

Karmavir Mahavidyalaya Mul

POs, PSOs and COs

Sr. No	Particulars (POs, PSOs and COs)	Page No.
1	POs Arts	2
2	PSOs and COs Department of English	3-5
3	PSOs and COs Department of Marathi	6-7
4	PSOs and COs Department of History	8-9
5	PSOs and COs Department of Economics	10-11
6	PSOs and COs Department of Pol.Sci.	12-14
7	PSOs and COs Department of Sociology	15-17
8	PSOs and COs Department of Geography	18-20
10	POs, PSOs and COs of Department of Commerce	21-29
11	POs Science	30
12	PSOs and COs Department of Chemistry	31-35
13	PSOs and COs Department of Physics	36-39
14	PSOs and COs Department of Zoology	40-44
15	PSOs and COs Department of Mathematics	45-48
16	PSOs and COs Department of Botony	49-52

Karmavir Mahavidyalaya Mul

PROGRAMME OUTCOME – ARTS FACULTY

- To make familiar students with different genres of literature.
- To aware students about history and Indian culture for nation building.
- Student becomes self-aware regarding various roles and responsibility he/she has to play in society.
- Student understand the interrelationships of various parameters concerning to human civilization.
- Student develops a potential to deal with various issues related to social domain with proficiency.

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DEPARTMENT OF ENGLISH

Programme Specific Outcome

- To develop LSRW Skill of the students.
- To make familiar students for communication skills.
- To remove the fear of English language .
- To enhance employability of the students by developing their linguistic competence and communicative skills.
- Upon completion of the course the students should know the plays of master- dramatists, and the capacity to understand and analyze various plays styles.

B. A. - I (Compulsory English)

Course Outcomes –

- To develop interest in reading literary pieces.
- To use English language in day to day life.
- The students could improve vocabulary.
- To study basic English Grammar and composition for developing communication skills.

B. A. - I (English Literature)

Course Outcomes –

- Read and understand about the rich English and Indo-Anglican poetry
- To aware students about literary terms.
- To make familiar with different poetical types.
- Probe into the literary and aesthetic merits of popular English poetry.

B. A. - II (Compulsory English)

Course Outcomes –

- To be proficient in English language to improve their employability.
- To develop the ability to comprehend the written texts.
- To sharpen their critical, creative and analytical skills.
- To acquire conversational skills in daily life

B. A. - II (English Literature)

Course Outcomes –

- Know the process of beginning and growth of English literature, particularly poetry.
- Trace the development of the history of English literature, its various forms like story, novel, biography, autobiography, essay etc.
- Interpret the works of great English writers of worldwide fame.
- Probe into the literary and aesthetic merits of popular fictions.

B. A. - III (English Literature)

Course Outcomes –

- Develop a skill in applying various literary theories in interpreting a specific text.
- To train them to attempt practical criticism of plays, passages and poems.
- To offer a summary of the various stages of Indian writing evolution in English.
- To introduce students to the thematic concerns, genres and trends of Indian writing in English

B. A. - III (Compulsory English)

Course Outcomes –

- Students will enable to understand the basics of communication skills.
- Develop soft skills among the students.
- Develop practical knowledge of the language.
- Develop the business skills among the students.

B. Com. - I (Compulsory English)

Course Outcomes –

- To contribute to their overall personality development by improving their communicative skills and soft skills.
- To make them able to express a thorough command of English and its linguistic Structures.
- To enable them the ability to compose and appreciate various styles of prose.
- To introduce the students to the fundamental elements of poetry.

B. Com. - II (Compulsory English)

Course Outcomes –

- To make effective and impressive communication.
- To make communication in ethical manner.
- Demonstrate the ability for creative thinking and critical analysis of literature.
- Demonstrate various aspects of storytelling in terms of plot, character, linguistic devices and forms of storytelling.

B. Sc. - I (Compulsory English)

Course Outcomes –

- To contribute to their overall personality development by improving their communicative skills and soft skills.
- To express a thorough command of English and its linguistic Structures.
- To compose and appreciate various styles of prose and poetry.
- To develop critical thinking and imagination through non-fiction, and familiarizing students with cultural diversity through various representative non-fiction samples.

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DEPARTMENT OF MARATHI

Programme Specific Outcome

- Develop Social and moral values and responsibility
- Develop communication skill Comprehension of the writers and poets
- Develop an interest for the Marathi Language Improve Language Skill, Speaking Skill, Listening Skill, Reading Skill and Writing Skill
- Develop Philosophical and Social thoughts by studying prose and poetry
- Develop Attitude of Literary Forms. (Marathi Poetry, Drama, Novel, Story & Travelogue)
- Develop Reading, Writing & Communication Skills of Students.
Information about Literary Theory

B. A. – I (Compulsory Marathi)

Course Outcomes –

- Learn about social, moral and religious values.
- Develop logical, critical and analytical thinking aptitude.
- Develop reading, writing and communicative skills.
- Understand the philosophical values and notion for life

B. A. – II (Compulsory Marathi)

Course Outcomes –

- Understand and analyse the social work and Self work and develop logical, critical and analytical thinking aptitude.
- Learn tradition and culture of Indian villages and develop reading, writing and communicative skills.
- Develop social responsibility by understanding prose and poetry.
- To make aware students about different genres.

B. A. – III (Compulsory Marathi)

Course Outcomes –

- Develop knowledge of vocabulary and grammar. Learn expression and translation.

- Learn to analyse interpret and write advertisement and report which also Develops employable skills.
- Learn to write invitations of different forms and also learn about journal front page and last page writing and News in newspaper, Television and Radio.
- Develop skills to write and read news at radio & T.V. station.

**B. A. – I
(Marathi Literature)**

- Learn to analyse, interpret and develop employable skills.
- Learn to understand and analyse the character value of Heroes of the story.
- Develop communicative and practical skills.
- Develop literary criticism attitude and Students Learn Literary Criticism and Theory from Sahityavichar.

**B. A. – II (Marathi Literature)
Course Outcomes –**

- Learn to understand and analyse the character value of hero of the drama “Natsamrat”.
- Understand the difference between drama and Act- play. Also develop social, moral and critical value from the role of characters played in the text book of Tragedy “Natsamrat” writer by V.V. Shirwadkar.
- Gain knowledge about criticism (sahityavichar) and develop critical and analytical thinking.
- Develop communicative and practical skills.

**B. A. – Sem. – III
(Marathi Literature)**

- Learn to write critical appreciation of the poems.
- Gain knowledge about the writer and poets of ancient era.
- Study about Marathi Wangmyacha Itihas written by Nasirabadkar.
- Gain knowledge about Saint Tukaram, Saint Dnyaneshwar, Saint Namdev and Saint Ekanath.

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DEPARTMENT OF HISTORY

Programme Specific Outcomes

- Students understand background of our religious, customs institutions, administration and so on.
- Students understand the present existing social, political, religious and economics condition of the people.
- Analyze relationship between past and present is lively presented in the history
- Develop practical skill helpful in the study and understanding of historical events. They draw historical maps, charts & diagrams. Prepare historical model, tools.
- Students develop interest in the study of history & activities relating to history. They collect ancient arts, old coins, write article on historical topics.

Course Outcomes –

B.A.-I Semester-I (Indian History (Earliest Times to 1351 AD))

- . From this segment of the syllabus student learn about the history of Ancient Civilizations of India
- Sources of ancient, Mediaeval India, Civilizations like Indus and Aryan, political and religious changes in 6th century B. C. to 12th centuries, Mauryan Empire etc are studied.
- Develop the ability to understand the origin and tents of Jainism and Buddhism.
- From this segment of the syllabus student aware about the history of Ancient India to 1200 A. D.

B.A.-I Semester-II (Indian History (1526 To 1761 AD))

- Understand the political Situation of India on the eve of Babars Invasions.
- Grasp territorial's expansions of Mughal empier
- Know about the administrative need and the importance of grand coronations of chatrapati shivaji.
- Understand the policies adopted by early peshwas.

B.A.-II Semester-III (Modern India-1757 To 1920 AD)

- Understand Modern Indian History.
- Understand some of the early resistance to British rule.
- Identify the social Institutions of late 19TH century.
- Understand early Political a weakening in Indian freedom struggle.

B.A.-II Semester-IV (History of India- 1920 To 1971)

- This paper gives an idea about the British Empire in India under the British Crown and also the consequences of national Movement of India.
- Understand the phases of Indian National Movement and its impact under the leadership of Mahatma Gandhi.
- Examine role of Subhash Chandra Bose and his formed INA in struggle of Indian Independence.
- Student will be able to describe and understand the basic concepts and Salient Features of Indian Constitution

B.A.-III Semester-(History of Modern World- 1776 To 1920)

- Introduction to landmark events in world history.
- Student will be able to describe and understand and deals with changes of Europe after the American, French and Russian Revolution and political changes in the countries like Prussia, Italy and Russia etc
- Understand policy of imperialism and changes in world political order.
- Critically analyze background of First World War and international peace making attempts that followed.

B.A.-III Semester-VI (History of Modern World- 1920 To 2000)

- Understand the fascism and the rise of dictatorship in Europe.
- Explain the Aftermaths of the World war second on the world Politics
- Understand the how Russia and America emerged as superpowers on the verge of cold war.
- Learn about causes and effects fall of soviet state in Russia.

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DEPARTMENT OF ECONOMICS

Programme Specific Outcomes

- The students understand the basic concept of in Economics and can apply in the real life.
- The Student is also update with the recent trends in the subject.
- Student understand the Index Number.
- Student understand The Market Structure.
- Evaluate the changing role of Agriculture , Industrial . Service Sector and Foreign Sector in Indian Economy

B. A. I

Course Outcomes

Micro economics

- Understand Basic concept of micro economic such law of demand, supply and elasticity.
- Student able to criticize of revenues and cost of production.
- Understand Theory of Production function, law of returns, law of variable proportion.
- Understand Law of Utility and Application of Indifference Curve & Engles law.
- Understand meaning of social welfare function.
- Able to understand the uses of statistical tools in Research.
- To understand price determination of Factors (Rent ,Wages Interest and Profit)

B. A. II

Course Outcomes

Macro economics

- Understand Inflation, Deflation, index number & trade cycle.
- Understand Concept and function of money.

- Understand Law of Market- Keynesian theory of employment.
- Understand Theories of consumption function and investment function.
- Understanding the concept, function of banking
- Students will understand credit creation process of commercial banks.
- Students will understand functions of central bank in Indian economy.
- Students will understand the Ricardian Theory of International Trade.
- Understanding the scope of public finance, taxation and its merit and demerits.
- Students will get the knowledge of the international financial institutes like IMF, World Bank, WTO, BRICS etc.

B. A. III

Course Outcomes

Indian economy

- Understanding the concept & comparison of developed and developing economy.
- Students will understand basic characteristics of Indian economy.
- Students will Comprehend Indian Population Policy, features, causes, problems and its measures of population control.
- Students will understand the basis of poverty, unemployment and inequality in India.
- Understand the concept of economy planning and five year plans.
- Understand the functions of NITI Ayog.
- Understand the composition and direction of Indian foreign trade.
- Understand basic concept of ecology environment and economy.

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DEPARTMENT OF POLITICAL SCIENCE
Programme Specific Outcomes

- To spread political literacy and the concept of ideal citizenship.
- To inculcate among the learners humanitarian and national values such as democracy, tolerance, equality, justice, liberty
- To develop foundation for further studies in different disciplines like Law, Journalism and fields like academics, research, etc.
- Understand the inter-connection between local, state, national and international politics.
- Understand the contribution of the main traditions of western political thinkers to political thought.
- Getting knowledge of political law and Constitution of India.
- Study of national and international political affairs.
- Understand the women issues and problems.
- Familiarize with the problems and prospects of rural development of India.

Course Outcomes

B. A. I (I Sem.)

Indian Democracy

- Students will be able to describe the history and making of Indian constitution with its philosophical base.
- Students will be able to explain parliamentary system in India.
- Students will be able to critically analyze and apply the basic principles of Indian and western political thinkers and scholars.
- Students will be able to understand the composition and functions and role of Election Commission in India.
- Students will be able to understand Structure and role of Judiciary of India

Course Outcomes

B. A. I (II Sem.)

Local Self government

- Explains the administrative set up for Rural Development.
- Describes the concept of Panchayati Raj and Rural Development.
- Analysis of Rural Development programmes of India.
- Discusses the problems of Rural Development.
- Study of the local governing mechanism.
- Developing leadership at local level.

Course Outcomes

B. A. I (III Sem.)

Political Theory

- Students can understand about origin of state and its theories.
- Students will know the theories of sovereignty.
- Students can understand the concept of social change and its theories
- Students enable to appreciate the procedure of different theoretical ideas in political theory.
- Students enable to Interpret and assess information regarding a variety of political theory.

Course Outcomes

B. A. I (IV Sem.)

Political Analysis and Concepts

- Students got ability introduces Political Theory as a distinctive area of inquiry that is integral to the study of politics.
- Students got ability to highlights contemporary normative debates and place them in a historical perspective.
- Students enable to projects the global and interdisciplinary orientation of Political Theory.
- It also emphasizes the interplay of theory and practice in the political process.

- Student enables to understand the difference between ideology and thought as well as between theory and ideology.
- Students enable to understand the relationship between ideas and politics.

Course Outcomes

B. A. I (V Sem.)

Indian Political Thought

- Students can analysis the political thoughts on Nationalism, Four point formula and Hinduism and Revolutionary approach of B. G. Tilak and V.D. Sawarkar .
- Students will know concept of nonviolence, satyagrah and Sarvodaya of Gandhi and Vinoba.
- Students will able to understand thoughts of Jyotiba Fuley and Dr. Ambedkar on education, equality,, democracy and social justice.
- Students can understand thoughts of J. M. Nehru and R.M. Lohiya on socialism

Course Outcomes

B. A. I (VI Sem.)

Western Political Thoughts

- Explains the ancient Indian political thoughts with reference to Kautilya thinking.
- States the political thinking of V.D. Sarvarkar, Lokmanya Tilak.
- Highlights the liberal; political thinking of MK Gandhi and Jawaharlal Nehru.
- Discuss the political thinking of depressed class movements with reference to Jyotiba Phule and BR Ambedkar.
- Student knows the key ideas of political thinking in modern India as it shaped in the colonial context.

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DEPARTMENT OF SOCIOLOGY

Programme Specific Outcomes

- Students will be able to analyze a specific social concept as it pertains to the operation of social institutions.
- Students can demonstrate knowledge and comprehension of social change, Social Control, stratification and social structure.
- Student will be able to understand and describe the concept of social problems, Indian Society, Structure and Inequality and rural community.
- Student will be able to evaluate social problems from differing viewpoints and perspectives and identify the strengths and flaws of each stance.

Course Outcomes

B.A. I SEMESTER I

INTRODUCTION TO SOCIOLOGY

- Students will be able to analyze a specific social concept as it pertains to the operation of social institutions.
- Students can demonstrate knowledge and comprehension of culture and socialization.
- Students can define and explain the relevance of each concept.
- Student will be able to describe the inter-linkage of institutions and their effects on individuals.

Course Outcomes:

B.A. I SEMESTER II

INTRODUCTION TO SOCIOLOGY

- Students can demonstrate knowledge and comprehension of social change, Social Control, stratification and social structure.

- Students can define and explain the relevance of each concept.
- Student will be able to explain how cast based social stratification affect social structures and individuals.

Course Outcomes

B.A. II SEMESTER III:

SOCIAL PROBLEMS IN CONTEMPORARY INDIA

- Student will be able to understand and describe the concept of social problems, Indian Society, Structure and Inequality and rural community.
- Student will be able to identify structural issues and problems and offer analysis on the core reasons the issue has developed.
- Student will be able to understand how social problems and their processes interact with, and can maintain, social inequalities in society

Course Outcomes:

B.A. II SEMESTER IV

SOCIAL PROBLEMS IN CONTEMPORARY INDIA

- Student will be able to describe and understand the basic concepts of intolerance, riot & crime, corruption, population explosion, displacement and rehabilitation.
- Student will be able to evaluate social problems from differing viewpoints and perspectives and identify the strengths and flaws of each stance.
- Student will be able to apply sociological analysis of social problems to policy making for eradication of problems.

Course Outcomes

B.A. III SEMESTER V

SOCIOLOGY OF TRIBAL SOCIETY:

- Students will get introduce the tribal society as a major segment of Indian society.
- Student will obtain proper knowledge about the concept of tribes, tribal social organizations, tribal economy and tribal mobility and change in India.
- Students will aware about culture and demographic profile of tribes.

Course Outcomes:

B.A. III SEMESTER VI

SOCIOLOGY OF TRIBAL SOCIETY

- Student will obtain proper knowledge about tribal laws and justice, tribal religion and magic, tribal movement.
- Students will aware about various tribal problems and issues and the welfare schemes and programs that are meant for tribal people.
- Students will get knowledge about the major tribes and their customs in vidharbha region.

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DEPARTMENT OF GEOGRAPHY

Programme Specific Outcomes

Course Outcomes:

B.A. I SEMESTER I

INTRODUCTION TO GEOGRAPHY

- Understand the meaning, Nature, Scope, approach, objectives and relevance of Geography.
- Understand the concepts of Earth rotation, revolution and its effects.
- Describe the main environment relationship and environmental issues.
- Understand the concept of ecology and ecosystem, and it's important in human life.
- Understand the importance of application of GIS, GPS and remote sensing in modern time for collecting data and map making.

Course Outcomes:

B.A. I SEMESTER II

CLIMATOLOGY

- Understand the meaning and scope of climatology
- Understand the concept of Insulation, Temperature, Atmospheric composition and structure.
- Classify the winds, explain the role of winds in changing climatic conditions.
- Understand the importance of Atmospheric Humidity in formation of cloud and perception.
- Understand the role of climate in human life.

Course Outcomes:

B.A. II SEMESTER III

GEOMORPHOLOGY

- Understand the meaning, Nature and Scope of physical Geography.
- Understand the concept of continental drift, plate tectonic and Isostasy in modern time.
- Understand the rock types, origin and composition.
- Understand the formation of various land forms caused by Internal and External forces.
- Describe the various Topographical maps of plane, plateau and mountain Region

Course Outcomes:

**B.A. II SEMESTER IV
OCEANOGRAPHY**

- Describe the meaning, Nature and Scope of Oceanography.
- Describe the glaciers.
- Explain the distribution of temp. & salinity of oceans.
- Explain the El Nino & La Nino effect on atmosphere.

Course Outcomes:

**B.A. III SEMESTER V
GEOGRAPHY OF MAHARASHTRA**

- Explain the physical, and administrative of Maharashtra.
- Classify the Agro based industries and mineral based industries.
- Describe the regional and seasonal variations of the Climatic regions of Maharashtra.
- Discuss the population growth and various types of population Density.
- Solve the problem of growth of population and urbanization.

Course Outcomes:

**B.A. III SEMESTER VI
INDIA –A GEOGRAPHICAL ANALYSIS**

- Describe the Origin of monsoon and show climatic regions of India in the map.

- Discuss the spatial distribution of population and its problems.
- Explain the various mineral resources and its conservation for sustainable development.
- Explain the various Industries and Industrial regions of India.
- Calculate the R. L, drawing of profile by using Dumpy level survey data.
- Analyse the data collected by the socio - economic survey and write reports.

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PROGRAMME OUTCOME – COMMERCE FACULTY

- To impart basic Accounting knowledge
- To acquaint students with the emerging issue in business, trade and commerce regarding recording, maintaining and presenting the accounting and financial fact.

Course Outcomes

B.COM. Semester- I Financial Accounting-I

- Students will learn the knowledge of book keeping and accountancy.
- Students will formulate the account transactions such as Journal, Ledger and preparation of trial balance.
- Students will learn the final accounts of co-operatives societies.
- Students will depreciation and its methods.

Course Outcomes

Semester–I Statistics Techniques and Business Mathematics

- Students will learn & understand the process of Collection of primary & secondary data and its method.
- Students will learn the art of Classification, tabulation, and distribution of data by using diagrams and graphs.
- Students will learn the basic concepts of Business mathematics like simple interest, compound interest, and percentage.

Course Outcomes

Semester – I Business Economics

- Introduction of the basic concept and scope as well as analytical methods of business economics.
- Impart the knowledge of business to students.
- Illustration of the demand and supply approach of Business economics.
- Understanding concept of production function.
- Students will learn the theories and government policies of population.

Course Outcomes

Semester – I

Principles of Management

- Students will learn importance of Management and concept of Management, Administration and Organization.
- Understanding the various theories of management.
- Students will get the basic knowledge and recent trends in management such as Social responsibility of management, Environment friendly management, Management of changes and crisis, total quality management etc.

Course Outcomes

Semester – I

HUMAN RESOURCE MANAGEMENT

- Understand Meaning & Definition of Human Resource management.
- Understand Meaning, definition, Importance and Characteristics of Impact of Competition .
- To Know the Integration with Corporate Strategy .
- Recognition of the outside Environment.

Course Outcomes

B.COM. Semester- II

Financial Accounting-II

- Students will learn Hire purchase and Installment purchase system.
- Students will learn concept of consignment and accounting treatment in the books of consignee and consignor.
- Students will learn types of branches and its accounting procedure.
- Students will learn procedure of receipt and payment account and income and expenditure account.

Course Outcomes

Semester–II

Statistics Techniques and Business Mathematics

- Students will learn index numbers and its various methods.
- Students will learn correlation and regression of practical knowledge.
- Students will learn chi-square test of research.
- Students will learn ratio and proportion, profit and loss in Business Management.

Course Outcomes

Semester – II

Business Economics

- Students will learn the integration of pricing under various market conditions.
- Students will learn different cost analysis.
- Students will learn knowledge of rent and wages theories.
- Understanding the concept theories of interest and profit.

Course Outcomes

Semester – II

Principles of Management

- To acquaint the students with the basic concepts, principles and function of management.
- Students will get the knowledge about Direction and Communication.
- Students will learn & compare the various theories of Motivation. And explain the function, importance and qualities of Leadership.
- Enriches the students in co-coordinating business with effective control.

Course Outcomes

Semester – II

HUMAN RESOURCE MANAGEMENT

- Understand Meaning & Definition of Human Resource management.
- Understand Meaning, definition, Importance and Characteristics of Impact of Competition .
- To Know the Integration with Corporate Strategy .
- Recognition of the outside Environment.

Course Outcomes

B.COM. Semester- III

Corporate Accounting-I

- Students will learn accounting for issue and forfeiture of shares.
- Students will learn issue and redemption of debentures.
- Understanding the concept of preparation of final accounts of joint companies.
- Students will learn & understand Net Asset Method & Yield.

Course Outcomes

B.COM. Semester- III

Cost Accounting

- To provide basic knowledge and understanding of importance of cost accounting to business and industries.
- To make the students learn the fundamentals of cost accounting as a separate system of accounting.
- To demonstrate about the Cost sheets and Tender.
- To demonstrate about Reconciliation of cost and financial accounts.
- Analysis of Contract costing, Certified and uncertified work and treatment of profit on complete and incomplete contract.

Course Outcomes

B.COM. Semester- III

Monetary Economics

- Understanding the nature and function of money
- Students will learn modern monetary system.
- Students will learn functions and credit creation of commercial bank.

Understanding the working procedure of central and World Bank

Course Outcomes

B.COM. Semester- III

Company Law

- Students will get the Introduction of Kinds of Companies.
- Understanding Memorandum of Association .
- Understanding Articles of Association.
- Understanding of Capital.
- Students will get Basic Knowledge about membership of company.

Course Outcomes

B.COM. Semester- III

HUMAN RESOURCE DEVELOPMENT

- Understanding the History social Ethical aspects of Human Resource Development,
- Information regarding Role of Human Resource Development.
- Students will learn Human Resource Development.
- To Learn Effectively Manage and plan key Human Resource Functions within Organization.

Course Outcomes

B.COM. Semester- IV

Corporate Accounting-II

- Students will learn Final Accounts of Banking Companies.
- Students will learn Final Accounts of General Insurance Companies.
- Understanding the Profit & loss Account.
- Students will learn balance sheet.

Course Outcomes

B.COM. Semester- IV

Management Accounting

- To provide basic knowledge of Management Accounting and explain the importance of Management Accounting to students.
- Students will learn the role of budgeting in business. Explain the various ratios and its uses in management accounting.
- Students will understand the Break Even Analysis and its need and importance.
- Students will Prepare Fund Flow Statement and Cash Flow Statement.

Course Outcomes

B.COM. Semester- IV

Secretarial Practice

- Students will know the Comparison of Managing and Whole Time Directors.
- Understanding Kinds of Company Meetings and Objectives of Statutory Meeting.
- Basic Knowledge of Agenda Meeting.
- Application of secretarial procedure and practices.

Course Outcomes

B.COM. Semester- IV Monetary Economics

- Students will learn the role of finance in economy.
- Students will learn & analysis various types of mutual fund.
- Understanding the role of SEBI in capital market.

Course Outcomes

B.COM. Semester- IV HUMAN RESOURCE DEVELOPMENT

- Understanding the History social Ethical aspects of Human Resource Development.
- Information regarding Role of Human Resource Development.
- Students will learn Human Resource Development.
- To Learn Effectively Manage and plan key Human Resource Functions within Organization.

Course Outcomes

B.COM. Semester- V Advance Accounting-I

- Students will understand the Meaning of Amalgamation and practical calculation of purchase consideration.
- Students will learn social Accounting and social Reporting.
- Student will learn Absorption Accounting
- Student will learn Internal and external Accounting system.
- Student will learn calculation of general Insurance claim.

Course Outcomes

B.COM. Semester- V Auditing

- Students will understand the principles and procedure of auditing.
- Students will understand the kinds of audit, audit planning and working paper.
- Students will understand the importance of vouching of cash receipt and payment.
- Students will understand the audit of Bank, insurance company and co-operative societies.

Course Outcomes

B.COM. Semester- V Indian Economics (Urban)

- Students will learn the trend of urbanization in India
- Students will learn Industrial policy in India.
- Students will learn economic Reforms.
- Students will learn Public finance in urban India.

Course Outcomes

B.COM. Semester- V Commercial Law

- Students will know conceptual understanding of fundamental of Commercial law.
- Students will Analyze the Important Concepts and terms in Commercial law and Classifications of Indian Contract Act 1872.
- Understanding the Partnership Act. 1932 and its provisions.

Course Outcomes

B.COM. Semester- V Human Resource Development (IRL)

- Students will understand the concept of Industrial Relations and its applications.

- Students will identify core concepts of Industrial Relations in the role of HRD.
- Students will understand the role and importance of Industrial marketing.

Course Outcomes

B.COM. Semester- V Business Communication-I

- Students will understand the Meaning, Nature, objective, & Importance of communication.
- To make aware students about the types of communication system.
- Understanding Dos and Don'ts public speakers.
- Comprehension & Knowledge of Business letter writing.

Course Outcomes

B.COM. Semester- VI Advance Accounting-II

- Students grasp the meaning need, scope of Govt. system Accounting.
- Understanding the concept Holding company.
- Understands complete Records.
- Students will learn Double accounting system.

Course Outcomes

B.COM. Semester- VI Taxation

- Students will know with income tax act 1961.
- Students will learn 1 concept and Heads of income.
- Students will learn the procedure of computation of taxable income from salary.
- Students will learn permissible deduction from gross total income U/S 80c to 80 U.

Course Outcomes

B.COM. Semester- VI Indian Economics (Rural)

- Students will learn the role of Agriculture in Indian Economy.
- Students will learn Land reforms in rural India.
- Students will learn Agriculture development Strategy.
- Students will understand rural development in India.

Course Outcomes

B.COM. Semester- VI

Corporate Law

- Students will know conceptual understanding of fundamental of corporate law.
- Students will know Concepts and terms in corporate law and Factories act.1948.
- Students will Understand Industrial Disputes Act. 1947 and its provisions.
- Students will understand the Provisions for Right to Information Act. 2005.
- Students will Understand & analyze and assess the need for Cyber Law, Security Concerns, IT act, Ethical issues of cybercrimes.

Course Outcomes

B.COM. Semester- VI

Business Communication-II

- Students will understand print media and its Advantage and disadvantage.
- Understanding organizational communication.
- Comprehension of Legal Aspects and Recent Trends.

Course Outcomes

B.COM. Semester- VI

Human Resource Development (Labor Law)

- Students will understand the Human Resource Development in the global economy.
- Students will understand the challenges and opportunities in Human Resource Management.
- Students will understand nature and scope of Labor Law.
- Students will understand expectations of Labor.
- Students will understand current trends in Human Resource Management.

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PROGRAMME OUTCOME – SCIENCE FACULTY

- Student develops the scientific temper.
- Student gains fundamentals of science.
- Student understands the inter-dependability of various sciences.
- Student learns to apply the knowledge on the day to day physical world.
- Student develops a potential to deal with elementary scientific problems with skill.
- Student becomes a part of the scientific drive for the betterment of humanity.

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DEPARTMENT OF CHEMISTRY

Programme Specific Outcomes

- Study green route for chemical reaction for sustainable Development.
- Achieve pure and applied knowledge of physical chemistry through principle, observation
Hypothesis derive conclusion and evaluate their significance with broad scientific context
- Understand the synthesis and significance of polymer and fabrics in everyday life.
- Know appropriate techniques for the qualitative and quantitative analysis of Chemicals in laboratories and in industries.
- Aware different branches and importance of chemistry like analytical, organic, inorganic, physical, environmental, polymer and biochemistry, medicinal chemistry for research and as better carrier opportunity

Course Outcomes

BSc semester-I Paper- I

Inorganic Chemistry

- Understand the formation of To study periodic table through Periodic trends and Properties of Covalent Bond by Valence bond theory.
- Explore the concept of Molecular Orbital theory using bonding and antibonding molecular orbital.
- To make them know how elements are classified into S and P blocks, and Comparison of periodic property of elements.
- Know the effect of hydrogen bonding on viscosity, solubility, Melting point and boiling point.

BSc semester-I Paper- II

Organic Chemistry

- To know Fundamentals of Organic Chemistry in terms of Electromeric Effect, Resonance and Hyper conjugation.

- To study types hybridization, shape and reactivity of organic molecules.
- To have a basic understanding of classification and nomenclature of organic compounds,
- Understand basics of organic reaction mechanism, aromaticity and stereochemistry of molecule.
- Learn the types of hydrocarbons its chemical properties and its uses.

BSc semester-II Paper- I Organic Chemistry

- To study in detail about mechanism of Nucleophilic Substitution (SN1 , SN2 and SNi) reactions.
- To understand the methods of preparation of aryl halide and there reactivity.
- Learn chemical properties and different approaches to obtained Alcohols, Phenols and Ethers and there uses.
- To know Nomenclature, Structure and reactivity of the carbonyl group through organic name reaction and mechanism.

BSc semester-II Paper- II Physical Chemistry

- To know the Mathematical Concepts: Logarithmic relations, linear graphs, calculation of slopes.
- To understand Strong, moderate and weak electrolytes, degree of ionization.
- Learn the concept of Statements of first law of thermodynamics and thermo chemistry.
- To acquired knowledge of postulates of kinetic theory of gases and distinguish between ideal and real gases

BSc semester-III Paper- I Inorganic Chemistry

- Understand the d and f block chemistry of first second and third transition series element chemistry of lanthanides and actinides
- To know the basic properties and understanding of iodine and inter halogen compounds
- Learn about general characteristic of Ionic and metallic solid.
- To know the general characteristic of Lewis, Bronsted Lowery, and Lux–Flood concept of acid and bases.

BSc semester-III Paper- II

Physical Chemistry

- To make them able to describe the liquid –liquid mixture, partial miscible liquids and immiscible liquids.
- To learn the second law of thermodynamics.
- Know the concept of partial molar quantities, chemical potential.
- Learn about concept of collision theory of bimolecular reaction
- To know depth of solution and colligative properties

BSc semester-IV Paper-I

Inorganic Chemistry

- Understand the magnetic properties and the colour of coordination compounds.
- To know the stability of metal complexes by the using formation constants and calculate thermodynamic parameters from them.
- Learn to explain Parsons SHAB concept and familiar with its application
- To understand the rules for splitting of d- orbital in octahedral, tetrahedral and square planar complexes

BSc semester-IV Paper- II

Organic Chemistry

- To introduce about Organometallic and heterocyclic compounds
- To know quantitative analysis of different element.
- To introduce the concept of preparation and classification of amino acid.
- To know details about classification and chemical properties of carbohydrate.
- To learn the preparation and properties of synthetic dyes.

BSc semester-V Paper- I

Organic Chemistry

- To know about spectroscopic technique Nuclear Magnetic resonance (NMR).
- To Recognize Problems elucidation of simple organic compounds using NMR data.

- Learn Claisen condensation reaction mechanisms through via Enolates of Active methylene compounds.
- To study the chemistry comprising synthesis of ketone, diketone, 4-methyl uracil from acetoacetic ester.
- Know the concept keto-enol tautomerism.

BSc semester-V Paper- II
Physical Chemistry

- To explore difference between Faraday's I and Faraday's II laws of electrolysis.
- Aware about thermodynamic quantities of cell reactions such as ΔG , ΔH & ΔS & equilibrium constant.
- To learn entire concept of reversible electrodes like gas electrode, metal-metal ion electrode, amalgam electrode, metal insoluble salt-anion, redox electrodes.
- To study the derivation Nernst equation and Applications of emf measurements in pHdetermination and potentiometric titration.

BSc semester-VI Paper- I
Inorganic Chemistry

- To know modern instrument Flame Photometry and study Basic principles, instrumentation and application of it.
- To develop basic skills required for chromatography, ion exchange, solvent extraction, crystallisation, distillation, TLC and column.
- To Understand the Basic Principal of Soil Chemistry through Collection of sample, Chemical Analysis, Soil pH and Soil Salinity.
- To explore the basic knowledge of various pesticides, insecticides, fungicides and herbicides.
- To make them know about Preparation, properties and application o organometallic Compound like Al, Hg and Sn.

BSc semester-VI Paper- II
Physical Chemistry

- Learn how to determine dipole moment, Bond moments Group moments for benzene derivatives
- To Know derivation of expression for rotational and vibrational spectra and there application for molecule.

- Learn to distinguish phenomenon of adsorption and absorption and colloidal chemistry through ultrafiltration, electrophoresis and electro Osmosis.
- To understand through classification of particle,
- To study Nuclear Chemistry and its application in radio tracers, Discovery of radioactivity, typical radioisotopes.

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DEPARTMENT OF PHYSICS

Programme Specific Outcomes

- It explains the various laws that govern the physical world.
- It gives us a temperament to understand and elaborate the physical phenomenon.
- It also inculcates a techno-temperament among the students for the development of the technology based applications.

Course Outcomes

B.Sc semester-I Paper- I Mechanics and Relativity

- Understand the basic concepts of Classical Mechanics like laws of motion, centre of mass, momentum and energy, collision, dynamics of rigid body, rotational motion.
- Understand space and time coordinate transformation in relativistic motion using Lorentz Transformation.
- They will become familiar with fascinating concepts in Special Theory of Relativity viz. time dilation, variation of mass with velocity, length contraction, twin paradox, addition of velocities, etc.
- Have clear picture of mass energy equivalence relation and its applications.
- Understand how major concepts developed and changed over time.

B.Sc semester-I Paper- II Gravitation & Elasticity

- Understand the basic concept Newton's law of gravitation.
- Understand the logical knowledge about artificial satellite.
- Learn about GPS system.
- To know about Simple Harmonic Motion.
- Understand the basic concept of elasticity.
- Understand the logical knowledge construction of dam, building etc.

B.Sc semester-II Paper- I

Vector Analysis and Electrostatics

- Understand the basic theories in electrostatics such as electric field, electric dipole, electric quadrupole, electric potential, electric flux, Gauss'' law and its applications to find out electric field, relation between electric field and electric potential.
- Develop the understanding of electric field in dielectric, capacitance, various types of capacitors, displacement vector, polarization in dielectric and use of it in practical application.
- Develop skill to solve numerical problems on it.
- Acquire a foundation for advanced courses in physics

B.Sc semester-II Paper- II

Magnetostatics & Electromagnetic waves

- Understand the basic knowledge about transformer.
- Understand the basic concept kirchoff''s law.
- Knowledge about Maxwell''s equations.
- Understand the basic concept electromagnetic waves.
- Understand the basic concept about diamagnetic , paramagnetic and ferromagnetic material.

B.Sc semester-III Paper- I

Thermal Physics

- To know about Monoatomic, Diatomic and Polyatomic gases.
- Understand the concept of Thermodynamics, Law of Thermodynamics.
- Understand the concept of Entropy.
- Understand the Clausius – Clapeyron Equation, Joule – Thomson effect, Porus – plug experiment and its application.

B.Sc semester-III Paper- II

Radiation and Statistical Physics

- Learn Plank''s quantum postulates, Planck''s energy distribution law.
- Understand the principles in statistical physics, mainly for systems in thermal equilibrium.
- Understand quantum and classical statistical mechanics for ideal systems, and be able to judge when quantum effects are important.

- The student should understand the connection between microphysics and thermodynamics.
- Use statistical principles in a wide range of applications.

B.Sc semester-IV Paper- I **Waves, Acoustics and Laser**

- To know about Ultrasonic wave, Properties and Application.
- Understand the Noise and Music. And characteristics of musical sound.
- Understand the Types of Laser, Properties and Application of Laser.
- Develop skill to solve numerical problem on it.
- Acquire a foundation for advanced courses in physics.

B.Sc semester-IV Paper- II **Optical Physics**

- Understand the basic concepts of Light Waves and properties of light waves like interference, diffraction, wavefront, phase change on reflection, interference in thin film due to reflected and transmitted light in parallel film, Haidinger Fringes, Fizeau Fringes.
- Understand Newton's Ring experiment and apply skills to find out wavelength and refractive index using Newton's Ring experiment.
- Understand Michelson's Interferometer experiment and apply skills to find out wavelength, wavelength difference, refractive index and visibility of fringes using Michelson's Interferometer.
- Differentiate between Fraunhofer and Fresnel diffraction. They will learn Half-period zones, zone plate, diffraction due to straight edge and narrow slit.
- Understand theory of diffraction grating and its application to find wavelength.

B.Sc semester-V Paper- II **Elements of modern Physics**

- Understand the logic of tunneling.
- To know about size of nucleus.
- Understand the knowledge about Binding energy.
- Understand about radioactivity.
- To know about emission of α , β and γ emission .

B.Sc semester-V Paper- II

Solid State Physics

- Understand the Crystal structure, and Types of lattices.
- To know about Diamagnetic, Paramagnetic and Ferromagnetic material and Weiss's theory of Ferromagnetism.
- Understand the Three electric vectors E, D and P.
- Understand the Energy band picture of conductor, semiconductor and insulator and Kroning Penny Model.

B.Sc semester-VI Paper- I

Nuclear & Particle Physics

- Understand the knowledge of constituent of nuclei.
- To know about Binding Energy and Packing fraction.
- Understand about different nuclear models.
- Understand the concept of nuclear force.
- To know about exo, endo reactions.

B.Sc semester-VI Paper- II

Digital and Analog Circuits and Instrumentation

- Understand the Digital circuits and Types of number system.
- Understand the Types of Logic gates.
- Understand the Semiconductor devices and Application.
- To know about Power supply and Types of Rectifiers.
- Understand the Transistors and Classification of Amplifiers

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DEPARTMENT OF ZOOLOGY

Programme Specific Outcomes

- Apply the knowledge of various branches of Zoology for graduate course and higher studies.
- Develop positive attitude towards the subject for sustainable development.
- Understand the connection of life and rich diversity of organism and their ecological and evolutionary significance.
- Acquire basic skill and study of nature, techniques experimental skill and scientific investigation.
- Identify and list out common animals explain physiological changes in animal bodies.
- Explain genetic abnormalities animal benefits to human also diseases caused by animals to humans. Use of Bioinformatics, Biostatistics as a tool for all activities related to Zoology.
- Promotes responsibility, entrepreneurship skill research and career opportunities.

Course Outcomes

B.Sc semester-I Paper-I

Life and Diversity of animals (Protozoa to Annelida)

- Understand the basis of life processes in the non-chordates. Lower invertebrates introduction digestive nervous reproductive system.●
- Classify and characterize phylum- protozoa, reproduction in Paramecium.●
- Classify and characterize phylum- porifera, morphological characters of Sycon.●
- Classify and characterize phylum- coelenterata, morphological characters of Obelia. CO-8
- Classify and characterize phylum- platyhelminths, reproduction in Taeniasolium.

B.Sc. Semester-I Paper-II

Cell Biology

- To study the cell theory, prokaryotic and eukaryotic cells, animal and plants cell.

- To know the osmosis, diffusion, active and passive transport with help of examples.
- To study different models- Sandwich and fluid mosaic model.
- To study the cell organelles (Golgi complex, Ribosomes, lysosomes, Endoplasmicreticulum, Mitochondriaetc.
- To know the structure and function of nucleus, nucleolus and chromosomes.

B.Sc. semester-II Paper-I

Life and Diversity of animals (Arthropoda to Hemichordata)

- Lower invertebrates introduction digestive nervous reproductive system.
- Classify and characterize phylum-Arthropoda, reproduction in Periplaneta.●
- Classify and characterize phylum- Mollusca, morphological characters of Pila.●
- Classify and characterize phylum- Echinodermata, morphological characters of● Asterias.
- Classify and characterize phylum-Hemichordata, reproduction in● Balanoglossus.

B.Sc. Semester-II Paper-II

Genetics and Evolution

- To study linkage, crossingover, syndrome and mutation.
- To know the major history of life.
- To study the direct evidences of evolution (type of fossil, evolution of horse)
- To study the evolutionary changes, species concept, modes of speciation.
- To know more about macroevolution and extinction.

B.Sc. semester-III Paper-I

Animals Diversity of chordate and comparative anatomy

- Familiar with vertebrate world that surrounds us.
- Able to identify vertebrates and classify them up to the class level.
- Understand the basis of life processes in the chordates.
- Higher vertebrates introduction digestive nervous reproductive system and comparative anatomy.
- Classify and characterize up to order -Urochordata, general characters
- Ascidian tadpole larva retrogressive metamorphosis.
- Classify and characterize up to order - Cephalochordata, morphological characters digestive system of Amphioxus.

- Classify and characterize up to order - Cyclostomata, morphological characters of Pteromyzon and Myxine.

B.Sc. Semester-III Paper II Physiology and Biochemistry _Part-I

- To know the fundamental principles and unifying facts of human physiology.
- To study the breathing mechanism, Hemoglobin (Hb %) as a respiratory pigments, function of respiratory organs and others respiratory organs.
- To study source and type of vitamins, deficiency and diseases.
- To know the digestive mechanism, digestion of carbohydrates, protein sandfats.
- To study all digestive glands and its function (Structure and function of Salivary, Gastric, Intestinal, liver, Pancreas).
- To study of enzyme, nomenclature of enzyme, Induce–fit model and keylock models, properties of enzyme and factors affecting enzyme activity.

BSc semester-IV Paper- I Developmental Biology

- To study types of cleavage.
- To study types of blastulation.
- To study morphogenetic movements in the early development of frog.
- To know development of chick.
- To study extra embryonic membrane.
- To know gametogenesis.
- To study implantation types.
- To know placentation types and functions.
- To know gene activation and apoptosis.
- To study stem cells.

B.Sc. Semester-IV Paper-II Physiology and Biochemistry Part_II

- To study the structure and function of nephron, mechanism of urine formation.
- To know the elementary ideas of dialysis and counter current mechanism.
- To study the structure and functions of endocrine glands (Pituitary, Thyroid, Adrenal)
- To know the male and female sex hormones.

- To study their productive cycle (menstrual & estrous cycle)
- To study the structure and function of neuron, E.M. structure of neuron
- To know the sliding filaments theory of muscle
- To study the properties of muscles (Twitch, tetanus, tonus, summation, muscle fatigue)

BSc semester-V Paper- I
Applied Zoology

- To study fish diseases.
- To study life cycle of Ancylostoma and Wuchereria.
- To study biology control and damage insect pest.
- To study mosquito disease and Pediculus humanus.
- To study fowl on the basis of their use.
- To know about principles of poultry breeding and diseases.

B.Sc. Semester-V Paper-II
Aquatic Biology

- To know the fundamental principles and unifying facts of aquatic biology.
- To study the ecosystems (Freshwater, marine water)
- To know the differences between lentic and lotic ecosystem
- To study different physicochemical and biological parameters of water & soil
- To know the fresh water and saline water fishery in India.

B.Sc. semester-VI Paper-I
Microtechnique Bioinformatics and Biostatistics.

- To study image processing method in microscopy.
- To study structure and function of microtome.
- To study fixation dehydration clearing embedding.
- To know about section cutting and problem encounter in section cutting.
- To study double staining with Hematoxylin. Eosin.
- To know about Bioinformatics tools.
- To study biological database.
- To study structure of nucleotide database.

B.Sc. Semester-VI Paper-II
Reproductive Biology

- To study the current state of knowledge about the functional organization of the human body.
- To study the physiology of reproduction
- To know the role of male reproductive system and female reproductive system.
- To know the general functions of reproductive organs of male and female.
- To study the physiology of coitus, spermatogenesis and oogenesis.
- To know the assisted reproductive technology including ZIFT, GIFT, IVF, AI, etc.
- To study the contraceptive measures.
- To study the physiology of pregnancy.

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DEPARTMENT OF MATHEMATICS

Programme Specific Outcomes

B.SC. SEMESTER – I

Paper -I

Differential and Integral Calculus

- State theorems on limits and continuity.
- State and prove Mean value theorem.
- Know statement of Roll's theorem and its proof.
- Recognize Beta and Gamma function and its properties.
- Recognize and solve double integration and its properties

B.SC. SEMESTER – I

Paper -II

Differential Calculus and Trigonometry

- Acquire the basic knowledge of Partial differentiation, Differential and Chain rule
- Familiarized with Homogeneous function, Euler's theorem and Taylor's theorem for function of two variable.
- Distinguish between tracing of curves and tracing of curves in Cartesian form.
- Understand how to prove De Mover's theorem and its application.
- Understand the Circular and Hyperbolic function.
- Appreciate the beauty of the C + is method

B.SC. SEMESTER – II

Paper I

Ordinary Differential Equation and Difference Equation

- Understand basic properties of differential equations, orthogonal trajectories, linear differential equations.
- Apart from this the students will be able to solve ODE by Transformation of the equation by changing the dependent variable/ the independent variable.
- Solution by operators of non homogeneous linear differential equations.
- Understand formation of Difference equation, Order of difference equation and homogeneous linear equation with constant coefficient.

B.SC. SEMESTER – II

Paper II

Partial Differential Equation

- Apply a range of techniques to solve first & second order partial differential equations.
- Learn solution of homogeneous partial differential equation with constant coefficients.
- Know solution of Non-homogeneous partial differential equation and equation reducible to linear partial differential equation with constant coefficient.
- Learn classification of second order partial differential equation.

B.SC. SEMESTER – III

Paper I

Real Analysis

- Understand many properties of the real line \mathbb{R} and learn to define sequence in terms of functions from \mathbb{R} to a subset of \mathbb{R} .
- Recognize bounded, convergent, divergent, Cauchy and monotonic sequences and to calculate their limit superior, limit inferior, and the limit of a bounded sequence.
- Apply the ratio, root, alternating series and limit comparison tests for convergence and absolute convergence of an infinite series of real numbers.
- Learn some of the properties of Riemann integrable functions, and the applications of the fundamental theorems of integration.

B.SC. SEMESTER – III

Paper II

Set Theory And Laplace Transform

- Learn basic facts about the cardinality of a set.
- Know Dirac delta function, Laplace transforms and its properties.
- Solve ordinary differential equations using Laplace transforms.
- Know Convolution theorem and solution of differential equation and partial differential equations.

B.SC. SEMESTER – IV

Paper I

Algebra Course

- Recognize the mathematical objects called groups.
- Link the fundamental concepts of groups and symmetries of geometrical objects.
- Explain the significance of the notions of cosets, normal subgroups, and factor groups
- Analyze consequences of Lagrange's theorem.
- Learn about structure preserving maps between groups and their consequences
- Recognize and use the Sylow theorems to characterize certain finite groups.

B.SC. SEMESTER – IV

Paper II

Elementary Number Theory

- Learn about some important results in the theory of numbers including the prime number theorem, Chinese remainder theorem, Wilson's theorem and their consequences.
- Learn about Congruence. properties of congruence, Chinese remainder theorem and Goldbach conjecture.
- Familiarize with modular arithmetic and find primitive roots of prime and composite numbers.

B.SC. SEMESTER – V

Paper I

Linear Algebra

- Recognize the concepts of the terms span, linear independence, basis, and dimension, and apply these concepts to various vector spaces and subspaces.
- Analyze finite and infinite dimensional vector spaces and subspaces over a field and their properties, including the basis structure of vector spaces.
- Use matrix algebra and the related matrices to linear transformations.
- Compute and use eigenvectors and eigenvalues.
- Compute inner products and determine orthogonality on vector spaces, including Gram-Schmidt orthogonalization.

B.SC. SEMESTER – V

Paper II

Special relativity I

- Understand the basic elements of Newtonian mechanics including experiment and geometrical interpretations of Lorentz transformation equations.
- Learn about postulates of special relativity theory.
- Analyze Study 4-dimensional Minkowskian space-time and its consequences.
- Understand equations of motion as a part of relativistic mechanics.
- Recognize geometrical representation space time, four vectors and four tensors in Minkowskin space time.

B.SC. SEMESTER – VI

Paper I

Complex Analysis and Vector Calculus

- Working knowledge of differentiability for complex functions and be familiar with the Cauchy-Riemann equations.
- Analyze harmonic function and Mobius transformation.
- Apply complex integration, Cauchy's integral theorem and Cauchy's integral formula.
- Determine gradient, divergence and curl.
- Know about Green, Gauss and Stokes theorem and problem based on these.

B.SC. SEMESTER – VI

Paper II

Special relativity – II

- Understand basic properties of Tensor analysis
- Realize importance of Christofis symbols, Transformation Christofis symbols ,covariant derivatives and Geodesics and curvature, Ricci, Einstein tensor
- Apply various tests to determine Relativistic Mechanics.
- Analyze propogation of electric and magnetic field strength.
- Understand Maxwell's equation in vacuum, The electromagnetic field tensor Maxwell's equation in tensor form

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DEPARTMENT OF BOTANY

Programme Specific Outcomes

B.SC. SEMESTER – I

Paper – I

Microorganism, Algae, Fungi and Plant Pathology

- On completion of course students are able to understand:
- Compare the relationships among plants and microbes
- Know about viruses, mycoplasma, bacteria & cyan bacteria
- Understand the diversity among Algae.
- Study of cryptogams and phanerogams and its diversity
- Know about the systematic, morphology, structure, economic importance of algae & fungi.
- Compare viral, bacterial & fungal symptoms on plants
- Know the prevention and control measures of plant diseases and its effect on economy of crops

B.SC. SEMESTER – I

Paper – II

Bryophyta, Pteridophytes, Gymnosperms & Paleobotany

- Learn about general character, classification and economic importance of the Bryophytes, Pteridophytes and Gymnosperms
- Know the taxonomic position, occurrence, thallus structure & reproduction of Bryophytes
- Concept of hererospory and seed habit
- Knowledge about geological time scale, process of fossilization and type of fossils
- Understand fossil gymnosperm of Glossopteris & Cycadeoidea

- Know about external morphology, anatomy and reproduction of the Cycad ales & Conifer ales

B.SC. SEMESTER – II

Paper – I

Morphology and Anatomy of Angiosperms

- Learn about vegetative and reproductive morphology of Angiosperms
- Understand root apical, shoot apical meristem and tissue system
- Students know knowledge about primary and secondary structure of angiosperm plants
- Differences about anomalous secondary structure of stem roots and leaf

B.SC. SEMESTER – II

Paper – II

Taxonomy and diversity of Angiosperms

- Understand about primitive angiosperms (Magnolia) & fossil angiosperms
- knows about classification of angiosperms and herbarium technique
- Student identify, classify and naming of angiosperm plants. herbarium techniques
- Enable the students to identify dicot and monocot families
- Students are able to know about characteristic of various plants and its classification

B.SC. SEMESTER – III

PAPER – I

REPRODUCTIVE BIOLOGY OF ANGIOSPERMS, PLANT GROWTH AND DEVELOPMENT

- Understand about the vegetative and reproductive taxonomic characters of plants
- Know about types of pollination and structure of embryo sac.
- Classify endosperm, monocot and dicot embryo and its development
- Know seed dormancy & its method to break seed dormancy
- Students understand growth and development of plants
- Know about plant growth regulators and plant movements.
- Understand knowledge about physiology of flowering, photoperiodism, phytochromes, senescence and abscission

B.SC. SEMESTER – III

PAPER – II
PLANT BIOCHEMISTRY AND PHYSIOLOGY

- To understand the properties & role of Monosaccharides, Oligosaccharides and Polysaccharides.
- Students know about properties, structure and uses of fatty acids
- Learn classification of amino acids and proteins structure
- Student should understand basics of enzymology
- Students will have a thorough knowledge of nitrogen metabolism and mineral nutrition
- Understand plant water relations, Ascent of sap, transpiration and phloem transport
- They will learn about theories of absorption of solute in plants: Active absorption & Passive absorption
- They will be able to understand Photosynthesis & Respiration

B.SC. SEMESTER – IV
PAPER – I
CELL BIOLOGY, GENETICS AND BIOTECHNOLOGY OUTCOMES

- Students know about the eukaryotic cell cycle, mitotic and meiotic cell division and DNA
- Learn plant tissue cultures and regeneration.
- Study the phenomenon of dominance, laws of segregation, independent assortment of genes, Interaction of genes
- Students understand linkages & its types, complete and incomplete, significance.
- They learn about theories, crossing over and variation in chromosome
- They know about structural changes in chromosome and mutagens
- Genetic Engineering- tools and techniques of Recombinant DNA technology

B.SC. SEMESTER – IV
PAPER – II
PLANT ECOLOGY OUTCOMES

- Summarize the environmental factors like climatic, edaphic factors and biotic factors
- Understand ecosystem, biogeochemical cycles environmental pollution
- Compare autecology and synecology
- Student knows plant succession, causes and climax concept
- Understand phytogeographic regions of India

B.SC. SEMESTER – V
PAPER-I –
ECONOMIC BOTANY- I OUTCOMES

- Know about the scope of Economic Botany
- Understand about botanical description, cultivation and their uses of various, Cereals, Legumes and Pulses of crop plants.
- Gain knowledge about various plants of vegetables, sugar, fruits and its economic use.
- Compare about the oil yielding plants and wild edible fruit plants.
- Understand the role of the plants in human welfare.
- Students get to know about origin, distribution, botanical description, cultivation and uses of fibers and for age yielding plants

B.SC. SEMESTER – IV
PAPER-II –
ECONOMIC BOTANY- II

- Understand concept, scope and importance of economic botany
- Students get to know about origin, distribution, botanical description, cultivation and uses of spices, condiments and beverages
- Acquire knowledge about the gum, rubber and dye
- Know about the cultivation process and uses of timber yielding plants and bamboo
- Gain knowledge about the various type of medicinal and aromatic plants.
- Students are able to understand medicine, essential oil and bio-fuels found in plants and used in human welfare



Bhaskar
Officiating Principal
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