



Saibaba Loksewa Sanstha's

Principal Arunrao Kalode Mahavidyalaya

Onkar Nagar, Manewada Ring Road, Nagpur- 440027

www.pakm.in, prinakalode@gmail.com



Ref.:

Date :

BACHELOR OF ARTS

Programme Outcomes

Programme Outcomes The B.A. programme is designed to prepare students to pursue a career in the fields related to subjects prescribed for the degree of B.A. The B.A. programme develops an all-round personality of the students. The curricular and extra-curricular activities help in preparing the students into a well-equipped individual contributing substantially and meaningfully to the society. They will develop good communication skills and be trained to have a social, philosophical, cultural, economic, political perception of the different issues governing life. The B.A. programme has the following subjects:- The programme has two compulsory subjects: Compulsory English and Marathi. Then students have to select any three optional subjects from Political Science, Economics, Sociology, History

1) English is a window to the world. It is one of the most widely spoken languages in the world. It is the language of media and technology. Numerous resources are available to study the language. It has job potential.

2) Marathi is the regional and official language of Maharashtra. Maharashtra is a land of saints. Studying rich philosophies of life preached by these saints is essential to give a direction and meaning to life. The region specific history, culture, geography, flora and fauna can be learnt through this language.

3) Political Science subject enables the students to understand the scientific study of politics and the social science dealing with systems of governance and power. It helps to analyse political activities, political thoughts, political behavior and associated constitutions and laws.

4) Sociology subject will enable the study of social life, social change, and the social causes and consequences of human behavior.

5) History will help the students to relate to past events as well as the memory, discovery, collection, organization, presentation, and interpretation of information about these events.

6) While studying Economics, the students will study how this social science is concerned with the production, distribution, and consumption of goods and services. They will study how individuals, businesses, governments, and nations make choices about how to allocate resources.



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BACHELOR OF COMMERCE

Programme Outcomes

- 1) The commerce stream is a vibrant one and the students of this stream can be a good source of HR for the sectors of Banking, Finance, Management, Insurance, Finance, Industries, Taxation, Logistics and other Service sectors.
- 2) Students can have an upper hand in setting up their own business and enterprises.
- 3) Specialized and sectoral knowledge of Accounting, Cost and management accounting, Taxation, HRM gives the students a golden opportunity to perform outstandingly in organisations.
- 4) A detailed and thorough knowledge of finance and commerce is available for students.
- 5) After graduation, the students get a good exposure in fields of Selling, Marketing, Advertising Administration and Management.
- 6) After completing the graduation in commerce, the student's capacity in performing the functions of Planning and decision making (personal as well as organisational) Direction, Organising skills, and Leadership skills increase manifold.

BACHELOR OF SCIENCE

Programme Outcomes

- By the end of this course, the students will be able to:
1. Know the characteristics, systematics, morphology, structure and life cycle pattern of Viruses, Mycoplasma, Bacteria, Cyanobacteria, Algae, Fungi, Lichens, Bryophytes and Pteridophytes.
 2. Understand the diversity, systematics and biology of seed plants.
 3. Understand the nature and basic concepts of cell biology, genetics, anatomy, morphology, Biochemistry, Physiology, Taxonomy and ecology.
 4. Analyze the interrelationships among prokaryotic and eukaryotic organisms.
 5. Study of organization and function of the gene, genome, cell, tissue, organ and organ-system including development, reproduction, ecological and physiological adaptations and behaviour of different forms of life.
 6. Understand the basic concepts of lower group plants and morphology of higher groups.
 7. Understand the importance of plants, their diversity and its conservation.
 8. Achieve pure and applied botanical knowledge.
 9. Perform procedures as per laboratory standards in the areas of Biochemistry, Physiology, Biotechnology, Taxonomy, Economic Botany and Ecology.
 10. Demonstrate hands on skill in the experimental techniques and methods of analysis in various field of Botany.
 11. Understand the application of genetic engineering for the improvements of plants.
 12. Generate test hypotheses, observations, data, analyse and interpret results, derive conclusions, and evaluate their significance within broad scientific context.
 13. Promotes stewardship responsibility, entrepreneurship skill, research and career opportunities.



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Programme Specific Outcomes

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BACHELOR OF COMMERCE

Programme Specific Outcomes

1) The graduates in Commerce have a greater chance of getting appointed in plum positions like Managers in various fields like selling, marketing etc. Accountants, Cost and management accountants, Auditors, Stock Agents, Business entrepreneurs and Management of industries. 2) New Avenues get opened for entry into globally required professional courses like MBA, CA, CWA, CS etc. 3) Students gain effective knowledge about communication skills, decision making and planning, Leadership and coordination skills, as well as entrepreneurial skills and advertising and publicity skills. 4) Subject specific knowledge about various types of accounting and management, taxation and auditing, marketing and allied activities, IT, Economic planning and management can be gathered by students. 5) Students get an opportunity to make academic and organisational research in the field of finance, tax, commerce and management.

BACHELOR OF SCIENCE

Programme Specific Outcomes

1. Know the characteristics, systematics, morphology, structure and life cycle pattern of Viruses, Mycoplasma, Bacteria, Cyanobacteria, Algae, Fungi, Lichens, Bryophytes and Pteridophytes. 2. Understand the diversity, systematics and biology of seed plants. 3. Understand the nature and basic concepts of cell biology, genetics, anatomy, morphology, Biochemistry, Physiology, Taxonomy and ecology. 4. Analyze the interrelationships among prokaryotic and eukaryotic organisms. 5. Study of organization and function of the gene, genome, cell, tissue, organ and organ-system including development, reproduction, ecological and physiological adaptations and behavior of different forms of life. 6. Understand the basic concepts of lower group plants and morphology of higher groups. 7. Understand the importance of plants, their diversity and its conservation. 8. Achieve pure and applied botanical knowledge. 9. Perform procedures as per laboratory standards in the areas of Biochemistry, Physiology, Biotechnology, Taxonomy, Economic Botany and Ecology. 10. Demonstrate hands on skill in the experimental techniques and methods of analysis in various field of Botany. 11. Understand the application of genetic engineering for the improvements of plants. 12. Generate test hypotheses, observations, data, analyse and interpret results, derive conclusions, and evaluate their significance within a broad scientific context. 13. Promotes stewardship responsibility, entrepreneurship skill, research and career opportunities.



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Course Outcome

Subject: Compulsory English

1. The students will apply the four skills of Listening, Speaking, Reading and Writing in their day to day life.
2. They will apply their critical thinking whilst reading and writing.
3. Better communicative skills will help them to use grammatically correct sentences to acquire a good command over English.

B.A. I-Semester-I

1 The moral imparted in Prose will have a positive impact on the mindset of the students. 2 The life of great personalities will motivate them to be successful. 3 The syllabus will contribute in vocabulary enhancement. 4. The learners will get an opportunity to study Indian and English poets and develop critical outlook through comparison. 5. The drafting skills of the learners will be honed through the prescribed items of grammar.

B.A. I-Semester-II

6 The learners will get an opportunity to study lessons based on themes containing humour, emotional bonding and ethics. 7. The sketches of successful people will motivate them to excel despite adverse conditions. 8. The poems will encourage the learners to shun violence and materialism. 9. Through grammar and composition, the learners will gain confidence in spoken English.

B.A. II -Semester-III

1. The learners will learn the lessons of morality and humanity 2. The aim is to make the students realise the importance of having unpolluted water and conserve natural resources by worshipping nature for the sake of existence of mankind. 3 The prescribed life sketches of successful people will act as an inspirational story and the people may become their role models. 4. The learners will imbibe lessons of humanity and justice through the poetry section. 5. The power of expression of the learners will get enhanced through the grammar and Composition Section.

B.A. II -Semester-IV

6 The students will learn how immaterial the materialistic world is. 7. The landmark achievement of the revolutionary figures will be a lesson to the learners to emulate. 8. To make the learner imbibe the spirit to



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B.A. III-Semester- V

1. The learners will imbibe and implement the tenets of tolerance and simplicity in their daily lives.
2. In an era when we are facing the problem of unemployment the students will feel encouraged towards self-employment after reading about the great personalities.
3. The strong message that touches the lives of common people conveyed through the poetry section will have a powerful impact on the minds of the learner.
4. The Grammar and Composition section will boost their self-confidence resulting into effective communication skills.

B.A. III-Semester –VI

5. The learners will understand that friendship and human relationship beats an egoistic attitude based on narrow self-interests as conveyed in the prose section.
6. The tremendous success achieved by the great personalities will make the learners realize that if there is a will, there is a way.
7. The message of spreading peace and tranquillity will receive a boost through the poetry.

Subject: Economics

1. This course will help to understand a well-founded education in Economics.
 2. It provides the graduates with employment and scope for further study as economists.
- Course Outcomes

B. A. –I Semester –I

1. This course will help the students to understand various definitions of economics.
2. To analyse the nature and characteristics of economic laws.
3. To understand the meaning and importance of microeconomics.
4. To analyse the theories of demand, supply, Utility, and indifference curve.

B. A. –I Semester –II

1. To understand the characteristics of Monopoly, perfect and imperfect competition.
2. To understand the Market Structure.
3. To understand Market equilibrium.

B. A. –II Semester –III

1. To understand macroeconomics policies and theories.
2. To understand various concepts in national income accounting.
3. To analyse the causes and consequences of inflation and disinflation.

B. A. –II Semester –IV

1. To understand the meaning and types of bank.
2. To analyse the functions of a commercial bank in the economy.
3. To analyse the functions of the central bank in the Indian economy.
4. To evaluate the credit control of the Reserve Bank of India.



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B. A. -III Semester -VI

1. To understand the NITI Aayog; its objectives and structure
2. To understand the meaning and factors that affect economic development
3. To understand the features of Indian tax system

Subject - Political Science

Course Outcomes

B.A I (Sem I) Political Theory

1. Understanding basic concept of power, authority, liberty equality rights and justice
2. Describing Marxist approach of state
3. Describing the nature scope and importance of political theory
4. Explain the concept of state analysing the liberal approach of state
5. Describing the meaning of liberty imports and kinds of liberty
6. Analysing the concept of equality with special reference to India
7. Students enable to understanding the significance of political Theory

B.A I (Sem II) Western Political Thought

1. Covers the Political thought of Plato and Aristotle
2. Getting information about J. S. Mill Karl Mark
- Examining the Marxist Class struggle theory and surplus value theory
4. Comparatively examine the thought of Aristotle and Karl Marx about State
5. Critically examine the J. S. Mill Political thoughts about liberal and Representative Government

B.A. II (Sem III) Indian Government and Politics

1. Outlining the Basic Value and Philosophy of Indian Constitution
2. Evaluating the Structure Government at national centre level
3. Studying Fundamental rights duties and Directive principles of Policy
4. Studying the problem facing Indian Government and politics caste religion terrorism

B.A. II (Sem IV) State Government and Politics

1. Examining the centre state relation, changing, approach of centre-state relation
2. Critically analyzing important institution of state legislature, Executives Judiciary
3. Evaluating the role of regional parties state politics
4. Describing the 73 and 74 amendment, political participation of women, women reservation in self local Government

B.A. III (Sem V) Comparative government and Politics

1. Describing the meaning nature Scope and importance of comparative Politics
2. Discussing the features of federal system of U.S.A and U.K. politics
3. Critically analysing the role of pressure groups in U.S.A and U.K politics
4. Comparatively Studying the Legislature and executive of U.S.A and U.K.

B.A. III (Sem VI) International Relation

1. Understanding the concept of International relation
2. Analysing the theories of International relations (Game Theory)
3. Understanding the concept of foreign policy, Indian Foreign policy with other countries



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Subject –History Course Outcomes

B. A. PART I – Semester-I

1. Study the ancient Indian civilization such as Harappa and Vedic and understand social, political and religious changes during the period. 2. Develop the ability to understand the origin and tenets of Jainism and Buddhism. 3. Acquire knowledge about ancient Indian dynasties - Maurya, Gupta and Vakataka. 4. Introduction to prominent Sultanate dynasties and their administrative systems in medieval India. 5. Acquire knowledge on religious, culture and art history in medieval India.

B.A.PART I – Semester-II

1. To understand rise and establishment of Mughal dynasty in India 2. Know about the war of succession of Shahjahan and understand the Deccan Policy of Aurangzeb. 3. Introduction to history of Marathas and understand significance of coronation and administrative system of Chhatrapati Shivaji. 4. Analyse Maratha War of Independence and study third battle of Panipat in Peshwa period. 5. Understand foundation of East India Company's rule in India.

B.A.PART II – Semester -III

1. Understand the rise of British Power in India and analyse their agrarian policy and land revenue system. 2. Analyse policies of Governor-Generals in India under East India Company's rule. 3. Study socio-religious movements of modern India. 4. Understand the administrative reforms introduced by Viceroys during establishment of British rule in India. 5. Analyse the causes of rise of Indian nationalism and emergence of local organisations.

B.A.PART II – Semester- IV

1. Understand the origin and establishment of Indian National Congress. Understand the nature of moderate and extremist ideology. 2. Understand the phases of Indian National Movement and its impact under leadership of Mahatma Gandhi. 3. Study various missions proposed by British government. 4. Examine role of Subhash Chandra Bose and his formed INA in struggle of Indian Independence. 5. Evaluate Mountbatten plan and Indian Independence Act of 1947.

B. A.PART III – Semester- V

1. Introduction to landmark events in World history 2. Understand policy of imperialism and change in world political order. 3. Emergence of State of Germany and its diplomatic policy 4. Critically analyse background of First World War and international peace making attempts that followed.

B.A.PART III – Semester- VI

1. Analyse causes for the rise of dictatorship in Europe. 2. Understand international crisis; inter world relations leading to the Second World War and its aftermath. 3. Understand world politics



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**SUBJECT: SOCIOLOGY:
BASIC CONCEPTS
COURSE OUTCOME
B. A. 1 Semester I**

1. To make students understand the nature of sociology and its nexus with other disciplines. 2. To make students understand the recent concepts surfacing in the studies of sociologists and social scientists. 3. To make student know the current issues, problems and the measures to address them in right prospective. 4. To sustain the interest of the students in terms of making them capable of fitting into the job market. 5. To develop a multi-disciplinary interest and a broad perspective along the students to understand the intricacies of the concepts, issues and problems broad by the paper.

B. A. 1 Semester II

1. This paper intends to orient the students to certain basic perspectives in sociology. 2. The paper also intends to make students know in detailed about culture, stratification and mobility and the deviant pattern and social control in society.

B. A. 2 Semester III

1. The paper aims at orienting the students to the basic sociological thoughts of the great masters in sociology. 2. The paper also intends to help the students to shape those thoughts and ideas and also addressing many current sociological issues and problems.

B. A. 2 Semester IV

1. The aim of this paper to make the students understand the seminal ideas and thoughts reflected in the works of Indian sociologists. 2. The paper also aims to help the students in understanding at the theoretical level the sociological issues concerning Indian society.

B. A. 3 Semester V

1. The paper aims at acquainting the students with Indian society in terms making them know the issues and problems confronting the institutions of caste and family. 2. The paper also aims to bring into fore issues and problems concerning the tribes and communities in India.

B. A. 3 Semester VI

1. To make students acquainted with Indian society, its issues and problems. 2. To make them understand the intricacies of caste, family and education system in India and their changing patterns. 3. To understand the issues and problems related to tribes and populations in India. 4. The paper those intend to make students know the nature, causes and consequences of those problems as well as the major to put a check on them.



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Subject: Compulsory Marathi

Course Outcomes

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१. सांस्कृतिक परंपरा आणि उवलता कळावी. २. आजचा तःणनभयवस (म) हावा. ३. मराठभाषा उगम, वकास कळावी. ४. व, वधवा/मयःवाहचे २ानकळावे.

बी. ए. स२

१. व४या५या६ना)यवहा७रकमराठचे२ान८मळावे. २. लोकशाह; चेमहवआणसंवधनसंदभात, व४याथ>जागृत)हावा. ३. महान)य२तीचे)यि२तमव, व४या५या६समोरठेवणे. ४. व४याथ>समाजजागृतीसाठउभाराहावा. ५. नैतिकमू०यांची, व४या५या६ना८शकवण८मळावी.

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१. वाचनसंस्कृतीचे, व४या५या६नामहवपटवूनसांगणेआणवाचनाचेमहववाढ;सलागणे. २. ०ाचीनपरंपरा, ०ाचीनलोकसायाचा, व४या५या६नाफायदाहोतो. ३. जीवनाचेआणजगमयाचेसंदभ'८मळणे. ४. आईवडीलवमो(कयामाणसांबलआदरकसाकरावायाचे२ान८मळते.

बी. ए. स४

१. व४या५या६ममयेदेशा, वषयीआणसमाजा, वषयीअ८भमाननमा'णहोतअसतो. २. अभंगातूनसमतावातं०यची८शकवमळतअसते. ३. पटकथावसंवादलेखनातून, व४या५या६नावंयरोजगार८मळतोवतःRयापायावरउभाटाकतो. ४. मरणकावसंपादनातून, व४या५या६ममयेनवलेखकनमा'णहोतअसतो. ५





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BACHELOR OF COMMERCE

Course Outcome

B. COM. SEMESTER I

FINANCIAL ACCOUNTING

1) The students will get information about the basics of accountancy, rules of double entry and journals-ledgers. 2) They get information about the Accounting Standards prescribed. 3) They learn the meaning and the accounting procedure of Joint Venture Business. 4) The students get an opportunity to get deep knowledge about the accounting procedure adopted by co-operative societies, while preparing the final accounts. They also get exposed to legal requirements of preparing final accounts of single proprietor. 5) They learn about the technical procedure about maintaining accounts books. 6) They get to learn about the branch accounting and its procedure. 7) To develop the importance of self-employment and entrepreneurial awareness among students. 8) To develop a mindset of setting own business and managing it and providing employment opportunities to others.

COMPANY LAW

1) Students get an opportunity to know about the legal aspects of all the details regarding company, its formation, capital subscription, share capital and its types as well as debt capital. 2) Students get an insight into formalities related to company promotion, share issue and information about prospectus. 3) To impart detailed information about Company act 2013 and its amendments. 4) To give information about different types of companies, shares, capital and the important documents of Memorandum and Articles of Association.

BUSINESS ORGANISATION AND MANAGEMENT

1) To make the students understand the concept, objective, importance of business 2) To acquaint the students with various forms of Business organisation and their functioning. 3) To make the students know about the managerial powers, functions and strategies 4) To make the students aware about various theories of management and communication

Inculcate among students the art and science of legal drafting. 2) To inform the students the legal provisions regarding company meetings, resolutions and minutes writing regarding shareholders meeting, Directors meeting etc. along with drafting chairman's report and speech.

INCOME TAX

1) To make the students understand the basic concepts involved in Income tax act and also the basics of income tax. 2) Students get a detailed conceptual knowledge about the residential status of individuals and organisations as income tax assesses. 3) They come to know about the minute details of taxable, partly taxable and fully exempted incomes in India. 4) Students will get a detailed knowledge about the provisions, rules and aspects of taxation of income from salary including taxation of various allowances, perquisites and also benefits like pension and gratuity as prescribed in respective acts. 5) Students get an exposure to provisions of taxation of house property, Income from other sources and also income from business and profession. They also learn about the procedure of calculating taxable amounts of individual as well as organisations. 6) They learn the procedure of filing tax returns, Advance tax and tax refunds.

AUDITING

1) Learners learn a lot about basics of audit and auditing, internal and external check, internal audit external audit, continuous audit, annual audit, cost audit, management audit and periodic audit. 2) They get an insight into vouching and its provisions along with the technique of vouching cash book, bank book, sales book etc. 3) The students are provided a chance to learn about insurance company audit and banking audit and all the formalities involved therein. 4) A glimpse into company audit gives an idea of appointing a company auditor, and the 5) Procedure of audit in a company etc. along with the rules of company and corporate audit.

BUSINESS ECONOMICS-I

1) The students will be able to understand the concept of business economics and its practical applications while taking decision. 2) Analyse the different types of decisions to be taken by any business. 3) Understand the social responsibilities of business. 4) Conceptualise demand and supply and understand Law of demand and Law of supply. 5) Evaluating the various types of demand forecasting. 6) Studying production function and its importance. 7) Analyse law of variable proportion. 8) To enable students to understand internal and external economies of scale. 9) Understanding different types of cost and revenue of a business.



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Date :

B. COM. SEMESTER-II
BUSINESS ECONOMICS-II

- 1) Identify various types of market structure and its pricing mechanism. 2) Understanding various types of pricing of a product. 3) Enabling students to understand various theories of rent, wages and interest. 4) To make students aware about various theories of profits-Innovative theory, dynamic theory. 5) To have insights about business cycle of business and help in understanding various phases of business. 6) Understand the concept national income and identify various difficulties in calculating.

B. COM. SEMESTER-III
MONETARY ECONOMICS-I

- 1) Enabling students to understand the basics about money and its origin and types and its functions. 2) To evaluate relative strength and weakness of various systems of note issue. 3) To enable students to have insights about inflation and deflation-its causes, consequences and remedies. 4) To make students aware about money market. 5) To understand meaning and components of Monetary Policy and Fiscal Policy. 6) To enable students in understanding concept of public finance, its principles, taxation and its different types.

B.COM SEMESTER-IV
MONETARY ECONOMICS-II

- 1) To enable students to understand the functions of commercial banks and credit creation & investment policy of commercial banks 2) To evaluate the advantages and limitations of plastic money. 3) To understand various modern means of transferring funds lik EFT and ECS. 4) To have insight of bank – customer relationship. 5) To understand the concept and functions of central banking and various methods of credit control.

B.COM. SEMESTER-V
INDIAN ECONOMY-I

- 1) To enable students in understanding the difference between functioning of Planning commission and NITI Aayog. 2) To identify the difference between economic growth and economic development; and understanding infrastructure. 3) To understand the population and various types of unemployment in under developing countries and identify various remedies to it, 4) To enable students to have insights about public expenditure, public revenue and public debt and India's fiscal deficit and recent policies of government for controlling it.



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B. COM. SEMESTER-II BUSINESS ECONOMICS-II

- 1) Identify various types of market structure and its pricing mechanism. 2) Understanding various types of pricing of a product. 3) Enabling students to understand various theories of rent, wages and interest. 4) To make students aware about various theories of profits-Innovative theory, dynamic theory. 5) To have insights about business cycle of business and help in understanding various phases of business. 6) Understand the concept national income and identify various difficulties in calculating.

B. COM. SEMESTER-III

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B.COM SEMESTER-VI

INDIAN ECONOMY-II

1) To enable students to understand agriculture in India; functions of NABARD; and problems and remedies of Vidarbha agriculture distress. 2) To understand the small scale industries in India- its problems and role in development of India. To identify the reasons for industrial sickness in India. 3) To have insight of India service sector and international trade in India. 4) To make the students aware about the contribution of Indian economic thinkers - Mahatma Gandhi, Pandit Dindayal Upadhyay, Dr.B.R. Ambedkar and Dr.Ram Manohar Lohiya.

B. COM. SEMESTER II, III, IV, V & VI

FINANCIAL ACCOUNTS

1) Students acquire knowledge about the provisions and technique for accounting in Consignments, preparing account sales, calculating Del creder commissions etc. they learn about the accounting in books. of consignor and consignee. 2) Information given on basics of preparing company final accounts and its various aspects, including preparation of appropriation accounts and profit distribution. 3) Knowledge is given about accounting procedure involved in issuing various kinds of shares. This is helpful in understanding the entries involved in issuing, allotting, calls on shares, forfeiture and reissue of shares. This can provide a good opportunity to students to work in share market and its related activities. 4) Accounting procedures and journalizing the transactions related to Insurance and banking companies can be imparted to learners along with the procedure of preparing Balance sheet of banks and insurance companies. Detailed information of premiums, reinsurance premiums, reserve for unexpired risks etc can be helpful for students interested in selecting insurance sector for their career. 5) Students become acquainted with the amalgamation and merger of companies, acquiring and absorption of companies, reconstruction of companies. 6) An idea is imparted to students about calculation of goodwill of company by different methods like weighted average profit method, super profit method etc which are extremely useful at the time of purchasing and selling the companies. 7) Students have a chance to know about the methods of share valuation which can be helpful in case they are keen to join share market operations. 8) The procedure and method of double accounting as in electricity, water and gas companies is explained to students so that it can be helpful for them in case they opt for a place in accounts department of these institutions 9) Students get enough scope to learn about the procedure involved in Investments accounting, purchase and sale of investments and bonds and also the technique of calculating interests and dividends. They also learn about the profit and losses incurred during



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B. COM. V SEM. BUSINESS FINANCE

Student Learning Outcomes At the end of this course students should be able to: 1) After completing Business finance syllabus students would gain a thorough grounding in the fundamentals of Commerce (Business) and Finance. Enable the students with business Finance and its various segments. 2) Evaluate investments in working capital, Calculate Capital Budgeting and inventory, Create and interpret Capital Budgeting 3) To build up the capability of students for knowing SEBI & concepts and operation 4) To motivate students to make their mind set for thinking to start the business.

B. COM. III SEM BUSINESS LAW

The student will be able to: After completion of the course the students will be able to: effectively using Communicate standard business and legal terminology. 1) This course intends to provide a basic understanding of the mechanism of business contract., With reference to various provisions of the related Acts the course gives the knowledge regarding The Indian Contract Act, 1872, The Sales of Goods Act, 1930, The Indian partnership Act 1932, Negotiable Instruments Act 1881. 2) Gain knowledge of various legal aspects of business 3) Understand laws that affect mercantile transactions 4) Understand court interpretations on laws like, Prevention of Money Laundering Act-2002, Consumer Protection Act etc. After completion. prepare for CPT, CA, CS, ICWA, CFA and MBA courses

B. COM. SEMESTER V COST ACCOUNTS

a) Students get a clear idea about the concept, objectives, importance and benefits of Cost, costing and cost accounting along with the basic advantages and significance of various techniques of costing and its elements. b) Students get trained in the art of preparing cost sheets and cost statements and also framing tender statements. c) They know about the various steps involved in accounting for contracts and process costing along with the production costing. d) An insight is also possible into standard costing techniques.

B. COM. SEMESTER V MANAGEMENT ACCOUNTS

a) Students get a clear idea about the concept, objectives, importance and benefits of management accounting along with the basic advantages and significance of various techniques of management accounting. b) They understand the importance of various comparative ratios like profitability ratios, turnover ratios, and balance sheet ratios. c) A good idea of preparing various budgets like cash budget, flexible budgets and capital budgets help in drafting budget and budget control measures in organisations. d) A peep into marginal cost



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SEMESTER -V STATISTICS

- a) Students gain an insight into various techniques of central tendencies, regression, correlation and dispersion along with probability terms. b) Various tests and techniques of comparison and graphical representations expertise into. c) Mathematical conclusions for percentages, profit and loss, calculation of interest makes it easier for students in their career.

Bachelor of Commerce

Compulsory English

Course Outcomes

Prescribed Textbook- Epiphanies (Orient Black Swan) I & II Semester
Prescribed Textbook- Igniting Minds (Orient Black Swan) III & IV Semester

B.Com. I. Semester I

1. The moral and values imparted through prescribed prose will have a positive impact on the students' mind.
2. The life of great personalities propagates the idea of tolerance and universal harmony.
3. The students will have an opportunity to study Indian as well as English poets to develop their critical outlook.
4. The prescribed syllabus helps to enhance their vocabulary.
5. The items of grammar and writing skills will help them to improve language skills.

B.Com. I. Semester II

1. The students will have an opportunity to study the prose section based on ethics and values with emotional bonding.
2. Some themes explore struggle, kindness and compassion which impart positive impact on the learners' mind.
3. The prescribed poems dealt with Gods and nature have a positive impact on their mindset.
4. The writing skills and language study will help them to improve their language skills.

B.Com. II - Semester III

1. The learners will learn the prose section which are dealt with morality and humanity.
2. The life of some eminent personalities propagate a positive impact on them.
3. The students will imbibe lessons of humanity and justice through prescribed poems.
4. Through writing skills and language study, the students will gain confidence in spoken English.

B.Com. II Semester - IV

1. The prescribed prose will act as an inspiration to the learners for their future.
2. The students will study Indian and English authors and develop critical outlook through comparison.
3. Through poems, students will understand that only the defeated individual knows the value of success and leave the materialism.
4. The power of expression of the students will get enhanced through prescribed writing skills and



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BACHELOR OF SCIENCE

COURSE OUTCOME

B.Sc. Course: SEM-I (Paper –I)

By the end of this course, the students will be able to: 1. Understand the basic concept of bacteria, virus and mycoplasma. 2. To Know the General characteristics, systematics, morphology, Ultramicroscopic cell structure and life cycle pattern of Viruses, Mycoplasma, Bacteria, Cyanobacteria and Algae. 3. Student will understand types of bacteria, viruses and mycoplasma. 3 Student will able to describe Classification and general characteristic of Algae. 4 Analyze economic importance of bacteria, virus and algae. 5. Student will describe life-cycle of micro organism and Algae. 6. Student will able to differentiated between bacteria, Viruses and Algae. 7. Student will understand the different types of biofertilizers and their production.

B.Sc. Course: SEM-I (Paper –II)

By the end of this course, the students will be able to: 1. Compare lower group of plants with higher. 2. Students understand Fungi, Plant diseases, Lichens and Bryophytes. 3. Student identifies and understand the different types of Mushrooms. 4. Understand the different techniques of mushroom cultivations. 5. Identify the different plant diseases. 6. Understand the Economic importance fungi, lichens and bryophytes. 7. Discuss the classification of fungi (Alexopoulos, 1996) and Bryophytes (Proskauer, 1957).

B.Sc. Course: SEM-I

Lab Course Outcomes:

By the end of this course, the students will be able to: 1. Student will understand working and precaution while handling microscope. 2. Understand the basic technique in lab e.g. Slide preparation and Section cutting. 3. Identify bacterial, cyanobacterial, algal, fungal, lichens and Bryophytic plant. 4. Comparative study of lower groups and lower higher groups. 5. Understand and identify the algal, bryophyte, fungal, plant pathology and lichens under natural habitat. 6. Understand the methods of preparation of spawn and mushroom beds.

B.Sc. Course: SEM-II (Paper-I)

Course Outcomes:

By the end of this course, the students will be able to: 1. Explain the classification pteridophyte and gymnosperm. 2 Describe the economic importance of pteridophyte and gymnosperm. 3. Discuss the alternation of generation pteridophyte and gymnosperm. 4. Critize the concept of heterospory and seed habit.



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B.Sc. course: SEM II (Paper –II)

Course outcomes:

By the end of this course, the students will be able to: 1.Understand the paleobotany and geological time scale. 2.Identify the different type of fossils. 3.Explain the morphology and modification of plants. 4.Compare the types inflorescence and fruits. 5.Describe the parts of flower. 6.Student will understand the process of fossilization. 7.Student will understand fossil types in the field. 8.Student will describe vegetative and floral parts in scientific language. 9.Students will identify types of root, stem, leaves and flowers

. B. Sc. Course: SEM-II

Lab Course Outcomes:

By the end of this course, the students will be able to: 1.Describe the various parts of flower. 2.Identify the anatomy of plants material by making temporary mount. 3.Identify the different types of fossils. 4.Identify various Plant specimen. 5.Understand and Identify the morphological characters of plants in natural environment. 6.Students will understand the structure of Enigmocarpon fruit. 2.Students will identify types of roots, stem, leaves, inflorescence, flower and fruits in the field visit.

B. Sc. Course: SEM-III (Paper-I)

Course Outcomes:

By the end of this course, the students will be able to: 1.Describe general taxonomic rule of plant classification. 2.Acquire the basic knowledge of taxonomy. 3.Made aware with local flora. 4.Discuss the principal of botanical nomenclature. 5.Criticize the classification of angiosperms. 6.Justify the merits and demerits of systems of classification. 7.Understand the fossil angiosperm sahanianthus

B. Sc. Course: SEM-III (Paper-2)

Course Outcomes:

By the end of this course,the students will be able to: 1.Describe the structure of plant cell and its organelles. 2.Analyze the morphology of chromosome organization. 3.Explain the plant cell-division and its significance. 4.Evaluate the biostatic formulas. 5.Understand the method of plants breeding. 6.structure of typical plant cell and plant membrane. 7.Objectives and application of plant breeding statistical methods used in biology.

B. Sc. Course: SEM-III lab

Course Outcomes:

By the end of this course,the students will be able to: 1.Preparation of herbarium. 2.Analyze the floral formula of monocot and dicot families. 3.Perform the procedure of cytological techniques. 4.Analyze the biostatic data. 5.Understand and identify the plants under natural environment. 6.Enriched with



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B. Sc. Course: SEM-IV (paper-I)

Course Outcomes:

By the end of this course, the students will be able to: 1. Classify the meristematic and permanent tissue based on origin and position. 2. Compare the different theories of tissue. 3. Understand primary, secondary and anomalous, anatomical structure of plant parts. 4. Understand the various types of pollination mechanism. 5. Explain the types of ovules. 6. Students will understand double staining technique.

B. Sc. Course: SEM-IV (paper-II)

Course Outcomes:

By the end of this course, the students will be able to: 1. Describe the laws of mendelism. 2. Summarize the theories of linkage. 3. Design and construct the variation in chromosome structure and number. 4. Discuss the types of mutations and its application in crop –improvement. 5. Understand the concept of gene.

B. Sc. Course: SEM-IV Lab

Course Outcomes:

By the end of this course, the students will be able to: 1. Perform double-stained permanent slide mounting. 2. Calculate the percent germination of pollen-grains. 3. Solve the Mendel's law of inheritance through color beads. 4. Solve interaction of gens from the given data.

B. Sc. Course: SEM-V (Paper-I)

Course Outcomes:

By the end of this course, the students will be able to: 1. Classify and describe about bimolecular. 2. Describe about the basic of enzymes. 3. Understand plant water relation. Write about mineral nutrients. 4. Summarize the cycle of respiration and photosynthesis.

B. Sc. Course: SEM-V (Paper-II)

Course Outcomes:

By the end of this course, the students will be able to: 1. Define and explain about ecology branches and its significance. 2. Summarize the environmental factors. 3. Understand and explain the nitrogen cycle. 4. Compare the various Phytogeographic regions of India. 5. Describe the types of ecosystem. 6. Student will explain the effect of climatic factors on vegetation. 7. Students will understand food chain, food web and ecological pyramids.



Ref.:

Date :

B.Sc. Course: SEM-V Lab

Course Outcomes:

By the end of this course, the students will be able to: 1. Perform major and minor physiology experiment. 2. Perform micro-chemical and bio-chemical test. 3. Understand ecological adaptations of plants. 4. Compare different types of soil. 5. Students able to measure the water holding capacity and moisture content.

B. Sc. Course: SEM-VI (Paper-I)

Course Outcomes:

By the end of this course, the students will be able to: 1. Describe the plant growth and its growth regulators. 2. Describe the seed -dormancy. 3. Describe the plant-defense and role of secondary metabolites. 4. Discuss plant tissue culture technique and its application. 5. Discuss the advantages and disadvantages of genetic-engineering.

B. Sc. Course: SEM-VI (Paper-II)

Course Outcomes:

By the end of this course, the students will be able to: 1. Compare the various ecological successions. 2. Explain different types of environmental pollution and its management. 3. Understand about the renewable and non-renewable natural sources. 4. Analyze the principal, types and application of instruments. 5. Explain morphology utilization and chemical-constituents of different plants.

B. Sc. Course: SEM-VI lab

Course Outcomes:

By the end of this course, the students will be able to: 1. Perform principles and working of instruments. 2. Study and identify the types and Characteristic of soil. 3. Study the physical and chemical properties of water. 4. Study the plants of ethnobotanical importance. 5. Understand and identify ethno-botanical plant under natural habitat.

Statement of Course Outcomes

(COs) B. Sc. Sem-I Paper-CH 101:

(Inorganic Chemistry)

By the end of this course, Students will be able to: • Understand the basic structure of atom. • Understand the concept nature of chemical bond. • Overview of periodic table and S,P block elements.

B. Sc. Sem-I Paper-CH 102: Physical Chemistry

By the end of this course, Students will be able to: • Understand the various states of matter. • Overview of solid, liquid and gaseous state of matter. • Understand the concept of different types of surface phenomena



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B. Sc. I Sem-I Paper- CH-103: Laboratory Course

By the end of this course, Students will be able to: • Students will be able to investigate different metal salts by using inorganic qualitative analysis. • Students are able to understand various properties of liquids i.e. surface tension, refractive index, viscosity.

B.Sc. Sem-II CH – 201: Paper- I (Organic Chemistry)

By the end of this course, Students will be able to: • Understand the concept structure and bonding in organic compounds. • Understand the concept of stereochemistry. • Understand different types of reaction mechanism. • Understand alkanes, alkenes. • Understand the aromaticity of organic compounds.

B. Sc. Sem-II CH – 202: Paper- II (Physical Chemistry)

By the end of this course, Students will be able to: • Understand the thermodynamics of chemical reactions. • Understand the concept of chemical kinetics. • Understand the concept of phase equilibria.

B. Sc. Sem-II CH-203: Laboratory Course

By the end of this course, Students will be able to: • Students will be able to analyse organic compounds by organic qualitative analysis method. • Students will be able to synthesize simple molecule like benzamide and benzaldehyde. • Students will be able to use various techniques useful for analysis such as calorimetry, conductometry.

B. Sc. Sem-III CH – 301: Paper- I (Inorganic Chemistry)

By the end of this course, Students will be able to: • Understand the concepts of molecular orbital theory. • Understand the properties of d and f block elements. • Understand the role of non aqueous solvents. • Understand concepts of errors and evaluation in chemical analysis.

B. Sc. Sem-III CH-302 : Paper- II (Organic Chemistry)

By the end of this course, Students will be able to: • Understand the structure and chemical bonding in aryl, alkyl halides, aldehydes. • Understand the structure and chemical bonding in alcohols and phenols. • Understand chemical reactions of acids, alcohols, phenols etc.

B. Sc. Sem-III CH- 303: Laboratory Course

By the end of this course, Students will be able to: • Perform volumetric analysis for the estimation of Zn, Fe and alkali content in given sample. • Identify given organic compound by organic qualitative analysis.



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B. Sc. Sem-IV CH – 401:Paper- I (Inorganic Chemistry)

By the end of this course, Students will be able to: • Understand the properties of coordination compounds. • Overview of organometallic chemistry. • Understand the importance of essential elements in living organism. • To understand the Concept of hard and soft acid base theory.

B. Sc. Sem-IV CH – 402:Paper- II (Physical Chemistry)

By the end of this course, Students will be able to: • Understand second law of thermodynamics. • Use spectroscopy for chemical analysis. • Understand electrochemistry of reversible and irreversible cells. • Understand the nuclear properties of atom.

B. Sc. Sem-IV CH-403: Laboratory Course

By the end of this course, Students will be able to: • Perform gravimetric analysis of Ni, Ba. • To estimate amount of constituents present in given solution by conductometer, potentiometer.

B. Sc. Sem-V CH- 501:Paper- I (Organic Chemistry)

By the end of this course, Students will be able to: • Understand heterocyclic chemistry. • Understand the theory behind the organic qualitative analysis. • Understand the chemistry of organ magnesium and organozinc compound.

B. Sc. Sem-V CH- 502:Paper- II (Physical Chemistry)

By the end of this course, Students will be able to: • Understand quantum chemistry and its application. • Understand molecular orbital theory. • Understand photochemistry and Raman spectroscopy

B. Sc. Sem-V CH- 503: Laboratory Course

By the end of this course, Students will be able to: • Perform estimation of different functional groups present in organic compound. • Perform analysis based on viscosity,colorimetry,refractometry.

B. Sc. Sem-VI CH – 601: Paper- I (Inorganic Chemistry)

By the end of this course, Students will be able to: • Understand metal-ligand bonding in co-ordination compounds. • Understand electronic spectra of transition metal complexes. • Understand separation techniques used in analysis and purification. • Understand the importance of inorganic polymers.

B. Sc. Sem-VI CH- 602: Paper- II (Organic Chemistry)

By the end of this course, Students will be able to: • Understand the theory behind Nuclear magnetic resonance spectroscopy.. • Understand structure and properties of biomolecules. • understand the importance

of synthetic drugs and synthetic polymers.



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DEPARTMENT OF ZOOLOGY PROGRAMME:

B. SC. Statement of Course Outcomes (COs)

B.SC. SEMESTER I Paper – I

Life and Diversity of Animals - Nonchordates (Protozoa to Annelida) By the end of this program, the students will acquire knowledge and they will understand the: • General characters and classification of Protozoa, Porifera, Helminthes, Annelida. • Structure and reproduction of Paramoecium, Plasmodium, Sycon, Obelia, Ascaris, Leech • life cycle of Plasmodium, Obelia, Ascaris, Taenia solium. • Parasitic Protozoans of Man- Mode of infection and its control, parasitic adaptations in helminthes. • Trochophore larva- significance • Canal system in sponges, corals and coral reef formation, Vermiculture and its importance.

Paper – II Environmental Biology

By the end of this program, the students will understand the: • Atmosphere (Hydrosphere, Lithosphere): Major zones and its importance, energy sources, Energy flow in an ecosystem. • Ecosystem - Definition and types - pond ecosystem, Food chain, food • web and ecological pyramids. • Biodiversity and its conservation , causes of reduction , Hot spots in India, Wildlife conservation acts (1972 and 1984), national parks and sanctuaries . • Sources, effect and control measures - air pollution, water pollution, noise pollution. • Toxic effects of heavy metals- Bioaccumulation and biomagnifications

PRACTICAL – I

By the end of this programme, the students will be able to • Study and Classify Life and Diversity of Animals – Nonchordates with the help of museum specimens, permanent slides, diagrams. • Prepare temporary and permanent slides. • Estimate DO, free CO₂, pH, total hardness of water sample. • Study of pond ecosystem – analyze plankton quantitatively. • Observe animals in natural habitat of National park and Sanctuary.

B.Sc. Semester – II Paper – III

Life and Diversity of Animals – Nonchordates (Arthropoda to Hemichordata)

By the end of this programme, the students will be able to understand • General characters and classification up to classes: Arthropoda , Mollusca, Echinodermata, Hemichordata • study the Morphology and anatomy of Cockroach , Pila, Asterias, Balanoglossus. • Insects as Vectors , Social behavior in honey bees & Pearl formation in Mollusca • Study the larval forms -crustacea, Mollusca, Echinoderms. • Affinities of Balanoglossus.

Paper – IV Cell Biology

By the end of this programme, the students will get knowledge and they will understand the: • Ultra structure of prokaryotic and eukaryotic cell . • structure and function of Cell organelles. • Oxidative phosphorylation,

VISION OF COLLEGE: TO IMPART QUALITY EDUCATION AND VALUABLE SERVICE IN THE FIELD OF EDUCATION.

MISSION OF COLLEGE: TO PROVIDE OPPERTUNITIES TO FACE ALL THE CHALLENGES OF THE COMPETITIVE WORLD, WITH UTMOST UTILIZATION OF THE POTENTIAL INACADEMIC, SPORTS, SOCIAL AND OTHER ACTIVITIES.





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Date :

PRACTICAL – II

By the end of this programme, the students will be able to : Section A • Study and classify Life and Diversity of Nonchordates . • Prepare temporary and permanent slides. Section B: Cell Biology • Study the ultra structure of prokaryotic cell & eukaryotic cell . • observe osmosis in human RBCs , Barr body in blood smear. • prepare and observe the mitotic cell division in onion root tips , meiosis in Tradescantia bud/ Grasshopper testis by squash method . • study the salivary gland chromosome in Chironomous larva . • prepare and observe the mitochondria in buccal epithelium/ lip mucosa . • Use ocular micrometer to measure micro objects.

B.Sc. Semester – III Paper – V

Life and Diversity of Animals - Chordates (Protochordata to Amphibia)

By the end of this programme, the students will be able to understand • General characters and classification up to classes: Protochordata, Pisces, Amphibia, & Agnatha • The Morphology and anatomy of Herdmania, Amphioxus . • Retrogressive metamorphosis of ascidian tadpole of Herdmania. • Scales of fishes ,origin of paired fins ,migration and accessory respiratory organs and Embryology. • Parental care and Neotony in Amphibia . • Frog Embryology & Development of respiratory organs & Aortic arches in frog .

Paper – VI Genetics

By the end of this programme, the students will be able to understand • Mendelian Principles& laws. • Interaction of genes, quantitative genetics & extra nuclear genome . • Cytoplasmic inheritance, Linkage and crossing over. • Concepts of genes & Genetic disorders in human. • Sex determination. • Gene mutations & Lethal genes. • Population genetics, Genetic counseling& Applied genetics

PRACTICAL – II

Section A :Life and Diversity of Animals – Chordates (Protochordata to Amphibia)

By the end of this programme, the students will be able to • Identify, classify and distinguish the characters and adaptive features of animals from Urochordata ,Cephalochordata ,Cyclostomata , Pisces & Amphibia . • Describe Digestive system ,Reproductive system &Brain of locally available culturable Fish. • Explain the histology of Amphioxus and embryology of Frog from the permanent slides . • Prepare the permanent stained slide . Section B : Genetics Uunderstand monohybrid and dihybrid ratio • Study of normal human karyotype (Normal male and female) • Study characters and karyotypes of Syndromes. • Study the genetic traits .



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B.Sc. Semester IV Paper - VII Life and Diversity of Animals – Chordates (Reptilia, Aves and Mammals)

By the end of this programme, the students will be able to • Identify, classify and distinguish the characters and adaptive features of animals from • Reptilia, Aves & Mammals. • understand Poison apparatus, biting mechanism, snake venom and its importance. • understand Comparison of Ratitae and Caranitae, Flight adaptations and migration . • understand theories of evolution & genetic basis of evolution. • understand Adaptations in animals. • understand Races in Man • understand Comparative account of aortic arches and heart in Reptiles, Birds and Mammals • understand embryology of Mammals & chick • understand Stem cells . • understand Biological clock : Diurnal and rhythmic behavior in birds and mammals • understand the Role of pheromones in reproductive behavior Paper VIII Molecular Biology and Immunology By the end of this programme, the students will be able to understand • Structure & properties of DNA, RNA as genetic material ; DNA replication. • Recombination in Bacteria. • Genetic code & Protein synthesis. • Gene regulation . • Concepts of immunity, Structure, types and functions of Antigen & Antibody. • Antigen-antibody interaction .Types of immune response. • Complement system, Cytokines. • Autoimmunity and immunodeficiency.

PRACTICAL – IV Section A : Life and Diversity of Animals – Chordates (Reptilia, Aves and Mammals)

By the end of this programme, the students will be able to understand • Identify, classify and distinguish the characters and adaptive features of animals from • Chordates (Reptilia, Aves and Mammals) • skeleton of Rabbit and Fowl . • chick embryology from W.M. Filoplume & skin of Bird, Skin of Mammal. Section B: Molecular Biology and Immunology Molecular Biology By the end of this programme, the students will be able to • perform staining of DNA and RNA from blood smear of various animals. • understand basic laboratory instruments and equipments. • 3) perform calculations of Molarity and normality of solutions . • Isolate Genomic DNA from any available source. Immunology • Determine blood groups in humans. • Perform Antigen – Antibody interaction by double diffusion method (Ouchterlony). • Study of histological slides of organs of immune system.

B.Sc. Semester V Paper IX General Mammalian Physiology

By the end of this program, the students will understand the: • Importance of vitamins & Enzymes- biocatalyst, • Glands and hormones associated with digestion. • and explain the physiology of digestion , respiration, circulation • Blood pressure, E.C.G. & working of Heart. • Composition of blood, respiratory pigments in mammals. Paper X Applied Zoology Students will get knowledge and will be able to: •



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(agriculture and veterinary). apply ways to control them • Understand the types of Silkworm, their Life cycle and economic importance. • Establish their own sericulture , apiculture, lac culture units.

PRACTICAL V Section A: General Mammalian Physiology - I Section A: General Mammalian Physiology – I

By the end of this programme, the students will be able to: • Detect the action of salivary amylase on starch. • Detect the presence of carbohydrates, proteins, Lipids, Vitamin A and Vitamin C in given sample. • Measure lung capacity . • Prepare slide of Haemin crystal. • Total WBC and RBC count from blood. • Understand histology of digestive and lungs. Section B : Applied Zoology –I (Aquaculture and Economic Entomology) Aquaculture: By the end of this programme, the students will be able to: • 1. Collect and identify Freshwater edible fishes & Aquarium fishes . • 2. explain the digestive, reproductive systems and brain with pituitary of culturable fishes & the Gonosomatic index • 3. Fabricate and set up own aquarium • 4. Mount the Scales of fishes, zooplankton .

B.Sc. Semester VI Paper -XI

General Mammalian Physiology

By the end of this program, the students will receive knowledge and they will be able to understand the: E.M. structure ,types of Neurons & conduction of nerve impulse . • Ultrastructure & properties of striated muscle . • Muscle contraction- sliding filament theory. • Structure & function of uriniferous tubule. • Norms and abnormal constituents of urine, dialysis. • Structure and functions of endocrine glands. • Oestrous an menstrual cycle ,male and female sex hormones , Contraceptives . • Causes of infertility ,In-vitr fertilization.

Paper - XII Applied Zoology II

(Biotechniques, Microtechnique, Biotechnology, Bioinformatics and Biostatistics)

By the end of this programme students will able to understand : • Sterilization methods, Separation biomolecules; Chromatography (Elementary idea) ,Electrophoresis. • Pprinciples of colorimeter as spectrophotometers. • The microtechnique procedure. • Histochemical staining techniques for carbohydrate proteins and lipids . • Recombinant DNA technology, application of biotechnology: Insulin and vacci production. • Bioinformatics: Definition, Basic concepts ,importance and its role in life sciences Bioinformatics databases. • Biostatistics.



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PRACTICAL VI

At the end of this programme, the students will be able to:

- To detect of urea, albumin, sugar and creatinin in urine .
- To count the sperms from given semen sample .
- To describe the endocrine glands of various fishes .
- To identify and explain the histology of kidney, endocrine glands, uterus, placenta, nerve fibre, muscles of mammals.
- To separate amino acids by paper chromatography .
- To separate proteins by electrophoresis technique .
- To develop skill in microtechnique .
- To demonstrate the carbohydrates, proteins and lipids by histochemical methods .
- To determine mean, mode, median from a given biostatistical data .
- To represent statistical data graphically using computers.

Physiology helps to understand the mechanism or working of body, its systems , its tissues, the cells and the biomolecules . It helps to understand how homeostasis is maintained in body, in response to changes in environmental factors. It helps to understand processes of life in healthy and diseased states. • Bioinformatics is the currently popular term for the application of computational and analytical methods to biological problems. • To study the origin of diseases at molecular level the study of molecular data (i.e DNA, RNA & Proteins), its analysis and interpretation is done with the help of computational biology or bioinformatics . • The information of gene structure, gene sequence and expression, protein structure and function can then be applied to gene-based drug discovery and development, development of anti microbial agents and vaccines. • application of bioinformatics programs is very useful, easier, and shorter process and at much lower cost. areas

DEPARTMENT OF MATHEMATICS

PROGRAMME: B. Sc. B. SC. SEM I

1) Students can able to evaluate the limits analytically and use in Industrial field. 2) Students will be able to interpret slope as rate of change.

B. SC. SEM II

1) Students will be able to observe the data and draw appropriate statistical conclusions. 2) Students can demonstrate the ability to apply analytical and theoretical skills to model and solve mathematical problems. 3) Students will be able to understand the knowledge of curve tracing use in Engineering.

B. SC. SEM III

1) Students can able to find derivatives of a function using rules of derivatives 2) Students will be able to solve Higher order differential equations 3) Students will be able to recognize, apply and interpret multiple representations of integration and its applications.



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Ref.:

Date :

B. SC. SEM IV

1) Students will be able to solve partial differential equation. 2) Students will be able to solve equations involving trigonometric functions 3) Students will be able to toanalyze and solve a precalculus level problems.

B. SC. SEM V

1) Students can apply graph theory to study technically. 2) Students will be able to observe he data and draw appropriate statistical conclusions. 3) Students can demonstrate to write a linear model of a real world situation

B. SC. SEM VI

1) Students will be easily apply the mathematical principles and techniques to solve the problems in a such metric spaces, set theory and Discrete Mathematics.. 2) Students can apply graph theory to study technically. 3) Students will be able to get knowledge of affective domain and study skills. 4) Students can demonstrate the ability to apply theoretical skills to model and solve mathematical problems.