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// Anant Amuchi Dheyasakti ! Anant An Asha //
Shri Datta Shikshan Prasarak Mandal, Panutre's
Vitthalrao Patil Mahavidyalaya,
(Arts, Commerce & Science) Kale
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Ref. No. Date :

2.6 Student Performance and Learning Outcomes

2.6.1 Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students.

List of Document

Sr. No	Particular
1	Programme and course outcomes
2	Programmes Outcome(PO)Level of Attainment
3	Overall Performance of all Programmes
4	Level of Attainment: 2017-2018 to 2021-2022

I/C PRINCIPAL
Vitthalrao Patil Mahavidyalaya, Kale
(Arts, Commerce & Science)
Tal. Panhala, Dist. Kolhapur

Faculty of Arts
Department of Marathi
Programme Name: B.A. (Course: Marathi)

Programme Outcomes: After completion of the Programme, the students will be able to:	
PO1	Develop interest in Marathi language and Marathi literature.
PO2	Understand the tradition of Marathi literature and the contribution of Marathi writers.
PO3	Develop interest in Marathi as well as other languages.
PO4	Understand the various types of Marathi literature.
PO5	Understand the different movements in Marathi literature.
Programme Specific Outcomes: After completion of the Programme, the students will be able to:	
PSO1	Inculcate love for mother tongue and ethical values.
PSO2	Develop the skills of language learning.
PSO3	Prepare for competitive examinations.
PSO4	Work in the varied fields of language such as translation, precis writing etc.
PSO5	Get familiar with the language used in various media resources.
Course Outcomes: After completion of the course, the student will be able to:	
B.A.-I, Sem. I II(Compulsory)	CO1. Develop interest in Marathi language and Marathi literature. CO2. Develop ethical values & Biography Idols. CO3. Develop awareness of mother tongue i.e., Marathi.
B.A. Part I Sem. I and II(Optional)	CO1. Inculcate interest in Marathi literature. CO2. Understand the importance of Marathi language in Competitive examinations. CO3. Get acquainted with Marathi language in media and Marathi cinema. CO4. To enhance the story writing skill in Marathi language.
B.A.II (Optional) Sem. III and V	CO1. Understand drama as a form of Marathi literature. CO2. Know the development of contemporary drama. CO3. Understand poetry as a form of Marathi literature. CO4. Learn various elements of poetic art.
B.A.II (Optional) Sem. IV and VI	CO1. Understand the form of autobiography in Marathi literature. CO2. Develop the skill of writing autobiography. CO3. Understand the form of novel in Marathi literature. CO4. Develop the skill of writing from the literary point of view.
B.A. III(Special) Sem. V and VI Paper VII and XII	CO1. Understand the ancient, modern and post-modern literature in Marathi. CO2. Get acquainted with the literary and non-literary types of writings. CO3. Understand the genesis of creative writing in Marathi. CO4. Learn the different aspects of Marathi language.
B.A. III(Special) Sem. V and VI Paper VIII and XIII	CO1. Understand the phonology and semantics of Marathi language. CO2. Familiarize with standard Marathi language and its dialects. CO3. Develop interest in the Marathi language. CO4. Understand the origin of Marathi language and Marathi grammar.
B.A. III(Special) Sem. V and VI Paper IX and XIV	CO1. Study the Marathi language and literature of the Medieval period. CO2. Understand Marathi prose and poetry writings. CO3. Understand the compositions of Marathi writers in various forms. CO4. Learn ballad form in Marathi literature.

B.A. III(Special) **Sem. V and VI** **Paper X and XV**	CO1. Understand the creative process and creative writings. CO2. Develop skill of writing essays, poems and project writing. CO3. Familiarize with the language used in different media forms. CO4. Search the jobs in various service sectors.
B.A. III(Special) **Sem. V and VI** **Paper XI and XVI**	CO1. Familiarize with the Medieval trends of Marathi literature. CO2. Understand literary prose and character depiction. CO3. Understand social, political, familial and cultural life-style. CO4. Acquaint with rural life and rural language forms.

Department of Hindi

Programme Name: B.A. (Course: Hindi)

Programme Outcomes: After completion of the Programme, the students will be able to:	
PO1	Understand the importance of Hindi language.
PO2	Understand the importance of Hindi language in National Integration.
PO3	Learn the application of Hindi language and its relevance in current context.
PO4	Understand the opportunities of jobs Hindi language makes available in various sectors.
PO5	Understand the literature written in Hindi and importance in National Integration.
Programme Specific Outcomes: After completion of the Programme, the students will be able to:	
PSO1	Understand the relevance of Hindi novelists and dramatists and their literary works.
PSO2	Know the difference in various forms of literature.
PSO3	Develop through literary works moral and national values.
PSO4	Be responsible citizens.
PSO5	Understand the relevance of Hindi prose and poetry in the current context.
Course Outcomes: After completion of the course, the student will be able to:	
B.A.-I, Sem. I II(Compulsory)	CO1. Understand the use of Hindi language in day-to-day contexts. CO2. Develop the skill of writing correspondence in Hindi language. CO3. Learn the translation into Hindi language.
B.A. Part I Sem. I and II(Optional)	CO1.Understand the modern Hindi literature in the genre of poetry and prose. CO2. Understand the relevance of Hindi literature in the current context. CO3. Know the contribution of Hindi writers in developing National Integrity among the citizens.
B.A.II (Optional) Sem. III and V	CO1. Understand the modern forms of literature. CO2. Know the opportunities of jobs in various sectors. CO3. Inculcate the interest in the field of Hindi language and translation.
B.A.II (Optional) Sem. IV and VI	CO1. Understand the contribution of Hind poets in the Medieval period. CO2. Understand the varied themes handled in the Modern Hindi Poetry. CO3. Inculcate the moral and national values. CO4. Develop the thought process regarding feminism.
B.A. III(Special) Sem. V and VI Paper VII and XII	CO1. Acquaint with the Hindi dramatist Kusum Kumar and the novelis Chandrakanta. CO2. Get acquainted with their literary contribution to the Hindi literature. CO3. Develop the critical appreciation of their literary works. CO4. Understand the relevance of their writing in the current context.
B.A. III(Special) Sem. V and VI Paper VIII and XIII	CO1. Understand the creative process. CO2. Understand the different genres of literature. CO3. Learn the different critical perspectives and their application. CO4. Acquaint with the aesthetics of literature.
B.A. III(Special) Sem. V and VI Paper IX and XIV	CO1. Understand the development of Hindi literature from Ancient Period t Modern Period. CO2. Develop interest in the works of Hindi writers. CO3. Understand the historical, social and cultural dimensions of Hin literature.
B.A. III(Special) Sem. V and VI Paper X and XV	CO1. Understand the importance of Hindi in Communication and Informati Transmission. CO2. Understand the use of Hindi in day-to-day context. CO3. Develop the communication skill in Hindi language.
B.A. III(Special) Sem. V and VI	CO1. Understand the origin and development of Hindi language. CO2. Understand the grammar of the Hindi language.

Department of English

Programme Name: B.A. (Course: English)

Programme Outcomes: After completion of the Programme, the students will be able to:	
PO1	Perform analysis and criticism of literary and cultural texts from different perspectives.
PO2	Write analytically in a variety of formats including essays, reflective writing and critical reviews of primary sources.
PO3	Understand the process of communicating and interpreting human experiences through literary representation using historical contexts and disciplinary methodologies.
PO4	Use English effectively in formal and informal situations.
PO5	Able to get the jobs in industry, government, schools and offices. Have enriched confidence to appear for competitive examinations.
Programme Specific Outcomes: After completion of the Programme, the students will be able to:	
PSO1	Comprehend various forms of literature like prose, poetry, drama and fiction.
PSO2	Develop the knowledge of grammatical system of English language.
PSO3	Develop the four language skills: Listening, Speaking, Reading and Writing(LSRW).
PSO4	Scope of employability and entrepreneurship in the field of Media and Journalism, Teaching, Public Relations, Human Resource, Civil Service, Creative Writing etc.
PSO5	Write analytically in different formats like essays, review etc.
Course Outcomes: After completion of the course, the student will be able to:	
B.A.-I, Sem. I II(Compulsory)	CO1. Acquaint with communication skills. CO2. Inculcate human values through poems and prose. CO3. Improve the language competence.
B.A. Part I Sem. I and II(Optional)	CO1. Acquaint with translated Modern Indian literature in English. CO2. Understand short story as a form of literature with reference to the texts prescribed. CO3. Develop literary competence.
B.A.II (Compulsory) Sem. III and IV	CO1. Able to write an official report. CO2. Understand the format of official letters. CO3. Acquaint with communication skills. CO4. Develop writing skills.
B.A.II (Optional - Literature& Cinema) Sem. III and V	CO1. To understandthe nature of film as an 'art' form. CO2. To explore ways in which film as art and literature influence each other. CO3. To expand existing textual analytical skills towards an understanding of film adaptation. CO4. To understand different perspectives on film adaptations.
B.A.II (Optional - Partition Literature) Sem. IV and VI	CO1. To create an awareness of the partition scenario among the students. CO2. To explain the hidden human dimensions of the partition to the students. CO3. To elaborate on the impact of partition on society.
B.A. III (Compulsory)	CO1. Understand the interview techniques. CO2. Improve writing skill. CO3. Acquaint with official letter writings. CO4. Acquaint with the journalistic use of English language.

B.A. III (Introduction to Literary Criticism)	CO1. Understand the major trends in literary criticism. CO2. Familiarize with the major critical concepts. CO3. Understand the original contributions to literary criticism. CO4. Understand the various literary movements. CO5. Acquire the skill of writing critical appreciation of poetry.
B.A. III (English Poetry)	CO1. Become curious readers of poetry. CO2. Understand poetry from various cultures and traditions. CO3. Understand that poetry gives intellectual, moral and linguistic pleasures. CO4.Able to enjoy poetry as the highest form of literature.
B.A. III (English Drama)	CO1. Understand the form of the drama. CO2. Understand the structure of drama. CO3. Familiarize with the types of drama. CO4. Familiarize with dramatic language.
B.A. III (English Novel)	CO1. Familiarize with the novel as a literary form. CO2. Acquaint with various types of novels. CO3. Familiarize with the language of the novel. CO4. Develop interest to read the novels.
B.A. III (Language and Linguistics)	CO1.UnderstandSpeech mechanism and basic sounds in English language. CO2. Familiarize with word transcription and word stress. CO3. Understand the word–formation processes. CO4 Learn word classes, types of phrases and their form and function

Department of Sociology

Programme Name: B.A. (Course: Sociology)

Programme Outcomes: After completion of the Programme, the students will be able to:	
PO1	Enhance the logical and analytical skill to understand the social issues and problems.
PO2	Contribute subject knowledge to nurture creativity, research and development.
PO3	Get acquainted with basic and advanced theoretical as well as methodological knowledge of sociology for applications.
PO4	Learn about society, social life and social interaction.
PO5	Understand social life by inculcating values, morals and manners.
Programme Specific Outcomes: After completion of the Programme, the students will be able to:	
PSO1	Develop the sociological knowledge and skills that will enable them to think critically and imaginatively about society and social issues.
PSO2	Understand social structures, social institutions, cultural practices and multiple axes of difference and inequality.
PSO3	Enhance their qualitative and quantitative analytical skills.
PSO4	Learn about institutions, folkways, mores, culture, social control, social inequality, society and culture of India.
PSO5	Join professional careers in sociology and allied fields.
Course Outcomes: After completion of the course, the student will be able to:	
B.A. Part I Sem. I and II(Optional) Introduction to Sociology and Applied to Sociology	**CO1.** Define sociology and demonstrate nature, scope and subject matter of sociology. **CO2.** Demonstrate how sociology differ from and similar to other social sciences and their areas of interdependence. **CO3.** Acquaint themselves with the basic concepts of sociology like society, community, association, culture, social change, social stratification etc. **CO4.** Know the basic social institution like family, marriage, kinship in a scientific way.
B.A.II (Optional) Sem. III and IV Social Issues in India and Social movements in India	**CO1.**Understand the Conceptsof Socio Economic Issues. **CO2.** Learn about Socio-Cultural and legal issues in Indian society. **CO3.** Understand Concepts of Social and Peasant movements. **CO4.** Learn and understand about Dalit and Tribal movements.
B.A.II (Optional) Sem. III and IV Gender and Violence and Sociology of Health	**CO1.** Understand the concepts of gender and violence. **CO2.** Understand domestic violence against women. **CO3.** Introduction to sociology of health and realize the major diseases in India. **CO4.** Learn about lifestyle and health and understand health policy in India.
B.A. III (Special) Western & Indian Sociological Thinkers	**CO1.** Define sociological theory, understand its features and describe and illustrate the role of theory in building sociological knowledge. **CO2.** Know the contribution of founding fathers of sociology in developing sociology as an academic discipline. **CO3.** Know the contributions of Western & Indian Sociologist.
B.A. III (Special) Methods of Social Research	**CO1.** Understand the meaning, scope, types and significance of social research. **CO2.** Understand what a sampling method is and how it is useful in socia research. **CO3.**Learn to collect, analyze data and how to write a research report.
B.A. III(Special)	**CO1.** Understand the major concepts, theoretical approaches andperspectives o

Sociology&Social Anthropology	**CO2**. To provide the conceptual understanding about anthropology **CO3.**To understand the social aspects of tribal's in India.
B.A. III(Special) Human Rights & Rural Sociology	**CO1**. Understand the nature & role of human rights in India **CO2.** Contribute to the resolution of human rights issues and problems. **CO3.**Define rural sociology and demonstrate nature, subject matter and importance of studying rural sociology. **CO4.** Understand and analyze social, economic and political aspects of rural society.
B.A. III(Special) Sociology of Religion & Urban Sociology	**CO1**.Understand the development of knowledge in the field of Sociology of Religion **CO2.** Different theories, approaches and concepts that make up the study of religion. **CO3**. Understand the significance of the city and the process of urbanization. CO4. Know about urban processes such as migration, displacement and urban slums etc.

Department of History and S.T.D.

Programme Name: B.A. (Course: History)

Programme Outcomes: After completion of the Programme, the students will be able to:	
PO1	Possess knowledge of the various subjects which belong to humanities & languages
PO2	Be competent with the qualities required for becoming cultured and ideal citizens of India.
PO3	Be competent enough to face the competitive world and grab jobs at significant posts.
PO4	Possess a broad, liberal foundation of human values that will make them shoulder social responsibilities.
PO5	Demonstrate competence in written and oral communication in all branches of knowledge.
Programme Specific Outcomes: After completion of the Programme, the students will be able to:	
PSO1	Acquire an understanding of the historical framework for the development of Indian Civilization and Understand background of our Nation.
PSO2	Pursue a more in-depth study in aspects of Ancient, Medieval and Modern to Contemporary History.
PSO3	Understand the present existing social, political, religious and economic conditions of the Indian people.
PSO4	Develop practical skills helpful in the study and understanding of historical events.
Course Outcomes: After completion of the course, the student will be able to:	
B.A. Part I Sem. I (Optional): Rise of the Maratha Power Sem. II, Paper II: Polity, Society and Economy under the Marathas	CO1: Understand the history of the Rise of Maratha Power. CO2: Acquaint the students with the sacrifices made by Maratha leadersand people for the sake of freedom and sovereignty of the region. CO3: Understand the Era of Marathas struggle in the history from 1600 to 1707. CO4: Understand the political, socio-economic and religious life of the people during the period from 1600-1707.
B.A.II (Optional) Sem. III: Paper III: History of Modern Maharashtra (1900 to 1960) and IV Paper IV: History of M modern Maharashtra(1960-2000)	CO1: Understand the beginnings and growth of nationalist consciousness in Maharashtra. CO2: Explain the contribution of Maharashtra to the national movement CO3: Acquaint himself with the contribution of eminent leaders of Maharashtra CO4: Know about the economic transformation of Maharashtra
B.A.II (Optional) Sem. III: Paper IV: History of India (1757-1857) and IV Paper VI: History of Freedom Struggle (1857-1947)	CO1: Acquaint with significant events leading to establishment of the rule of East India Company. CO2: Understand the structural changes initiated by colonial rule in Indian economy. CO3: Understand the events which lead to the growth of nationalism in India.
B.A.II (IDS)Sem. III: Paper I: Social Reforms in India and IV: Paper II: Social Reforms in Maharashtra	CO1: Understand the salient features of prominent socio-religious reform movements. CO2: Explain the thought and work of Mahatma Phule, Rajarshi Shahu Maharaj and Ambedkar. CO3: Understand the contribution of women reformers.
B.A. III (Special): Paper No. VII: Early India and Semester VI: Paper No. XII: Ancient India (From 4th c. BC to 7th c. AD)	CO1:Understand the transition of humans in Indiafrom Hunters to Farmers. CO2: Explain the transition from Early to Later Vedic period. Vardhamana Mahavira. CO3:Describe the rise and growth of the Mauryan Empire After completing the course

B.A. III (Special): Semester V: Paper No. VIII: History of Medieval India (1206-1526 AD), Semester VI: Paper No. XIII: History of Medieval India (1526-1707 AD)	CO1:Describe the different types of historical sources available for writing the history of medieval India CO2:Explain the contributions of medieval rulers. CO3:Know about the various sources for writing Medieval Indian history CO4: Explain the role of rulers like Babar, Akbar, Chandbibi and Ibrahim Adilshah II.
B.A. III (Special): Semester V: Paper No. IX Age of Revolutions; Semester VI: Paper No. XIV Making of the Modern World (16^{th} to 19^{th} Century)	CO1:Explain the causes and consequences of the Reformation CO2:Give an account of the role played by Martin Luther CO3:Explain the salient features of the Industrial revolution, American and French Revolution. CO4:Know the causes and consequences of the Glorious revolution in England CO5:Explain the concept of Nationalism, unification of Italy and Germanyand impact of Imperialism.
B.A. III(Special): Sem. V: Paper No.: X Political History of the Marathas; Sem. VI: Paper No.: XV Polity, Economy and Society under the Marathas	CO1:Describe the political conditions of the Marathas up to the year1740 CO2: Explain the role of Balaji Bajirao, the causes and effects of the Battle of Panipat. CO3:Know the various sources for writing the history of the Marathas CO4:Explain the significant developments in the polity of the Marathas.
B.A. III(Special): Sem. VI: Paper No.: XI History: Its Theory; Semester VI: Paper No.: XVI Methods and Applications of History	CO1:Understand the definition and scope of the subject of History CO2:Explain the process of presenting and writing history CO3:Understand the nature of archival sources CO4:Gain conceptual clarity about recent trends in history. CO5:Know the application of history in museums.

Department of Political Science

ProgrammeName: B.A. (Course: Political Science)

Programme Outcomes: After completion of the Programme, the students will be able to:	
PO1	Develop leadership with public vision.
PO2	Enhance innovative approach of the student towards profession in Political Science.
PO3	Develop inclusive understanding of representation.
PO4	Become a responsible citizen will informed in fundamental rights and obligations as well.
Programme Specific Outcomes: After completion of the Programme, the students will be able to:	
PSO1	Learn organization of government machinery and representation.
PSO2	Get effectiveness in translating the government philosophy into programme.
PSO3	Deal with the concepts and dimensions of international politics.
PSO4	Understand the constitutional and legal provision of America.
PSO5	Understand the continuity and change within the western political traditions.
Course Outcomes: After completion of the course, the student will be able to:	
B.A. Part I Sem. I and II(Optional)	CO1. Understand the key concept of Political Science, state, democracy, nation. CO2. Understand Indian Constitution. CO3. Learn the Philosophy of Indian Constitution.
B.A.II (Optional) Sem. III and IV	CO1.Understand basic concept of Political Science and state theory. CO2. Acquaint with ancient Indian Political Thoughts. CO3. Understands in to theories of origin state.
B.A.II (Optional) Sem. III and IV	CO1. Get the knowledge Indian Political process and federal system. CO2. Understand political, social movements in India. CO3. Explain political classical traditional thoughts in India.
B.A. III (Special)	CO1. Understand modern political concepts, unitary and federal form Government System. CO2. Understand in election representation. CO3.Get comprehensive idea of contemporary scenario in Political Science.
B.A. III (Special)	CO1. Understand public, personal, financial administration. CO2. Provide knowledge about theories advocated. CO3. Give emphasis on Administrative Thinkers.
B.A. III (Special)	CO1. Understand the main theories of International Politics. CO2. Understand the working of International, National, regional Organization. CO3. Understand current national and international political situation and foreign policy.
B.A. III (Special)	CO1. Understand the constitution of America, China and Sweden. CO2. Explain the constitutional and legal provision. CO3. Understand the differences and similarities between the various constitutional arrangements.
B.A. III (Special)	CO1. Understand the western classical tradition from Plato to Montesquieu. CO2. Study historical aspects of western states and society. CO3. Understand the modern western views from Hegel, Karl Marx and Lenin.

Department of Economics

ProgrammeName: B.A. (Course:Economics)

Programme Outcomes: After completion of the Programme, the students will be able to:	
PO1	Develop economic leadership.
PO2	Increase economic literacy.
PO3	Get the skills required to respond to and analyze the global business and economic issues.
PO4	Get information of monetary policy, fiscal policy, international policy, product pricing and factor pricing.
PO5	Acquire information about past and present economic trends.
Programme Specific Outcomes: After completion of the Programme, the students will be able to:	
PSO1	Understand basic concepts of micro economics and macroeconomics.
PSO2	Create students' ability to suggest solutions for various economic problems.
PSO3	Analyze past and present events from an economic perspective.
PSO4	Create awarenessof economic activity in Indian and world economy.
Course Outcomes: After completion of the course, the student will be able to:	
B.A. Part I Sem. I and II(Optional)	CO1. Understand economic development since independence. CO2. Understand challenges facing the Indian economy. CO3.Get acquainted with the policies and performance of major sector in Indian economy.
B.A.II (Optional) Sem. III and IV	CO1. Know nature and scope of macro economics. CO2.Understand concepts of national income and value of money. CO3.Understand business cycles and theories of business cycles Understand general theory.
B.A.II (Optional) Sem. III and IV	CO1. Get information about commercial banking and credit creation. CO2. Know practical banking and understand functions of RBI and Monetary policy. CO3. Know E-banking and its importance.
B.A. III (Special)	CO1.Understand consumer decision making and consumer behavior. CO2. Understand the nature of revenue and cost of production. CO3. Identify the market structure. Principle of micro economics.
B.A. III (Special)	CO1. Identify the dimensions of development and know the theories of economic development. CO2. Get acquainted with economic planning and its Importance in development. CO3. Understand Economic Planning in India.
B.A. III (Special)	CO1. Explain International trade and international trade theories. CO2.Understand the measurement of gains from international trade. CO3. Distinguish between balance of trade and balance of payments.
B.A. III (Special)	CO1. Get acquainted with the basic concepts of research and its methodologies CO2. Understand the sampling techniques as a method of data collection CO3. Write a research report and thesis.
B.A. III (Special)	CO1. Understand the basic economic ideas of various economic thikers of the world. CO2. Understand the development of economic thoughts

Faculty of Commerce

Programme: B.Com.

Programme Outcomes: After completion of the Programme, the students will be able to:
PO.1) Gain theory and practical knowledge in the areas of management, accounting, finance, insurance, marketing, law, accounts, banking, business, economics. **PO.2)** Solve problems of business with analytical and critical thinking. **PO.3)** Learn P.G. courses like M.Com., M.B.A. and other courses. **PO.4)** Work in accounting, taxation, marketing, management and other Business-related areas. **PO.5)** Develop their entrepreneurship skills and become a successful Entrepreneur.

(Course:Advanced Accountancy)

Programme Specific Outcomes: After completion of the Programme, the students will be able to:
PSO.1) Understand practical and theoretical aspect of accounting, auditing, costing and taxation. **PSO.2)** Complete M.Com. in Advanced Accountancy Subject. **PSO.3)** Get the chances of making career in accounting and taxation sector.

(Course:Advanced Costing)

Programme Specific Outcomes: After completion of the Programme, the students will be able to:
PSO.1) Understand costing methods and techniques. **PSO.2)** Understand practical aspects of costing and cost accounting and management accounting. **PSO.3)** Pursue M.Com. in Advanced Costing Subject.

(Course:Industrial Management)

Programme Specific Outcomes: After completion of the Programme, the students will be able to:
PSO.1) Understand overall management of business unit. **PSO.2)**Understand Human Resource Management. **PSO.3)**Pursue career in industrial management sector.

(Course:Advanced Banking)

Programme Specific Outcomes: After completion of the Programme, the students will be able to:
PSO.1) Understand theoretical and practical aspects of banking sector. **PSO.2)**Understand capital market and money market operations. **PSO.3)**Pursue career in banking sector.

B. Com. I, Sem. I and II (CBCS)

Course Outcomes: After completion of the course, the student will be able to:	
Micro Economics Paper I and II(Core Course)	CO.1) Learn the concepts of micro economics dealing with consumer behaviour. CO.2) Understand the supply side of the market through production and cost behavior of firm. CO.3) Apply tools of consumer behaviour and firm theory to business situation.
Financial Accounting Paper I and II (Core Course)	CO.1) Learn basic accounting concepts, conventions, process and concept of IFRS. CO.2) Know the procedure of conversion of Partnership firm in to limited company. CO.3) Understand the Accounting of Professionals, accounting of Consignment and computerized accounting with accounting software Tally.
Management Principles and Applications Paper I and II (Core Course)	CO.1) Learn basic management concepts, principles andpractices. CO.2) Get acquainted with basic management functions. CO.3) To understand emerging issues in Management.

Insurance Paper I and II (Generic Elective Course)	CO.1) Get the basic knowledge of principles and practice of insurance and life insurance. CO.2) Know the fundamentals of general insurance covering fire, marine and other forms. CO.3) Understand IRDA act and understand general business in India.
Principles of Marketing Paper I and II(Generic Elective Course)	CO.1Learn the concepts, principles, tools and techniques of marketing. CO.2) Understand the knowledge of 4P's of marketing and retailing.
English for Business Communication Paper I and II(Ability Enhancement Compulsory Course)	CO.1) Learn communication skills with specific focus on business correspondence and telephonic communication. CO.2) Inculcate human values through poems and prose. CO.3) Improve the language and business competence.

B. Com. II Sem. III and IV(CBCS)

Course Outcomes: After completion of the course, the student will be able to:	
Corporate Accounting Paper I and II	CO.1) Learn the meaning and types of Companies, Companies Act 2013. CO.2)Demonstrate accounting for issue of debentures and redemption of debentures.Simulate practice of preparing financial statements as per the provisions of Indian Companies Act 2013. CO.3)Compute the value of shares as per distinct methods and differentiate between them, Simulate practice of accounting for liquidation of companies. CO.4) Practice the fundamental accounting process on Tally ERP.Practice the store accounting through Tally ERP.
Fundamentals of Entrepreneurship Paper I and II	CO.1) Get theoretical knowledge ofEntrepreneurship, qualities and skills. CO.2) Understand Recent Trends and Concepts in Entrepreneurship CO.3)Learn Business Planand Project Report CO.4) Get inspiration to become successful Entrepreneur
Money & Financial System Paper I and II	CO.1) Learn functions of money and measurement of money supply. CO.2) Understand the nature of banking business and business Practices. CO.3) Understand the important recent trends in banking system, e-banking services. CO.4) Understand the business practices of NBFCs and AIFI to infuse ability to explain monetary system in India.
Business Statistics Paper I and II	CO.1)Explain the scope of statistics in business, perform classification and tabulation, and represent the data by means of simple diagrams and graphs. CO.2) Summarize data by means of measures of central tendency and dispersion. CO.3) Compute unconditional and conditional probabilities and apply laws of probabilities. CO.4)Measure trend and seasonal variations in time series data.
Business Economics Paper III and IV	CO.1) Learn the macro variables and components of macro economics CO.2) Understand changing value of money and its impacts on economy

	determination of rate exchange
English for Business Communication Paper III and IV	CO.1) Develop communication skills in English, both oral and written. CO.2)Equip the students with the language skills for use in their personal, academic and professional lives CO.3) Show the active involvement in learning process. CO.4) Cultivate a broad, human and cultured outlook.
Environmental Studies (EVS)	CO.1) Develop awareness amongst the students about environment protection. CO.2) Familiarize with the serious consequences of pollution and catastrophic loss. CO.3) Understand the importance of sustainable development.

B. Com. III, Sem. V and VI (CBCS)

Course Outcomes: After completion of the course, the student will be able to:	
Modern Management Practices Paper I and II	CO.1) Familiar with the modern management practices being used by the corporate world. CO.2) Understand the importance and applicability of variousModern management practices. CO.3) Understand concepts of CRM. CO.4)Understand the importance and applicability of various modern management practices.
Business Regulatory Framework Paper I and II	CO.1) Get legal awareness. CO.2) Understand various Laws and Acts which have impact on business and industry. CO.3) Understand lawsrelating to Corporate Business Entities. CO.4) Understand SEBI act 1992. CO.5) Understand Business Transactions and Cyber security.
Business Environment Paper I and II	CO.1) Understand the basic concepts of Business Environment. CO.2) Learn the scenario of agricultural and industrial sectors. CO.3) Understand concept LPG, Economic Planning and Service Sector. CO.4) Understand Foreign Capital and Multinational Organisation.
Co-operative Development Paper I and II	CO.1) Understand meaning and principles of Co-operation. CO.2) Understand agriculture and non-agriculture credit co-operative institution. CO.3) Understand impact of Globalization on co-operative movement. CO.4) Get basic knowledge of co-operative society and administration.
Advanced Accountancy Paper I	CO.1) Practice the preparation of financial statements of banks. CO.2) Demonstrate accounting for farms and hire purchase system. CO.3) Simulate accounting situations of insurance claim.
Advanced Accountancy Paper II	CO.1) Gain working knowledge of generally accepted auditing procedure, techniques &Skills. CO.2) Understand special features of audit of Co-operative organization. CO.3) Understand procedure of appointment of Auditor.

Faculty of Science

Programme Name: B. Sc. (Course: Botany):

Programme Outcomes: After completion of the Programme, the students will be able to:	
PO. 1	Develop skill in practical work and experiment in laboratory.
PO. 2	Understand scientific terms, concepts, facts, phenomenon and their relationships.
PO. 3	Work in the field of research and other fields of their own interest and to make them fit for society.
PO. 4	Acquire knowledge of plant and related subjects so as to understand natural phenomenon
PO. 5	Develop ability for the application of the acquired knowledge to improve agriculture and other related fields.
Programme Specific Outcomes: After completion of the Programme, the students will be able to:	
PSO. 1	Obtain strong foundation in classical botany.
PSO. 2	Build capacity in Horticulture, Greenhouse management, Production of cut flowers and loose flowers from the elective courses offered.
PSO. 3	Build life skills in Edible mushroom cultivation, Bio fertilizer production, Greenhouse maintenance and Seed technology through value-added courses.
PSO. 4	Scale up the biological resources by designing optimization, preparation and analysis of products required for Society.
PSO .5	Gain career in teaching/research in Botany.
Course Outcomes: After completion of the course, the student will be able to:	
B.Sc. Part I Sem. I Paper No. I**BIODIVERSITY OF MICROBES, ALGAE AND FUNGI**	**CO.1.**Learn about the Discovery, general characters and structure of viruses and their Economic importance **CO.2.** Understand about the Discovery, general characters and cell structure of Bacteria and their Economic importance **CO.3.**Know about importance of morphological structure, classification, reproduction and economic importance of Algae.
B.Sc. Part I Sem. I Paper No. II**BIODIVERSITY OF ARCHEGONIATE-Bryophytes, Pteridophytes, Gymnosperms**	**CO.1.**Explain about structure, classification, reproduction, life cycle and economic importance ofBryophytes. **CO.2.**Learn structure, classification, reproduction, life cycle and economic importance of pteridophytes **CO.3.**Understand structure, classification, reproduction, life cycle and economic importance of Gymnosperms.
B.Sc. Part I Sem. II Paper No. III**PLANT ECOLOGY**	**CO.1.**Learned about the interaction between biotic and abiotic components of theenvironment. **CO.2.**Know about the concept of energy flow in theecosystem. **CO.3.**Know about different pollutions, consequences in the environment and its mitigation.
B.Sc. Part I Sem. II Paper No. IV**PLANT TAXONOMY**	**CO.1.**Know about the Identification, Nomenclature, Binomial Nomenclature, Classification. Salient features of International Code of Botanical Nomenclature (ICBN). **CO.2.**Know about Role and Significance. Study of Sir J. C. Bose Botanical Garden, Calcutta. Lead Botanical Garden, Shivaji University, Kolhapur. **CO.3.** Understand external and internal structure ofplants.
B.Sc. Part II Sem. III Paper No. V **Embryology of Angiosperms**	**CO.1.**Students will acquire knowledge regarding Concept of flower , **CO.2**. Students will able to gain knowledge of mechanism of pollination and Fertilization in plants. **CO.3.** Student will know the structure and development of Embryo and Endosperm. **CO.4.** Student will know about the mechanism, types and significance of

	Polyembryony and Apomixis
B.Sc. Part II Sem. III Paper No.VI **PLANT PHYSIOLOGY**	**CO.1**.To become knowledgeable in plant and its water relations. **CO.2.** Students will able to gain knowledge on role of macronutrients, plant growth, their development and understand the mechanisms of nitrogen metabolism. **CO.3.**To gain knowledge about chloroplast structure, photosynthetic pigments, the path of energy from the light reactions through Calvin cycle. Students are able to understand the process of translocation of organic solutes in plants. **CO.4**.To acquire knowledge in plant growth regulator and its uses, understand the physiology of flowering and photoperiodism.
B.Sc. Part II Sem. IV Paper No. VII **PLANT ANATOMY**	**CO1**.To gain knowledge of plant cells, tissues and their functions. **CO2.**The students will enable to know the internal structure of stem, leaf and root in monocot anddicot. **CO.3**.Students familiarize in secondary growth, anomalous secondary growth in monocot and dicotstems. **CO.4**.Student able to understand the process of microsporogenesis, megasporogenesis and doublefertilization. **CO.5**. Students able to understand endosperm and its types and know the structure and development of monocot and dicot embryos.
B.Sc. Part II Sem. IV Paper No. VIII **Plant Metabolism**	**CO1.**Know about classification, Nomenclature, structure, properties and mechanism of Enzyme. . **CO2.**Know about Biological Nitrogen fixation and mechanism of Nitrate reduction, Ammonia assimilation, Nit genes. **CO.3**Acquire the knowledge about mechanism of Respiration, seed dormancy and Germination.
B.Sc. Part III Sem. V Paper No. IX **Genetics and Plant Breeding**	**CO.1.** Understand the Mechanism of sex determination. **CO.2.**Understand the Plastid inheritance and Mitochondrial inheritance. **CO. 3.** Acquire knowledge of plant breeding. **CO.4.**Know the Aims and objectives of plant breeding and Methods of plant breeding.
B.Sc. Part III Sem. V Paper No. X **Microbiology Plant Pathology and Mushroom Culture Technology**	**CO.1.**Understand the concept Microorganisms in biological world. **CO.2.** Know the applications of micro-organisms. **CO.3.** Know the plant diseases their causal organism, symptoms and control measure of plant disease. **CO.4**, To provide an adequate knowledge about importance and habitation of mushroom.
B.Sc. Part III Sem. V Paper No. XI **Cytology and Research Techniques in Biology**	**CO.1.**Acquire knowledge of ultrastructure of cell. **CO.2.** Understand the structure and chemical composition of chromatin and concept of cell division. **CO.3.** Understand the principles and applications of microscopy and classification of micro organisms. **CO.4.** Understand the ultra structure and dynamism of cell.
B.Sc. Part III Sem. V Paper No. XII **Horticulture and Gardening**	**CO.1.**Discuss about Importance and divisions of Horticulture **CO.2.**Discuss about Horticultural Produce and Management of Pest and diseases in flowering plants. **CO.3.** Know the Nursery techniques and explain about plant propagation methods. **CO.4.** Know the outdoor & indoor gardening.
B.Sc. Part III Sem. VI Paper No. XIII **PLANT BIOCHEMISTY AND MOLECULAR BIOLOGY**	**CO.1.** Knowthe physical, chemical properties and metabolism of carbohydrates **CO.2** Understandthe physical, chemical properties and metabolism lipids in living system. **CO.3.**Knowthe physical, chemical properties and metabolism o

	proteins. **CO.4.** Knows basic knowledge of the biological importance of the biomolecules nucleic acid andenzymes.
B.Sc. Part III Sem. VI Paper No. XIV **Bioinformatics, Biostatistics and Economic Botany**	**CO.1.**To learn the sampling techniques, diagrammatic and graphical representation. **CO.2.**Knowledge about measures of central tendency and theories of probability. **CO.3.**Understand basics of bioinformatics and online bioinformatics tool. **CO.4**.To study and impart the knowledge online available biologicaldatabases.
B.Sc. Part III Sem. VI Paper No. XV **Plant Biotechnology and Paleobotany**	**CO.1.** Plant Molecular Biology focuses on exploration of molecular basis of plantlife. **CO.2**.Understand the function of cells at molecular level. **CO.3.**Understand the molecular breeding methods thatarecoupled with genetic engineering techniques. **CO4.** Know about the Structure, reproduction, life cycle, fossil, fossilization and geological time scale.
B.Sc. Part III Sem. VI Paper No. XVI **Bio fertilizers and Herbal Drug Technology**	**CO.1**.Understand the biofertilizers and its consequences in the environment. **CO.2.**Know the usage of synthetic fertilizer and benefits of organic farming and its relation to waste management. **CO.3.**Understand different systems of traditional medicines **CO.4.**Acquire knowledge on collection and processing of herbaldrugs

Programme Name: B. Sc. (Course: Zoology):

Department of Zoology

Programme Outcome-	
PO1	To make curiosity in the students for Zoology subject.
PO2.	To create awareness amongst students for the basic and applied areas of Zoology.
PO3.	To orient students about the importance of abiotic and biotic factors of environment and their conservation
PO4.	To provide an insight to the aspects of animal diversity.
PO5.	To Know the Animals physiology, behavior and its characteristics.
PO6.	To inculcate good laboratory practices in students and to train them about proper handling of lab instruments.

Programme Specific Outcome	
PSO1.	Understand the nature and basic concepts of cell biology, genetics, taxonomy, physiology, ecology and applied Zoology.
PSO2.	Perform procedures as per laboratory standards in the areas of Taxonomy, Physiology, Ecology, Cell biology, Genetics, Applied Zoology, Clinical science, tools and techniques of Zoology, Toxicology, Sericulture, Biochemistry, Fish biology, Animal biotechnology, Immunology .
PSO3.	Understand the applications of Zoology in Agriculture, Medicine and daily life.
PSO4.	Gains knowledge about research methodologies, effective communication and skills of problem solving methods
PSO5.	Contributes the knowledge for Nation building.

Course Outcome After successfully completing this course, students will be able to:		
B. Sc. Part – I Sem.– I Paper- I Animal Diversity-I)	CO1:	Describe general taxonomic rules on animal classification.
	CO2:	Classify Protista up to phylum using examples from parasitic adaptation.
	CO3:	Describe Phylum Nematoda and give examples of pathogenic Nematodes.
B. Sc. Part – I Sem.– I Paper - II (Animal Physiology)	CO1:	Develop understanding for the fundamental concepts of physiology of digestion, blood vascular system and nervous system..
	CO2:	Familiarize students with renal physiology and muscle.
	CO3:	Gain fundamental knowledge of animal physiology.
B. Sc. Part – I Sem.– II Paper - III (Cell biology and Evolutionary Biology)	CO1:	Describe the structure and function of plasma membrane.
	CO2:	Understand Structure, functions and interactions of cell organelles and inclusions.
	CO3:	Explain the basis of evolution and fossil formations.
	CO4:	Correlate the theories with the evidences
B. Sc. Part – I Sem.– II Paper – IV (Genetics)	CO1:	Explain Mendalism expanding Mendel's Laws.
	CO2:	Explain sex determining systems and dosage compensation.
	CO3:	Describe mutation, mutagenesis and repair
	CO4:	Explain the process of gene expression and applications.
B. Sc. Part II Sem.- III PAPER-V	CO1:	Understand the underlying principles of classification of animals like Protochordata to Mammal.

	CO3:	To classify vertebrates and to be able to understand the possible group of the vertebrate observed in nature.
	CO4:	To identify poisonous nonpoisonous snakes.
	CO5:	To study the digestive and respiratory system in aves.
B. Sc. Part II Sem.- III Paper – VI Biochemistry	CO1:	To simplify the concepts of Biochemistry.
	CO2:	Define the DNA and RNA
	CO3:	Explain enzyme types, classification, reactions.
	CO4:	Explain the metabolism of Carbohydrate, Protein and Lipid.
Sem. IV Paper VII Reproductive Biology	CO1:	Explain the male and female reproductive system and its work.
	CO2:	Understand the process of formation of male and female gametes separately.
	CO3:	To know the different male and female reproductive related disorders.
Paper – VIII Applied Zoology -I	CO1:	To understand Host parasite Relationship
	CO2:	To know Epidemiology of Diseases.
	CO3:	To understand about Insects of Economic Importance.
	CO4:	To gain the knowledge related to Poultry Farming.
B. Sc. Part III Semester- V Paper- IX DSE-E29 (Comparative Anatomy Of Vertebrates)	CO1.	Explain integumantory systems.
	CO2.	To know the skeletal system of vertebrates.
	CO3.	To illustrate the comparative difference in vertebrates.
	CO4.	To understand the specific animal system difference.
Paper- X DSE-F29 (Molecular Cell Biology and Animal Biotechnology	CO1:	Explain DNA structure.
	CO2:	Paraphrase the Central dogma of molecular biology.
	CO 3:	Illustrate the mechanism of replication, transcription and translation.
	CO4:	To understand the cloning techniques and vectors.
	CO5:	To knowing the various principles of biological techniques.
Paper- XI DSE-F30 (Biotechniques and Biostatistics)	CO1:	Explain the basic methods to make genetically modified animals.
	CO2:	To understand applications of Transgenic animals.
	CO3:	To illustrate the classification of data.
	CO4:	To solve the measures of central tendency.
	CO5:	Describe the Dispersion and correlation.
B. Sc. Part III Semester- VI Paper- XII DSE-F31 (Aquatic Biology and Endocrinology)	CO1:	To understand the aquatic biome.
	CO2:	Students know the biology of freshwater bodies.
	CO3:	Justify the endocrine disorders.
	CO4:	To understand anatomy and histology of glands.
	CO5.	Explain nature , role, regulation of endocrine glands.
Paper- XIII DSE-E30 (Developmental Biology Of Vertebrates)	CO 1:	Identify the developmental stages.
	CO2:	Describe the key events in early and systematic embryological development.
	CO3:	Explain the theories of preformation, and concepts like growth, differentiation and reproduction.
	CO 4:	Explain the principles and process of fertilization and cleavage.
	CO5:	Elucidation of early embryonic development of invertebrates and vertebrates.
Paper- XIV DSE-E32 (Immunology)	CO1:	Explaingeneral information of immune system.
	CO2:	Understands cells and organs which involves in immune system.
	CO3:	Student should know the structure of antigen, antibogy and its mechanism.
Paper- XV DSE-E31 (Applied Zoology -	CO1:	Understands processes of fisheries, sericulture, along with crop pest management techniques.

II)	CO2:	Students gain knowledge about various disease related vectors and their impact on human.
	CO3:	Understands concepts of apiculture, poultry, dairy along with tissue and cell culture techniques.
Paper- XVI DSE-F32 (Insect Vectors and Histology)	CO1:	Identify and to study different vectors .
	CO2:	Explain the various disease which occurs from vectors
	CO3:	Define the basic terms in histology.
	CO4:	List the various types of tissues.
	CO 5:	Identify the histological peculiarities in various organs.
	CO 6:	Explain the location, structure and functions of various organs.
B.Sc. III Practical Paper I, II, III, IV	CO1:	First-hand knowledge about identification of non-chordate and chordate specimens (fresh and preserved) along with larval forms and study of endoskeleton of vertebrates.
	CO2:	Students are able to handle microscopes, and micrometers.
	CO3:	Identification of zooplanktons and phytoplanktons.
	CO4:	Gain skill about histological slide preparation, staining and mounting
	CO5:	Students gain skill about determination of pH and quantitative analysis of blood cells.
	CO6:	Students are able to parasites from rectal and fecal contents of animals.
	CO7:	Students are able to collect parasite and pest specimen

Program Name: B. Sc Mathematics 2020-2021

Programme Outcome	
PO1	Scientific temper will be developed in Students
PO2	Students will acquire basic Practical skills like scilab, python software & Technical knowledge along with domain knowledge of different subjects in the science stream.
PO3	Students will become employable; they will be eligible for career opportunities in Industry, or will be able to opt for entrepreneurship.
PO4	Students will possess basic subject knowledge required for higher studies, professional and applied courses like Management Studies, Law etc.
PO5	Students will be aware of and able to develop solution oriented approach towards various Social and Environmental issues
Programme Specific Outcome	
PSO1	A student should be able to recall basic facts about mathematics and should be able to display knowledge of conventions such as notations , terminology.
PSO2	A student should get adequate exposure to global and local concerns that explore them many aspects of mathematical sciences.
PSO3	Student is equipped with mathematical modeling ability, problem solving skills, creative talent and power of communication necessary for various kinds of employment.
PSO4	Student should be able to apply their skills and knowledge that is translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion
PSO5	Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study.
Course OutCome	
B.Sc.-I Sem-I Paper-I Mathematics (Differential Calculus-I)	By the end of course, the student will be able to: CO1. Learns definition of limit of a function of one variable. CO 2. Learns important properties of continuous functions CO 3. Learns differentiability of a function and geometrical meaning of derivative CO 4. Learns to find the nth derivative of product of two functions.
B.Sc.-I Sem-I Paper-II Mathematics (Calculus)	CO1. Learns exact differential equations and the mean value theorems. CO2. Learns series expansions and indeterminate forms. CO3. Learns Euler's theorem on homogeneous function. CO4. Learns the Lagrange's Method of undetermined multipliers method.
B.Sc.-I Sem-II Paper-III Mathematics Differential Equations-I)	CO1. Learns exact differential equations and the condition for exactness. CO2. Learns differential equation of first order but not of first degree. CO3. Learns to find general solution of ( ). CO4. Learns to find general solution of ( )
B.Sc.-I Sem-II Paper-IV Mathematics (Differential Equations-II)	CO1. Learns homogeneous linear differential equation and method of solution. CO2. Learns second order differential equations. CO3. Learns the ordinary simultaneous differential equations. CO4. Learns the condition for integrability of Pdx+Qdy+Rdz=0.
B.Sc.-II Sem-III Mathematics Real Analysis–I	CO1.understand types of functions and how to identify them. CO2.use mathematical induction to prove various properties. CO3.understand the basic ideas of Real Analysis

B.Sc.-II Sem-III Mathematics Algebra–I	CO1. understand properties of matrices CO2. Solve System of linear homogeneous equations and linear non-homogeneous equations. CO3. Find Eigen values and Eigen vectors. CO4. Construct permutation group and relate it to other groups. CO5. Classify the various types of groups and subgroups.
B.Sc.-II Sem-IV Mathematics Real Analysis–II	CO1. Understand sequence and subsequence. CO2. Prove The Bolzano-Weierstrass Theorem. CO3. Derive Cauchy Convergence Criterion. CO4. Find convergence of series. CO5. Apply Leibnitz Test.
B.Sc.-II Sem-IV Mathematics Algebra–II	CO1. Prove Lagrange's theorem. CO2. Derive Fermat's theorem. CO3. Understand properties of normal subgroups, factor group. CO4. Define homomorphism and isomorphism's in group and rings. CO5. Derive basic properties of rings and subrings.
B.Sc.-III Mathematics Sem-V DSE – E9 Mathematical Analysis	CO1. The integration of bounded function on a closed and bounded interval CO2. Some of the families and properties of Riemannintegrable functions CO3. The applications of the fundamental theorems of integration CO4. Extension of Riemann integral to the improper integrals when either the interval ofintegration is infinite or the integrand has infinite limits at a finite number of points on the interval of integration CO5. The expansion of functions in Fourier series and half range Fourier series
B.Sc.-III Mathematics Sem-V DSE – E10 Abstract Algebra	CO1. Basic concepts of group and rings with examples CO2. Identify whether the given set with the compositions form Ring, Integral domain or field. CO3. Understand the difference between the concepts Group and Ring. CO4. Apply fundamental theorem, Isomorphism theorems of groups to prove these theorems for Ring. CO5. Understand the concepts of polynomial rings, unique factorization domain.
B.Sc.-III Mathematics Sem-V DSE – E11 Optimization Techniques	CO1. provide student basic knowledge of a range of operation research models and techniques, which can be applied to a variety of industrial and real life applications. CO2. Formulate and apply suitable methods to solve problems. CO3. Identify and select procedures for various sequencing, assignment, transportation problems. CO4. Identify and select suitable methods for various games. CO5. To apply linear programming and find algebraic solution to games.
B.Sc.-III Mathematics Sem-V DSE – E12 Integral Transforms	CO1. Understandconcept of Laplace Transform. CO2. Apply properties of Laplace Transform to solve differential equations. CO3. Understand relation between Laplace and Fourier Transform. CO4. Understand infinite and finite Fourier Transform. CO5. apply Fourier transform to solve real life problems
B.Sc.-III Mathematics Sem-VI DSE – F9 Metric Spaces	CO1. Acquire the knowledge of notion of metric space, open sets and closed sets. CO2. Demonstrate the properties of continuous functions on metric spaces, CO3. Apply the notion of metric space to continuous functions on metric spaces. CO4.Understand the basic concepts of connectedness, completeness and compactness of metricspaces, CO5. appreciate a process of abstraction of limits and continuity to metric spaces

B.Sc.-III Mathematics Sem-VI DSE – F10 Linear Algebra	CO1. Understandnotion of vector space, subspace, basis. CO2.Understand concept of linear transformation and its application to real life situation. CO3. Work out algebra of linear transformations. CO4. Appreciate connection between linear transformation and matrices. CO5. Work out eigen values, eigen vectors and its connection with real life situation.
B.Sc.-III Mathematics Sem-VI DSE – F11 Complex Analysis	CO1. Learn basic concepts of functions of complex variable. CO2. Be introduced to concept of analytic functions. CO3. Learn concept of complex integration and basic results thereof. CO4. Be introduced to concept of sequence and series of complex variable. CO5. Learn to apply concept of residues to evaluate certain real integrals.
B.Sc.-III Mathematics Sem-VI DSE – F12 Discrete Mathematics	CO1. Use classical notions of logic: implications, equivalence, negation, proof by contradiction, proof byinduction, and quantifiers. CO2. Apply notions in logic in other branches of Mathematics. CO3. Knowelementary algorithms: searching algorithms, sorting, greedy algorithms, and their complexity. CO4. Apply concepts of graph and trees to tackle real situations. CO5. Appreciate applications of shortest path algorithms in computer science.

Programme Name: B. Sc. (Course: Statistics):

Programme Outcomes: After completion of the Programme, the students will be able to:	
PO 1	Understand how to use statistical knowledge for analysis.
PO 2	Understand the concept of probability and the statistical distributions and applications in various fields.
PO 3	Understand the principles, concepts and recent developments in the Statistics.
PO 4	Understand how to design of experiment and survey sampling are used in real life.
PO 5	Learn the various concepts in Statistics.
Programme Specific Outcomes: After completion of the Programme, the students will be able to:	
PSO 1	Be a Business analyst, Research Officer, Data Analyst or Data Investigator.
PSO 2	Work in government sector and do research on Consumer prices, Population trend, Economy etc.
PSO 3	Do researchworkinvariousfields.
Course Outcomes: After completion of the course, the student will be able to:	
B.Sc. Part –I Sem.: I Paper I (DESCRIPTIVE STATISTICS I)	CO.1 Compute various measures of central tendencies, dispersion, moments, skewness, kurtosis and to interpret them. CO.2 Analyze data pertaining to attributes and to interpret the results.
B.Sc. Part –I Sem.: I Paper II:(ELEMENTARY PROBABILITY THEORY)	CO.1 Distinguish between random and non-random experiments. CO.2Find the probabilities of various events. CO.3 Understand concept of conditional probability and independence of events.
B.Sc. Part –I Sem.: II Paper III (DESCRIPTIVE STATISTICS – II)	CO.1Compute correlation coefficient and interpret its value. CO.2 Compute regression coefficient, interpret its value and use in regression analysis. CO.3 Compute various index numbers and test for good index number.
B.Sc. Part –I Sem.: II Paper IV (DISCRETE PROBABILITY DISTRIBUTIONS)	CO.1 Distinguish between discrete variables. CO.2 Know some standard discrete probability distributions with real life situations. CO.3 Understand concept of bivariate distributions and computation of related probabilities.
B.Sc. Part –II Sem.: III Paper V (Probability Distributions–I)	CO.1 Uunderstand concept of discrete and continuous probability distributions with real life situations. CO.2Find the various measures of random variable and probabilities using its probabilitydistribution. CO.3 Uunderstand the concept of transformation of univariate and bivariate continuous randomvariable.
B.Sc. Part –II Sem.: III Paper VI (Statistical Methods-I)	CO.1 Understand the concept of Multiple Linear Regression, Multiple Correlations and Partial Correlation. CO.2 Uunderstand the meaning, purpose and use of Statistical Quality Control. CO.3 Uunderstand the need of vital statistics and concept of mortality and fertility. Know the concept of sampling theory.
B.Sc. Part –II Sem.: IV Paper VII (Probability Distributions-II)	CO.1 Know some standard continuous probability distributions with real life situations. CO.2 Learn and understand the relations among the different distributions.

	CO.3 Uunderstand the Chi-Square, t and F distributions with their applications and interrelations.
B.Sc. Part –II Sem.: IV Paper VIII (Statistical Methods-II)	CO.1Know the concept and uses of time series. CO.2 Understand meaning, purpose and uses of sac, construction of various control charts for variables and attributes. CO.3 Apply small and large sample tests in various situations.
B.Sc. Part –III Sem.: V Paper IX(Probability Distributions)	CO.1 Acquire kknowledge of important univariate distributions. CO.2 Understand the concepts of Multinomial, Bivariate Normal Distribution and Truncated Distributions. CO.3 Apply standard continuous probability distributions to different situations.
B.Sc. Part –III Sem.: V Paper X (Statistical Inference-I)	CO.1Understand important inferential aspect of point estimation. CO.2 Learn various important properties of estimator, CO.3Understand inference of parameters of standard discrete and continuous distributions.
B.Sc. Part –III Sem.: V. Paper XI (Design of Experiments)	CO.1 Acquire knowledge of basic terms used in design of experiments. CO.2 Understand various designs of experiments such as CRD, RBD, LSD, factorialexperiments and confounding. CO.3Learn an appropriate experimental design to analyse the experimental data.
B.Sc. Part –III Sem.: V. Paper XII (R Programming & Quality Management)	CO1.To learn importance of R programming and knowledge of identifiers and operators in R CO2. Knowledge of Conditional Statements and loops in R CO.3Know quality tools used in Quality management. CO.4 Understand process and product control used in Quality management. CO.5 Learn the concept of Data mining and its applications.
B.Sc. Part –III Sem.: VI Paper XIII (Probability Theory)	CO.1 Know order statistics and associated distributions, CLT, WLLN CO.2 Understand the concept of stochastic process and its applications. CO.3 Learn theconcept of queuing theory and its applications.
B.Sc. Part –III Sem.: VI Paper XIV(Statistical Inference-II)	CO.1 Know interval estimation of mean, variance and population proportion. CO.2Understand important aspect of test of hypothesis and associated concept. CO.3Learn parametric and non-parametric methods.
B.Sc. Part –III Sem.: VI Paper XV(Sampling Theory)	CO.1 Get basic knowledge of complete enumeration and sample. CO.2 Understand the concept of various sampling methods. CO.3 Know ratio and regression estimators.
B.Sc. Part –III Sem.: VI Paper XVI (Operation Research)	CO1. Understand the concept of Linear programming problem. CO2. Get the knowledgeof Transportation, Assignment and Sequencing problems. CO.3 Learn simulation technique and Monte Carlo technique of simulation. CO4.To learn concept of Qucuing Theory

Programme Name: B.Sc. (Course: Chemistry):

Programme Outcomes: After completion of the Programme, the students will be able to:	
PO 1	Studying Chemistry in academic and Industrial courses.
PO 2	Understand nanotechnology and applications of non-material.
PO 3	Know various spectroscopies such as UV, IR, NMR and mass spectroscopy.
PO 4	Understand the structure of organic compound with the help of provided spectral data.
PO 5	Acquaint new areas of Chemistry and their applications in various spheres.

Programme Specific Outcomes: After completion of the Programme, the students will be able to:	
PSO 1	Work in the chemical industry.
PSO 2	Carry out research work in various fields.
PSO 3	Work in supportservicessuchaslab. technicians, stock room managers, safety officers etc.
PSO 4	Work as assistant for doctors,dentists, veterinarians etc.

Course Outcomes: After completion of the course, the student will be able to:	
B.Sc. Part –I Sem.: II Inorganic Chemistry	CO.1 Understand Bohr's theory ofhydrogen atom, quantum numbers, atomic structure, electronic configuration and various properties of elements CO.2 Understand formation of ionic bond. CO.3 Gain knowledge of chemical bond.
B.Sc. Part –I Sem.: II Paper III (Physical Chemistry)	CO.1 Understand basic concepts of thermodynamics and thermos-chemistry. CO.2 Understand kinetic theory of gases, deviation of real gases from ideal behavior, causes of deviation and Van der Waals equation of state for real gases. CO.3Understand basic concepts of chemical kinetics.
B.Sc. Part-I Sem.: II Paper IV (Analytical Chemistry)	CO.1 Understand basic principle of chromatography and methodology, applications of Paper and Thin Layer chromatography. CO.2Learn the theory of titrimetric Analysis and theory of use of indicators. CO.3Understand physical and chemical analysis of water learn basic programming constructs.
B.Sc. Part –II Sem.: III Paper V Physical Chemistry	CO.1 Understand all the terms related to conductance, Kohlrausch's law and numerical problems. CO.2 To understand Theories of reaction rate in Chemical Kinetics & concept of entropy. CO.3To Understand the terms surface index, refractive index and numerical problems. CO.4 Ability to solve numerical problems based on entropy
B.Sc. Part –II Sem.: III Paper VI Industrial Chemistry	CO.1 Understand various methods of analysis in statistics. CO.2 To Understand the knowledge of some unit operations. CO.3 Understand the process of corrosion and its prevention. CO. 4 To get knowledge about Soap and Detergents and cleansing action of soap.
B.Sc. Part –II Sem.: IV Paper VII Industrial Chemistry	CO1. Understand basic concepts about coordination complexes. CO.2To get the knowledge about Chelation and its application in analytical chemistry. CO.3Understand the properties of 4d and p block elements. CO.4 To learn the basic knowledge about the qualitative analysis of inorganic Compounds.

Organic Chemistry	CO.2 To get knowledge about classification, and applications of amines &diazonium salts. CO. 3 Understand the classification & structure of carbohydrates. CO4. To learn the basic knowledge conformational analysis of organic Compounds.
B.Sc. Part –III Sem.: V Paper X Inorganic Chemistry	CO.1 Study role of acids and bases in Chemistry. CO.2 Understand geometry, stability and nature of bonding between metal ion and ligand in complexes. CO.3Understand synthesis and the applications of the semiconductors and Superconductors in electrical and electronic devices.
B.Sc. Part –III Sem.: V Paper XI Organic Chemistry	CO.1 Understand chromophore, auxochrome and calculation of λmax. CO.2 Develop the knowledge of vibrational transitions and regions of IR spectrum. CO.3 Understand magnetic-nonmagnetic nuclei, shielding-deshielding, chemical shift, splitting pattern.
B.Sc. Part –III Sem.: V Paper IX Physical Chemistry	CO.1 Understand basic concept of Quantum Mechanics CO.2 Know types of electromagnetic radiations, rotational and vibrational spectra of diatomic molecules. CO.3 Learnphotochemical laws, reactions and various photochemical phenomena.
B.Sc. Part-III Sem.: V Paper XII Industrial Chemistry	CO.1 Learn the techniques of gravimetric analysis. CO.2 Understand working and applications of optical methods as an analytical tool. CO.3 Understand the basics of ion exchange.
B.Sc. Part -III Sem.: VI Paper XIV Inorganic Chemistry	CO.1 Understand the thermodynamic and kinetic aspects of metal complexes. CO.2 Write Nomenclature of trans uranic elements. CO.3 Understand techniques which involve in ore dressing and extraction of cast iron from its ore.
B.Sc. Part -III Sem.: VI Paper XV Organic Chemistry	CO.1 Understand reagents used in organic transformations and various reactions used in organic synthesis. CO.2Understand the analytical and synthetic evidences of Citral and Nicotine. CO.3 Understanding classification of drugs, Qualities of ideal drug.
B.Sc. Part -III Sem.: VI Paper XIII Physical Chemistry	CO.1 Learn quantum Chemistry, Heisenberg's uncertainty principle and concept of energy operators. CO.2 LearnSchrodinger wave equation. Physical interpretation of the ψ and ψ2. CO.3 Understand different spectroscopy.
B.Sc. Part -III Sem.: VI Paper XVI Analytical Chemistry	CO1. Learninstrumental analysis of alkali and alkaline earth elements. CO.2 Understand theory and applications of potentiometric titrations. CO.3 Understand types of ion exchange and column adsorption chromatography.

Programme Name : B.Sc. (Physics)

Programme outcomes: After completion of programme, the students will be able to	
PO1	The accumulation of facts of nature and the ability to link the facts observed and discover the laws of nature i.e. develop an understanding and knowledge of the basic Physics.
PO2	**Be eligible for career opportunities in various fields.**
PO3	To enhance the student's academic abilities, personal qualities and transferable skills this will give them an opportunity to develop as responsible citizens.
PO4	To produce graduates who excel in the competencies and values required for leadership to serve a rapidly evolving global community.
Programme specific outcomes: After completion of programme, the students will be able to	
PSO1	To understand the basic laws and explore the fundamental concepts of physics.
PSO2	Ability to employ critical thinking and efficient problem solving skills in all the basic areas of Physics.
PSO3	To understand the concepts and significance of the various physical phenomena. To carry out experiments to understand the laws and concepts of Physics.
PSO4	This course introduces students to the methods of experimental physics. Emphasis will be given on laboratory techniques specially the importance of accuracy of measurements.
Course outcomes: After completion of course, the students will be able to	
B.Sc-I, Sem-I Paper-I Mechanics-I	**CO1:** Understand laws of motion and their application. Learn about frame of reference. **CO2**: Develop skills to understand and solve the differential equations. **CO3:** Detail study of vector algebra and vector products. **CO4:** Learn the concept of conservation of energy, momentum, angular momentum and apply them to basic problems, Rotational Motion.
B.Sc-I, Sem-I Paper-II Mechanics-II	**CO1:** Understand Kepler's law to describe the motion of planets and satellite.The study of law of Gravitation. Learn about central force field. **CO2:** Understand the phenomena of simple harmonic motion. **CO3:** Study and impart knowledge about Torsional oscillations. Study of surface tension and it's applications.
B.Sc-I, Sem-II Paper-III Electricity and magnetism-I	**CO1:** Study of Gradient, divergence and curl with its physical significance, the concept of line, surface and volume integrals of vector fields. **CO2:** Study of Gauss law, Coulomb's law for the electric field, and application of it to systems of point charges. **CO3:** Explanation of the vector (electric fields, Coulomb's law) and scalar (electric potential, electric potential energy) formalisms of electrostatics.
B.Sc-I, Sem-II Paper-IV Electricity and magnetism-II	**CO1:** Study of AC circuits (LCR series and Parallel circuit). **CO2**: Study of magnetism (laws & applications), brief introduction of properties of magnetic materials and dia-, para-, ferromagnetic materials. **CO3:** Understand electromagnetic induction and study of Maxwell laws.
B.Sc-II, Sem-III Paper-V Thermal Physics and Statistical Mechanics-I	**CO1:** Learn the kinetic theory of gases, transport phenomena and Thermometry. **CO2**: Comprehend the basic concepts of thermodynamics, four laws of thermodynamics and their applications, the concept of entropy and the associated theorems. **CO3:** In the laboratory course, the students are expected to do some basic experiments in thermal Physics.
B.Sc-II, sem-III Paper-VI Waves and optics-I	**CO1:** Understand the principle of superposition of SHM's. **CO2:** Study of motion of coupled oscillators, wave motion and ultrasonic waves. **CO3:** Detail study of sound and acoustics of buildings.

	gauges).
B.Sc-II, Sem-IV Paper-VII Thermal Physics and Statistical Mechanics-II	**CO1:** Study of the thermodynamic potentials, Learn about Maxwell's thermodynamic relations. **CO2:** Study of Theory of radiation, Black Body radiation. Also deduction of four laws from Plank's law. **CO3:** Understand the concepts of microstate, macrostate, ensemble, phase space, thermodynamic probability. **CO4:** Understand quantum statistics and 3 distribution laws(M-B, B-E, F-D)
B.Sc-II, Sem-IV Paper-VIII Waves and Optics-II	**CO1:** Study of resolving power of optical instruments. **CO2:** Study of Cardinal points and it's graphical construction. **CO3:** Learn about the Physics of polarisation, interference and diffraction in detail.

Estd : June 2000
Accredited for 'C' Grade in 1st Cycle (Aug.2015) of NAAC (with CGPA 1.99)
UGC 2(f) 12 (B) Dt. 2 December, 2014
Permanent Affi. No.SU/Affi/IT-2/UG-PG/VT1/2475 Dt. 22 April 2014

// Anant Amuchi Dhiryasakti ! Anant An Asha //
Shri Datta Shikshan Prasarak Mandal, Panutre's
Vitthalrao Patil Mahavidyalaya,
(Arts, Commerce & Science) Kale
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Founder & President :Hon.Shri.Vitthal Shankar Patil LD.C. M.A. Secretary : Sou. Alaka Vitthal Patil

Ref. No: Date :

Program Outcomes (POs) and Course Outcome (COs)

Attainment

Attainment of Course Outcome is calculated by using the following formula:

Attainment of Course = 80% (Attainment level in University Examination) +

20% (Attainment level in Internal Examination)

Considering students' University and Internal evaluation marks, the attainments of COs are calculated.

The attainment level of Outcomes is defined as follows:

Level	Percentage (%)
Level 1	Below 45%
Level 2	45 to 59%
Level 3	Above 60 %

I/C PRINCIPAL
Vitthalrao Patil Mahavidyalaya, Kale
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Tal. Panhala, Dist. Kolhapur

Vitthalrao Patil Mahavidyalaya(Arts, Commerce & Science) Kale

Overall Performance of all Programmes

Level of Attainment: 2017-2018 to 2021-2022

Year	Appeared	Present	Absent	Total Pass	Fail	Passing Percentage	Attainment level
2021-22	257	246	11	196	60	76.26	3
2020-21	325	319	6	260	65	80	3
2019-20	502	479	23	429	73	85.45	3
2018-19	462	449	13	113	346	24.46	1
2017-18	344	334	10	266	75	77.32	3

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Programmes Outcome(PO)Level of Attainment:2021-2022

Class	Appeared	Present	Absent	Total Pass	Fail	Passing Percentage	Attainment level
B.A.	107	100	7	83	24	77.57	3
B. Com.	64	63	1	58	5	90.62	3
B. Sc.	86	83	3	55	31	63.93	3
Total	257	246	11	196	60	76.26	3

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Programmes Outcome(PO)Level of Attainment:2020-21

Class	Appeared	Present	Absent	Total Pass	Fail	Passing Percentage	Attainment level
B.A.	181	175	6	132	49	72.92	3
B. Com.	56	56	0	46	10	82.14	3
B. Sc.	88	88	0	82	6	93.18	3
Total	325	319	6	260	65	80	3

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Programmes Outcome(PO)Level of Attainment:2019-20

Class	Appeared	Present	Absent	Total Pass	Fail	Passing Percentage	Attainment level
B.A.	176	154	22	129	47	73.29	3
B. Com.	53	52	1	50	3	94.33	3
B. Sc.	273	273	0	250	23	91.57	3
Total	502	479	23	429	73	85.45	3

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Programmes Outcome(PO)Level of Attainment:2018-19

Class	Appeared	Present	Absent	Total Pass	Fail	Passing Percentage	Attainment level
B.A.	207	197	10	76	131	36.71	1
B. Com.	50	50	0	14	36	28	1
B. Sc.	205	202	3	23	179	11.21	1
Total	462	449	13	113	346	24.46	1

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Programmes Outcome(PO)Level of Attainment:2017-18

Class	Appeared	Present	Absent	Total Pass	Fail	Passing Percentage	Attainment level
B.A.	160	154	6	127	33	79.3	3
B. Com.	45	44	1	18	27	40	1
B. Sc.	139	136	3	121	15	87.05	3
Total	344	334	10	266	75	77.32	3

I/C PRINCIPAL
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