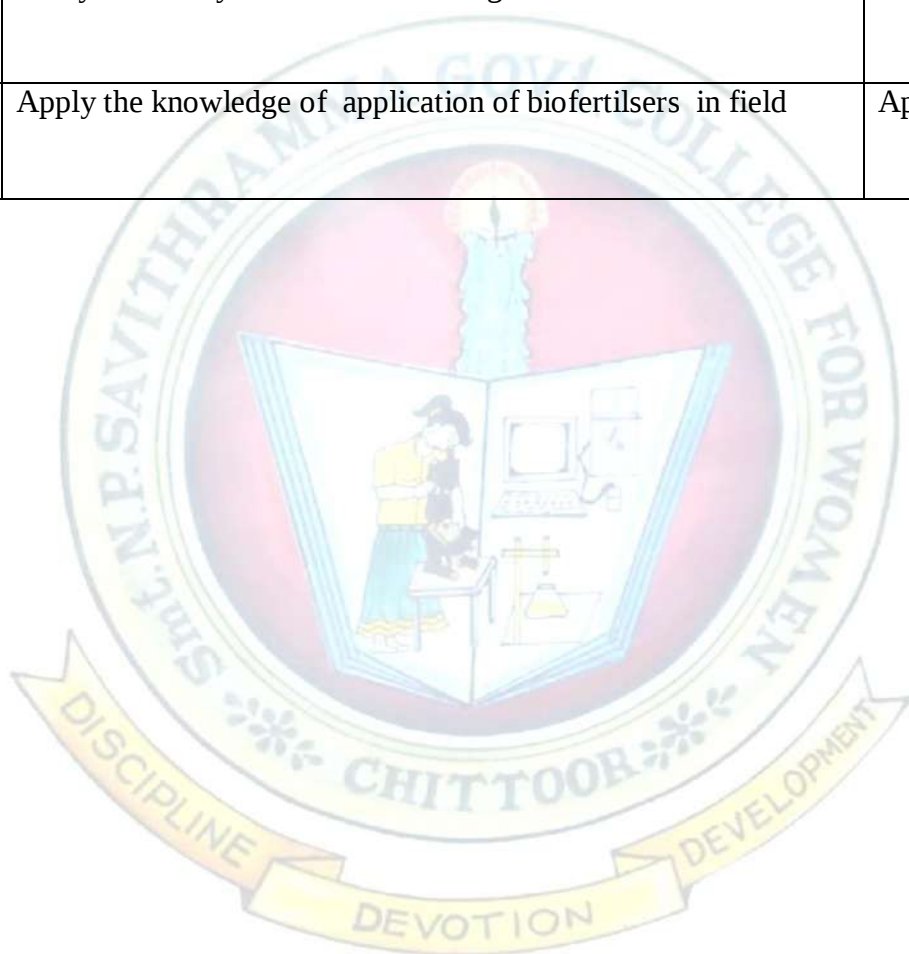
CO.No.	Expected Course Outcomes			Cognitive Level
	Upon completion of this course, the students will be able to:			
1	Understand practical aspects of production of bio fertilizers.			U
Code	Course title	Course Type	HPW	Credits
MIC -602C	Bio-fertilizer & Bio-pesticides	Core	4	3

Name of the specific group: MZC

Semester:VI

Title of the paper:Bio-fertilizer & Bio-pesticides(CE 3-VIIC)

2	Understand practical aspects of the production of bio pesticides/bio insecticides	U
3	Identify microorganisms of relevance to	K
4	Evaluate the production conditions for production of bio fertilisers and bio pesticides	E
5	Analyse efficacy of various microorganisms as biofertilisers	An
6	Apply the knowledge of application of biofertilisers in field	Ap





SMT N P S GOVT COLLEGE (W), CHITTOOR



DEPARTMENT OF POLITICAL SCIENCE

B.A.,

(Revised on 2021-2022)

COURSE OUTCOMES

1. Knowledge about political system of the nation.
2. Study of national and international political affairs.
3. Study from competitive examination point of view.
4. Understanding the government mechanism, its functions, duties and responsibilities.
5. Creating appropriate and efficient political leaders.
6. Getting knowledge of political law.
7. Getting knowledge of Constitution of India
8. Recalls the basic concepts of Political Science & Explains the theories of the origin of the state, Sovereignty, Law, Liberty and Equality, Rights and Duties etc.
9. Summarizes concepts, theories and institutions deals with democracy, ideology and Classifies the organs of Government
10. Knows the Indian political system and salient features of Indian Constitution, Federal Government & Analyses Centre-State relations, fundamental Rights and Duties, Parlia.



**SMT N P S GOVT COLLEGE (W),
CHITTOOR
DEPARTMENT OF STATISTICS**



B.Sc.,

(Revised on 2021-2022)

COURSE OUTCOMES

LEARNING OBJECTIVES OR COURSE OUTCOMES

STATISTICS - SEMESTER – I

**STATISTICS -I - DESCRIPTIVE STATISTICS AND
PROBABILITY - 1-1-122-R20**

By the end of the course during the first semester with 5 hours a week and 4 credits a semester students will able to

- Build the basis for promoting theoretical and application aspects of statistics.
- Underline the statistics as a science of decision making in the real life problems with the description of uncertainty.
- Emphasize the relevance of statistical tools and techniques of analysis in the study of inter-disciplinary sciences.
- Develop skills in handling complex problems in data analysis and research design.
- Prepare students for future courses having quantitative components.

DEPARTMENT OF STATISTICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

STATISTICS - SEMESTER –I

**PRACTICALS - DESCRIPTIVE STATISTICS AND PROBABILITY
- 1-1-122-R20p**

- Knowledge of Statistics and its scope and importance in various areas such as Medical, Engineering, Agricultural and Social Sciences etc.
- Knowledge of various types of data, their organization and evaluation of summary measures such as measures of central tendency and dispersion etc.
- Insights into preliminary exploration of different types of data.
- Ability to distinguish between random and non-random experiments.
- Knowledge related to concept of discrete and continuous random variables and their probability distributions including expectation and moment.

DEPARTMENT OF STATISTICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

STATISTICS - SEMESTER –II

STATISTICS (WM) - II -1-2-122-R20

After successful completion of this course, the student will be able to;

- Build the basis for promoting theoretical and application aspects of statistics.
- Underline the statistics as a science of decision making in the real life problems with the description of uncertainty.
- Emphasize the relevance of statistical tools and techniques of analysis in the study of inter-disciplinary sciences.
- Acquaint students with various statistical methods and their applications in different fields.
- Develop skills in handling complex problems in data analysis and research design.

DEPARTMENT OF STATISTICS
LEARNING OBJECTIVES OR COURSE OUTCOMES

STATISTICS - SEMESTER –II

STATISTICS (WM) PRACTICALS - II - 1-2-122-R20P

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

- Ability to distinguish between random and non-random experiments.
- Knowledge to conceptualize the probabilities of events including frequent and axiomatic approach. Simultaneously, they will learn the notion of conditional probability including the concept of Bayes' Theorem.
- Knowledge related to concept of discrete and continuous random variables and their probability distributions including expectation and moments.
- Knowledge of important discrete and continuous distributions such as Binomial, Poisson, Geometric, Negative Binomial and Hyper-geometric, normal, uniform, exponential, beta and gamma distribution.

DEPARTMENT OF STATISTICS
LEARNING OBJECTIVES OR COURSE OUTCOMES

STATISTICS - SEMESTER –III

STATISTICS (WM) - III 1-3-122

After successful completion of this course, the student will be able to;

- Calculate and interpret the correlation between two variables.
- Determine the simple linear regression equation for a set of data.
- Determine the simple linear regression equation for a set of data.
- Perceives the association between the attributes.
- Discuss the basic concepts of exact sampling distribution and their tests.

DEPARTMENT OF STATISTICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

STATISTICS - SEMESTER –III

STATISTICS (WM - III 1-3-122P)

- Calculate and interpret the correlation between two variables.
- Determine the simple linear regression equation for a set of data.
- Apply the principles of linear regression and correlation, including least square method.
- Perceives the association between the attributes.
- Discuss the basic concepts of exact sampling distribution and their tests.

DEPARTMENT OF STATISTICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

STATISTICS - SEMESTER –IV

STATISTICS (WM) - IV 1-4-122

After successful completion of this course, the student will be able to;

- Demonstrate the theory of maximum likelihood estimation and properties of estimators.
- Discuss the basic concepts of testing of hypothesis.
- Illustrates to analyze the data by using large sample tests.
- Demonstrate to explore the data by using small sample tests.
- Determine the data by using non-parametric tests i. e., which does not depend on parameters.

DEPARTMENT OF STATISTICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

STATISTICS - SEMESTER –VI

STATISTICS (WM) PRACTICALS – IV

- Demonstrate the theory of maximum likelihood estimation and properties of estimators.
- Discuss the basic concepts of testing of hypothesis.
- Illustrates to analyze the data by using large sample tests.
- Demonstrate to explore the data by using small sample tests.
- Determine the data by using non-parametric tests i.e., which does not depend on parameters.

DEPARTMENT OF STATISTICS
LEARNING OBJECTIVES OR COURSE OUTCOMES
STATISTICS - SEMESTER –V
STATISTICS (WM) -V -1-5-145

After successful completion of this course, the student will be able to;

- Understand the concepts of quality control, chance and assignable causes.
- Acknowledge the setting of mean chart limits, range chart limits using mean and range charts.
- Recognize the concepts of acceptance sampling plan, producer's & consumer's risk.
- Perceive the concepts of Single sampling plan, double sampling plan for attributes.
- Discuss the concepts of Reliability.

DEPARTMENT OF STATISTICS
LEARNING OBJECTIVES OR COURSE OUTCOMES
STATISTICS - SEMESTER –V
STATISTICS (WM) PRACTICALS – V 1-5-145P

After successful completion of this course, the student will be able to;

- Understand the concepts of quality control, chance and assignable causes.
- Acknowledge the setting of mean chart limits, range chart limits using mean and range charts.
- Recognize the concepts of acceptance sampling plan, producer's & consumer's risk.
- Perceive the concepts of Single sampling plan, double sampling plan for attributes.
- Discuss the concepts of Reliability.

DEPARTMENT OF STATISTICS
LEARNING OBJECTIVES OR COURSE OUTCOMES
STATISTICS - SEMESTER –V
STATISTICS (WM)-VI - 1-5-146

After successful completion of this course, the student will be able to;

- Demonstrates the concepts of time series and its applications in different area.
- Understand the concept of seasonal indices.
- Explain the relationships between the price of a product and quantity.
- Acquire knowledge on vital statistics.
- Understand Present official statistics system in India.

DEPARTMENT OF STATISTICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

STATISTICS - SEMESTER –V

STATISTICS (WM) PRACTICALS - VI - 1-5-146P

- Demonstrates the concepts of time series and its applications in different area.
- Understand the concept of seasonal indices.
- Explain the relationships between the price of a product and quantity.
- Acquire knowledge on vital statistics.
- Understand Present official statistics system in India.

DEPARTMENT OF STATISTICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

STATISTICS - SEMESTER –VI

STATISTICS (WM) - VII -1-6-122

- Recognize the Sequencing is concerned with determining the optimal sequence in which a set of given jobs may be performed.
- Develop Game theory is a theoretical framework to conceive social situations among competing players and produce optimal decision-making of independent and competing actors in a strategic setting.
- Understand the Queuing analysis is to predict the system performance such as how many customers get processed per time step, the average delay a customer endures before being served, and the size of the queue or waiting room required.
- Understand on Network Analysis is a successful technique frequently used to plan, monitor and control the projects involving thousands of activities.
- Recognize that Simulation can be used to predict the performance of an existing or planned system and to compare alternative solutions for a particular design problem.

DEPARTMENT OF STATISTICS

LEARNING OBJECTIVES OR COURSE OUTCOMES

STATISTICS - SEMESTER –VI

STATISTICS (WM) Practical's - VII -1-6-122P

- Apply numerical methods to find the solution of algebraic equations.
- Apply various interpolation methods and finite difference concepts.
- Apply numerical differentiation and integration wherever routine methods are not applicable.
- Work numerically on the ordinary differential equation using different methods.



SMT N P S GOVT COLLEGE (W), CHITTOOR



DEPARTMENT OF TELUGU

B.A., B.COM., B.SC., BBA

(Revised on 2021-2022)

COURSE OUTCOMES

SEMESTER –I ANCIENT TELUGU POETRY

After completing this course students achieve the following learning Outcomes

1. Acquire knowledge regarding Politics ,Language and the culture at the time of . Epic age through Ancient literature and also Identify the speciality of Ancient . Telugu Literature.
2. Acquire knowledge regarding Literary values of “BammeraPothana”, Idioms, Phrases, Proverbs etc.,
3. Understand writing style of Tikkana through “Mahabharatha” , Managerial grid at that time etc.,
4. Understand kavisarvabhousmaSreenatha and KavayitriMolla’s beauty of poetry by their writings
5. By studying Ancient Literature they acquire writing skills, Knowledge of .grammar etc.,

SEMESTER – II MODERN TELUGU LITERATURE

After completing this course students achieve the following **learning outcomes**

- 1.Learners recognise the beauty of Modern Telugu Literature by the influence .of English Language and Literature
- 2.Understand different genres like Story, Novel, Drama, Poetry, Criticism etc.,
3. Acquiring knowledge regarding Progressive poetry, Romantic poetry etc
4. Review by knowing real situations instead of hypothesis and also acquire .Social Consciousness / Awareness through short stories, modern poetry etc.,
5. Socio Political, Cultural awareness acquire through modern Telugu Literature

SEMESTER – IIICreative Writing

After completing this course students achieve the following **learningOutcomes**

1. By learning Telugu Literature students can convert their learning skills into Creative skills
2. Students understand Language importance , Language necessity and . Language structure. Language plays main role in Personal and social .existence in society
- 3.Varnam - Padam-Vakyam are key concepts In Telugu Language and students .improve writing, speaking and exhibiting skills
4. Along with cultivating Language skillslearn how to utilise in creative writing
5. Understand Ancient poetry, Modern poetry, story etc.,
6. Get opportunities in creative fields Print, Electronic media.
7. Achieve skills in Translation field



SMT N P S GOVT COLLEGE (W), CHITTOOR



DEPARTMENT OF ZOOLOGY

B.Sc.,

(Revised on 2021-2022)

COURSE OUTCOMES

1. Improving the knowledge about criteria for animal classification.
2. Study of salient features of chordates and non-chordates.
3. Improving the knowledge of animals about their special adaptations and evolutionary relationship.
4. Scientific study of their nature of habitant with environment.
5. Improving information about external morphology and anatomy of animals including human being
6. Acquire basic knowledge of various branches of Zoology and General biology.
7. Inculcate interest and love of nature with its myriad living creatures.
8. Understand the unity of life with the rich diversity of organisms.
9. Be aware of the ecological and evolutionary significance of the organisms in the environment
10. Acquire basic skills in observation and study of nature.
11. Learn the different biological techniques.
12. Develop experimental skills and research aptitude

Semester-1

- CO1. Know the General characters and classification of Invertebrate phyla and Hemichordata
- CO2. Understand the type studies of Elphidium, Sycon, Fasciola hepatica, Leech, Prawn.
- CO3. Explain canal system in Sponges, corals and coral reef formation, Polymorphism in Coelenterates.
- CO4. Understand Vermiculture and vermi compost, Pearl formation in Pelecypoda, water vascular system in star fish.
- CO5. Learn about various invertebrate larval forms

SEM II PAPER II

- CO1. Distinct features and classification of Chordates, Origin of Chordates.
- CO2. General characters and classification of Protochordates, Cyclostomes, Fishes, Amphibia, Reptelia, Aves and Mammalia.
- CO3. The structure and Life history of Herdmania (Retrogressive Metamorphosis).
- CO4. The types of scales in fishes, Migration of fishes, Flight adaptations in Birds, Bird Migration, Dentition in Mammals.
- CO5. Geographical features and faunal distribution of Oriental, Australian and Ethiopian regions.

SEM III PAPER III

- CO1. Prokaryotic and eukaryotic cells, virus, viroids, Mycoplasma, Electron microscopic structure of eukaryotic cell, Plasma Membrane
- CO2. Structure and functions of Endoplasmic Reticulum, Golgi complex, Ribosomes, Lysosomes, Mitochondria, Nucleus, Chromosomes.
- CO3. Mendel's work on transmission of traits, Principles of inheritance, Incomplete dominance and co-dominance, Lethal alleles, Epistasis, Pleiotropy
- CO4. Sex Determination, Sex Linked inheritance, Linkage and crossing over, Extra chromosomal inheritance, Human Karyotyping.

CO5. Origin of life, Lamarckism, Darwinism, Neo-Darwinism, Hardy-Weinberg Equilibrium, Variations, isolating mechanisms, natural selection, Speciation (Allopatric and Sympatric), Macro evolutionary principles.

SEM IV PAPER IV

CO1. Gametogenesis, Fertilization, Types of eggs, Development of Frog upto gastrulation, Foetal membranes and Placentation in Mammals.

CO2. The Physiology of Digestion, Respiration, Circulation, Excretion, Muscle contraction, Nerve impulse, Endocrine glands.

CO3. Meaning and Scope of Ecology, Biotic and Abiotic Factors, Pond Ecosystem, Food chain, Energy flow, Biogeochemical cycles, Ecological Succession, Community Interactions.

CO4. Animal behaviour definition and Types, Innate behaviour, Learned behaviour (Associate learning). CO5. Learning and Memory, Biological clocks, Circadian rhythms

SEM V PAPER V

CO1. Tools of Recombinant DNA technology

CO2. Techniques of Recombinant DNA technology

CO3. Animal Cell Technology

CO4. Reproductive Technologies & Transgenic Animals

CO5. Different types of Fermentation, Downstream processing - Filtration, centrifugation, extraction, chromatography, spray drying and lyophilization.

SEM V PAPER VI

CO1. Poultry farming, Management of chicks, growers and layers, Broilers.

CO2. Principles of feeding, Poultry diseases – viral, bacterial, fungal and parasitic

CO3. Selection, care and handling of hatching eggs

CO4. Classification of Indian Cattle breeds, exotic breeds and Indian buffalo breeds. Systems of inbreeding and crossbreeding, Housing of dairy animals, Cleaning and

sanitation of dairy farm. Weaning of calf, Castration and dehorning, Deworming and Vaccination programme, Records to be maintained in a dairy farm.

CO5. Care and management of calf, heifer, milk animal, dry and pregnant animal, bulls and bullocks.

SEM VI PAPER VII

CO1 .Basic concepts in Immunology, Innate and adaptive immunity, Cells and organs of Immune system

CO2. Basic properties of antigens,B and T cell epitopes, haptens and adjuvants, Factors influencing immunogenicity.

CO3. Structure of antibody, Classes and functions of antibodies , Monoclonal antibodies.

CO4. Structure and functions of major histocompatibility complexes, Exogenes.

