



PROGRAM OUTCOMES



GOPIKABAI SITARAM GAWANDE MAHAVIDYALAYA

Umarchhed Dist. Yavatmal 445206

(Affiliated to Sant Gadge Baba Amravati University Amravati)

NAAC Reaccredited (3rd Cycle) Grade B⁺⁺ CGPA 2.79

Gopikabai Sitaram Gawande Mahavidyalay, Umarkhed

Program Outcomes/ Program Specific Outcomes/ Course Outcomes

U.G. Program Outcomes

BACHELOR OF ARTS (B.A.)

Students seeking admission for B.A. program are expected to imbue with following qualities which help them in their future life to achieve the expected goals.

- a. Realization of human values.
- b. Sense of social service.
- c. Critical temper
- d. Creative ability.
- e. Competent in Competitive Exams
- f. Eligibility for higher Education

BACHELOR OF COMMERCE (B.COM)

Students who have taken admission to this program of B.Com are expected to concentrate upon the following outcomes.

- a. Commercial sense.
- b. Develop managerial skills.
- c. Entrepreneurial skill.
- d. Budgeting policy.
- e. Human Resources Management.
- f. Develop Numerical ability.
- g. Develop business sense

BACHELOR OF SCIENCE (B.Sc)

Students taking admission to this program of B.Sc. are expected to get equipped with following outcomes:

- a. Explaining the basic scientific principles and methods.
- b. Inculcating scientific thinking and awareness among the student.
- c. Ability to handle the unexpected situation by critically analyzing the problem.
- d. Understanding the issues related to nature and environmental contexts and sustainable development.

BACHELOR OF COMPUTER APPLICATION (BCA)

- a. Facilitates the graduates to use and apply current technical concepts and practice in the core computer applications.
- b. Identify computer application related problems, analyze them and design the system or provide the solution for the problem considering legal, ethical and societal issues.
- c. To empower the graduates to appear for various competitive examinations or choose the post graduate program of their choice.
- d. Learn to work and communicate effectively in interdisciplinary environment.
- e. Recognize the need for and an ability to engage in continuing professional development.

P.G. Program Outcomes

MASTER OF ARTS

- a. To acquire knowledge in the field of social sciences, literature and Humanities.
- b. To acquaint them the social, economical, historical, geographical, political, ideological and philosophical tradition and thinking of their respective subjects.
- c. To appear for various competitive examinations.
- d. The M. A. program enables the students to acquire the knowledge with human values.
- e. To know about research in their respective subject.

MASTER OF COMMERCE

- a. To acquire advanced knowledge in the field of business and management.
- b. To enable the students to acquire the basic skills required for carrying out business activities, research, stock market operations, accounting practices, etc.
- c. To adequate knowledge and skill to provide consultancy services in finance and marketing.
- d. To confidently prepare for NET, SET, and other competitive examinations of their choice.

MASTER OF SCIENCE

- a. Ability to integrate and generate in-depth relevant scientific knowledge for the benefit of related course.
- b. Ability to apply knowledge to perform project works scientifically to explain Course phenomena.
- c. Ability to analyze and solve Course problems and also ability to evaluate situations and react responsibly to communicate, cooperate and lead a team among peers and others.
- d. Ability to integrate professional ethics in life, organization, society and individual to fulfill the needs of mankind in both spiritual and material aspects.
- e. Ability to acquire knowledge independently for continuous personal and professional development.

DOCTOR OF PHILOSOPHY

- a. After completion of PhD program the Research Scholar will know:
- b. How to choose the problem for research and identify the issue.
- c. To acquaint with various research methodology to carry out the research.
- d. Become an expert or a resource person in a specific research area.
- e. To undertake Research Projects independently and can sought financial assistance for it from Government or non-Government organizations.

PROGRAM SPECIFIC OUTCOMES (PSOs)

B.A. MARATHI LANGUAGE AND LITERATURE

- a. Creating an interest in literature.
- b. Availing the job opportunities in translation, transformation and media.
- c. Developing language.
- d. Increasing the critical attitude about literary studies.

B.A. ENGLISH LANGUAGE AND LITERATURE

- a. Basic knowledge of English as Language.
- b. Major knowledge of English as Literature.
- c. Basic knowledge of English Grammar.
- d. Critical study of English Literary studies.
- e. Relation between pleasure of literature and real life.
- f. To prepare the students for competitive exams
- g. To make ready for job orientated courses

B.A. ECONOMICS

- a. Understanding how different degrees of competition in a market affect pricing and output.
- b. Understanding the efficiency and equity implications of market interference, including government policy.
- c. Developing research knowledge in economics.
- d. Developing the skill of data collection & use of sampling techniques in research.
- e. Developing the knowledge about theories of economic growth & Development and issues of economic planning.
- f. Creating awareness about changing macro-economic policies and theories.

B.A. POLITICAL SCIENCE

- a. Knowledge about political system of the nation.
- b. Study of national and international political affairs.
- c. Study from competitive examination point of view.
- d. Understanding the government mechanism, its functions, duties and responsibilities
- e. Getting knowledge of Constitution of India.

B.A. HISTORY

- a. To study and evaluate the past events.
- b. To know various ages, societies and culture and compare them with present.
- a. To identify the perspectives and enlighten the vision with the help of historical facts.
- c. To prepare the students for competitive exams
- d. To study historical truth in past condition creating present and thus giving new birth to future
- e. To avail good opportunities to work in the field of archeology, education and research.

B.Sc. ZOOLOGY

- a. Improving the knowledge about criteria for animal classification.
- b. Study of salient features of chordates and non-chordates.
- c. Improving the knowledge of animals about their special adaptations and
- a. Evolutionary relationship.
- d. Scientific study of their nature of habitant with environment.
- e. Improving information about external morphology and anatomy of animals
- b. Including human being.

B.Sc. CHEMISTRY

- a. Creating interest in environmental issue.
- b. Increasing working knowledge of instruments.
- c. Obtaining the knowledge of pharmaceutical tables
- d. Social awareness about the quality of water.
- e. Increasing the practical skill of the students
- f. Awareness about plastic garbage.

B.Sc. BOTANY

- a. Identifying different resources helpful for human life.
- b. Identifying different groups of plants
- c. Acquiring knowledge about inheritance, biochemical and metabolic activities.
- d. Development of horticultural skill.
- e. Acquiring knowledge about importance of environment.

B.Sc. PHYSICS

- a. Read, understand and interpret physical information – verbal, mathematical and graphical.
- b. Impart skills required to gather information from resources and use them.
- c. To give need based education in physics of the highest quality at the undergraduate level.
- d. Offer courses to the choice of the students.
- e. Perform experiments and interpret the results of observation, including making an assessment of experimental uncertainties.
- f. Provide an intellectually stimulating environment to develop skills and enthusiasms of students to the best of their potential.
- g. Use Information Communication Technology to gather knowledge at will.
- h. Attract outstanding students from all backgrounds.

B.Sc. MATHEMATICS

- a. Ability to calculate and reason to design complex and critical financial models for Bank and Insurance Companies.
- b. Ability to understand both concrete and abstract problems.
- c. Ability to make critical observations.
- d. Ability to accurately organize, analyze and interpret data.
- e. Develop the mathematical logic which is very useful for solving mathematical reasoning problems.

B.Sc. COMPUTER SCIENCE

- a. Effectively communicating computing concepts and solutions to bridge the gap between computing industry experts and business leaders to create and initiate innovation.
- b. Ability to use approximately system design notations and apply system design engineering process
- c. Preparing for a career in an information technology oriented business or Industry.
- d. Effectively utilizing the knowledge of computing principles and mathematics theory to develop sustainable solutions to current and future computing problems.
- e. Developing and implementing solution based system and/or process that address issues and/or improve existing systems within a computing based industry.

BACHALOR OF COMPUTER APPLICATION

- a. To understand the principles and working of computer systems. Students can assess the hardware and software aspects of computer systems.
- b. To understand the structure and development methodologies of software systems. Possess professional skills and knowledge of software design process. Familiarity and practical competence with a broad range of programming language and open source platforms.
- c. To apply mathematical methodologies to solve computation task, model real world problem using appropriate data structure and suitable algorithm.
- d. To use knowledge in various domains to identify research gaps and hence to provide solution to new ideas and innovations.

M.Sc. PHYSICS

This course provides in-depth understanding of principles and concept of Physics, Photonics and skill in experimentation to understand the theoretical and experimental dimensions of Physics. This program specification is primarily intended as a reference point for academic and support staff involved in delivering the program and enabling student development and achievement for its assessment by internal and external examiners.

- a. The graduates will have knowledge of fundamental laws, Physics concepts and principles in a variety of areas of Physics along with their applications.
- b. The Physics student has skills in planning and carrying out advanced physics experiments. Introduction to cross-disciplinary science e. g. Nanotechnology, Thin Film Technology, Laser and its Application.
- c. The M.Sc. Physics students will develop research skills which might include advanced laboratory techniques, develop communication skills, apply theoretical knowledge of principles and concepts of Physics to practical problems, experienced undertaking a major, individual, physics-related project.
- d. M.Sc. Physics with specialization in Photonics students will pursue physics as a teaching and research career and doing job in various industries, colleges etc.
- e. The graduate has in-depth knowledge of the topics of the research conducted by researchers at the Department of Physics, as expert knowledge of a well-defined area of research within physics.

M.Sc. CHEMISTRY

- a. To develop abilities to apply the knowledge of contents of principles of Chemistry inculcated by teachers.
- b. To develop proper attitude towards the subject and ability to explore the subject up to thorough depth retaining their interest.
- c. To develop the power of appreciation, the achievements in Chemistry and its role in nature as well as in the social order.
- d. To develop skills required in Chemistry such as the proper handling of apparatus, chemicals and sophisticated instruments, ability to analyze the data and its interpretation, etc.
- e. PG students became acquainted with the basic tools needed to carry out independent chemical research, data analysis, data generation, etc.
- f. They will learn to do their research ethically, with areas at the forefront of Chemical Sciences, with interdisciplinary approach.
- g. Students will become able to secure jobs in industries, teaching profession and other requisite government employments. To promote understanding of basic facts and concepts in Chemistry, while retaining the excitement of Chemistry.
- h. To flourish interest of PG students to pursue their further studies in research institutes and in renowned institutes with Chemistry as a discipline.

- i. To make them able to qualify examinations such as NET, SET, GATE, JRF, etc.

M.Sc. MATHEMATICS

- a. Students are able to learn Action mapping and fundamental theorems of homomorphism.
- b. Analyze any type of sequence or series.
- c. Recognize definition and properties of initial value problems.
- d. Understand how complex numbers provide a satisfying extension of the real numbers
- e. Solve examples on Bays Theorem.
- f. Differentiate continuous and discrete random variable.
- g. Find Dimension of vector space.
- h. Know and understand products measures of various theorems

M.Sc. COMPUTER SCIENCE

- a. Utilize and implement hardware and software technologies that provide computing solutions to address the needs of an organization.
- b. Identify various needs within the organization and provide solution using computing technologies.
- c. Apply basic cultural, social, legal, and ethical practices inherent in the discipline of computing.
- d. Understand analyze and develop computer programs in the areas related to algorithms, system software, compiler design, data mining, mobile computing and networking for efficient design of computer based system of varying complexity.
- e. To attain deep knowledge and understanding the principles of programming for applying in broad range of languages and open source platforms.
- f. To improve the ability of imparting knowledge in various domains and to solve real world problems with modern technological tools.

Ph.D. in ZOOLOGY

- a. Students will demonstrate broad understanding of major current and past theories research findings and methodologies and techniques in their area of concentration both orally and writing.
- b. Students will develop critical thinking skills.
- c. Students will develop and complete original research that advances a specific field of study within one of the broad subject area.
- d. Students will retrieve, evaluate, and interpret professional scientific literature and use this information to develop theoretical framework, testable hypothesis and prediction for their own research project.
- e. Students will design realistic and feasible research projects and prepare necessary protocol'
- f. Student will conduct independent research analyze and interpret resulting data.
- g. Student will prepare and submit manuscripts resulting from their independent research for publication in professional peer-reviewed journals.

Ph.D. in ECONOMICS

- a. To develop the ability to apply Critical Approach to research, theories, methodologies and knowledge to address fundamental questions in the area of Economics.
- b. To work as one of the members of planning Commission of State or National Governments, Industry or an organization.

COURSE OUTCOMES (Cos)

B.A. I Marathi

Course : *Mrudgandh* part I , *Upayojit Marathi*

Course Outcomes:

- Understanding the interrelation between literature and society.
- Understanding the nature and features of poetry.
- Obtaining the skills of literary criticism.
- Imbuing the essay writing, resume writing skills, and grammar of marathi

B.A.II Marathi

Course : *Mrudgandh* part II , *Upayojit Marathi*

Course Outcomes:

- Introduction of the contemporary literary works.
- Acquiring the skill of translation.
- Explanation of the need and significance of editing.

B.A.III Marathi

Course : *Mrudgandh* part III , *Upayojit Marathi*

Course Outcome:

- Acquaintance with oriental poetry.
- Acquiring antique poetry
- Understanding the formal and informal language.
- Developing various language skills.
- Getting motivation for creative writing.
- Understanding the technique of mass communication.

BA I, II and III English

BA I : Course: Blooming Buds

BA II : Course: Fragrant Aspirants

BA III : Course: Sands of Time

Course Outcomes:

- Spoken communication and written communication.
- Writing of Resume, letters of application, business letters.
- Learning Communication Skill
- Narration of experience, daily routine.
- Understanding and interpretation of poems and prose, essays
- Development of Professional/business Communication
- Inculcating values through learning of literary forms and types

BA I Marathi Literature

Course : Novel: Tahan, Arvachin Marathi kavita, Drama : Aai Retire hote

Course Outcomes:

- Creating the skill of critical appreciation of Novel and Drama.
- Developing the poetic devices and their usages.
- Developing the sense to critically evaluate the poetry
- To seek pleasures of Poetry

BA II Marathi Literature

Course : *Nivdak Daha Katha, Tukaramache Nivdak Abhang, Atmakathan: Aathavaniche Pakshi, Lilacharitratil Nivdak Katha*

Course Outcomes:

- a. Creating the skill of critical appreciation of autobiography.
- b. Developing the poetic devices and their usages.
- c. Developing the sense to critically evaluate the poetry
- d. To seek pleasures of spiritual poetry and inculcate values among students

BA III Marathi Literature

Course: *Sahitya Vichar, Mirasdari: Gramin Vinodi Katha, Bhasha Vidyan Parichay, Ek Hota Karver: Novel*

Course Outcomes:

- a. Creating the skill to critically appreciate Short Stories
- b. Developing the poetic devices and their usages.
- c. Developing the sense to critically evaluate the biography
- d. To understand and absorb the techniques to study linguistics

BA I Political Science

Course: Indian Constitutional Provision and Local Self Government

Course Outcomes:

- a. To gain the knowledge of Indian constitutional provisions.
- b. To know fundamental rights
- c. To understand fundamental duties
- d. To keenly study the working in local self-government

BA II Political Science

Course: Selected constitutions and International Relations

Course Outcomes:

- a. To gain the knowledge of UKs, USAs and China's constitutional provisions.
- b. To attain the knowledge in the political systems of foreign nations
- c. To understand and evaluate international relations.
- d. To acquire insight in political systems of the major countries

BA III Political Science

Course: Concepts of Western and Indian Thinkers

Course Outcomes:

- a. To critically examine current political system.
- b. To achieve in-depth knowledge about emerging concepts in political system
- c. To get information of different parties and politics.
- d. Knowing about the problems and challenges in Indian politics.

BA I History

Sem I

History of India from earliest time to 1526 A.D.

- a. Harappa civilization : Its origin & culture
- b. Understanding Vedic age with society, economy, polity & religion
- c. Rise of new religious movements, its causes & impact
- d. Study of Mourya Empire & other kings

Sem II

- a. The study of Islamic region in India, the Arabs & Turk invasion, administration, society stratification
- b. Bahamani & Vijaynagar kingdoms: Society & Economy
- c. Sultanate period, state & society administrative institution & ruling classes
- d. Understanding religious movements: Bhakti & Suti movements
- e. Understanding contemporary women condition & rigorous systems of Sati, Parda & Devdasi

BA II History

Sem III

History of India from 1206 A.D. to 1756 A.D

- a. Critically analyze the sources of medieval India: archaeological & literary sources
- b. To study the establishment & consolidation of Mughal empire
- c. Understanding Mughal ruling classes, their relation with Indian power & decline of Mughal Empire
- d. To critically evaluate Mughal economy, society, religion & cultural life
- e. To evaluate Maratha history with its influence in the reign of different Maratha kings

Sem IV

History of India from 1757 A.D. to 1947 A.D

- a. To study advent of European powers & expansion of British rule in India.
- b. To look critically into revolt of 1857 & its impact on the society.
- c. To gain knowledge in various movements emerging in India before independence.
- d. To attain information in Gandhian era.

BA III History

Sem V

History of modern Europe from 1780 to 1965 A.D.

- a. French revolution: its causes & impact
- b. Emrgance of Napolian Bonapart & his history
- c. Foreign policy of Germany under Bismark
- d. World war I and consequent paris peace conference & the league of Nations

Sem VI

- a. Evaluating rise of Fascism in Italy & Nazism in Germany
- b. Causes & result of second world war
- c. United Nations organization, its aim, achievement & failure
- d. Study of different pacts after 2nd world war
- e. 3rd world movement: origin & progress

BA I Economics

A. Micro Economics

- a. Identifying the nature of revenue and cost of production.

- b. Comprehending the demand function and production function.
- c. Realizing various production theories.
- d. Clarifying the meaning of Marginal, average, total revenue, and Marginal, average and total cost and its implication.
- e. Understanding pricing in different markets.
- f. Judging the factor pricing.

B. Economy of Maharashtra

- a. To understand geographical and economical status of Maharashtra
- b. To study demographical features of Maharashtra
- c. To study agriculture, industry, infrastructure in the state.

BA II Economics

A. Banking:

- a. Understanding the meaning, function and role of commercial banking.
- b. Comprehending the procedure of an account opening, operating and closing.
- c. Knowing the structure, function and role of RBI in economic development.
- d. Judging the progress of financial inclusion.
- e. Evaluating the importance, characteristics and components of the financial Market.

B. Macro Economics

- a. Identifying the basic concepts and theories of Macroeconomics.
- b. Awareness about changing macroeconomics policies and theories.
- c. Understanding various concepts such as; GDP, GNP NNP, Personal Income, Disposable Income, Per Capita Income, and National Income.
- d. Judging the role of fiscal policy and monetary policy in a Developing economy.
- e. Evaluating types, merits and demerits of taxes.

BA III Economics

A. Indian Economy:

- a. Understanding characteristics, features, structural changes in Indian Economy.
- b. Comprehension of the nature and impact of New Economic Reforms on the Indian Economy.
- c. Knowing the problems of unemployment, poverty, rising economic and social inequality and problems of regional imbalances in India.
- d. Evaluating the changing role of agriculture, industrial and service sector and foreign sector in Indian Economy.
- e. Measuring the problems and prospects of cottage and small scale industries, and industrial sicknesses. •Measuring the growth, volume, composition and direction of India's foreign trade and capital inflow since 1991.

B. Demography:

- a. To understand key ideas in the area of demography
- b. To get the information of migration and population
- c. Evaluate the impact of population on development

B.A.I, B.A.II & B.A.III English Literature

BA I: Book Prescribed : Blooming Buds
 BA II : Book Prescribed: Fragrance Aspirants
 BA III : Book Prescribed : Sands of Time

Cos:

- a. Enjoyment of literature

- b. Pleasure of literary forms such as novel, poem, play, and essay.
- c. Critical understanding of literature.
- d. Relation between literature and real life.
- e. Emotional development of human mind.

B. Com. I, II, III English

- a. Spoken communication and written communication.
- b. Writing of Resume, letters of application, business letters.
- c. Writing News-report, Essay, paragraph,, Review, etc.
- d. Narration of experience, daily routine.
- e. Understanding Interview Techniques.
- f. Understanding and interpretation of poem, prose, essay, short stories, etc.

B. Com. I, II, III Marathi

- a. Understanding the interrelation between literature and society.
- b. Understanding the nature and features of poetry.
- c. Acquiring the skill of translation.
- d. Explanation of the need and significance of editing.
- e. Getting motivation for creative writing.
- f. Understanding the technique of mass communication.

B. Com. I

Sem I

Principles of Economics

- a. Understanding the definition, features of economics,
- b. Understanding the utility approach of economics
- c. Explanation of cost & revenue of economics
- d. Acquiring the meaning & characteristics of factors of production
- e. Meaning of distribution & theory of marginal distribution

Advanced Accountancy

- a. Understanding basic concepts of accountancy, principles of accountancy and accounting cycle to maintain accounts of trading & non-trading organizations.
- b. Getting acquainted with the procedure of preparation of income statements, retained earnings, balance sheet and statement of cash flows.
- c. Inculcating different skills for analysis and interpretation of financial data.
- d. Developing knowledge about cost ascertainment and fixation of selling price and cost control.
- e. Obtaining the knowledge of various provisions of Income Tax Act and their applications in computations of taxable income of an individual under different heads of income.
- f. Getting working knowledge of generally accepted auditing procedure, techniques and skills.

Principles of Business Organization

- a. Enhancing the skill of business organization among students.
- b. Providing different techniques of business marketing for increase of sales.
- c. Creating the sense of entrepreneurship.

Computer Fundamentals and Operating System (Sem I & II)

- a. Introduction to computer, history, characteristics, classification, graphical representation.
- b. To understand Input output devices, types of memories and functions
- c. To understand the computer knowledge.

- d. To gain basic knowledge in Word processing.

Sem II

Business Economics

- a. Understanding the link between business economics and business decision.
- b. Realizing the importance of demand forecasting and method of demand forecasting.
- c. Justifying the demand function and production function.
- d. Evaluating various production theories.
- e. Clarifying the meaning of Marginal, average, total revenue, and Marginal, average and total cost and its implication.
- f. Understanding different markets structure in marketing system

Financial Accounting

- a. Understanding the concepts of financial Accounting
- b. Exposure to nature and advantages of Accounting, Accounting concepts and conventions.
- c. Introduction to Accounting standards in India
- d. Obtaining the knowledge of computerized Accounting.
- e. Getting knowledge about accounting procedure of partnership firm, accounts of professionals, single entry system, branch accounts and consignment accounts.

Principles of Business Management

- a. Supporting to Achieve Group Goals.
- b. Knowledge about motivating employees by providing financial and nonfinancial incentives.
- c. Evaluating the economic growth and development of an organization.
- d. Understanding the relation between individuals, groups, departments and between levels of management.
- e. Comprehending the human resource productivity.

B.Com II

Sem III

Company Accounts

- a. To understand issue, forfeiture and Re-issue of Shares.
- b. To learn Final Accounts of company Manufacturing Account, Trading Account, Profit & Loss Account, Profit & Loss Appropriation Account & Balance sheet with Adjustment.
- c. To know about Profit prior to Incorporations, Amalgamation of Company, Absorption of Company

Business Mathematics

- a. To understand Natural Numbers, Integers H.C.F. & L.C.M. on two or more integers.
- b. To evaluate Linear Equation in one and two variables method with application, Percentage, Discount, Commission and Brokerage, Average, Profit and Loss
- c. To understand Mathematics of Finance, Simple Interest, Compound Interest
- d. To understand Ratio and Proportion: Ratio and percentage Concept of proportion. Simple and Compound proportion, Direct and inverse proportion.

Auditing

- a. Meaning of Auditing, Objectives & Advantages, Types of Audit, commencement of business audit.
- b. Internal Check system, Audit program, Routine checking and Vouching, Verification and Valuation of Assets and liabilities.
- c. Company Auditor, Appointment, Power, duties, Liabilities.
- d. Audit of Divisible Profit, Dividend, Audit Report, Types of Report,

- e. Audit of Banking, Insurance & Educational Institutions.

Monitory System

- a. Understanding the nature, functions and issues related to money, banking and non banking financial intermediaries and financial system.
- b. Knowing about changing role of banking and financial intermediaries in the process of growth & development.
- c. Realization of the term structure, role and functions of RBI, NBFIs, Development Banks, Commercial Banks, Money Market, Capital Market and Forex Market.
- d. Getting knowledge about changing paradigms in Indian Banking (EBanking, Mobile Banking Tele Banking, Core Banking – Retail Banking - ATM, Credit Card and Debit card, Kisan card).

Information Technology and Business Data Processing I

- a. To understand Data and Data Processing and its applications.
- b. To understand database and need of Database, Data warehousing, Data Warehousing, Data Mining.
- c. To understand Database management System and its characteristics, Objectives, Advantages, Limitations, Components of DBMS, DBMS Models
- d. To learn Spreadsheet Package:MS-Excel2007 / Higher, working with MS-Excel

Sem IV

Corporate Accounting

- a. Exposure to the issue of shares and debentures of the company
- b. Attainment of knowledge about accounting procedure of company final account.
- c. Understanding the accounting procedure amalgamation and absorption of company
- d. Ability to get the knowledge about valuation of shares.
- e. Understanding the accounts procedure of liquidation of Ltd. company.

Business statistics

- a. Making familiar with statistical tools which are relatively used in business.
- b. Imparting the ability to collect present, analyze and interpret data.
- c. Ability to predict trend values by using list square methods in regression.

Income Tax

- a. To learn about the basic concept like Income Tax, Income, Total Income, Gross total Income , Assessment Year, Previous Year, Casual Income, Agricultural Income, Person, Heads of Income, Income which does not from part of total Income etc.
- b. To Compute Income from Salary & Income from House property, Income from other sources, Deductions to be made from Gross Total Income, reading to resident Individual.
- c. To gain knowledge about Income tax Authorities, Power of Income tax Officer & Commissioner, Assessment procedure,
- d. To get the idea about Return of Income, e-filing procedure, filling of From No .16 Form No. 10 E, Tax Planning, Advance tax , PAN, TDS

Indian Financial System

- a. To get the knowledge of Indian Financial Market
- b. To know about different services provided by Indian Banks
- c. To understand the working of Commercial Banks in India, Reserve Bank of India (RBI)
- d. To understand Functions of Indian Stock

Information Technology and Business Data Processing II

- a. To understand the concept of Information and Information Technology

- b. To learn Computerized Accounting Package, Accounting Software Tally 9.0 / Higher
- c. Working in Tally: Company Creation, Ledgers, Vouchers, Transaction
- d. To learn creating Reports and Advanced Features in Tally

B.Com III

Sem V

Cost Accounting

- a. Understanding the basics of cost accounting & financial accounting, classification of cost.
- b. To learn meaning and classification of material cost & labor cost.
- c. To learn reconciliation of cost & financial accounts.
- d. To understand the procedure & methods of process costing.

Business Environment

- a. To study the nature & scope of Indian Business Environment.
- b. To study need, role & characteristics of agriculture in India.
- c. To understand role & pattern of Indian Industrial environment.
- d. To study nature, scope & growth of Indian service environment.

Business Regulatory Framework

- a. To study Indian contract act, 1872.
- b. To study Sales of Goods act, 1930 and Consumer protection act, 1986.
- c. To study Negotiable instrument act, 1881
- d. To study Goods & Service act, 2017

Internet and WWW-I

- a. To learn different types, models & topologies of network.
- b. To understand uses & services provided by Internet.
- c. To learn creating e-mail & its components, need of password
- d. To get the knowledge of evaluation & architecture of WWW

E-Commerce I and II

- a. To understand the basic concept of E-Commerce
- b. To study E-Commerce in India
- c. To study different types of E-Commerce, payment & E-banking

Sem VI

Management Accounting

- a. To study meaning ,features, advantages & limitations of management accounting.
- b. To study concept & problems on Break-Even-analysis, Ratio analysis
- c. To understand the concept of budget & budgetary control

Company Law

- a. To understand basic concepts & types of company.
- b. To study incorporation & share capital of company
- c. To study importance of Stock Exchange & company secretary & company meetings

Economics of Development

- a. Understanding basic concept of economic development

- b. To study different economic growth models
- c. To learn the balanced & unbalanced growth model
- d. To study development of capital like human & financial

Internet & WWW II

- a. Basic concepts of web browsing & its types
- b. To study the different search engines & its types
- c. To study the different features of social networking websites
- d. To learn google applications like google drive, google forms, google classroom
- e. To learn working in MS-Frontpage

B.Sc. English (Sem I and II)

- a. Spoken communication and written communication.
- b. Writing of Resume, letters of application, business letters .
- c. Writing News-report, Essay, paragraph,, Review, etc.
- d. Narration of experience, daily routine.
- e. Understanding and interpretation of poem, prose, essay, short stories, etc.

B.Sc. Marathi (Sem I and II)

- a. Spoken communication and written communication.
- b. Pleasures of language and literature
- c. Writing News-report, Essay, paragraph,, Review, etc.
- d. Narration of experience, daily routine.
- e. Understanding and interpretation of poem, prose, essay, short stories, etc.

B. Sc. I,II ,III Chemistry

Physical chemistry

- a. Developing problem solving skills.
- b. Developing scientific knowledge.
- c. Developing working knowledge of instrument.

Inorganic Chemistry

- a. Developing ability to apply the knowledge on contents of principles of chemistry.
- b. Developing the power of appreciation, the achievement in chemistry and role in nature and society.

Organic Chemistry :

- a. Developing spectral knowledge.
- b. Developing proper aptitude towards the subject.
- c. Creating scientific approach towards various chemical reactions.

B.Sc. I Mathematics

Algebra, Calculus, Pivometry

- a. Developing the interest towards mathematics.
- b. Creating the relationship of mathematics with other subjects.
- c. Developing the understanding and fluency in mathematics thorough inquiry and connecting mathematical concepts.
- d. Developing the knowledge of applications of derivative and integration, etc.

B.Sc. II Mathematics

Advance Calculus, Number Theory, Modern Algebra, Mechanics.

- a. Developing problem solving skills for various types of equations such as wave equation, heat equation and Laplace equations.
- b. Developing several perspectives of differential equations.
- c. Developing the knowledge of how to draw graphs, paths, walks and curvatures.
- d. Creating interest with finite sets particularly those areas relevant to business.

B.Sc. III Mathematics

Mathematical Methods, Abstract Algebra, Real Analysis, Special Relativity

- a. Developing the knowledge of real number and real valued functions such as sequences convergence and continuity.
- b. Studying the properties of real numbers (Hilbert space and positive operators).
- c. Study of algorithms that used in numerical approximation.
- d. Computation the trajectory of a spacecraft requires the accurate numerical
- e. solution of a system of ordinary differential equations.

B.Sc. I Physics

Sem.-I

Mechanics and Properties Of Matter.

- a. Understand the dynamics and gravitation
- b. Study the behaviour of rigid body dynamics
- c. Understand Elastic properties of Matter
- d. Analyse waves and oscillations
- e. Study the basic properties and production of ultrasonic by different methods
- f. Understand the surface tension and viscosity of fluid

Sem.-II

Thermodynamics, Motion of Charged Particle, Network Theorem and Time varying Currents , Alternating Current

- a. Study the basic kinetic theory of gases
- b. Understand the law of thermodynamics and entropy
- c. Understand the Liquefaction of gases
- d. Study the Maxwell's equation of Thermodynamics
- e. Understand the motion of charged particle in electric and Magnetic field.
- f. Understand the basic concept of electric network
- g. Study the Alternating currents and circuits.

B.Sc. II Physics

Sem.-III

Mathematical Background and Electrostatics , Electrodynamics, Solid State Electronic Devices, Special Theory of Relativity, Atmosphere and Geophysics,

- a. Understand Mathematical Background, Electrostatics and Electrodynamics,
- b. Understand Magnetostatic and Maxwell's Equations
- c. Study Solid State Electronic Devices,
- d. Understand Special Theory of Relativity,
- e. Understand the negative result of Michelson Morley experiment , Galilean and Lorentz
 - a. Transformation.
- f. Study Atmosphere and Geophysics,

Sem.-IV

Optics, LASER, Fiber Optics and Renewable Energy Sources

- a. Understand the natural behaviour of aberration in lens
- b. Study the theory and experiment of interference using air wedge, Newton's rings
- c. Study the theory and experimental past of diffraction by Fresnel's and Fraunhofer methods
- d. Study the theories for production of polarization of light
- e. Understand the basic principle of laser, its type and characteristics .
- f. Understand the basic concepts of optical fibres and its Applications
- g. Understand the present scenario of Energy Security, Energy Sources, Study Solar Energy , Wind Energy , Biomass etc.

B.Sc. III Physics

Sem.-V

Quantum Mechanics, Atomic Physics, Nuclear Physics

- a. Understand the basic significance of mechanics of a system of particles
- b. Understand the old quantum theory
- c. Perform the theories of quantum mechanics into Schrodinger wave equation
- d. Understand the application of Schrodinger equation into potential well, barrier
- e. Analyse the basic functions of eigen values and eigen functions
- f. Understand the Structure of Atom: Vector Atom Model, Significance of Quantum Numbers.
- g. Analyse the relationship between various types of couplings
- h. Understand the properties of x-rays , generation and types of X-ray Spectra
- i. Analyse the ideas of basics of nucleus and their energy
- j. Perform the procedures for nuclear fission and fusion

Sem.-VI

Statistical Mechanics, Crystallography, Electrical and Magnetic Properties of Solids, Superconductivity and Nano Technology

- a. Understand the System of Particles, MB, BE, FD Statistical Mechanics and its Application
- b. Analyse the nature of Solids, Crystalline Solids, Crystal Structure-Types, X-ray Diffraction
- c. Understand Electrical Properties of Solids, free electron Theory of Solids, Band Theory
- d. Understand the Solid based on Magnetic behavior, Theories of Magnetism.
- e. Understand the basic Properties of Superconductors Theory of Superconductivity,
- f. Applications of Superconductors
- g. Understand theory of Nano Materials, Synthesis of Nano materials, Applications of Nano materials.

B.Sc. I Botany

Sem I :

Diversity and Application Microbes and Cryptogams

- a. General account of bacteria, viruses and its role in agriculture, medicine and industries
- b. Classification of algae and characters of some classes with examples
- c. Classification of fungi and characters of some classes with examples
- d. Classification, general characters and evolution of bryophytes
- e. Classification, general characters, stele types and heterospory in pteridophytes
- f. Economic importance of algae, fungi and plant diseases

Sem II :**Gymnosperm , Morphology of Angiosperms and Utilization of Plants.**

- a. Study of fossil gymnospermic plants and related theories to create interest in paleobotany.
- b. To study gymnosperm species – Pinus and Gnetum with economic importance.
- c. Morphology and modification of root, leaf and stem.
- d. Morphology, types and modification of Inflorescence and flower with pollination.
- e. Morphology, utilization and economic importance of some food, fibre and oil yielding plants.
- f. General account of spices, firewood and phytochemistry and pharmacognosy of some medicinal plants.

B.Sc. II Botany**Sem III :****Angiosperm systematics, Anatomy and Embryology**

- a. Concept and importance of biodiversity and concept of botanical nomenclature
- b. Syatematic studies and economic importance of some dicot and monocot families
- c. Types of tissues, and anatomy of dicot and monocot root
- d. Embryology of angiosperms

Sem IV :**Cell biology, genetics and biochemistry**

- a. Structure and function of cell wall, plasma membrane, nucleus and chloroplast.
- b. Structure and function of cell organelles with cell cycle
- c. Morphology and aberrations (structural and numerical) of chromosomes.
- d. Mendelism and interaction of genes.
- e. Concept and theories of linkage and crossing over
- f. Enzymes and structure an function of carbohydrates

B.Sc. III Botany**Sem V****plant physiology and ecology**

- a. Plant water relations, concept of absorption of water and transpiration
- b. To study metabolic activity of plant i.e. photosynthesis and respiration
- c. Nitrogen fixation metabolism, role of growth hormones and physiology of senescence
- d. To study plant movements, stress physiology and photoperiodism
- e. Concept of ecology its factors and adaptations
- f. Structure, function and types of ecosystem and ecological succession

Sem VI**Molecular biology and biotechnology**

- a. Historical account ant study of DNA
- b. Structure and expression of gene i.e., central dogma of protein synthesis
- c. Expression of gene in prokaryotes and eukaryotes.
- d. Techniques of recombinant DNA, gene transfer and gene amplification polymerase chain reaction.
- e. Study of tissue culture techniques

- f. Biotechnology applications in agriculture, industry and medicine

Bsc I Computer science

Sem I

Fundamentals of information technology and C programming

- a. Introduction to computer, history, characteristics, classification, graphical representation.
- b. To understand Input output devices, types of memories and functions
- c. To learn number system with its types
- d. To gain basic knowledge in Programming concept.

Sem II

Web Technology and advance programming in C

- a. Ability to understand web technology and develop applications.
- b. Creation algorithms and flowcharts to solve simple programming problems.
- c. Understanding to design, implement, test, debug a program that uses calculations, loops, array, function, pointers, structure etc.
- d. Memory management using C.

B.Sc. II Computer Science

Sem III

Data structure and C++

- a. Using the characteristics of an object-oriented programming language in a program.
- b. Using the basic object-oriented design principles in computer problem solving.
- c. Programming with advanced features of the C++ programming language.
- d. Using C++ classes for code reuse.

Sem IV

RDBMS and PL/SQL

- a. Knowing the basic concepts of RDBMS
- b. Knowledge of Relational model
- c. Using SQL: DDL,DML statements
- d. Using Functions in SQL
- e. Programming with PL/SQL programming language

B.Sc. III Computer Science

Sem V

.Net technology and java programming

- a. Knowledge of creating java programs that solve simple business problems.
- b. Knowledge of compile and execute java programs using class, object, constructors, destructors, inheritance, etc.
- c. Knowledge of .NET framework and ASP.NET
- d. Knowledge developing ASP.NET application

Sem VI

Advance java and VB.Net

- a. Knowledge of creating and using of packages, multithreading, exception handling.
- b. Design and implement Applets programming and AWT.
- c. Explanation of C#.NET
- d. Knowledge of working with data overview of ADO.Net
- e. Advanced concept of ASP.NET

Sem I

Computer Fundamentals

- e. Introduction to computer, history, characteristics, classification, graphical representation.
- f. To understand Input output devices, types of memories and functions
- g. To learn number system with its types
- h. To gain basic knowledge in Programming concept.

C- Programming

- a. Introduction to C: history, structure, character set, key words, basic data types.
- b. Learning operators and expressions in C.
- c. Learning the input, output operations in C
- d. Developing the program using controlled structures & arrays in C.
- e. Knowing the concept of pointers

Numerical methods:

- a. Introduction to numerical methods, numerical data, analog and digital computing, process of numerical computing, characteristics and new trends in computing.
- b. To learn rounding of errors in computing, significant digits, types of errors in computing.
- c. To learn finding Roots of equation, Open Methods
- d. To learn finding Solution of linear equation

Communication Skills

- a. To enhance vocabulary and word power along with grammar
- b. To raise language proficiency through learning of types of sentences, clauses.
- c. To enable students for creative writing like preparing advertisement Composing messages, letter writing
- d. To develop Imaginative approach by story building and essay writing

Discrete Mathematics

- a. To understand functions and relations with elementary counting principles
- b. To study generating functions, recurrent relations, Boolean Algebra etc.

Digital Techniques I

- a. To learn number system: binary, Octal, Hexadecimal to binary, decimal to octal etc.
- b. To understand logic families: its classification, characteristics, construction and working of DTL, TTL, ELC etc.
- c. Simplification of Boolean equation using k map.
- d. To study Arithmetic logic Unit by clarifying the concepts like half adder, full adder, full subtractor, 4 bit binary parallel adder
- e. To learn combinational Logic circuit with basics of decoder2:4and like.

Sem II

Operating Systems

- a. Understanding the definition of Software, Operating system
- b. Learning Internal and external DOS commands
- c. Understanding Functions of operating system
- d. To learn File management
- e. To learn Memory management

Advanced C

- a. String handling using function in C
- b. Developing the program of Structures & Unions in C
- c. Developing the program for File Handling in C
- d. Developing the program for Random access of files & to learn Handling Errors

Digital Techniques II

- a. To understand working of Multivibrators, flip-flops, Counters, Shift registers
- b. To understand the concept of Memory
- c. To understand A/D & D/A converters

Numerical Methods

- a. To learn Curve fitting
- b. To solve problems of General linear least squares, Interpolation
- c. To solve problems of Inverse interpolation, Numerical Integration

Discrete Mathematics

- a. Understanding the basic concepts of graphs
- b. Understanding Connectivity of graph, Eulerian & Hamiltonian graph
- c. Learning the operations of Trees
- d. Learning Networks & flows

Communication skills

- a. To raise language proficiency through learning of types of sentences, clauses.
- b. To enable students for creative writing like preparing advertisement composing messages, letter writing
- c. To develop Imaginative approach by story building and essay writing

Sem III

Data structure

- a. To understand concept of Arrays & Stacks and its operations
- b. To learn the concept of Recursion
- c. Understanding the concept of Queues & Linked lists and its operations
- d. Understanding the concept of Trees
- e. Understanding the techniques of Sorting & Searching

Object oriented programming with C++

- a. Learning basic concepts of OOPs
- b. Developing the programs of Control Structures & its functions in C++
- c. Understanding the concept of Classes & Objects
- d. To understand concept of Arrays & Pointers, operator overloading, inheritance
- e. Understanding the working of Virtual functions & polymorphism
- f. To understand concept of File handling

Data-Base management system

- a. To understand Basic concepts of DBMS
- b. Understanding Relational model and its functions
- c. To learn SQL: DDL, DML statements, Functions in SQL
- d. To develop programs using PL/SQL

Advance operating system

- a. To grasp the working of Process management, Asynchronous concurrent processors
- b. To learn Deadlock indefinite postponement

- c. To know the concept of Storage Management, Virtual storage management, Processor Management

Electronics

- a. Knowing Evolution of microprocessors
- b. To learn Instruction and programming of 8085
- c. Understanding the concept of Interfacing
- d. Learning the Architecture of 8086, Instruction and programming of 8086

Sem IV

Systems analysis design & MIS

- a. To understand System Analysis & Design, Project management
- b. To learn steps in designing a new system
- c. Understanding the concept of MIS, Information System planning

Visual Basic

- a. To know the Visual nature of system
- b. To develop programs using Objects & classes in VB
- c. Using internal function in the programs in VB
- d. To learn Working with forms, File handling

Web designing and office automation

- a. Understanding the use Information technology
- b. Working with MS-Excel , MS-Access
- c. To learn the concept of Web publishing, Webpage Construction

Networking

- a. Understanding Network concepts: Digital & analog data transmission, Data link protocols
- b. Learning the different types of networks :LAN,MAN,WAN
- c. To learn different types of communication services

Advance microprocessors and microcontroller

- a. Understanding 80286 microprocessor & instructions, 80386, 80486 & 80586
- b. Understanding working of Microcontroller
- c. Learning 8051 instruction set, 8051 interfacing & application

Environmental studies

- a. The multidisciplinary nature of environmental studies
- b. Social issues & environment
- c. Human population and environment
- d. Natural resources: Renewable & non-renewable resources
- e. Ecosystems
- f. Biodiversity & its conservation
- g. Environmental population

Sem V

Core java

- a. To understand basic concepts of JAVA, JVM
- b. Developing programs using Classes and inheritance
- c. To learn creating Package & using interface, Exception handling & threads
- d. Developing Applet ,AWT, input output stream

Network security

- a. To understand the concept of network security
- b. To understand concept of block ciphers & data encryption standards
- c. To know the working Finite fields, Public key cryptography & RSA, Security

Software engineering

- a. To understand Software project management concept
- b. To learn the steps in System design
- c. To learn Structured programming, Software Quality management

Computer Graphics

- a. Understanding basic concepts of computer graphics
- b. To learn the techniques of Geometrical Transformation
- c. To learn different Drawing algorithms, Animation
- d. Implementation of algorithms in C

E-commerce

- a. Understanding concepts of E-commerce, Business strategy in an electronic age
- b. Introduction to business strategy
- c. Electronic payment system

Sem VI

NET using ASP

- a. To learn ASP.Net framework
- b. Developing ASP.Net application
- c. To explainC#.Net, Working with data-overview of ADO.Net
- d. To develop advanced programs in ASP.Net

Client Server Technology

- a. To understand Client-server technology & its uses, Fundamental of client-server design
- b. To learn Scheduling implementation, Semaphores
- c. To understand Client server computing in ORACLE

Multimedia and Its applications

- a. To understand Introductory concepts of multimedia, Multimedia software
- b. To learn Production building blocks, Production tips
- c. To learn multimedia project development

Software Testing

- a. To learn different principles of testing
- b. To learn different types of testing like White box testing, Integration testing, Acceptance testing, Regression testing, Test planning

Advance Database Management System

- a. To understand Physical database design & tuning
- b. To understand Concurrency control & Crash recovery
- c. To learn working of Parallel & distributed database
- d. To understand Object oriented systems, Data warehousing & mining

Msc: Computer Science

Sem I:

Digital system and microprocessor

- a. To learn representation of integers, floating point numbers
- b. To learn boolean algebra, logic families, Design of arithmetic circuits & Flip-flops
- c. To understand microcomputer system, 8086 microprocessor

.Net technology and C#

- a. Understanding .Net, basics of C#
- b. Developing programs using Classes & objects
- c. To understand Operator overloading, Multithreading in C#
- d. To learn data access with .Net

Operating system

- a. To understand the basics of operating system
- b. To learn Process management, Process synchronization & deadlocks
- c. To learn Memory management, File system & Distributed file system

Computer networks

- a. To understand digital communication, data transmission models
- b. To understand different layers of network like Application layer, Transport layer, Network layer & Data link layer
- c. To understand Network security & management

Sem II:

Java programming

- a. To understand basic concepts of JAVA, JVM
- b. Developing programs using Classes and inheritance
- c. To learn creating Package & using interface, Exception handling & threads
- d. Developing Applet, user interface

Data structure

- a. To understand concept of Arrays & Stacks and its operations
- b. Understanding the concept of Queues & Linked lists and its operations
- c. Understanding the concept of Trees
- d. Understanding the techniques of Sorting & Searching
- e. To understand the concept of graphs & indexing

Software engineering

- a. To understand System concept & System analyst
- b. To learn software engineering & software process framework
- c. To understand requirement engineering, Software design, Software quality, Software testing

Compiler construction

- a. Understanding the working of compilers

- b. Learning techniques of Scanning & parsing, Memory allocation
- c. To understand compilation of control structures, Error detection, indication & recovery
- d. To understand code optimization

Sem III:

Data mining and data warehousing

- a. To understand data mining, Data warehouse & OLAP
- b. To learn mining frequent patterns, associations, and correlation
- c. To understand classification & prediction, Cluster analysis, Graph mining

Computer graphics

- a. To understand Geometry & line generation, Polygon, Segments
- b. To understand interaction, Hidden surfaces & lines
- c. To understand Shading

Client-server computing

- a. To understand Networking in JAVA, Java database connectivity
- b. To learn Servlets & Java scripts, Remote method invocation
- c. To learn programming in JSP

Theory of computations

- a. To understand Strings, alphabets & languages, Regular set & regular expression
- b. To learn Context free grammar
- c. To know Turing machine, Chomsky hierarchy of languages, Undecidability

Sem IV:

Artificial intelligence and expert system

- a. Understanding Prolog programming
- b. To understand AI & Basic problem solving methods
- c. To learn methods of Game playing
- d. To learn Knowledge representation using predicate logic, Natural language understanding

Design and analysis of algorithm

- a. Understanding algorithms
- b. To learn Greedy method & Dynamic programming
- c. To learn Basic search & traversal techniques
- d. To learn Branch & bound, Lower bound theory
- e. Solving NP-Hard & NP-Complete problems

Network security

- a. To introduce network security
- b. To understand Cryptography & Authentication
- c. To study Standards in network security
- d. To study E-mail security & Firewalls

Mobile communication

- a. To introduce mobile communication
- b. To understand medium access control, Satellite systems, Wireless LAN
- c. To understand different layers, Support for Mobility

Software testing

- a. To know testing outline
- b. To test outline to test cases & other types of tablets
- c. Testing web applications & Reducing the no. of test cases
- d. To learn creating quality software

M.Sc. I Zoology

Sem I

Paper I :Animal Structure and Function (Non-Chordata)

- a. Understanding basic concepts of biosystematics taxonomy and classification
- b. Parsimony, cladistic methods of classification
- c. Concepts of feeding and Digestions
- d. Operational functioning of movements of cilia and flagella

Paper II : Animal Structure and Function (Chordata)

- a. Knowledge of different kinds of taxonomic character, procedures, taxonomic keys their merits and demerits
- b. Gaing the knowledge in international code of Zoological Nomenclature.
- c. Analysing different aspects of vertebrate integument

Paper III : Gamete Biology

- a. Dealing with leydig Cells, Spermatogenesis, biochemistry of semen
- b. To gain the knowledge of Ovarian follicular growth and differentiation
- c. To understand the process of fertilization
- d. To create multcelular structure and study genomic imprinting
- e. To gain knowledge in the area of biology of sex determination and understanding the concepts of 0 stem cells.

Paper IV : Genes and Differentiation

- a. To understand cell specification and its types
- b. To identify characteristics of differentiation
- c. Clarification of the concepts of body axis formation

Sem II

Paper V : Molecular Cell Biology

- a. Understadingthe process of biomembranes , its biochemical composition, potential
- b. To study extracellular matrix
- c. To have deep insight in Cell surface Receptors.and cell Signalling

Paper VI: Tools and techniques in Biology

- a. To understand Principles and uses of colorimeter, Spectrophotometer, Spectrofluometer, XRD, ESR and NMR spectrometers
- b. To study about Microscopes,its principles and application
- c. To undertand microbiological techniques with media preparation, and sterilization,inoculation and growth monitoring use of fermetersetc.

Paper VII :Endocrinology

- a. Clarification of the concepts in histology of vertebrate endocrine glands pituitary gland,thyroid gland etc.
- b. To acquire the knowledge in Harmones study

- c. Getting knowledge in synthetic, transport and metabolism of steroid hormones etc.
- d. Study of thyroid hormones and disorder
- e. Hormone replacement therapy

Paper VIII : Ecology and Environment (Also GIC)

- a. Understanding the physical, Biotic and abiotic interactions, Concepts of habitat and niche, population ecology, and species interaction
- b. To study various features of community ecology: nature, levels, edges and ecotone
- c. To apply the study to environmental monitoring through understanding IGPC, EPA IPR etc.

M.Sc.II Zoology

Sem III

Paper IX and X : Molecular Cytogenetics I and II

- a. To get known the areas of mutation, its basic features, Molecular basis of gene mutation. DNA study and its mechanism
- b. To understand Somatic Cell genetics and epigenetics
- c. To understand genome Organisation, genetics of cancer and all about Oncogenes
- d. To understand Human Cytogenetics
- e. To study Microbial Genetics, drosophila genetics, Polytene chromosomes and its behavioral traits

Paper XI and XII : Animal Physiology I and II

- a. To enable students to get knowledge in muscle physiology, Ultra structure of neuromuscular junction, synthesis and release of acetylcholine etc.
- b. To study nerve Physiology, ultra structure of neurons, electrical properties of nerve and related terms.
- c. To understand ultra structure of synapse, Electrical events in post synaptic neurons

Sem IV

Paper XIII: Biochemistry

- a. To get indepth knowledge in Biomolecules, amino acids and proteins, Nucleic acid,
- b. To understand carbohydrate metabolism and key features of its related concepts.
- c. Understanding the Lipid metabolism

Paper XIV: Enzymology and Biostatistic

- a. To analyse and understand Enzyme: Structure, Classification and Kinetics, categories and Functions
- b. To enable students to deal with Biostatistic, to interpret data, graphical representation of data, diagrammatical analysis etc.

Paper XV and XVI : Molecular Biology III and IV

- a. To acquire the knowledge in the area of Immune system, its types, cells of immune system and their differentiation and functions.
- b. To study Biology of B – lymphocytes, to understand Immunological memory and immunological tolerance.
- c. To study Cytokines, its general properties, its role and working.

