M. S. KAKADE COLLEGE SOMESHWARNAGAR, TAL- BARAMATI, DIST- PUNE-412306

ACADAMIC YEAR 2021-22

PROGRAM OUTCOMES

B.A

PO1. Opens doors to a wide range of career options for students across the globe in various sectors like Languages, Historical, Economic, Politics, Defense, Geography,

PO2. Students can opt for careers in media & advertising, writing & publishing, journalism, public relations, Army, Economists, Land Surveyors, Leaderships, etc.

PO3. Students can plan their career opportunities in various countries and look for suitable global careers.

PO4. Students study a variety of spheres like literature, socio-cultural, economic, Geographical and political issues concerning contemporary era.

PO5. Knowledge of some essential soft skills enhanced their employability.

PO6. Deserve positions like Editorial and Content Development Positions in Reputed Publication Houses, Journalism – Print and Electronic, Teaching Field, Writer and Publisher, Bloggers/ Critic/ Reviewers etc.

PO7. Programme like B. A. that is exhaustive program that opens wide-ranging career options for graduate students.

PO8. They have proud of native cultural experiences and situations in order to develop humane values and social awareness in practical life

PO9. Students can opt for Career paths the after completing their course B. A. like Public Relations & Advertising in Corporate Houses and Public Sectors.

P10. They can get employability in various Corporate Houses and in all fields

M. S. KAKADE COLLEGE SOMESHWARNAGAR,
TAL- BARAMATI, DIST- PUNE-412306

PROGRAM OUTCOMES

B.Com

PO1. To develop independent logical thinking and facilitate personality development of the students.

PO2. To equip the students for seeking suitable careers in management and entrepreneurship

M. S. KAKADE COLLEGE SOMESHWARNAGAR,
TAL- BARAMATI, DIST- PUNE-412306

PROGRAM OUTCOMES
B.Sc

PO1. To do masters in the basic areas of the discipline.
PO2. To apply their broad knowledge of science across a range of fields, with in-depth knowledge in at least one area of study.
PO3. To articulate the methods of science and explain why current scientific knowledge is both contestable and testable by further inquiry.
PO4. To apply appropriate methods of research, investigation and design, to solve problems in science, including the planning and/or conduct of a significant project, problem or investigation.
PO5. To recognize the need for information; effectively search for, evaluate, manage and apply that information in support of scientific investigation.
PO6. Employ highly developed conceptual, analytical, quantitative and technical skills and are adept with a range of technologies.
PO7. To evaluate the role of science, in addressing current issues facing local and global communities, for example climate change, health and disease, food security, sustainable energy use etc.
PO8. To work effectively in groups to meet a shared goal with people who's disciplinary and cultural backgrounds differ from their own.
PO9. To communicate clearly and convincingly about science ideas, practice and future contributions to expert and non-expert audiences, matching the mode of communication to their audience.

M. S. KAKADE COLLEGE SOMESHWARNAGAR, TAL- BARAMATI, DIST- PUNE-412306

PROGRAM OUTCOMES

BBA (CA)

PO1. Students will able to recognize & appreciate the role of computing in a wide variety of activities & application of Modern society, including commerce, education, communication.

PO2. Analyze a given problem and develop an algorithm to solve the problem.

PO3. Demonstrate the basic technicalities of creating word document, creating power point presentation, design spreadsheet for office use.

PO4. Develop the software projects by understanding the client requirement.

PO5. Define fundamental account concept, conventions & terminologies.

PO6. Implement the various programming languages like C, C++, VB. Net, and Java Construct in the right way.

PO7. Able to master the basic concept and understand the database management system.

PO8. Evaluate and analyze the SDLC, understand software design, coding techniques and software testing principle.

M. S. KAKADE COLLEGE SOMESHWARNAGAR,
TAL- BARAMATI, DIST- PUNE-412306

PROGRAM OUTCOMES

M.A

PO 1.Students can opt for careers in media & advertising, writing & publishing, alism, public relations, Army, Leaderships, etc.

PON 2. Opens doors to a wide range of career options for students across the globe in us sectors like Languages and history departments.

PO 3. Students can plan their career opportunities in various countries and look for ble global careers.

PO 4. Knowledge of some essential soft skills enhanced their employability.

PO 5. Deserve positions like Editorial and Content Development Positions in Reputed cation Houses, Journalism – Print and Electronic, Teaching Field, Writer and sher, Bloggers/ Critic/ Reviewers etc.

PO 6. Programme like M. A. that is exhaustive program that opens wide-ranging r options for graduate students.

PO 7. They have proud of native cultural experiences and situations in order to lop humane values and social awareness in practical life

PO 8. Students can opt for Career paths the after completing their course M. A. like c Relations & Advertising in Corporate Houses and Public Sectors.

PO 9. They can get employability in various Corporate Houses and in all fields.

M. S. KAKADE COLLEGE SOMESHWARNAGAR, TAL- BARAMATI, DIST- PUNE-412306

PROGRAM OUTCOMES

M.Com

PO1. To equip and train Post Graduate students to accept the challenges of Business World by providing opportunities for study and analysis of advanced Commercial and business methods and processes.

PO2. To study by students methods of Data collection and their interpretations.

PO3. To develop among students Communication, Study and Analytical skills.

Co-ordinator
Internal Quality Assurance Cell (IQAC)
M. S. Kakade College, Someshwarnagar

PRINCIPAL
Mugutrao Sahebrao Kakade College
Someshwarnagar, Dist . Pune-412306

Mugutrao Sahebrao Kakade College
Tal. Baramati, Dist. Pune
Someshwarnagar

M. S. KAKADE COLLEGE SOMESHWARNAGAR,

TAL- BARAMATI, DIST- PUNE-412306

ACADAMIC YEAR 2021-22

PROGRAM SPECIFIC OUTCOMES (PSO)

B. A. (English)

PSO1. Opens doors to a wide range of career options for students across the globe

PSO2. Students can opt for careers in media & advertising, writing & publishing, journalism, public relations,

PSO3. Students can plan their higher studies in these countries and look for suitable global careers with transnational corporations.

PSO4. Provide students can opportunity to read and respond to novels, plays, and poetry across different genres.

PSO5. Students study a variety of literature, socio-cultural, and political issues concerning contemporary English.

PSO6. Students can make literary analyses, cultural diversity, critical thinking, and communication skills through the curriculum.

PSO7. B. A. English that is exhaustive program opens wide-ranging career options for the students.

PSO8. Students can opt for Career paths the after completing their course B. A. English like Public Relations & Advertising in Corporate Houses and Public Sectors

PSO9. They can get employability as Language Expert & Translator, Marketing / Strategic Communication Positions in Corporate Houses

PSO10 Deserve positions like Editorial and Content Development Positions in Reputed Publication Houses, Journalism – Print and Electronic, Teaching Field, Writer and Publisher, Bloggers/ Critic/ Reviewers etc.

DEPARTMENT OF MARATHI

PSO1. Increases literary and linguistic comprehension.

PSO2. Different literary types can be understood.

PSO3. Marathi literature, language and culture are closely introduced.

PSO4. Introduces various literary streams in modern Marathi literature.

PSO5. Interest in Marathi language and literature increases.

PSO6. Creates the ability to respond freely to literature.
PSO7. Literary genres are studied in a philosophical manner.
PSO8. Gains knowledge of cultural contexts in literary works.
PSO9. Gains knowledge of literary language and practical language.
PSO10.Writing, Reading, Conversation, Assessment, Testing etc. Linguistic skills develop.
PSO11. Understanding the nature scope origin of Marathi Literature.
PSO12. Acquire overall linguistic competenceand communicative skills.
PSO13. Understand native cultural experiencesand situations and develop humane value and social awareness

DEPARTMENT OF HINDI

PSO 1.Develop Hindi reading & linguistic comprehension of students
PSO 2. Develop interest in Hindi literature story and poetry.
PSO 3. Inculcate moral and human values within themselves
PSO 4.Use their moral and social sense in life.
PSO 5. Communicate effectively in various business situations.
PSO 6. Demonstrate through service, the value of translation to the academy and community at large.
PSO 7. Apply the knowledge for university undergraduate teaching
PSO 8. Interact productively with people from diverse backgrounds through journalism
PSO 9. Understanding the nature scope origin of Hindi Literature
PSO 10. Know more about Hindi Literature useful, contribution in different level past to present.

DEPARTMENT OF HISTORY

PSO 1. Understand background of our religion, customs institutions, administration and so on.
PSO 2. Understand the present existing social, political, religious and economic conditions of the people.
PSO 3. Analyze relationship between the past and the present is lively presented in the history.
PSO 4. Develop practical skills helpful in the study and understanding of historical events.
PSO 5.Draw historical maps, charts, diagrams etc. and prepare historical models, tools etc.
PSO 6. Develop interests in the study of history and activities relating to history.
PSO 7. Collect ancient arts, old coins and other historical materials;
PSO 8. Participate in historical drama and historical occasions;
PSO 9. Visit places of historical interests, archaeological sites, museums and archives;
PSO 10. Read historical documents, maps, charts etc.
PSO 11. Play active roles in activities of the historical organizations and associations; and
PSO 12. Write articles on historical topics

DEPARTMENT OF DEFENSE AND STRATEGIC STUDIES

PSO 1. This Programme helps to students for Create about Patriot.
PSO 2. This Programme help to Student for understanding the Defense Organization of India.
PSO 3. This Programme Create awareness among Students about National Security.
PSO 4. This Programme create awareness among the Students about Military Geography.
PSO 5. This Programme helps to Students for understanding about Chhatrapati Shivaji Maharaj as a Nation builder and his Guerrilla Strategy , Tactics.
PSO 6. This Programme helps to understands for International and Regional Organization.
PSO 7. This Programme create awareness among the Students about
PSO 8. Defense Budget of India.

DEPARTMENT OF POLITICAL SCIENCE

PSO 1. Understand the contribution of the main traditions of western political thinkers to political thought

PSO 2.Understand the processes and dynamics of Indian government and politics. It also familiarize with the vital contemporary emerging issues of centre-state relation, political parties, emergence of new leadership at different levels, demand for autonomy movement, ethnic conflicts etc.

PSO 3. Acquaint with the basic concepts, principles and dynamics of public administration.

PSO 4. Familiarize with important theories and issues of international relations.

PSO 5. Understand the basic concept and ideological orientations of political science discipline.

PSO 6. Understand the contribution of the main traditions of Indian Political Thought.

PSO 7. An understanding the evolution, development and trends of India's foreign policy.

PSO 8. Acquaint with the basics of International Law and the new trends in the realm of International law.

PSO 9.Understand the basic concept and issues concerning human rights and challenges.

PSO 10. Understand the women's issues and problems.

PSO 11.Familiarize with the problems and prospects of rural development of India.

PSO 12.Understand the cultural, social, political, economic and constitutional environment as a historical perspective of Indian Administration.

DEPARTMENT OF GEOGRAPHY

PSO 1. The study of Physical Geography helps to gain an insight into the processes of landform development and geomorphic hazards. A possible outcome is that students could be able to minimize the intensity of such hazards and monument of related events.

PSO 2. The branches of Human Geography make them capable of identifying the development prerogatives of regions and applying them in formulation of regional development plans.

PSO 3. The study of Practical Geography prepares them in the field survey and Planning of region. Students could make outline and map of local region which is very useful in planning and Land use study.

PSO 4. Geography introduces the students to the characteristics of soil regions, floral and faunal regions. This holistic knowledge makes them capable of assessing and developing forestry projects, biodiversity conservation plans and probable land use policies of rural areas.

PSO 5. Demonstrate knowledge of physical and culture features of the earth and locate them on the map.

PSO 6. Know the basic concepts and terminologies used in Geography like interior of the earth, plate tectonic, sea floor spreading, population growth, disasters, composition and structure of atmosphere, hydrosphere, etc.

PSO 7. Know about the basic disciplines of Geography and its sub branches.

PSO 8. Differentiate between minerals and rock, weather and climate, interior of the earth, basic industries, farming etc.

PSO 9. Get information about the causes and the effect of local, national and International problems like global warming, acid rain, ozone depletion, soil Degradation , deforestation etc.

PSO 10. Handle topographical and weather maps and interpret them.

PSO 11.Identify types of rocks.

PSO 12. Know about Geographical Information System (GIS) and Remote Sensing (RS).

DEPARTMENT OF ECONOMICS

PSO 1. Understanding the efficiency and equity implications of market interference, includinggovernment policies.
PSO 2. To introduce the students with development of banking and financialsystem in India
PSO 3. To study the market-consumer relationship
PSO 4. Developing research knowledge in economics.
PSO 5. To study the basic concepts in macroeconomics like money,employment, public finance, etc.
PSO 6. Developing the skill of data collection & use of sampling techniques in research.
PSO 7. Developing the knowledge about theories of economic growth & Development and issuesof economic planning.
PSO 8. Creating awareness about changing macro-economic policies and theories.
PSO 9. To introduce the students with different economic thoughts
PSO 10. To introduce the students with foreign trade policies
PSO 11. Economics is the study of how societies, governments, businesses, households and individuals allocate their scarce resources.
PSO 12. This discipline has two important features. First, it helps to develop conceptual models of behavior to predict responses to changes in policy and market conditions. Second, rigorous statistical analysis is used to investigate these changes.

DEPARTMENT OF COMMERCE

Program Specific Outcomes : B. Com. (Banking & Finance)

PSO 1. Student understood the concept, structure and functioning Indian Banking System.
PSO 2. Students got knowledge about Banking business and regulating authorities of banking business.
PSO 3. Students got information about evolution of Banking and banking business policies of Banks and government.
PSO 4. Student obtained knowledge about role of Banking in economic development of India.

PSO 5. Students got awareness about International Banking business and its effects of Indian Banking Business.

Program Specific Outcomes : B. Com. (Marketing Management)

PSO 1. Students understood the concept and functions of marketing planning and sales management.
PSO 2. Students got knowledge about marketing strategies and organization
PSO 3.Students got information about various facets of marketing with regulatory aspects.
PSO 4. Students understood marketing in globalize scenario.
PSO 5.Students obtained knowledge regarding the concepts of Marketing Research.
PSO 6. Students understood the role of Brand and Distribution of production including Management in marketing.
PSO 7. Students understood the basic concepts related to Marketing, Management, Productivity and Economic Development.
PSO 8. Students obtained knowledge about the importance of control on marketing activities.

Co-operation and Rural Development (M.Com)

PSO 1. Student got knowledge about Co-operation in detail.
PSO 2. Students got knowledge about role of cooperation in rural development in detail.
PSO 3.Student understood the importance of Cooperation in business world.
PSO 4.Students understood the importance of cooperative act in social and economic development.
PSO 5. Students got full knowledge evolution of cooperative movement worldwide.
PSO 6. Students got full knowledge about State cooperative act and its functioning.

Advanced Accounting & Taxation(M.Com)

PSO 1. Student got knowledge about Accounting in detail.
PSO 2. Students got knowledge about Taxation in detail.
PSO 3. Student understood the importance of Accounting in corporate world.

PSO 4. Students understood the importance of Taxes for corporate world and government.
PSO 5. Students got full knowledge about Income Tax Act, 1961.
PSO 6. Students got full knowledge about Accounting Standards.
PSO 7. Students aware about importance of Accounting & Taxation.

DEPARTMENT OF CHEMISTRY

PSO 1. To have post graduate education in chemistry after B.Sc. Chemistry.
PSO 2. To use modern library search tools to locate and retrieve scientific information about a topic, chemical, chemical technique, or an issue relating to chemistry.
PSO 3. To understand the objective of their chemical experiments, properly carry out the experiments, and appropriately record and analyze the results.
PSO 4.To use standard laboratory equipment, modern instrumentation, and classical techniques to carry out experiments.
PSO 5.To follow the proper procedures and regulations for safe handling and use of chemicals.
PSO 6.To communicate the concepts and results of their laboratory experiments through effective writing and oral communication skills.
PSO 7. To pursue their career objectives in advanced education in professional and in a scientific career in government or industry, in a teaching career in the school systems, or in a related career following graduation.

DEPARTMENT OF BOTANY

PSO 1. Students acquire fundamental Botanical knowledge through theory and practical's, as well as to explain basis plant of life, reproduction and their survival in nature
PSO 2. To enrich knowledge through problem solving, minor/major projects, seminars, tutorials, review of research articles/papers, participation in scientific events, study visits.
PSO 3. Helped to understand role of living and fossil plants in our life.
PSO 4.To create awareness about cultivation, conservation and sustainable utilization of biodiversity
PSO 5. To know advance techniques in plant sciences like tissue culture, Peyote mediation, plant disease management, formulation of new herbal drugs etc.
PSO 6.Students able to start nursery, mushroom cultivation, bio fertilizer production, fruit preservation and horticultural practices.
PSO 7. To help students to build-up a progressive and successful career in botany

DEPARTMENT OF MICROBIOLOGY

PSO 1. For a graduate degree holder in Microbiology subject, the pharma/ Healthcare sector can provide you several opportunities, in various departments, such as Quality control Microbiology, and Quality Assurance.

PSO 2. As a QC microbiologist in a pharma company, you will be involved in analyzing the quality of final products, raw materials, water quality, etc.

PSO 3.As a Quality assurance executive, you will be involved in managing records, preparation of reports based on your observations, and implementation of safety procedures for testing in order to ensure final products meet the highest standards.

PSO 4. Since the final products of every pharmaceutical company are mainly related to the public health and overall well-being which demands detailed monitoring and assessment of every step.

PSO 5. A graduate degree in microbiology can provide you opportunities in other sectors also like, private and government hospitals, technicians in private laboratories, forensic science laboratories, environmental management organizations, educational institutions, food processing industry, Dairy industry, Alcohol, and beverage industry, Agricultural departments, and Bioprocess industry.

DEPARTMENT OF MATHEMATICS

PSO 1.Think in a critical manner.

PSO 2. Know when there is a need for information, to be able to identify, locate, evaluate, and effectively use that information for the issue or problem at hand.

PSO 3. Formulate and develop mathematical arguments in a logical manner.

PSO 4. Acquire good knowledge and understanding in advanced areas of mathematics and software like maxima, chosen by the student from the given courses.

PSO 5. Understand, formulate and use quantitative models arising in social science, Business and other contexts.

DEPARTMENT OF STATISTICS

PSO 1. Statistics is the language of the uncertainties riddled modern information age.

PSO 2. This program is a compact combination of detailed course of statistics and adequate amount of courses on computer science, mathematics and operation research to compliment &offer diversification after the completion of program.
PSO 3. The growth & development of child & adolescents.
PSO 4. Theoretician foundations of knowledge & curriculum.

DEPARTMENT OF PHYSICS

PSO 1.To foster scientific attitude, provide in-depth knowledge of scientific and technological concepts of Physics.
PSO 2.To enrich knowledge through problem solving, minor/major projects, seminars, tutorials, review of research articles/papers, participation in scientific events, study visits.
PSO 3. To familiarize with recent scientific and technological developments.
PSO 4.To create foundation for research and development in Physics.
PSO 5.To help students to learn various experimental and computational tools thereby developing analytical abilities to address real world problems.
PSO 6.To train students in skills related to research, education, industry, and market.
PSO 7.To help students to build-up a progressive and successful career in Physics.

DEPARTMENT OF BBA (CA)

PROGRAM SPECIFIC OUTCOMES: BBA (CA).

PSO 1. Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals to the solution of complex engineering problems.
PSO 2.Problem Analysis: identify, formulate, review and analyze complex problems using various techniques.
PSO 3. Design/Development of solutions: Design solutions for complex problem and design the system components or processes that meet the specific needs.
PSO 4. Conduct Investigation of complex problems: Using various investigation techniques he can investigate large and complex problems.
PSO 5. Modern Tool Usage: create, select and apply appropriate techniques,

resources and modern IT tools.

PSO 6. Communication: Communicate effectively on complex activities and with the society at large and write effective documentation, make effective presentation and give and receive clear instructions.

PSO 7. Individual and team work: Function effectively as an individual, and as a member or leader or project manager in project team.

PSO 8. Project Management: Effectively manage project work according to time scheduling, cost scheduling and also satisfy customer needs.

PSO 9. Lifelong learning: Recognize the needs for, and have the preparation and ability to engage in independent and lifelong learning.

Co-ordinator
Internal Quality Assurance Cell (IQAC)
S. Kakade College, Someshwarnagar

Mugutrao Sahebrao Kakade College Someshwarnagar Tal. Baramati, Dist. Pune

PRINCIPAL
Mugutrao Sahebrao Kakade College
Someshwarnagar, Dist . Pune-412306

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ACADAMIC YEAR 2021-22
COURSE OUTCOMES (CO)
DEPARTMENT OF ENGLISH

Course Outcome-B.A		
Class	**Course Title**	**Outcomes**
F.Y.B.A	**Compulsory English** **Title of the Paper: Literary Gleam: An Anthology of Prose and Poetry**	CO1 Read the best examples of prose and poetry in English CO2 Realize the beauty and communicative power of English CO3 Instill human values themselves and develop the character of a responsible citizens of the world CO4 Develop the ability to appreciate ideas and think critically CO5 Enhance employability of themselves by developing their linguistic competence and communicative skills CO6 Reinforce structures already learnt in the previous stages of learning. CO7 Learn a lot of new English words which enriched their existing vocabulary of the English language. CO8 Understand how English language can be used for very beautifully for creative purposes CO9 Develop overall linguistic competence and communicative skills.
F.Y.B.A	**Optional English- Title of the Paper: Initiations: Minor Literary Forms & Basics of Phonology**	CO1 Learn the basics of literature and language and develop an integrated view about language and literature in themselves CO2 Acquaint themselves with minor forms of literature in English and will appreciate the creative use of language in literature CO3 Learn the basics of phonology of English so that they can pronounce English words in a better way and speak the language fluently and correctly CO4 Get ready for detailed study and understanding of literature and language CO5 Enhance the job potential of students by improving their language skills CO6 Use the knowledge of different types of literature, literary devices and literary terms for higher studies in literature. CO7 Improve the pronunciation of English language through some topics on phonetics and phonology CO8 Develop confidence regarding phonetic and creative use of English for different purposes.
		CO1 Students read and write relevant and practically helpful pieces of prose and poetry in their leisure time CO2 Understand the beauty and communicative power of English

F. Y. B. Com	**Compulsory English- Prescribed Text: Success Avenue**	and its practical application in their daily lives CO3 Understand and involve the contemporary socio-economic and cultural situation around to them CO4 They use oral and written communication skills effectively in their practical lives CO5 Make ready for employability to get bread and butter CO6 developed overall linguistic competence and communicative skills CO7 Make independent thinking and take their own decisions in their lives CO8 Read newspapers, Success stories of Entrepreneurs and motivate themselves CO9 Walk with confidence and responsible citizens in the society CO10 Cooperate and aware the other people in society for the welfare of the Human Beings.
F. Y. B. Com	**Course: Additional English-** Prescribed Text: Pearls of Wisdom (Board of Editors- Orient Black Swan)	CO1 To develop the students' interest as a student of Commerce and make them think on business, finance and commercial facts and philosophy of Commerce. CO2To expose students to the best examples of literature in English and to contribute to their emotional as well as independent thinking. CO3To develop linguistic competence and communication skills in English. CO4To develop competence in using English for the career of their choice. CO5To enhance skills required for their placement. CO6To develop effective communication skills by developing ability to use right words in the right context. CO7To enhance employability of the students by developing their basic soft skills. CO8To develop literary Sensibility and sense of cultural diversity in students. CO9To develop overall personality of the students. CO10 To develop learner's interest in reading literary pieces.
	Discipline Specific	CO1Students watch drama practically with interest and understand its theoretical aspects and practical demonstration on stage CO2students analysis the drama and its performing dimensions practically CO3They are familiarize with the elements and all types of Drama CO4They read and watch masterpieces of English Drama from different parts of the world with interest and make review independently in practical life CO5They appreciate and analyze drama independently in the contemporary period

S. Y. B. A.	**Course (DSC-1A) - Title of the Paper**: Appreciating Drama	CO1 students' are able to discuss on the aesthetics of Drama and empowered to evaluate drama independently CO2 They understands all the Literary Elements: Theme, Plot, Characters, Diction, Conflict, Setting etc. While watching actual drama CO3 They make analysis of all Theatrical Elements: Stage directions, Light effects, Music, Costumes, Stage property, Makeup etc. CO4 They actively participate in the One-act-play, Satire, Street play, a short Radio play, Jokes etc. in their practical lives.
S. Y. B. A.	**Skill Enhancement Course-(SEC-2A)-** "Mastering Communication Skills"	CO1 Students use the skill of English for everyday communication CO2 Students are acquainted the with the verbal and nonverbal communication skills CO3 They get opportunities and exposure for speaking in various contexts CO4 They are acquainted and familiarized with various soft skills CO5 Developed interest among the students to interact in English in their practical lives CO6 They are ready for employability to get bread and butter CO7 Students use Conversation in various situations like joining and Leaving Accepting/Declining Invitations, asking /Giving/Refusing Permission CO8 They use the Digital Literacy like CALL-Computer-assisted Language Learning & MALL- Mobile-assisted Language Learning for effective communication and Project Presentation.
S. Y. B. A.	**Values and Skills through Literature** (Board of Editors- Orient Black Swan) Course: Compulsory English	CO1 To develop effective communication skills by developing ability to use right words in the right context. CO2 To expose students to the best examples of literature in English and to contribute to their emotional as well as independent thinking. CO3 To develop linguistic competence and communication skills in English. CO4 To develop competence in using English for the career of their choice. CO5 To enhance skills required for their placement. CO6 To use English effectively in the career of their choice. CO7 To enhance employability of the students by developing their basic soft skills. CO8 To develop literary Sensibility and sense of cultural diversity in students. C09 To develop overall personality of the students. CO10 To revise and reinforce the learning of some important areas of grammar for better linguistic competence. CO11 To develop learner's interest in reading literary pieces.
		CO1 To understand and learn the basics of poetry through its theory

S. Y. B. A.	**Course: Discipline Specific Course (DSC-2A) (Old Special Paper-II) Title of the Paper: Appreciating Poetry Prescribed Text: Mirage: An Anthology of English Poetry (Board of Editors- Orient Black Swan)**	and the practical application of some of the terms related to poetry. CO2To understand and learn the different cultural aspects from different nationalities and cultures through poems. CO3 To acquaint students with the terminology in poetry criticism. CO4 To encourage students to make a detailed study of a few sample masterpieces of English poetry. CO5 To enhance students' awareness in the aesthetics of poetry and to empower them to read, appreciate and critically evaluate poetry independently. CO6 To became familiarize and to create analytical thinking of the poets such as William Shakespeare, Philip Sydney, John Donne, William Blake, Emily Dickinson, John Clare, Rabindranath Tagore, Judith Wright, Maya Angelou. CO7 To exercise verbal as well as nonverbal communication effectively for their career. CO8 To develop literary Sensibility and sense of cultural diversity in students. CO9 To develop overall personality of the students.
S. Y. B. A.	**Discipline Specific Course- Title of the Paper: Advanced Study of English Language**	CO1 Master various components of language CO2 Develop overall linguistic competence of themselves CO3 Comprehend advanced areas of language study. CO4 Make preparation for detailed study and understanding of language. CO5 Enhance communicative skills of students by developing insight into the working of language CO6 Enhance the job potential of students by improving their language skills CO7 Improve the pronunciation of English language through some topics on phonetics and phonology CO8 Develop confidence regarding phonetic and creative use of English for different purposes
T. Y. B. A	**Compulsory English Prescribed Text:** Exploring New	CO1 Students are familiarized with some excellent pieces of prose and poetry in English so that they realize the beauty and communicative power of English. CO2 Students are able to become competent and effective users of English in real life situations. CO3 Overall personality of the students is developed CO4 Inculcated humanitarian values and foster sympathetic attitude in the students. CO5 Students are trained in practical writing skills required in work environment. CO6 Knowledge of some essential soft skills enhanced their employability.

	Horizons	CO7 students are acquainted with different cultures in the outside world CO8 Improved the linguistic and communicative abilities of the students. CO9 Developed caring attitude in our students and make them better human beings. CO10 Students are confident and enable to face the real life challenges successfully. CO11 Due to Linguistic competence they are achieving success in almost all the fields of life.
T. Y. B. A	**Discipline Specific Elective (DSE-2C & DSE-2D) (Old S-4) (w. e. f. 2021- 2022) Title of the Paper:** Introduction to Literary Criticism	CO1 Students understand the basics of literary criticism CO2 They are also aware of the nature and historical development of criticism CO3 They are familiarized with the significant critical approaches and terms and they can apply while reading the texts CO4 Students interpret literary works in the light of the critical approaches CO5 Developed aptitude for critical analysis CO6 Students have different views, perspectives, approaches and terms and they understand literature in its diverse forms. CO7 They can do the self-interpretation, judgment, analysis and evaluation of literature. CO8 Students understand Forms and contents of literature, structures and substance of literature.
T. Y. B. A	**Skill Enhancement Course (SEC 2-C & SEC 2-D) (w. e. f. 2021- 2022) Title of the Paper:** Mastering Life Skills and Life Values	CO1 Students understand the social skills and interpersonal skills CO2 They developed self-confidence and can communicate effectively CO3 Students understand and think critically in practical lives CO4 They make plan to stress management and positive thinking in daily lives CO5 Students leadership qualities are shown through their involvement in practical lives CO6 Students are sensitive about the universal human values in the society CO7 Developed overall personality of the students CO8 They actively participates in monitoring, Projects, Seminars, Presentations, Group Discussions.
	Course: Optional English General Paper-3 (w. e. f. 2015-16) Title of the Paper: Advanced Study	CO1 To understand and familiarized with the Indian English poetry. CO2 To understand excellent pieces of poetry in English so that they expound the beauty and communicative power of English in their personal life. CO3 To understand the use of English in different careers. CO4 To develop competence in using English for the career of their

	of English Language and Literature Prescribed Text: 1) A Collection of Indian English Poetry –(Ed. Radha Mohan Singh, Orient Blackswan) 2) Linguistics: An Introduction-(Ed. Board of Editors, Orient Blackswan)	choice. CO5 To enhance skills required for their placement. CO6 To become sensitized about levels of linguistic analysis, phonology, morphology, syntax, semantics and discourse analysis. CO7 To exercise verbal as well as nonverbal communication effectively for their career. CO8 To develop literary Sensibility and sense of cultural diversity in students. CO9 To develop overall personality of the students.
T. Y. B. A	**Discipline Specific Elective (DSE-1C& DSE-1D)- Title of the Paper: Appreciating Novel**	CO1 Understand the basics of novel as a literary form, the historical development and nature of novel. CO2 Comprehend different types and aspects of novel. CO3 Develop literary sensibility and sense of cultural diversity. CO4 Increase their knowledge about human life and its stark realities by reading the prescribed novels in the paper. CO5 Inculcated in themselves strong literary sensibility and sense of cultural diversity in the world. CO6 Read the prescribed novels students also read other novels of the same and few other authors. CO7 Develop the skills and competence of the English language by reading these novels CO8 Develop habits of reading lengthy books may try to write a novel themselves.

DEPARTMRNT OF MARATHI

Class	**Course**	**Course Code**	**Course Outcomes**
	Marathi Sahity :Kath	11021A	**Sem – 1 & Sem-2** CO1

FYBA	AniBhashikKaushalyevikas **&** Marathi Sahity :EkankikaAniBhashikKaushalyevikas	& 11022A	GetintroducedtoMarathiliterature,languageandculture. CO2 CreateinterestinMarathiliterature. CO3 Developtheliterarytaste. CO4 Developtheliterarytaste. CO5 Connectliterature to real life experience. CO6 Understand various branches and movementsofMarathiliterature. CO7 Developlinguisticskillstomeetthe requirementsintheageofglobalization.
FYBCOM	Bhasha, SahityAniKaushalyevikas **&** Bhasha, SahityAniKaushalyevikas	117 & 127	**Sem – 1 & Sem-2** CO1 The students got knowledge of language transactions in various fields. CO2 Skills in the use of various regional Marathi languages were developed. CO3 Thoughts of the work of a competent person in various fields. CO4 Ethical, professional and ideological values were nurtured in the students.
SYBA	CC-1C BhashikKaushalyvikasAniAdhunik Marathi Sahity-Rarangdhang Novel CC-1D BhashikKaushalyvikasAniAdhunik Marathi Sahity-SahityrangLalitgadhya	23023 & 24023	**Sem – 1** CO1 Understood the novel format and elements. Learned the type of novel and the journey. CO2 The students listened to the lecture on the novel Rarangdhang on YouTube. And she tried to understand the novel. CO3 The students participated in a workshop on the novel Rarangdhang. CO4 Students participated in the online hours taken on this course. CO5 The students tried to understand the nature and elements of fine prose, types of fine prose and movement. **Sem –2** CO1 Study book Sahityarang, Editor Prof. Dr. ShirishLandage, Pro. Dr. DilipPawar, Prof. Dr. Jaya Kadam AksharwadmayPrakashan, Pune. The students listened to the audio recording of this book. CO2 Through online tasik, the students explained the fine articles in the book Sahityarang. Students practiced multiple choice questions based on the syllabus.

SYBA	MIL-2 Marathi Language Communication Skills & MIL-2 Marathi for New Media and Social Media(Navmadhyame AniSamajmadhyamansathi Lekhan)	23011 & 24011	**Sem – 1** CO1Understood the correlation between language and personality development. CO2 Life in a democracy and the media explained the correlation between them. CO3 Writing for the media, he wrote several video clips for the newspaper, including news writing and print editing for the newspaper, codification of the speech for the airwaves, and codification for the documentary for the television. **Sem- 2** CO1Explained the concepts of language, life practices and new media, social media. CO2 Studied new media and types of social media, blogs, Face book. CO3 New media and social media literacy, Understood the uses and consequences. CO4 Practiced writing and professional correspondence for websites and blogs, Twitter. CO5 Students practiced multiple choice questions based on this syllabus.
SYBA- S1	DSE-IA (S-1) Autobiography - Prakashwata DSE 1B (S-1) Madhyayugin Marathi Sahitya-NivdakMadhyayuginGranth	23021 & 24021	**Sem –1** CO1 UnderstandaspectsofBiographyand Autobiography. CO2 Developabilitytoappreciateandevaluate selected Biographies and Autobiographies in modern Marathi Literature. CO3 Autobiographical concepts, format inspiration and movement Understood. CO4 Tried to understand the uniqueness of autobiography compared to other literary genres in fine prose. **Sem -2** CO1 Selected Medieval Prose, Editor Prof. Dr. ShirishLandage, Prof. Dr. Prabhakar Desai, Prof. Dr. PrakashShewale listened to the audio recording of the book. CO2 The students explained the articles in this book through online Lecturer. CO3 Students practiced multiple choice questions based on the syllabus.
			Sem-1

SYBA	DSE-2A SahityVichar (S-2) DSE 2B SahitySamiksha (S-2)	23092 & 24092	CO1 Understood the nature and purpose of literature. CO2 Understood the production process and language of literature. CO3 Tastes developed to enjoy literature. CO4 Understood the interrelationship between literature and society. CO5 Understood the concept of literature type. CO6 Understandthenatureandfunctionof literature. CO7 Understandthenatureoftheprocessof literarycreationandtheconceptofLiterary genus **Sem-2** C01 Understand the basics of literarycriticism. CO2 Comprehendthenatureand historical developmentofcriticism. CO3 Abilityto interpret literaryworks in thelightof thecritical approaches. CO4 Getfamiliarwiththesignificant critical approachesandterms
SYBA	**Skills based courses** SEC-2A PrakashanVyvahar & SEC- 2B UpyojitLekhanKaushalye	23025 & 24025	**Sem-1** Publishing and editing [SEC 2 A] CO1 Acquired the necessary skills for publishing and editing. CO2 Gained knowledge of the training required for publishing and editing. CO3 Visited publishing houses, advertising agencies, printing presses, newspaper offices, distribution agencies, bookstores, flex production centres, newsmen and learned how to get training. **Sem-2** **Applied Writing Skills [SEC 2 B (2)]** CO1 Understood the skills required for advertising, interview writing and editing. CO2 Understood the need for training required for advertising, interview writing and editing. CO3 It was realized that it is necessary to acquire deployment skills along with demonstrations for advertising, interview writing and editing.
	AdhunikMarathi		CO1 Understood the importance and nature of text examination.

TYBA	SahityAniVyaharikVaUpyojit Marathi (G-3)	3027	CO2 Various types of modern Marathi literature were introduced. CO3 Increased ability to enjoy literature by developing an interest in literature. CO4 Understood the philosophical structure of literary essays like 'Essay' and 'Travel Description'.
TYBA	Sahityvichar (S-3)	3028	CO1 Understood the nature and purpose of literature. CO2 Understood the production process and language of literature. CO3 Tastes developed to enjoy literature. CO4 Understood the interrelationship between literature and society. CO5 Understandthenatureandfunctionof literature.
TYBA	VarnanatmakAniEaitihasikBhashavidnyan (S-4)	3029	CO1 The student realized the importance of language study. CO2 Demonstrations aroused interest in the study of language. CO3 Explaining the new concepts used in the study of language created interest in student project writing. CO4 Get introduced to descriptive& Historical linguistics. CO5 Know the importance of language in human life. CO6 Know the various methods to the study of language.
MA I	BhashavyaharAniBhashikKaushalye Bhag-1	10401	CO1 Students became aware of the linguistic skills required for personality development. CO2 Students got theoretical and practical knowledge of translation and translation process. CO3 The students became aware of the interview technique and interviewed the author directly. CO4 Students write applications for different places themselves. CO5 The students understood the nature of the publishing business as well as how the business is run. CO6 Students became aware of how to write in Marathi standard language.
			CO1 Concept of (text based) Marathi novel &short stories of modern era.

MA I	Marathi SahityachaEtihas(1800to 1920)	10402	CO2 Know the brief literature in same period. CO3 Understanding of development of Marathi novels and short stories. CO4 Differentiation and departure points of Marathi novels and short stories. CO5 Get information about the Novel and Story Literature. CO6 Study the literary trends of Marathi short stories.
MA I	EaitihasikBhashavidnyan	10403	CO1 Ability to understand the development of Marathi language & Linguistics. CO2 Understanding of Marathi language & Linguistics. Differentiation and departure points of Marathi language & Linguistics. CO3 Ability to think about Marathi language& Linguistics. CO4 Ability to understand the development of Marathi language of Aadikal&Madhyakaal. CO5 Understanding of History of Marathi language of Aadikaal and Madhyakaal. CO6 Differentiation and departure points of Marathi language of Aadikaal and Madhyakaal. CO7 Time framing ability of Aadikaleen and Madhyakaleen Marathi language Develop the language skill.
MA I	GraminSahity	10404	CO1 Students understood how rural literature was created after the post-independence period. CO2 Students understood the nature and function of rural literature. CO3 The students got knowledge about the development of various genres in rural literature. CO4 Understood the contribution of rural literature to the students and how it was developed.
MA I	BhashavyaharAniBhashikKaushalye Bhag-2	20401	CO1 Acquiring Linguistic Skills for Personality Development. CO2 To provide theoretical and practical information about translation and translation process. CO3 To give theoretical and practical information

			of statement skills. CO4 Explain the need for public relations skills and adopt techniques for their use CO5 Students became aware of the linguistic skills required for personality development. CO6 The students got theoretical and practical knowledge of translation and translation process. CO7 The students became aware of the narrative skills.
MA I	Marathi SahityachaEtihas(1920 to 1960)	20402	CO1 Develop the views of Literary Review. CO2 Develop the language skill. CO3 Able to critically interact with others about different aspects of Literature. CO4 Get acquaintedtothemajor Marathi writersandtheir worksfrom1818to 1960. CO5 Get introducedtothenature,source andtypesofMarathiliteraturefrom1818to1960.
MA I	Samajbhashavidnyan	20403	CO1 Know the various methods to the study of Social language. CO2 Understand the communication process and method. CO3 Develop knowledge of Marathi Linguistics & Grammar. CO4 Able to understand the origin and development of Marathi language. CO5 Know the importance of language in human life. CO6 Know the various methods to the study of language. CO7 derstand the communication process and method. CO8 Understand the meaning, concept, characteristics, kinds, development of a language.
MA I	Dalit Sahitya	20404	CO1 The students understood the reasons for the creation of Dalit literature and its tradition after the post-independence period. CO2 Students understood the nature of Dalit literature and the nature of rebellion. CO3 The students became aware of the various literary genres created in Dalit literature and how they developed.
			CO1 The students acquired writing skills in the fields of media worm journalism, development

MA II	PrasarmadhymansathiLekhankaushlye Bhag-1	30401	journalism, news writing, reportage etc. CO2 Students understood the importance of media in today's world. CO3 The students developed the linguistic ability required to get the opportunity of service in the visual and audio media.
MA II	SahityaSamiksha	30402	CO1 Explained the tradition of Marathi literature critics and researchers to the students. CO2 Developed vision and ability to review in students. CO3 Convince students of the nature and importance of interdisciplinary research. CO4 Developed the vision and ability to do research in students. CO5 Ability to think about the development of Indian poetics. CO6 Know the importance of criticism.
MA II	NemlelyaMadhyayuginSahitykrutinchaAbhyas	30403	CO1 He noticed the concepts and forms of literature in the medieval period CO2 Learned the features of literary works The literary garden of literature studied the value of life. CO3 Discovered the period and the contract for the creation of literary works.
MA II	LoksahityachiMultattveAni Marathi Loksahity	30405	CO1 Students understood the concept of folklore, epistemology, folk and literature. CO2 While studying folklore, the students noticed the comprehensiveness and Comprehensiveness of folklore. CO3 The social, religious, cultural awareness of folklore became clear to the students.
MA II	PrasarmadhymansathiLekhankaushlye Bhag-2	40401	CO1 The students acquired writing skills in the field of news coverage of relevant events in media, news coverage in nature and environment context and news coverage on folk art. CO2 Students understood the importance of advertising writing in today's world media. CO3 Students understand how to write screenwriting and writing according to the type of literature in the media as well as service opportunities in this field.
			CO1 Informed the students about the research concept and form of motivation, purpose type and

MA II	SahityaSanshodhan	40402	its requirements. CO2 Identify appropriate research topics. CO3 Select and define appropriate research problem and parameters CO4 Prepare a project proposal (to undertake a project) CO5 Organize and conduct research (advanced project) in a more appropriate manner CO6 Write a research report and thesisUnderstand the way to Analyses a research problem systematically. CO7 Comprehend the various aspects of research procedure. CO8 Gain deep knowledge in the technical aspects of writing a Project.
MA II	NemlelyaMadhyayuginSahitykrutincha Abhyas-2	40403	CO1 The students were introduced to the concept of literature in modern times. CO2 Learned the features of literature. CO3 Students shared information about the literary value and life value of literature. CO4 Explain to the students what the characteristics of modern literature types are. CO5 The students explored the period and the connection between the creation of literary works.
MA II	LoksahityachiMultattveAni Marathi Loksahity-2	40405	CO1 Know the co-relation between folk literature and other branches. CO2 Know the concept of folk literature. CO3 Know the tradition of folk literature in India. CO4 Know the new trends in the study of folk literature in new era. CO5 Students understood the nature of folklore and the meaning, language, composition, region, type and artistic beauty of folklore. CO6 The students understood the tradition of scholars in Marathi folklore as well as the breadth and inclusiveness of folklore.

DEPARTMENT OF HINDI

Class	Course	Course Code	Course Outcomes

FYBA	VaikalpikHindiPrashnapatra IA & IIA	11091B & 11092B	CO1 UnderstandingthenaturescopeoriginofHindi Literature CO2 KnowmoreaboutHindiLiteratureuseful,contributioni different levelpasttopresent. CO3 Making awareness of Hindi knowledge to the society. CO4 Benefits of getting employment opportunities such as the Hindi officers, Translators, manager, teacher and lecturer and so on.
FYB.Com	VaikalpikHindiPrashnapatra IA & IIA	117 C & 127	CO1 Develop Hindi reading & linguistic comprehension of students CO2 Develop interest in literature story and poetry. CO3 Inculcate moral and human values within themselves CO4 Understand the types of Short Story Writing in Hindi. CO5 Develop Reading, Writing & Communication skills in Hindi CO6 Develop knowledge of literary forms Hindi poetry. CO7 Understand the basic forms of story and Poetry in Hindi. CO8 Learn values through literary works in Hindi.
SYBA	MIL-2 Hindi BhashaShikshan MIL-2 Hindi BhashaShikshan	23012 & 23012	CO1 Abletounderstandtheconceptsoflinguistic. CO2 AbletounderstandthedifferentflowsofHindilanguage(Rajbhasha,Bolibhasha) CO3 Abletounderstand theintroductorilyconceptsofHindigrammar in Hindi. CO4 Abletounderstandtheimportanceoflinguistic
SYBA	DSE-IA KavyashashtraSamanya (S-1) DSE 1B SahityaKeBhed (S-1)	23091 & 24091	CO1 Introduce the BharatiyaKavyaShastra in Hindi. CO2 Develop the views of Literary Review in Hindi. CO3 Develop the language skill in Hindi. CO4 Able to critically interact with others about different aspects of Literature in Hindi. CO5 Ability to think about the development of Indian poetics. CO6 Know the importance of criticism in Hindi. CO7 Increase vision regarding literary value in

			Hindi. CO8 Get information about Alankar in Hindi Literature
SYBA	DSE-2A Madhyayugin KavyaTathaU pannyasSahit ya (S-2) DSE 2B Madhyayugin KavyaTathaN atakSahitya S-2	23092 & 24092	CO1 Study the Krishna bhakti and Ram bhakti poem of Surdas and Tulsidas along with their philosophy of bhakti culture and its impact on our day to day life . CO2 Develop interest in Novel in Hindi. CO3 Get information about the ancient Hindi Literature. CO4 Know the concept and process of Literature in Hindi. CO5 Know the concept of Drama in Hindi. CO6 Know the concept and process of dramatics in Hindi. . CCO7 Learn the origin of drama as dramatic art in Hindi.
SYBA	CC-1C AdhunikKavy aKahaniTatha Vyavharik Hindi CC-1D Adhunik Hindi VyangyaSahit yaTathaVyav harik Hindi	23093 24093	CO1 Development of literary and linguistic test of the newly admitted students in Hindi. CO2 Knowledge of the basic function of literary language in Hindi. CO3 Perfection of the use of Idioms and Phrases. CO4 Enrichment of critical views of the students. CO5 Introduce the stories and story writers to the students in Hindi. CO6 Develop the National spirit among students.
SYBA	SEC-2A AnuvadSwaru pEvamVyavh ar & SEC- 2B MadhyamLek han	23096 & 24096	CO1 Introduction of theory of Translation. CO2 Discuss about the problems of Translation and resolve them. CO3 Objectives of Good Translation. CO4 Understand translation as a tool for inter cultural and intra cultural communication. CO5 Understand the scope of translation. CO6 Understand the qualities of a translator. CO7 Able to understand the tools for translation, technical terminology of various domain CO8 Understand the translation approaches to scientific and technical texts. CO9 Understand problems in translating poetry, novels and other genres of literature. CO10 Introduce the History of Hindi Journalism.

			CO11 Introduction of the Main Hindi Journals. CO12 Contribution of Hindi Journalism in Independence of India. CO13 Understanding the various forms of writing in Media. CO14 Understanding the concept of proof reading. CO15 Able to understand the problems of Social media and their remedies. CO16 Give the importance for creative writing like Advertisement, Media, Add, etc.
TYBA	DSE 1C Hindi SahityaKaItihas(Adikal, Bhaktikal, RitikalKaSamanyaParichay) (S-3) & DSE 1D Hindi SahityaKaItihas (AdhunikKal :SamanyaParichay) (S-3)	35091 & 36091	CO1 Able to understand origin of Hindi language and its literature. CO2 Able to understand and identifying the dialects of Hindi language family. CO3 Able to analyze the development of Khariboli Hindi. CO4 Able to understand the concept of History of Literature in Hindi. CO5 Kahani (Story) &Upanyas (Novel): Origin and Development in Hindi. CO6 Able to understand the importance and basis of the names given to each period of Hindi Literature. CO7 Develop the criticism views among students.Medieval and Modern Poetry: Able to understand the importance of Adikal, Bhaktikal, Ritikal&Adhunikal. CO8 Understanding the change in content and style of expression in short stories in Hindi. CO9 Understanding the spirit of Nationalism of BhartenduHarishchandra and RamachandraShukla. CO10 Understand the history of Hindi Literature from its emergence CO11 Understand the ancient classical tradition of Hindi Literature and the popular writers of the period under study in Hindi. CO12 Analyze the impact of Bhakti Movement on Hindi Literature. CO13 Analyze the different trends of Bhakti movement and the contribution of popular writers. CO14 Have a thorough Knowledge about the literature of 17th and 18th century in Hindi.

TYBA	DSE **2**C BhashaVidnyan(S-4) & DSE 2D Hindi BhashaAurUsakaVikas (S-4)	35092 & 36092	CO1 Know the various methods to the study of language. CO2 Understand the communication process and method. CO3 Develop knowledge of Hindi Linguistics & Grammar in Hindi. CO4 Abletounderstand theancientandmedievalperiodlanguages. CO5 Abletounderstand theoriginanddevelopment ofHindilanguage. CO6 AbletounderstandthedifferentformsofKhadiboliHindi CO7 Abletounderstandthe introductorilyconceptsofHindi grammar. CO8 Know the concept of Linguistics in Hindi. CO9 Know the importance of language in human life. CO10 Know the various methods to the study of language. CO11 Understand the communication process and method.
TYBA	CC-1E KathetarVidhayen (G-3) & CC-1F GajalVidhaAurPatrachar (G-3)	35093 & 36093	CO1 Get introduction of Hindi authors. CO2 Get information about the autobiography, essay and drama literature. CO3 Get information about Hindi Literature forms. CO4 Know the new trends, study of poetic Drama, New Poetry and Gazal literature in new era. CO5 Learn Values through literary work. CO6 Get acquainted with the poetic style, diction of the age to which it belongs.
TYBA	SEC-2C PatkathaLekhan & SEC-2D SahityaAurPhilmantaran	35096 & 36096	CO1 Understand the origin and development of Film. CO2 Understand the development of Films in Indian Languages. CO3 Understand the silent features of screenplay writing in Hindi. CO4 Analyze the screenplay given in the syllabus.
MA I	Madhyauygin Kavya	10501	CO1 Concept of text based Prachin&Madhyakaleen Hindi Literature. CO2 Ability to understand the development of Prachin&Madhyakaleen Hindi Literature. CO3 Understanding of Hindi literature and

			language of Aadikaal and Madhyakaal. CO4 Differentiation and departure points of Hindi literature and language of Aadikaal and Madhyakaal. CO5 Ability to think about Hindi literature and language of Aadikaal and Madhyakaal.
MA I	Katha Sahitya	10502	CO1 Concept of (text based) Hindi novel & short stories of modern era (Aadhunikkaal). CO2 Ability to understand the development of Hindi novels and short stories by textual study. CO3 Differentiation and departure points of Hindi novels and short stories. CO4 Ability to think about Hindi novels and short stories in Hindi. CO5 Get information about the Novel and Story Literature. CO6 Get information about Medieval Hindi Literature forms. CO7 Study social change effect on Medieval Hindi literature. CO8 Understand the philosophy of Premchand about a woman of middle class through 'Nirmala' in Hindi. CO9 Study the literary trends of Hindi short stories. CO10 Study the life history and literary works of Jayshankar Prasad, Yashpal and RangeyaRaghav in Hindi .
MA I	BhartiyaKavyashashtr	10503	CO1 Develop the views of Literary Review. CO2 Develop the language skill. CO3 Able to critically interact with others about different aspects of Literature in Hindi. CO4 Ability to think about the development of Indian poetics. CO5 Know the importance of criticism. CO6 Increase vision regarding literary value in Hindi. CO7 Understand the Indian poetics . CO8 Study about kavya ,Ras , Alankar and Chhanda CO9 Study definition , kinds, importance of Rasand to get an idea of Alankar , Riti , Dhwani and VakroktiSampradayas in Indian context .

			CO10 Get information about Alankar in Hindi Literature
MA I	Vaikalpik : Natakkar Mohan Rakesh	10505	CO1 Understand the contribution of Mohan Rakesh to Hindi literature in General. CO2 Analyze the social life as portrayed in the creative works of Mohan Rakesh. CO3 Understand the relevance of the creative works of Mohan Rakesh. CO4 Analyze the unique language and communication techniques of Mohan CO5 Rakesh based on his drama and other genres of Literatur CO6 Concept of text based study of plays of Hindi. CO7 Ability to understand the development of plays of Hindi. CO8 Understanding of Hindi plays and essays. CO9 Differentiation and departure points of Hindi plays. CO10 Ability to think about Hindi plays. CO11 Get an idea about Drama , its importance , concept , characteristics , history etc. CO12 Understand the vision of Jayshankar Prasad through the drama 'Ajatsatru.' CO13 Understand the life history of Kalidas through 'AsharhKaEk Din' written by Mohan Rakesh . CO14 Get an idea of life history and literary contribution of Lakshmi narayan Mishra , HarikrishnaPremi and LakshminarayanLal
MA I	KathetrGadya Sahitya	20501	CO1 Get introduction of Hindi authors. CO2 Get information about the autobiography, essay and drama literature in Hindi. CO3 Get information about Hindi Literature forms.
MA I	SodhPravidhi	20502	CO1 Understand some basic concepts of research and its methodologies in Hindi CO2 Iidentify appropriate research topics in Hindi CO3 Select and define appropriate research problem and parameters CO4 Prepare a project proposal (to undertake a project) CO5 Organize and conduct research (advanced project) in a more appropriate manner CO6 Write a research report and thesis Understand

			the way to Analyses a research problem systematically in Hindi. CO7 Comprehend the various aspects of research procedure. CO8 Gain deep knowledge in the technical aspects of writing a thesis. CO9 Understand various approaches in research. CO10 write a research proposal (grants)
MA I	PaschyatyaKavyashastr	20503	CO1 Ability to understand the development of Western poetics. CO2 Understanding of the development of Western poetics. CO3 Differentiation and departure points of Western poetics. CO4 Ability to think about the development of Western poetics. CO5 Understand the Western Poetics. CO6 Understand the various views of eminent Western critics like Plato, Arastu, Dr. Samuel Jhonson, William Wordsworth, Mathew Arnold ,I. A. Richard . CO7 Unow about the Western literary trends of Romanticism, Idealism, Realism, Existentialism.
MA I	Vaikalpik : Hindi UpanyasSahitya	20505	CO1 Get an idea about Novel, its importance, history etc. CO2 Understand the vision of Premchand and his concern for strengthening the freedom movement in India through ‘Karmabhumi’ novel. CO3 Understand the views of BhagawaticharanVerma through ‘Chitralekha’. CO4 Study the life history and literary works of DevakinandanKhatri ,Jainendra Kumar and PhanishwarNathRenu.
MA II	AadhunikKavya (Aadarshvadi, ChayawadiTatha Anya Kavya)	30501	CO1 Study the Historical Development of Hindi Literature. CO2 Know the brief literature in same period. CO3 Know the various literary forms in same period.
			CO1 Know the various methods to the study of language. CO2 Understand the communication process and method.

MA II	BhashaVidnyan	30502	CO3 Develop knowledge of Hindi Linguistics & Grammar. CO4 Able to understand the ancient and medieval period languages in Hindi. CO5 Able to understand the origin and development of Hindi language. CO6 Able to understand the different forms of Khadiboli (Hindi, Urdu) CO7 Able to understand the introductorily concepts of Hindi grammar. Know the concept of Linguistics in Hindi. CO8 Know the importance of language in human life. CO9 Know the various methods to the study of language. CO10 Understand the communication process and method. CO11 Understand the meaning ,concept, characteristics , kinds , development of a language . CO12 Understand the meaning , concept ,kinds and different part of linguistics in Hindi . CO13 It is a complete paper on linguistics in Hindi.
MA II	Hindi SahityaKaItihas	30503	CO1 Concept of History of Hindi Literature of beginning period (Aadikaal) and medieval period (Madhyakaal) CO2 Ability to understand the development of Hindi language and literature of Aadikal&Madhyakaal. CO3 Understanding of History of Hindi literature and language of Aadikaal and Madhyakaal. CO4 Differentiation and departure points of Hindi literature and language of Aadikaal and Madhyakaal. CO5 Time framing ability of Aadikaleen and Madhyakaleen Hindi Literature.
MA II	Vaiklpik : Hindi Aalochana	30504	CO1 Study criticism, its definition, importance, concept, kinds, history etc. CO2 Understand the contribution and various views of eminent Hindi critics, like RamchandraShukla, HazariprasadDwivedi, Nanddulare Vajpayee, Ramvilas Sharma and Dr.

			Nagendra .
MA II	AadhunikKavya	40501	CO1 Concept of History of Hindi Literature of modern era (Aadhunikkaal). CO2 Ability to understand the development to Hindi language and literature of modern era (Aadhunikkaal). CO3 Understanding of History of Hindi literature of modern era (Aadhunikkaal). CO4 Differentiation and departure points of modern Hindi literature. CO5 Time framing ability of modern Hindi Literature.
MA II	Hindi BhashaKaVikas	40502	CO1 Concept of Hindi language & Linguistics. CO2 Ability to understand the development of Hindi language & Linguistics. CO3 Understanding of Hindi language & Linguistics. CO4 Differentiation and departure points of Hindi language & Linguistics. CO5 Ability to think about Hindi language & Linguistics.
MA II	Hindi SahityaKaItihas (AadhunikKaal)	40503	CO1 Study the socio-cultural & political background from 1900 till date. CO2 Know the brief literature in same period. CO3 Know the various literary from in same period. CO4 Understand the literature and characteristics of Adhunikkal in context of socio – economic cultural and political condition of that period . CO5 Study the literature of Bharatenduyuginkavyadhara ,Dwivediyuginkavyadhara , Chhayavadyuginkavyadhara , Chhayavadottarkavyadharayen. CO6 Identify and analysis the eminent Hindi writings of Bharatenduyug, Dwivediyug ,Chhayvad, chhayavadottaryug and their various skills of writings in Hindi.
MA II	Vaiklpik : BhartiyaLoksahitya	40504	CO1 Know the co-relation between folk literature and other branches. CO2 Know the concept of folk literature in Hindi. CO3 Know the tradition of folk literature in India. CO4 Know the new trends in the study of folk

			literature in new era.

DEPARTMENT OF HISTORY
B.A

CLASS	Course Title	CODE	Course wise Outcomes
F.Y.B.A (Credit System) SEM- I	**Early India: From Prehistory to the Age of the Mauryas**	**11171**	CO1 Provides examples of sources used to study of various periods in early history. CO2 Relates key historical developments during early period occurring in one place with another. CO3 Analyze socio-political and economic changes during the early period. CO4 Estimate the foreign invasion and achievement of the rulers.
SEM- II	**Course Title: Early India: Post Mauryan Age to the Rashtrakutas**	**12171**	CO1 Draws comparisons between policies of different rulers. CO2 Understanding Role of Gupta Emperor and Harshvardhanas in the early India. CO3 Understand transition to medieval India. CO4 Analyses factors of Literature, Religion, Art and Architecture in early India.
S.Y.B.A (Credit System) Semester- III & IV	**CC-1C History of the Marathas (1630 -1707)**	**23174**	CO1 Students will develop the ability to analyze sources of the Maratha history. CO2 Students will learn significance of regional history and political foundation of the region. CO3 It will enhance their perception of 17th century Maratha and India in the context of Maratha History. CO4 Appreciate the skills of leadership and administrative system of the Marathas.
	CC-2D History of the Marathas (1707-1818)	**24174**	CO1 Students will be able to analyze the Marathas policy of expansionism and its consequences. CO2 They will understand the role played by the Marathas in the 18th century India. CO3 They will be acquainted with the art

			of diplomacy in the Deccan region. CO4 It will help to enrich the knowledge of the administrative skills and profundity of diplomacy.
	DSE-1A Medieval India –Sultanate Period	**23171**	CO1 Provides examples of sources used to study of various periods in history. CO2 Relates key historical developments during medieval period occurring in one place with another. CO3 Analyze socio-political and economic changes during the medieval period. CO4 Estimate the foreign invasion and achievement of the rulers.
	DSE-1B Medieval India –Mughal Period	**24171**	CO1 Draws comparisons between policies of different rulers. CO2 Understanding Role of Akbar in the consolidation of Mughal rule in India. CO3 Understand Aurangzeb's conflict with Rajputas, Maratha and weakening Mughals age. CO4 Analyses factors which led to the emergence of new religious ideas and movements (bhakti and Sufi)
	DSE-2A Glimpses of the Modern World Part I	**23172**	CO1 It will enable students to develop the overall understanding of the Modern World. CO2 The students will get acquainted with the Renaissance, major political, socio-religious and economic developments during the Modern World. CO3 It will enhance their perception of the history of the Modern World. CO4 It will enable students to understand the significance of the intellectual, economic, political developments in the Modern World.
	DSE-2B Glimpses of the Modern World Part II	**24172**	CO1 It will enable students to develop the overall understanding of the Modern World. CO2 The students will get acquainted with the major nationalist movements, the World War II and its consequences, the

			Cold War and its Consequences. CO3 It will enhance their overall perception of the history of the Modern World. CO4 It will enable students to understand the significance of the strategic political developments in the Modern World.
	SEC-2A Tourism Management	**23178**	CO1 Students will get an overall understanding of the process of Tourism Management. CO2 They will learn to work in the Tourism Management with great potential. CO3 They will be able to seek self-employment by starting their own tourism related business.
	SEC-2B Travel Agency &Tour Business	**24178**	CO1 The students will understand the details of the business of Travel Agency. CO2 They will be trained on both Theory and Practical aspect and Travel Agency and creating professionals for Tourism Industry. CO3 It will enable student to seek self-employment by starting their own Travel Agency related to business.
T.Y.B.A SEM- V & VI	**CC- 1E Indian National Movement (1885-1947)**	**35174**	CO1 It will enable students to develop an overall understanding of Modern India. CO2 It will increase the spirit of Nationalism, Democratic Values and Secularism among the students. CO3 Students will understand various aspects of the Indian Independence Movement and the creation of Modern India.
	CC- 2F India after Independence (1947-1991)	**36174**	CO1 It will enable students to develop an overall understanding of the Contemporary India. CO2 To increase the spirit of healthy Nationalism, Democratic Values and

			Secularism among the students. CO3Students will understand various aspects of India's domestic and foreign policies that shaped Post-Independence India.
	DSE-1C Introduction to Historiography	**35171**	CO1 Students will be introduced to the information and importance of Historiography. CO2 Students will be introduced to the different Methods and Tools of data collection. CO3 Students can study the interdisciplinary approach of History. CO4 Students will learn about the usefulness of History in the 21st century, its changing perspectives, the new ideas that have been invented, and the importance of History in a competitive World. CO5 This curriculum develops Research ability and process of Research methodology in History.
	DSE-1D Applied History	**36171**	CO1 Students will be introduced to the information and importance of applied history. CO2 Student will learn about the Historical significance of Archaeology and Archives and opportunities in the field of Archaeology and Archives. CO3 Through this course, students will be informed about the opportunities in the field of Media, Museums. CO4 the about learn will Students usefulness of history in the 21st Century, its changing Perspectives, the new ideas that have been invented, and the importance of History in a Competitive World.
	DSE-2C		CO1 Student will develop the ability to analyze sources for 19th century Maharashtra History. CO2 Student will learn significance of Regional History and Socio- religious

	Maharashtra in the 19th Century	**35172**	reformism foundation of the region. CO3 It will enhance their perception of 19th Century Maharashtra. CO4 Appreciate the skills of leadership and the Socio-religious System of the Maharashtra.
	DSE-2D Maharashtra in the 20th Century	**36172**	CO1 Student will develop the ability to analyses sources for 20th Century Maharashtra History. CO2 Student will learn significance of regional history and Socio- Religious Reformism foundation of the region. CO3 It will enhance their Perception of 20th Century Maharashtra. CO4 Appreciate the skills of leadership and the Socio-Religious System of the Maharashtra.
	SEC- 2C Research Paper Writing	**35177**	CO1 Students will be introduced to the information and importance of Historiography. CO2 Students can study the interdisciplinary approach History. CO3 This curriculum Will help to develop Research ability and Process of Research Paper Writing in History.
	SEC- 2D Archaeology	**36177**	CO1 Students will learn to understand the definition, aims and scope of Archaeology so as to understand its applications in interpreting the human past. CO2 They will be able to understand the nature of the archaeological record and the unique role of science in archaeology. CO3 They will have an overall understanding of the Archaeology.

M.A

Class	**Course Title**	**CODE**	**Course wise Outcomes**

M.A.-I Sem-I	**CC – 1: History: Theory and Method**	**12201**	CO1 Students will be introduced to the information and importance of Historiography. CO2 Students will be introduced to the different Methods and Tools of data collection. CO3 Students will be introduced to the formulating hypotheses and develop broad frames of interaction with other Social sciences and attain certain level of Interdisciplinary approach.
	CC – 2: Evolution of Ideas and Institutions in Early India	**12202**	CO1 Students will be introduced to provide an understanding of the social, economic and institutional bases of early India. CO2 Students will be introduced to an understanding of early Indian history is crucial to understand Indian history as a whole.
	CC– 3: Maratha Polity	**12203**	CO1 Students will be introduced to provide an understanding of the study the administrative system of the Marathas in an analytical way, to acquaint the student with the nature of Maratha Polity. CO2 Students will be introduced to provide an understanding of to understand basic components of the Maratha administrative structure, to enable the student to understand the basic concepts of the Maratha polity.

	Elective Courses: EC-2 Social Background of Dalit Movement in Maharashtra	**12206**	CO1 Students will learn about the background of the Dalit movement which flourished in the twentieth century. CO2 Students will be introduced to highlights the earlier forms of protest from the ancient till the medieval period, which laid the foundations for social protest and dissent in the pre- Ambedkar period**.**
M.A-I Sem-II	**CC - 4: Approaches to History**	**22201**	CO1 Students can study the interdisciplinary approach of History. CO2 Students will learn about the usefulness of History in the 21st century, its changing perspectives, the new ideas that have been invented, and the importance of History in a competitive World. CO3 This curriculum develops Research ability and process of Research methodology in History.
	CC - 5: Ideas and Institutions in Medieval India	**22202**	CO1 Students will be introduced to provide an understanding of the social, economic and institutional bases of medieval India. CO2 Students will be introduced to an
	CC - 6: Socio-Economic History of the Marathas (22203)	**22203**	CO1 Students will be introduced to the study socio-economic history of the Marathas in an analytical way, to acquaint the student with the components of social structure and their functions.

			CO2 Students will learn about the relationship between religion, caste, customs, traditions, class in 17th and 18thcentury Maratha Society. CO3 Students will be understanding aspects of economic life, to trace the determinants of changes in social and economic life in the history of the Marathas.
	Elective Courses: EC - 10: Nature of Dalit Movement in Maharashtra	**22205**	CO1 Students will learn about the ideology and organization of the Dalit Movement in Maharashtra. Dr. BabasahebAmbedkar led the Dalit Movement and achieved many kinds of justices to Dalits. He had to fight against inequality and atrocities imposed due to socioeconomic and political structure of Hindu society. He had to fight on various fields at the same time such as political, social, economic, religious etc. CO2 Students will be introduced to the attempt here is to help students to understand the details of the most important and neglected socio-religious reform movement in Maharashtra with its root causes. CO3 The paper attempts to help students to understand the ideology of Dr. BabasahebAmbedkar who was the unchallenged leader of the Dalit Movement.

M.A.-II Sem-III	**CC - 7: Cultural History of Maharashtra (32201)**	**32201**	CO1 Students will be introduced to the student situate and interpret the cultural manifestations across historical memory which have contributed to the creation of the geopolitical region of Maharashtra. CO2 Students will be able to analyze the Marathas policy of expansionism and its consequences. CO3 They will understand the role played by the Marathas in the 17^{th} and18th century India. CO4 They will be acquainted with the art of diplomacy in the Deccan region. CO5 It will help to enrich the knowledge of the administrative skills and profundity of diplomacy.
	CC - 8: Intellectual History of the Modern World	**32202**	CO1 It will enable students to develop the overall understanding of the Modern World. CO2 The students will get acquainted with the Renaissance, major political, socio-religious and economic developments during the Modern World. CO3 It will enhance their perception of the history of the Modern World. CO4 It will enable students to understand the significance of the intellectual, economic, political developments in the Modern World.
			CO1 Students will learn about the structural

	CC - 9: Economic History of Modern India	**32203**	and conceptual changes in Indian economy after coming of the British. CO2 Students will be introduced to the aware of the exploitative nature of the British rule, to help them understand the process of internalization by Indians of new economic ideas, principles and practices.
	Elective courses EC - 19: Peasant Movements in India (Medieval and Modern)	**32206**	CO1 This course attempts to study various approaches to peasant revolts and movements. CO2 This Course helps the student to understand characteristics of peasant movements.
M.A.-II Sem-IV	**CC -10: Modern Maharashtra: History of Ideas (1818-1960)**	**42201**	CO1 Student will develop the ability to analyze sources for 19th century Maharashtra History. CO2 Student will learn significance of Regional History and Socio- religious reformism foundation of the region. CO3 It will enhance their perception of 19th Century Maharashtra. CO4 Appreciate the skills of leadership and the Socio-religious System of the Maharashtra.
	CC - 11: Debates in	**42202**	CO1 Students will learn about some of the issues that that have been debated in Indian Historiography by historians.

	Indian Historiography		CO2 Students will be introduced to the some perspectives with reference to Indian History.
	CC - 12: World after World War II (1945-2000)	**42203**	CO1 To acquaint the student with the post-World War II scenario. CO2 Students will be introduced to understand contemporary world after World War II from the historical perspective.
	Elective Courses EC - 27: British administrative policies in India 1765- 1892	**42206**	CO1 The paper intends to make an in-depth study of various aspects of British administrative policies in India. CO2 Students will be introduced to the various British Acts, administrative system during 19th century in India.

DEPARTMENT OF GEOGRAPHY

Course Outcome: B.A. (Geography)		
Class	**Course Title**	**Outcome**
F.Y.B.A	Sem I 110(A) Physical Geography	CO1 Students are introduced to the basic concepts in Physical Geography. CO2 Students are introduced to the various geographical features.
	Sem II 110(B) Human Geography	CO1 Students are introduced to basic concepts in Human Geography. CO2 The Geographical maturity of students in their current and future courses shall develop. CO3 The students develop theoretical, applied and

		computational skills.
S.Y.B.A (G2)	Sem-III Environmental Geography 210 (A)	CO1 Students are able to understand about the concept of environmental geography, its nature and scope, approaches, importance and type etc. CO2 Students are aware about the concept of ecosystem, its structure and types. CO3 Student is able to learn the concept of Biodiversity and its conservation. CO4 Students are able to acquire the knowledge about environment pollution and its type.
S.Y.B.A (S-1)	Sem-III Geography of Maharashtra (Gg-220A)	CO1 Student is able to acquire knowledge about geography of our state. CO2 Students are aware about the magnitude of problem and prospect in Maharashtra. CO3 Student are able to understand the inter relationship between the subject and the society.
S.Y.B.A (S-1)	Sem-IV Environmental Geography 210 (A)	CO1 Students are able to learn about the concept the of environmental disasters. CO2 Students are aware about the environmental problem. CO3 Student is able to learn the concept of need of planning and management, type of planning and management with reference to India.
S.Y.B.A (G-2)	Sem-IV Economic Geography 210 (A)	CO1 Students are able to learn about the modes of Transportation and their cost effectiveness, type of trade as well as International trade of India. CO2 Students also learnt the concept of regional planning, regional imbalance and its importance in economic development.

		CO3 Students learnt about the concept rural development, index of rural development as well as various scheme of government for rural development.
S.Y.B.A (S-1)	Sem-IV Geography of Maharashtra (Gg-220A)	CO1 Students are aware about the agriculture problem and prospect of Maharashtra. CO2 Students are able to understand the population distribution and settlement pattern in Maharashtra. CO3 Student is able to understand the concept of rural development.
S.Y.B.A (S2)	(Sem III & IV) Practical Geography (I & II)	CO1 Students are acquainted with the basic of Statistical data. CO2 Students are acquainted with the principles of surveying, its importance and utility in the geographical study. CO3 Students are familiar to the various Projections and Cartographic Techniques.
S.Y.B.A (SEC)	SEC-I SEC-2A (Applied Course of Disaster Management	CO1 Students are introduce basic concept and fundamental structure of Disaster Management. CO2 Students are learnt about critical thinking and problem solving abilities about disaster Management CO3 Student are able to assess the situation and design plan for disaster Management
S.Y.B.A (SEC)	SEC-I SEC-2A (Applied Course of Travel & Tourism	CO1 Students are learnt about various elements of tourism management. CO2 Students are aware about role of transport in travel and tourism industry. CO3 Students are able to develop the skills to arrange, manage and implement various types of tours.

	Sem-V CC1E (36204) Geography of Disaster Management-I	CO1 Students are able to understand the concept of Disaster management, Pre-Disaster management and Post-Disaster management. CO2 Students are aware about meaning and definition of disaster as well as classification of Disaster. CO3 Students acquired information about Disaster Management and measures it includes structure of disaster management and standard operating procedure on government level. CO4 Students are aware about climatic disaster and their management.
	Sem-VI CC1E (36204) Geography of Disaster Management-II	CO1 Students are able to understand the Geological and Geomorphic Disasters it includes Earthquake, Landslide, Tsunami and their management. CO2 Students are able to understand the Anthropogenic Disasters it includes Deforestation, Forest Fire, Soil Degradation and their management. CO3 Students are aware about Global Environmental Issues like Global Warming, Ozone depletion and Acid Rain. CO4 Students are able to understand about disasters through Case studies of disasters like tsunami in Indian Ocean 2004, Fukushima Nuclear Disaster 2011 and Kedarnath Cloud Burst 2013.
	Sem-V CC1E (35205) Geography of Tourism- I	CO1 Students are aware about detailed history as well as nature and scope of the Tourism. CO2 Students understood Different determinants (Physical, Socio-cultural and Political) of Tourism development. CO3 Students are able to understand concepts (Agro-tourism, Eco-tourism, Wildlife, Medical tourism and

		Sport tourism) and classification of tourism. CO4 Students are aware about basic infrastructure in tourism it includes Mode of transportation (Road, Rail, Water and Air) and Communication (Tourism guide, Telephone/Mobile and Travel and tourism agencies).
	Sem-VI CC1E (36205) Geography of Tourism- II	CO1 Students are able to understand the role of accommodation in tourism development. CO2 Students are aware about impact of tourism on foreign exchange, employment generation, and infrastructure development as well as physical and cultural aspects. CO3 Students are aware about planning and policies of tourism development of WTO, ITDC and MTDC. CO4 Students acquired information about major tourist centers in India ex. Manali, Mahabaleshwar, Tajmahal, Raigarh Fort, Kaziranga and Melghat national parks.
T.Y.B.A (S3)	Sem-V DSE1C (35201) Geography of India-I	CO1 Students are aware about Geography (Location and Extent, Historical Background, International boundaries, states and Union territories) of our Nation. CO2 Students are able to understand physiography of India by studying physical divisions of India. CO3 Students are aware about Major Rivers and their tributaries of India it Includes Himalayan Rivers, East and West flowing rivers etc. CO4 Students are able to understand various seasons, Types soils and distribution, Types of natural vegetation and its distribution of India.
	Sem-VI DSE1D (36201) Geography of India-II	CO1 Students are aware Indian Cultural aspects like Religions, Languages and Major tribes, tribal areas and their problems. CO2 Students are able to understand Types and Role of

		Transportation in regional development of India. CO3 Students are aware about Major Resources – Iron ore and Manganese, Coal and Petroleum, Hydro and Thermal power etc. CO4 Students are aware about Significance of Agriculture in Indian Economy, Agro-based Industries, Agricultural revolution in India – Green, Blue and White etc.
	Sem-V DSE1C (35202) Geography of Rural Development-I	CO1 Students are able to understand Concept, Meaning and Definition of Rural Development as well as causes of rural backwardness and Nature and Scope of Rural Development in India. CO2 Students are aware about Approaches to Rural Development in India- Gandhian approach, Sector, Decentralized Planning and Participatory approach etc. CO3 Students are able to understand Rural Issues like Lack of safe drinking water, rural sanitization problem, urban-rural divide and benefits of green revolution in rural sector. CO4 Students are aware about Health Care Services in Rural Areas – Maternal and Child Health, and also National Health Policy, National Rural Health Mission of India etc.
	Sem-VI DSE1D (36202) Geography of Rural Development-II	CO1 Students are aware about problems of education in Rural areas – School Dropouts, Girl Child education and National Literacy Mission-SarvaShikshaAbhiyan etc. CO2 Students are able to understand about Area Development Programme - Drought Prone Area Programme, Command Area Development Programme, Desert Development Programme and Hill Area Development Programme etc. CO3 Students are able to understand about Target group

		Programmes – Suwarnajayanti Gram SwoyamRojgarYojana, National Rural Livelihoods Mission, Micro Finance and Self-help Groups for Women Empowerment etc. CO4 Students are aware about Rural Development through Case Studies - Hivare Bazar, Mendhalekha, study of people's movement: Farmer's agitation against New laws, Chipco movement etc.
T.Y.B.A (S4)	Sem-V DSE2C (35203) Practical Geography-I (Techniques of Spatial Analysis)	CO1 Students are able to understand concepts and techniques of Geographical Analysis. CO2 Students are aware about SOI Toposheets and acquire the Knowledge of Toposheets interpretation. CO3 Students are aware about Weather Maps and acquire the Knowledge of its interpretation. CO4 Students are able to acquire information about Aerial Photographs and Satellite Images as well as knowledge to interpret it. CO5 Students become familiar with spatial and structural characteristics of Practical Geography. CO6 Students are able to explain the elementary and essential principles on field of practical work.
	Sem-VI DSE2D (36203) Practical Geography-II (Techniques of Spatial Analysis, Surveying and Excursion / Village Project Report)	CO1 Students are aware about Geographical Data & Basic Analysis. CO2 Students are able to calculate Measures of Central Tendency (Mean, Mode and Median) and Dispersion (Mean and Standard Deviation). CO3 Students are able to understand concept, correlation, regression, Bivariate correlation & testing of hypothesis and also able to calculate Chi-square and

		Spearman Rank Order tests. CO4 Students acquired experienced knowledge of Geographical feature through one day study tour.
Value/ Skill Based Courses	Sem-V SEC2C (35206) Research Methodology-I	CO1 Students are able to understand basic concepts of research Methodology like meaning, characteristics, types of research as well as various steps of research process. CO2 Students are aware about research design, it includes introduction to research, purpose and characteristics of good research design. CO3 Students are able to understand about Research problem, it includes definition and identification of research problem and also techniques involved in defining a problem.
	Sem-VI SEC2D (36206) Research Methodology-II	CO1 Students are aware about methods of Primary (Questionnaire) and Secondary (Government and Syndicated sources) Data collection. CO2 Students are able to understand different types of research report eg. Dissertation and Thesis, Research paper, articles etc. CO3 Students are aware about Characteristics of good research report writing eg. Title, abstract, Key words, Introduction, Methodology, result, discussion, conclusion, references and footnotes etc.

DEPARTMENT OF POLITICAL SCIENCE

Course Outcomes : B.A. (Political Science)			
Class	**Course title**	**Subject Code**	**Course Outcome**
	Paper- (Introduction to	G-1 Code-- 11161A-	CO1 The students are acquainted with the important features of the Constitution of India. CO2 The student is aware with the basic

FYBA	Indian Constitution)	Poli.Sci.G-1	framework of Indian Government. CO3 The students become familiar to the working of the Constitution of India. CO4 Students can know the different ideological standpoints to various concept and theories that are critically explained.
S.Y.B.A.	Paper-(An Introduction to Political Ideologies)	CC2C-23164 – Poli.Sci-Gen-2	CO1 Students are introduced to concepts, ideas and theories in political science. CO2 Students are familiar to evolution and usage, ideas and theories with reference to individual thinkers both historically and analytically. CO3 Students can know the different ideological standpoints to various concept and theories that are critically explained. CO4 Students are aware about the theory of yester year's gains prominence in contemporary political theory.
S.Y.B.A.	Paper-(Western Political Thoughts)	DSE-1A-23161- Poli. Sci.- Spe -1	CO1 Students are introduced to classical tradition in political theory from Plato to Marx with the view to analyze and understand political events and problems of their time and solution CO2 Students are aware about the negligence of women's concerns and issues CO3 Students can know the change within the Western political tradition
S.Y.B.A.	Paper-(Political Journalism)	DSE-2A-23162-Poli.Sci.Spe -2	CO1 Students are introduced to classical tradition in political theory from Plato to Marx with the view to analyze and understand political events and problems of their time and solution. CO2 Students are aware about the negligence of women's concerns and issues. CO3 Students can know the change within the Western political tradition.
			CO1 Students are introduced to concepts, ideas and theories in political

S.Y.B.A.	Paper-(Basic of Indian Constitution)	SEC-2A-(23165) Poli. Sci. Spe -2 Value Add./ Skill Ench. Course 2-Credits	science CO2 Students are familiar to evolution and usage, ideas and theories with reference to individual thinkers both historically and analytically. CO3 Students can know the different ideological standpoints to various concept and theories that are critically explained CO4 Students are aware about the theory of yester year's gains prominence in contemporary political theory.
T.Y.B.A.	Paper- Local Government of Maharashtra	(3167)-Political Science Gen -3	CO1 Students are introduced to structure of Local Self Government of Maharashtra. CO2 Students are familiar to awareness of the various Local Self Institutions, function, and composition and importance. CO3 Students can know the role of Local Government and Local Leadership in development Course.
T.Y.B.A.	Paper- (Public Administration)	(3168)-Poli. Sci. Spe -3 (Pattern-2013)	CO1 Students are introduced to essence of Public Administration, its effectiveness in translating the governing philosophy into programmes, policies and activities and making it a part of Community living. CO2 Students are familiar to personnel public administration in the historic context highlighting several of its categories which develops administrative salience and capabilities to deal with the process of Changes CO3 Students can know the paradigm of democratic legitimacy CO4 The importance of legislative and judicial control over administration is given to students Course
			CO1 Students are introduced to concepts and dimensions of international

T.Y.B.A.	Paper - (International Politics)	(3169)-Poli. Sci. Spe. -4 (Pattern-2013)	relations CO2 Students are familiar to different theories highlighting the major debates and different aspects of balance of power within. CO3 Students can know the various aspects of conflict and conflict resolution, collective security and specificity of the long period of post Second World War and phase of the Cold War. Of Detente and Deterrence leading to theories of rough parity in armaments.
T.Y.B.A.	Paper SEC 2C & 2D Samyukt Maharashtra Movement	31444 CBCS 2019 Pattern	CO1 Students are introduced to the political process in Maharashtra with special reference to regionalism sub-regionalism and Samyukta Maharashtra Movement. CO2 Students are expected to understand both the historical evolution of Maharashtra's politics and different analyses of politics of the state. CO3 It acquaint students with the main issues and concerns in the public life of a regional society as it shaped in the concept of colonialism, nationalism and modernity.

DEPARTMENT OF DEFENSE AND STRATEGIC STUDIES

Course Outcomes : B.A. (Defense & Strategic Studies)			
SEM	**Course Title**	**Subject Code**	**COURSE OUTCOMES**
F.Y.BA **SEM-**I	Defense Organization of India	11271	CO1 Students are able to introduced Defense Organization of India. CO2 Theyare acquiring Knowledge about Paramilitary forces. CO3 Students are learnt about Higher Defense Organization. CO4 Student understood about Intelligence Organization of India.

F.Y.BA **SEM**-II	India's National Security	11272	CO1 Students are able to introduced issues of India's National Security. CO2 They are acquire Knowledge about India's Internal Security challenges. CO3 Students are learnt about India's External Security challenges. CO4 Student understood about Non-conventional Threats of India.
SYBA **SEM**-III (2019 Pattern)	ChhatrapatiShivajiMaharaj as a Nation Builder	23273 CC-1C	CO1 Students are able to understand ChhatrapatiShivajiMaharaj as a Nation Builder. CO2 They are acquiring Knowledge about the Maratha Military Organization. CO3 Students are learnt about Swarajya Building. CO4 Student understood about Military History.
	India's Internal Security-I	**23271**	CO1 Students are able to understand National Security of India. CO2 They are acquiring Knowledge about the nature of internal security. CO3 Student is learnt about the Social Problems in India and its effects. CO4 Student understood about Regionalism in India.
	Geo-Politics	23272 DSE-2A	CO1 Students understand the concept of Geopolitics during War and Peace time. CO2 They are acquiring Knowledge about the theories of Geopolitical Thinkers. CO3 Student is learnt about the Maritime Boundaries and Territorial Sea. CO4 Student understood about Geographical factors affecting War.
SYBA **SEM**-IV	ChhatrapatiShivaji's Military System	24273	CO1 Students are able to understand ChhatrapatiShivajiMaharaj Military System. CO2 They are acquiring Knowledge about the Organization of Maratha Army. CO3 Students are learnt about the Forts Built by ChhatrapatiShivajiMaharaj. CO4 Student understood about Ship building under ChhatrapatiShivajiMaharaj.

	India's Internal Security-II	24271	CO1 Students are able to understand Security Issue of Jammu and Kashmir Problems. CO2 They are acquire Knowledge about the Naxalite Problems. CO3 Student are learnt about the Terrorism. CO4 Student understood about Cyber Crime in India
	Military Geography	24272	CO1 Students are able to understand the concept and relevance attributes of Military Geography for National Security. CO2 Theyare acquiring Knowledge about the concept of Warfare in different Terrains. CO3 Students are learnt about the concept of Geo-Strategy. CO4 Student understood about Geography and Warfare.
T.Y.B.A (2019 Pattern) SEM-V	India's National Security Policy & Strategy-I	35273	CO1 Students are able to introduced issues of National Security. CO2 They are acquire Knowledge about India's National Security design process. CO3 Students are learnt about India's Foreign policy. CO4 Student understood about India'sDefencepolicy.
	International Organization	35271	CO1 Students are understood of structure, Objectives and Functioning of U. N. CO2 Student acquires the knowledge about role and importance of UN in case of Peace, Security, and Dispute Settlement and Enforcement action. CO3 Students learnt about Functioning of U. N. in the field of Social and Economic Issues. CO4 Students are aware about WTO & WHO.
	Cotemporary Warfare	35272	CO1 Students are aware about the Concept and Component of Revolutionary war. CO2 Students learnt about the various Warfare. CO3 Students understood of Chemical and Biological Warfare

T.Y.B.A (2019 Pattern) SEM-VI	India's National Security Policy & Strategy-II	36273	CO1 Students are able to introduced issues of India's Maritime policy. CO2 They are acquire Knowledge about NAM. CO3 Students are learnt about India's Look East & Act policy. CO4 Student understood about India's South Asian policy.
	Regional Organization	36271	CO1 Students are understood of structure, Objectives and Functioning of SAARC. CO2 Student acquires the knowledge about role and importance of European Union. CO3 Students learnt about Functioning of OPEC. CO4 Students are aware about BIMSTEC & BRICS.
	Modern Warfare	36274	CO1 Students are aware about the Concept, Origin and Development of Nuclear war. CO2 Students learnt about the various Warfare. CO3 Students understood of Environmental and Space Warfare.

DEPARTMENT OF COMMERCE

Class	Subject	Course Outcomes
F.Y.B.Com Sem. 1	112- Financial Accounting	CO1 Students get knowledge of various accounting concepts CO2 Students achieve knowledge about accounting procedures, methods and techniques.
	114- Business Mathematics and Statistics	CO1 Students prepared for competitive examinations. CO2 Students understood the concept of Simple interest, compound interest and the concept of EMI. CO3 Students aware with the concept of shares and calculations of Dividend CO4 Students understood the concept of population and sample. CO5 Students upgraded their knowledge regarding the use of frequency distribution useful for make decision.
	116- Consumer Protection and Business Ethics	CO1 Students acquaint with consumer and consumer movement. CO2 The students aware about consumer rights, duties and mechanism for resolving their disputes.
F.Y.B.Com Sem. 2	122- Financial Accounting	CO1`Students achieve knowledge about accounting procedures, methods and techniques. CO2 Students have practical approach to accounts writing by using software package.
	124- Business Mathematics and Statistics	CO1 Students understood various methods of calculation regarding averages and variations. CO2 Students understood the concept and application of profit and loss in business. CO3 Students obtained knowledge for solving the LPP to maximize the profit and to minimize the cost. CO4 Students knew about utility of correlation and regression analysis and estimation about the relationship between two variables. CO5 Students understood the concept and techniques of different types of index numbers.
	126- Consumer Protection and Business Ethics	CO1 Students aware about laws relating to consumers. CO2 Students aware with role of Business Ethics in various functional areas.
S.Y.B.Com	Business Communication	CO1 Students understood the concept, process and importance of communication. CO2 Students aware regarding new trends in business communication. CO3 Students upgraded with the knowledge of various

		media of communication. CO4 Students developed with various skills of business communication through the application and exercises.
	Business Management	CO1 Students upgraded with the basic knowledge & understanding about business management concept. CO2 Students understood various functions of management
	Elements of Company Law	CO1 Students imparted with the knowledge of fundamentals of Company Law. CO2 The knowledge of students updated regarding the provisions of the Companies Act of 2013. CO3 The knowledge of students improved regarding new concepts involving in company law regime. CO4 Students acquainted with the duties and responsibilities of Key Managerial Personnel. CO5 Students imparted with the provisions and procedures under company law
S.Y.B.Com	Corporate Accounting	CO1 The students are enabled to develop awareness about Corporate Accounting in conformity with the provisions of Companies Act and Accounting as per Indian Accounting Standards. CO2 The students have learned about the conceptual aspect of corporate accounting and skills for Computerized Accounting CO3 The students are capable to implement their skills about accounting standards
TYB.Com	3113- Business Regulatory Framework (Mercantile Law)	CO1 Students grasped the detailed information regarding the basic concepts, terms & provisions of Mercantile and Business Laws. CO2 Awareness improved among the students regarding these laws affecting business, trade and commerce.
	3153- Auditing & Taxation	CO1 The students got acquaint with the concept and principles of Auditing, Audit process, Assurance Standards, Tax Audit, and Audit of computerized Systems. CO2 They got knowledge about preparation of Audit report. CO3 Students understood the basic concepts and to acquire knowledge about Computation of Income, Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax Collection Authorities under the Income Tax Act, 1961.

	Advanced Accounting	CO1 Imparted the knowledge of various accounting concepts CO2 The knowledge about accounting procedures, methods and techniques has installed. CO3 Students got acquainted with practical approach to accounts writing by using software package.
Course Outcomes: M. Com.		
Class	Course Title	Outcome
M.Com. Part I Sem. 1	101 Management Accounting	CO1 The objective of the course is to enable students to acquire sound Knowledge of concepts, methods and techniques of management accounting and to make the students develop competence with their usage in managerial decision making and control.
	102 Strategic Management	CO1 Students acquire sound knowledge of concepts, nature and structure of strategic Management
M.Com. Part I Sem. 2	201- Financial Analysis & Control.	CO1 The objective of the course is that the students acquire sound knowledge of concepts, methods and techniques of management accounting and the students developed for competence with their usage in managerial decision making and control
	202 A- Industrial Economics	The students studied the basic concepts of CO1 Industrial economics CO2 The significance and problems of industrialization. CO3 The impact of Industrialization on Indian Economy
M.Com. Part 2 Sem. 3	301- Business Finance	CO1 Students acquire sound knowledge of concepts, nature and structure of business finance.
	302- Research Methodology for Business	CO1 The students acquaint with the areas of Business Research Activities. CO2 The students enhance capabilities to conduct the research in the field of business and social sciences. CO3 The students enable in developing the most appropriate methodology for their research studies. CO4 The students are familiar with the art of using different research methods and techniques
M.Com. Part 2 Sem. 4	401- Capital Market and Financial Services.	CO1 Students acquire sound knowledge, concept and CO2 Structure of capital market and financial services.
	402- IndustrialEconomic	CO1 The basic concepts of Industrial Finance. CO2 The effects of New Economic Policy.

	Environment.	CO2 The impact of Labor reforms on Industries.

DEPARTMENT OF BBA (CA)

Class	Subject Code And Subject Name	Outcome
F.Y.BBA(CA) Sem. I	**CA-101-Business Communication**	CO1 To understand what is the role of communication in personal and business world CO2 To understand system and communication and their utility CO3 To develop proficiency in how to write business letters and other communications in required
	CA-102 Principle of Management	CO1 To understand basic concept regarding org. Business Administration CO2 To examining how various management principles CO3 To develop managerial skills among the students
	CA-103-C language	CO1 Learn the basic and introduction of computer, structure of c and control structure CO2 Know arrays, arrays types, string handling functions. CO3 Understand user defined functions, categories of function and recursion, structures and unions. CO4 Know the concept pointers, fire handling, input output operations. CO5 Able to use the classification of data structure about abstract data Type, stack and queue
	CA-104–Database Management System	CO1 Able to master the basic concepts & understand the application of database. CO2 Able to construct an Entity-Relationship

		(E-R) model from specification & to transform to relational model. CO3 Understand & apply database normalization principles. CO4 Understand the principle of database transaction management, database recovery, security.
	CA-105-Staticitics	CO1 To understand role and importance of statistics in various business situations CO2 To develop skills related with basic statistical technique CO3 Develop right understanding regarding regression, correlation and data interpretation
F.Y.BBA(CA) Sem. 1I	**CA-201– Organization behavior & HRM**	CO1 To understand basic concept of HRM & OB CO2 To make aware students about traditional & modern methods of procurement & development in organization. CO3 To know the major trends in HRM & OB
	CA-202-Financial Accounting	CO1 To develop right understanding regarding role and importance of monetary and financial transactions in business CO2 To cultivate right approach towards classifications of different transactions and their implications CO3 To develop proficiency preparation of basic financial as to how to write basis accounting statement - Trading and P&L
	CA-203–Business Mathematics	CO1 To understand role and importance of Mathematics in various business situations and while developing software. CO2 To develop skills related with basic mathematical technique
	CA-204–Relational Database	CO1 Enables students to understand relational database concepts and transaction management concepts in database system. CO2 ii) Enables student to write PL/SQL programs that use: procedure, function, package, cursor and trigger.

	CA-205–Web Technology HTML-JS-CSS	CO1 To know & understand concepts of internet programming. CO2 ii) To understand how to develop web based applications using JavaScript.
S.Y.BBA(CA) Sem. 1II	**CA-301-Digital Marketing**	CO1 The aim of this syllabus is to give knowledge about using digital marketing in and as business. CO2 To make SWOT analysis, SEO optimization and use of various digital marketing tools
	CA-302-Data structure	CO1 To understand the concepts of ADTs CO2 To learn linear data structures – lists, stacks, and queues CO3 To understand sorting, searching and hashing algorithms CO4 To apply Tree and Graph structures
	CA-303-Software Engineering	CO1 To understand System concepts. CO2 To understand Software Engineering concepts. CO3 To understand the applications of Software Engineering concepts and Design in Software development
	CA-304-Angular JS	CO1 By the end of this course, the students should be able to Understand Client Side MVC and SPA CO2 Explore AngularJS Component CO3 Develop an AngularJS Single Page Application CO4 Create and bind controllers with Javascript CO5 Apply filter in AngularJS application
	CA-305-Big Data	CO1 To enable learners to develop expert knowledge and analytical skills in current and developing areas of analysis statistics, and machine learning CO2 To enable the learner to identify, develop and apply detailed analytical, creative, problem solving skills. CO3 Provide the learner with a comprehensive platform for career development, innovation and further study.
S.Y.BBA(CA) Sem. 1V		CO1To gain knowledge about Computer Networks concepts. CO2 To know about working of networking

	CA-401-Networking	models, addresses, transmission Medias and connectivity devices. CO3 To acquire information about network security and cryptography.
	CA-402-Object Oriented concept through CPP	CO1 Acquire an understanding of basic object-oriented concepts and the issues involved in effective class design. CO2 Enable students to write programs using C++ features like operator overloading, constructor and destructor, inheritance, polymorphism and exception handling
	CA-403-Operating System	CO1 To know the services provided by Operating System CO2 To know the scheduling concept CO3 To understand design issues related to memory management and various related algorithms. CO4 To understand design issues related to File management and various related algorithms
	CA-404-Node JS	CO1 Understand the JavaScript and technical concepts behind Node JS CO2 Structure a Node application in modules CO3 Understand and use the Event Emitter CO4 Understand Buffers, Streams, and Pipes CO5 Build a Web Server in Node and understand how it really works CO6 Connect to a SQL or Mongo database in Node
T.Y.BBA(CA) Sem. V	**CA-501-Java Programming**	CO1 Design and implement Applet and event handling mechanisms in programs CO2 Apply object oriented programming concepts in problem solving through JAVA.
	CA-502-Web Technology	CO1 Conceptualize and plan an internet-based business that applies appropriate business models and web technologies. CO2 Combine multiple web technologies to create advanced web components. CO3 Design websites using appropriate security principles, focusing specifically on the

		vulnerabilities inherent in common web implementations. CO4 Incorporate best practices in navigation, usability and written content to design websites that give users easy access to the information they seek.
	CA-503-.Net Programming	CO1 Student learns to develop applications using VB.NET CO2 They will also learn to apply these languages to develop server-side applications which make use of ADO.NET, ASP.NET, Web Services etc
	CA-504-Object Oriented software engineering	CO1 Evaluate and analyze the SDLC and basic architecture SRS documents. CO2 Help to understand the software design and coding techniques. CO3 Understand the software testing principles. CO4 Understand the concept project management. CO5 Identify various concepts of Advanced UML techniques
T.Y.BBA(CA) Sem. VI	**CA-601 Advanced web technology**	CO1 Employ fundamental computer theory to basic programming techniques. CO2 Use fundamental skills to maintain web server services required to host a website. CO3 Select and apply markup languages for processing, identifying, and presenting of information in web pages. CO4 Use scripting languages and web services to transfer data and add interactive components to web pages. CO5 Create and manipulate web media objects

		using editing software. CO6 Incorporate aesthetics and formal concepts of layout and organization to design websites
	CA-602-Advance Java-	CO1 Apply object oriented programming concepts in problem solving through JAVA. CO2 Design and implement Applet and event handling mechanisms in programs
	CA-603-Recent Trends in IT -	CO1 Students would be able to understand the legal and security issues. CO2 Students would be able to apply the knowledge in compiler design, text and image processing. CO3 The student will be able to define a system and recognize the behavior of a system. CO4 They will be able to minimize a system and compare different systems.
	CA-604 Software Testing	CO1 Investigate the reason for bugs and analyze the principles in software testing to prevent and remove bugs. CO2 Implement various test processes for quality improvement CO3 Design test planning. CO4 Manage the test process CO5 Apply the software testing techniques in commercial environment CO6 Use practical knowledge of a variety of ways to test software and an understanding of some of the tradeoffs between testing techniques

DEPARTMENT OF CHEMISTRY

Semester-I

Class	Course Title	Course Outcomes
		Students of the First Year B. Sc. Chemistry (2019 CBCS Pattern) are excepted
F.Y.B.Sc. (CBCS Pattern)	**CH-101: Physical Chemistry Paper-I**	CO1 To learn the principle of thermodynamic & calculation of different types of energies. CO2 To understand exothermic and endothermic reactions, third law of thermodynamics and its application. CO3 Understand the concept of different salts and their pH value, preparation of Buffer solution. CO4 Understand the concept of common ion effect Hydrolysis constant, ionic product, solubility product.
F.Y.B.Sc. (CBCS Pattern)	**CH-102: Organic Chemistry Paper-II**	CO1 To understand the fundamentals, principles. Students will learn Fundamentals of organic chemistry. CO2 To understand the stereochemistry (Conformations, configurations and nomenclatures). CO3 To enhance the knowledge related to Functional groups. CO4 To understand functional group approach for aliphatic hydrocarbons.
F.Y.B.Sc. (CBCS Pattern)	**CH-103: Practical Chemistry Paper-III**	CO1 To learn importance of chemical safety and Lab safety while performing experiments in laboratory. CO2 To learn about determination of thermo chemical parameters and related concepts. CO3 Understand techniques of pH measurements and preparation of buffer solutions. CO4 To learn elemental analysis of organic compounds and chromatographic techniques for separation of constituents of mixtures.

Semester-II

Class	Course Title	Course Outcomes
		Students of the First Year B. Sc. Chemistry (2019 CBCS Pattern) are excepted
F.Y.B.Sc. (CBCS Pattern)	**CH-201: Inorganic Chemistry Paper-I**	CO1 To learn various theories and principles applied to revel atomic structure. Significance of quantum chemistry. CO2 To explain rules for filling electrons in various orbitals- Aufbau principle, Pauli Exclusion Principle, Hund's rule of maximum multiplicity and Electronic configuration. CO3 To classify elements as main group, transition and

		inner transition elements. CO4 To write name, symbol, electronic configuration, trends and properties. CO5 To define various types of chemical bonds- Ionic, covalent, coordinate and metallic bond. CO6 To describe VBT and its application and also the need of VSEPR theory.
F.Y.B.Sc. (CBCS Pattern)	**CH-202: Analytical Chemistry Paper-II**	CO1 To understand concept of mole concentrations and various units of concentrations which will be helpful for preparation of solution. CO2 To understand stoichiometric calculation, Units such as ppm, ppb, ppt, density and specific gravity study. CO3 To learn basics of chromatography and its types. CO4 To understand measurement, working and application of pH meter. CO5 To learn separation, classification and determination of binary mixture.
F.Y.B.Sc. (CBCS Pattern)	**CH-203: Practical Chemistry Paper-III**	CO1 To understand Inorganic volumetric analysis and synthesis of Inorganic compounds. CO2 To understand analysis of commercial products. CO3 To learn about preparations and purification of organic compounds.

Semester-I

Class	Course Title	Course Outcomes
S.Y.B.Sc.	**CH-301: Physical & Analytical Chemistry Paper-I**	CO1 To determine rate of reaction, order of reaction, techniques and solve problem related to it. CO2 To understand concepts in photochemistry, types , quantum yield and are able to solve numerical problems CO3 To understand concepts of distribution law, its thermodynamic proof, application and extraction theory. CO4 To learn sampling techniques, chemical analysis and application. CO5 To learn different errors and deviation useful in chemical determination and analysis. CO6 To develop skill in quantitative analysis, detection of different radicals, interfering ions and removal, common ion effect.
	CH-302: Inorganic & Organic Chemistry Paper-II	CO1 To learn stereochemistry, different conformations of cyclohexane and comparison of stability. Baeyer's strain theory and stability of conformations. CO2 To learn types of reagents, organic reactions, Mechanism of Aldol condensation, Markonikov's and anti-Markonikov's addition, Saytzeff and Hoffmann elimination,

		SN1 and SN2 reactions and Hofmann rearrangement. CO3 To learn principles and process of metallurgy, difference between ore and minerals, calcination and roasting and smelting, methods for separation. CO4 To understand electrolysis of alumina and its refining, Aluminium and its alloys, purification of bauxite ore. CO5 To learn pyrometallurgy, physico chemical principles, different reactions in the blast furnace, properties of pig iron and wrought iron, methods for preparation of steel, their merits and demerits. CO6 Meaning of corrosion and passivity, types and factors affecting corrosion, prevention of metal from corrosion, theories of passivity.

Semester-II

Class	Course Title	Course Outcomes
S.Y.B.Sc.	**CH-401: Physical & Analytical Chemistry Paper-I**	CO1 To understand the concept of free energy , types and relation of free energy with other thermodynamic parameters, Chaperon equation, Clauses Chaperon equation and numerical problems CO2 To know different types of solution and understand vapors composition diagram, zoetrope's and able to solve numerical. CO3 To understand volumetric analysis, preparation of solution of different concentrations, calibration of glassware. CO4 To know the importance of indicators, types of titration and estimation by different methods.
	CH-402: Inorganic & Organic Chemistry Paper-II	CO1 To understand concept of different reagents used in the one type of conversion, Merits & demerits of different reagents, Reagent based mechanisms and Use of different hydrogen donors for hydrogenation. CO2 To define and classify heterocyclic compounds, Use Huckel rule to predict aromaticity, suggest synthetic route for preparation of various heterocyclic compounds and Write and complete various reactions of heterocyclic compounds as well as predict products. CO3 To know importance of biochemistry, reactions of glucose, principle in Killani Fischer synthesis, stereoisomerism in monosaccharide, phenomenon of mutarotation, structure and bonding in maltose, lactose, cellobiose and sucrose, classification and structure of amino acids. CO4 To study d-block elements, physical and chemical

		properties and trends observed in the elements. CO5 To know the organ metallic compounds, metal-carbon bond, multiple bonding in CO, synthesis of binary metal carbonyls, 18 electron rule, catalytic properties and applications.
	CH-403: Practical Chemistry Paper-III	CO1 To verify theoretical principles by performing experiments CO2 To interpret the experimental data and obtain conclusions. CO3 To improve analytical skills while performing practicals. CO4 To correlate the theory with experiments and understand their importance.

Semester-III

Class	Course Title	Course Outcomes
T.Y.B.Sc.	**DSEC-I: CH-501: Physical Chemistry- I**	CO1 Know historical of development of quantum mechanics in chemistry. CO2 Understand and explain the differences between classical and quantum mechanics. CO3 Understand the idea of wave function CO4 Understanding of De Broglie hypothesis and the uncertainty principle CO5 Understand the term additive and constitutive properties. CO6 Understand the term specific volume, molar volume and molar refraction. CO7 Understand the meaning of electrical polarization of molecule, induced and orientation polarization. CO8Dipole moment and its experimental determination by temperature variation method. CO9 Electromagnetic spectrum, Nature of wave and its characteristics such as wavelength, wave number, frequency and velocity, Energy level diagram, CO10 Difference between thermal and photochemical processes. CO11 photochemical laws: Grothus - Draper law, Stark-Einstein law, CO12 Quantum yield and reasons for high and low

		quantum yield, CO13 factors affecting the quantum yield, CO14 Experimental method for the determination of quantum yield
T.Y.B.Sc.	**DSEC-I: CH-502: Analytical Chemistry- I**	CO1 Define basic terms in gravimetry, spectrophotometry, qualitative analysis and parameters in instrumental analysis. Such as: Gravimetry, precipitation, solubility product, ionic product, common ion effect, precipitating agent, washing of ppt., drying and ignition of ppt., linearity range, detection limit, precision, accuracy, Sensitivity, Selectivity, Robustness and Ruggedness, electromagnetic radiations, spectrophotometry, Beers law, absorbance, transmittance, molar absorptivity, monochromator, wavelength of maximum absorbance metal ligand ration, qualitative analysis, group reagent, dry tests, wet test, confirmatory test, precipitation, thermogravimetry, thermogram, percent wt. loss, differential thermal analysis, etc. CO2 Identify important parameters in analytical processes or estimations. Example: minimum analyte concentration in particular method, reagent concentration in particular analysis (gravimetry, spectrophotometry, thermogravimetry), reagent for particular analysis, reaction condition to convert analyte into measurable form, drying and ignition temperature for ppt in gravimetry, heating rate thermogravimetry, wavelength in spectrophotometry, group reagent, removal borate and phosphate in qualitative analysis, etc. CO3 Explain different principles involved in the gravimetry, spectrophotometry, parameters in instrumental analysis, qualitative analysis. CO4 Perform quantitative calculations depending upon equations student has studied in the theory. Furthermore, student should able to solve problems on the basis of theory. CO5 Discuss / Describe procedure for different types analyses included in the syllabus. CO6 Select particular method of analysis if analyte sample is given to him.
	DSEC-I: CH-	CO1 Explain electroneutrality principle and different types

	503: Physical Chemistry Practical - I	of pi bonding. CO2 Able to explain Nephelauxetic effect towards covalent bonding. CO3 Explain MOT of Octahedral complexes with sigma bonding CO4 To understand about inert and labile complexes and stability of complexes in aqueous solutions CO5 Classification of reactions of coordination compounds CO6 The basic mechanisms of ligand substitution reactions. CO7 Substitution reactions of square planer complexes.
	DSEC-I: CH-504: Inorganic Chemistry - I	
	DSEC-II: CH-505: Industrial Chemistry - I	CO1 Importance of chemical industry, CO2 Meaning of the terms involved, CO3 Comparison between batch and continuous process CO4 Concept of basic chemicals, CO5 Their uses and manufacturing process. CO6 They should also know the physico-chemical principals involved in manufacturing process CO7 Importance of sugar industry, CO8 Manufacture of direct iii. Consumption (plantation white) sugar with flow diagram. CO9 Cane juice extraction by various methods,.
	DSEC-II: CH-506: Inorganic Chemistry Practical - I	CO1 To understand gravimetric and volumetric analysis of ores and alloy. CO2 To prepare a various inorganic complex and determine its % purity. CO3 To study binary mixture with removal of borate and phosphate CO4 To understand inorganic Qualitative analysis of mixture containing borates and phosphates. CO5 To visit a chemical industry.
	DSEC-III: CH-507: Organic Chemistry - I	CO1 Define and classify polynuclear and hetreonuclear aromatic hydrocarbons. CO2 Write the structure, synthesis of polynuclear and hetreonuclear aromatic hydrocarbons. CO3 Understand the reactions and mechanisms

		CO4 Explain the reactivity of polynuclear and hetreonuclear aromatic hydrocarbons. CO5 Describe the synthesis of chemical reactions of polynuclear and hetreonuclear aromatic Hydrocarbons.
	DSEC-III: CH-508: Chemistry of Biomolecules	**CO1 Introduction to molecular logic of life.** The student will understanding of Cell types, Difference between a bacterial cell, Plant cell and animal cell. Biological composition and organization of cell membrane, structure and function of various cell organelles of plant and animal cell. Concepts of biomolecules, Bonds that link monomeric units to form macromolecules CO2 **Carbohydrates:** The student will understand the types of carbohydrates and their biochemical significance in living organisms, structure of carbohydrates and reactions of carbohydrates with Glucose as example. Properties of carbohydrates. CO3 **Lipids:** The student needs to know the types of lipids with examples, structure of lipids, properties of lipids
	DSEC-III: CH-509: Organic Chemistry Practical-I	**A) Separation of Binary Mixtures and Qualitative Analysis The students will be able to** CO1 Perform the quantitative chemical analysis of binary mixture, explain principles behind it. CO2 Separate, purify and analyse binary water insoluble mixture. CO3 Separate, purify and analyse binary water-soluble mixture. CO4 Understand the techniques involving drying and recrystallization by various method. CO5 Familiarize the test involving identification of special elements. CO6 Learn the confirmatory test for various functional groups. **B) Preparations The students will be able to** CO1 Systematic working skill in laboratory will be imparted in student. CO2 Learn the basic principles of green and sustainable chemistry. CO3 Synthesis of various organic compounds through greener approach. CO4 Do and understand stoichiometric calculations and relate them to green process metrics.

		CO5 Learn alternative solvent media and energy sources for chemical processes. CO6 Learn the preparations of derivative various functional groups aspects of electrical experiments. CO7 Understand the techniques involving drying and recrystallization by various method
	CH-510 (B) : Polymer Chemistry	CO1 History of polymers. CO2 Difference between simple compounds and polymer. CO3 Names of polymers. CO4 Various ways of nomenclature. CO5 Difference between natural, synthetic, organic and inorganic polymers. CO6 Terms-Monomer, Polymer, Polymerization, Degree of polymerization, Functionality, Number average, Weight average molecular weight. CO7 Mechanisms of polymerization. CO8 Polymerization techniques. CO9 Uses & properties of polymers
	SEC-II: CH-511: Skills Enhancing Course-II **CH-511 (A) : Environmental Chemistry**	CO1Students should know: i. Importance and conservation of environment. ii. Importance of biogeochemical cycles CO2 Students should know: i. Water resources ii. Hydrological Cycle iii. Organic and inorganic pollutants iv. Water quality parameters

Semester-IV

Class	Course Title	Course Outcomes
T.Y.B.Sc.	**DSEC-IV: CH-601 : Physical Chemistry-II**	CO1 Electrochemical cells: Explanation of Daniell cell, Conventions to represent electrochemical cells CO2 Thermodynamic conditions of reversible cell, Explanations of reversible and irreversible electrochemical cell with suitable example, CO3 EMF of electrochemical cell and its measurement. After studying this topic students are expected to know and understand: CO1 Distinguish between crystalline and amorphous

		solids / anisotropic and isotropic solids. CO2 Explain the term crystallography and laws of crystallography. CO3 Weiss and Millers Indices, determination of Miller Indices CO4 Bravais lattices, space groups, seven crystal systems and fourteen Bravais lattices;
	DSEC-IV: CH-602 : Physical Chemistry-III	CO1 Meaning of the terms-Solution, electrolytes, nonelectrolytes and colligative properties, CO2 Lowering of vapour pressure of solvent in solution, CO3 Elevation of B.P. of solvent in solution, Landsberger's method, CO4 freezing point depression, Beckmann's method Osmosis and Osmotic pressure, Berkeley and Hartley method, CO5 Application of colligative properties to determine molecular weight of nonelectrolyte, abnormal molecular weight,
	DSEC-V: CH-604 : Inorganic Chemistry -II	CO1 To understand M-C bond and to define organometallic compounds CO2 To define organometallic chemistry CO3 To understand the multiple bonding due to CO ligand. CO4 To know methods of synthesis of binary metal carbonyls. CO5 To understand the structure and bonding using valence electron count (18 ele. rule) CO6 Understand the phenomenon of catalysis, its basic principles and terminologies. CO7 Define and differentiate homogeneous and heterogeneous catalysis.
	DSEC-V: CH-605: Inorganic Chemistry -III	CO1 Student will learn the concept of acid base and their theories. CO2 They will also come to know different properties of acids and bases. CO3 Strength of various types acids. CO4 How acid and base strengths get affected in non-aqueous solvents.

		CO5 Different Zeolite Framework Types and their classification CO6 Zeolite synthesis and their structure CO7 Know the nature of solids. .
	DSEC-VI: CH-607: Organic Chemistry-II	CO1 Students will learn the principle of mass spectroscopy, its instrumentation and nature of mass spectrum. CO2 Students will understand the principle of UV spectroscopy and the nature of UV spectrum. They will learn types of electronic excitations. CO3 Students will be able to calculate maximum wavelength for any conjugated system. And from the value of λ-max they will be able to find out the extent of conjugation in the compound. CO4 Students will understand the principle of IR spectroscopy, types of vibrations and the nature of IR spectrum. CO5 From the IR spectrum, they will be able to find out IR frequencies of different functional groups. And thus, they will be able to find functional groups present in the compound.
T.Y.B.Sc.	**SEC-III: CH-610: Skill Enhancing Course-III**	CO1 Know the different components and properties of soil. CO2 Know classification of soil on the basis of pH. CO3 Identify the problematic soil and recommend method for their reclamation. CO4 Know the different plant nutrients required for plants and their functions. CO5 Know the role of various fertilizers and manures required for plant growth.
	DSEC-I: CH-503: Physical Chemistry Practical - I	CO1 To determine rate constant, strength of acid, order of reaction, energy of activation CO2 To understand the variation of mutual solubility temperature with %concentration, effect of impurity on critical point. CO3 To verify Langmuir and Freundlich adsorption isotherm, determine the molecular weight of polymer by using Ostwald viscometer CO4 To handle different instrument like pH meter,

		conductivity meter, potentiometer, colorimeter etc. and are able to determine different parameters. CO5 To determine specific refractivity, molar refractivity using Abbe's Refract meter CO6 To determine the transport number of cation by moving boundary method.
	DSEC-II: CH-606: Inorganic Chemistry Practical - I	CO1 To understand gravimetric and volumetric analysis of ores and alloy. CO2 To prepare a various inorganic complex and determine its % purity. CO3 To study binary mixture with removal of borate and phosphate CO4 To understand inorganic Qualitative analysis of mixture containing borates and phosphates. CO5 To visit a chemical industry CO6 To understand gravimetric and volumetric analysis of ores and alloy. CO7 To prepare a various inorganic complex and determine its % purity. CO8 To study binary mixture with removal of borate and phosphate CO9 To understand inorganic Qualitative analysis of mixture containing borates and phosphates. CO10 To visit a chemical industry.
	DSEC-III: CH-609: Organic Chemistry Practical-I	CO1 To understand quantitative estimation of organic compounds from the given sample solution. CO2 To learn synthesis of organic compounds and checking their purity. CO3 To perform qualitative analysis of binary mixture and identification of components by performing different kinds of reactions on them.
M.SC-I	CCTP-1: CHP-110, Physical Chemistry-I, Semester - I	CO1 Understand and explain the differences between classical and quantum mechanics. CO2 Understand the idea of wave function CO3 Understanding of De Broglie hypothesis and the uncertainty principle CO4 Understand the term additive and constitutive properties. CO5 Understand the term specific volume, molar volume molar refraction.

	CCTP-2: CHI-130, Inorganic Chemistry-I	CO1 Student should visualize/ imagine molecules in 3 dimensions. CO2 To understand the concept of symmetry and able to pass various symmetry elements through the molecule. CO3 Understand the concept and point group and apply it to molecules. CO4 To understand product of symmetry operations. CO5 To apply the concept of point group for determining optical activity and dipole moment
	CCTP-3:CHO-150, Organic Chemistry-I	CO1 To understand some fundamental aspects of organic chemistry, to learn the concept aromaticity, to understand the various types of aromaticity CO2 To study heterocyclic compound containing one and two hetero atoms with their structure, synthesis and reactions. CO3 To know stereochemistry of organic compounds; able to do interconversion of Fischer to Newmann, Newmann to Sawhorse and vice versa, Able to assign R and S to given molecules; understand stereoselective and stereospecific reactions; acquire knowledge on topicity. CO4 To study structure, formation, stability and related name reaction of intermediates like Carbocation, Carbanion, Free Radical, Carbenes and nitrenes; Recognize neighboring group participation CO5 To study rearrangement reaction with specific mechanism and migratory aptitude of different groups. CO6 To study Ylides and their reaction. CO7 To understands the basis of redox reaction; acquire knowledge about the reagents which causes selective oxidation / reduction in various compounds; learn the basic mechanism of oxidation / reduction in organic compounds.
	CBOP-1: CHG – 190, General Chemistry-I	CO1 Electronic conductivity CO2 Semiconductors, photoconductivity CO3 Non-stoichiometry, defects and types of defects in solids CO4 Ionic conductivity and their applications CO5 Superconductivity and theory of superconductivity
	CCTP-4: CHP-210, Physical Chemistry-II, Semester - II	CO1 Understand and explain the differences between classical and quantum mechanics. CO2 Understand the idea of wave function CO3 Understanding of De Broglie hypothesis and the uncertainty principle CO4 Understand the term additive and constitutive

		properties. CO5 Understand the term specific volume, molar volume molar refraction.
	CCTP-5: CHI-230,Inorganic Chemistry, Semester – II	CO1 Should able to solve numerical based on crystal field parameters. CO2 Understand the various terms involved in magnetochemistry. CO3 Various phenomenons of magnetism and their temperature dependence. CO4 Various experimental methods to find out magnetic moment. CO5 Understand the various Quenching of orbital angular momentum CO6 Understand the concept of spectro chemical series and Nephelauxetic series
	CCTP-6:CHO – 250, Organic Chemistry-II,	CO1 Students should able to understand free radicals' formation, stability and reactivity and should also be able to use the basic understanding in writing probable reaction mechanisms. CO2 Students should able to write MO diagram for various olefinic compounds and should able to predict the products, the stereochemistry as well as should able to understand the preferred reaction pathways. CO3 Students should able to calculate □ □ max of organic compounds containing more than one and less than four conjugated systems. Students should able to correlate IR bands with functional groups using numerical data as well as spectral data. CO4 Students should able to solve 1H-NMR problems and should also able to draw the 1H-NMR spectrum for simple organic compounds mentioning multiplicity pattern and coupling constant with the help of "Tree Diagram" Should able to predict and analyze the multiplicity patterns with more than one coupling constants.
	CBOP-2: CHG – 290, General Chemistry -II,	CO1 Students will be able to explore new areas of research in both chemistry and allied fields of science and technology.

		CO2 Students will be able to function as a member of an interdisciplinary problem solving team. CO3 To impart the students thorough idea in the chemistry of carbohydrates, amino acids, proteins and nucleic acids etc. CO4 Be able to describe the chemical basis for replication, transcription, translation and how each of these central processes can be expanded to include new chemical matter. CO5Develop skills to critically read the literature and effectively communicate research in a peer setting. CO6Describe the importance of chemical biology research and interdisciplinary work.
	CCPP-1: CHP-107: Practical Course – I: Semester -I	CO1 Students are trained to different purification techniques in organic chemistry like recrystallization, distillation, steam distillation and extraction. CO2 Students are made aware of safety techniques and handling of chemicals CO3 Students are made aware of carrying out different types of reactions and their workup methods. CO4 This practical course is designed to make student aware of green chemistry and role of green chemistry in pollution reduction
	CCPP-2: CHP-227: Practical Course-II: Semester -II	CO1 The course includes synthesis of some derivatives and organic compounds, which will help them while working in research laboratory in future. CO2 Making derivatives of organic compounds will help them in industry or while doing research in medicinal chemistry for Drug development. CO3 This practical course is also designed to make student aware of green chemistry and role of green chemistry in pollution reduction. CO4 The students learn how to avoid solvents and do solvent free reaction. CO5 Also the work-up procedure in many experiments is made more eco-friendly to

DEPARTMENT OF PHYSICS

Sr No.	**Course Name**	**Course Code**	**Course Outcomes**
F.Y.B.Sc Semester-I	Mechanics & Properties of Matter	PHY -111	CO1 To utilize basic properties of materials such as elastic & Poisson's radio. CO2 Determine the deflection & deformation of equation.
	Physics Principles & Applications	PHY -112	CO1 To know units of pressure, temperature, density & mass. CO2 Calculate changes in kinetic & potential energy. CO3 To define heat, work & temperature. CO4 Study of Diesel & Otto cycles & Isothermal & Adiabatic process.
Semester-II	Heat & Thermodynamics	PHY-121	CO1 To know units of pressure, temperature, density & mass. CO2 Calculate changes in kinetic & potential energy. CO3 Calculate absolute temperature & pressure. CO4 To able to state fist law of thermodynamics.
	Electricity & Magnetism	PHY-122	CO1 Describe & explain the behavior of permanent magnets including induced magnetism. CO2 Describe how magnetic fields arise from moving charges. CO3 Explain magnetization and demagnetization of ferromagnetic material in terms of magnetic domain.
S.Y.B.Sc Semester-III	Mathematical Methods in Physics-I	PHY-231	CO1 Use of complex analysis in solving physical problems. CO2 To solve ordinary & partial differential equation. CO3 Use of orthogonal polynomials. CO4 Use of special functions, Green's Function & calculus variable.
	Electronics	PHY-232(A)	CO1 The current voltage of semiconductor device. CO2 Design & analyzed of electronic circuit. CO3 Evaluate frequency response to

			understand behavior of electronic circuit. CO4 Developed a digital logic & apply it to solve real life problem.
Semester-IV	Oscillations, Waves & Sound	PHY-241	CO1 Be able to recognize & use a mathematical oscillator equations& wave equation & derive the equation for certain system. CO2 Describe &calculate what happens when waves move from one medium to another & be able to explain dispersion and group & phase, velocity.
	Optics	PHY-242	CO1 Describe the optical principle of thick lens & optical aberration. CO2 Apply Fourier analysis to describe optical phenomena. CO3 Solve problem in optics by selecting the appropriate equation & performing numerical or analytical calculations. CO4 To perform laboratory experiment in optics.
T.Y.B.Sc Semester-I	Mathematical Methods in Physics-II	PHY-351	CO1 Use of complex analysis in solving physical problems. CO2 To solve ordinary & partial differential equation. CO3 Use of complex variables. CO4 Use of vector algebra, study of vector properties & vector analysis.
	Electrodynamics	PHY-352	CO1 Describe the nature of electromagnetic wave. CO2 The ability to use electric field due to current distribution. CO3 To analyzing the electromagnetic field due to time varying charge. CO4 To explain the charge particles & radiation.

	Classical Mechanics	PHY-353	CO1 To utilize basic properties of materials such as elastic & Poisson's ratio. CO2 Determine the deflection & deformation of equation. CO3 Analysis of of composite beams & shaft.
	Atomic & Molecular Physics	PHY-354	CO1 The ability to describe different types of atomic & molecular spectra & related instruments. CO2 Understanding rotational, vibration, electronic & Raman spectra of molecules. CO3 Describe electron spin & nuclear magnetic resonance spectroscopy.
	Computational Physics	PHY-355	CO1 To learn the basic of scientific numerical simulation & modeling. CO2 To learn how to interpret & analyze dada visually both during & after computation. CO3 To learn through direct experience the use of scientific work stations in thinking creatively& solving problems.
	Material Science	PHY-356-B	CO1 Student should understand the mechanism of interaction of various types of radiation with matter. CO2 Student should study the application of radiation in various fields. CO3 Students should get acquainted with principles of measurements,radiation levels.
	Energy Studies	PHY-3510 SEC (I)	CO1 Students become capable of conducting energy audits and give consultancy in that field. CO2 Students can design different types of solar heaters for small domestic as well as large scale community level applications. CO3 Students acquire skills to implement solar P-V systems at domestic levels as well as for office

			premises and educational institutions.
	Physics Workshop Skill	PHY-3511 SEC (L)	CO1 To create Awareness among the students about the mechanical, electrical tools through hands on activity. CO2 These course introduces the students to the workshop skill. CO3 After completing these course student will gain skills of using various Workshop tools and also to find faults.
	Solid State Physics	PHY-361	CO1 Acquire basic concepts about crystalline lattices. CO2 Understand origin of energy bands in solid. CO3 Understand importance of dynamics of electrons in conductance properties of materials. CO4 Understand importance of crystalline order in solid. CO5 Understand importance of quantum behavior of electrons in metals.
Semester-II	Quantum Mechanics	PHY-362	CO1 To apply the variation method. CO2 To solve time dependent & independent Schrodinger equation. CO3 Combine Spin & angular moments. CO4 Apply perturbation theory to solve simple problems.
	Thermodynamics & Statistical Physics	PHY-363	CO1 To know units of pressure, temperature, density & mass. CO2 Calculate changes in kinetic & potential energy. CO3 Calculate absolute temperature & pressure.

			CO4 To able to state fist law of thermodynamics.
	Nuclear Physics	PHY-364	CO1 The ability to describe different types of atomic & molecular spectra & related instruments. CO2 Astro-particle physics studies of elementary particles. CO3 Describe electron spin & nuclear magnetic resonance spectroscopy.
	Electronics/Advanced Electronics	PHY-365	CO1 The ability to describe different types of atomic & molecular spectra & related instruments. CO2 Astro-particle physics studies of elementary particles. CO3 Describe electron spin & nuclear magnetic resonance spectroscopy.
	Laser	PHY-366(K)	CO1 To develop research & technology outcomes. CO2 To develop & construct laser based machining center. CO3 Latest development in scanner technology. CO4 Use in drilling, cutting, military, medical, industry etc.
	Solar PV System: Installation, Repairing and Maintenance	PHY-3610 SEC (X)	CO1 Learn basics of light conversion in electricity. CO2 Hands on training will motivate to use Solar PV system. CO3 Become entrepreneur / self-employed. CO4 Analyzed of MSEB electricity bill and design and sizing of off-grid PV system CO5 Participants will learn about solar PV module and batteries used in solar PV plant.

	Radiation Physics	PHY-3611 SEC (AC)	CO1 Students can use the knowledge in the applications of Radiation Physics in the fields like radio carbon dating, medical diagnostic tools. CO2 Students acquire skill in operating different types of radiation detectors to detect and measure radiation levels in different places. CO3 Students can work as advisers in maintenance of radiation safety standards and following of strict protocols at various places like Hospitals, Industry, and Laboratories etc. CO4 Students become able to employ their skills to develop applications of radio activity in the fields like agriculture, industry, hospitals etc.

DEPARTMENT OF MICROBIOLOGY
SEM - I

Class	Name of Paper	Subject code	Course wise Outcomes
F.Y.B.Sc	Introduction to Microbial World	MB 111	CO1 Students learnt the scientific methods and understood that the history of science is the embodiment of scientific knowledge. CO2 As an introductory part of Microbiology, students got the basic ideas and practices from the contribution of several Microbiologists in the field of microbiology. CO3 They come to know about the various diverse organism of microbial world like algae, fungi, protozoa and their general characteristics and importance. CO4 They got knowledge about DNA ,its structure, its replication and its function
	Basic Techniques	MB 112	CO1 Students got knowledge about Structure

	in Microbiology		,Working, Microscope, its Properties & Role CO2 Students gained knowledge about various Staining techniques CO3 They got information about various types of Stains CO4 Students understood the importance of Sterilization & Disinfection CO5 They learned the types of Sterilization & Disinfection
	Practical course based on Paper I & Paper II	MB 113	CO1 Students were able to perform various staining techniques CO2 Students were introduced to various instruments used in Microbiology laboratory
S.Y.B.Sc	Medical Microbiology and Immunology	MB 231	CO1 Students known about various Blood Group CO2 They gained knowledge about Formation of Blood cells
	Bacterial Physiology and Fermentation technology	MB 232	CO1 Students came across new fermented products such as Cheese,Vitamin,etc CO2 Students got the knowledge about fermentation industry
	Practical course based on Paper I & Paper II	MB 233	CO1 Students studied the biochemical characterization of bacteria CO2 Students known about the industrially important microorganisms
T.Y.B.Sc	Medical Microbiology I	MB 351	CO1 Understand the human anatomy, pathogens associated with diseases. CO2 Acquired knowledge of principles underlying establishment of pathogens in human body. CO3 Gain knowledge of clinical trials of drugs and vaccines.. CO4 Develop identification systems for microbial disease diagnosis, disease treatment and prevention measures.
	Immunology I	MB352	CO1 Understand immune system structure, composition, function and comparison of different types of immunity. CO2 Acquire knowledge about antigens, Recognition of pathogens; antigen processing and presentation; Immunity to infection and pathological consequences of immuno deficiencies.

			CO3 Understand abnormal working of Immune system in hypersensitivity, auto immune diseases, immune tolerance and transplantation immunology. .
	Enzymology	MB353	CO1 To understand methods of active site determination, role of enzymes and its cofactors in microbial physiology. CO2 To learn to perform enzyme assay, purification and quantification of enzymes activity, enzyme kinetics in terms of initial, final velocity, mathematical expression of enzyme kinetic parameters. CO3 To correlate regulation of metabolism at enzymatic levels and apply, methodology for commercial applications of enzymes
	Genetics	MB354	CO1 To exhibit a knowledge base in Genetics and Molecular Biology CO2 To understand the central dogma of Molecular Biology CO3 To construct genetic map of bacteria and fungi
	Fermentation technology I	MB 355	CO1 To impart technical understanding of commercial fermentations. CO2 To apply classical, advanced strain improvement and isolation techniques for fermentation processes. To optimize and sterilize media used in fermentation industry for commercially economical and efficient fermentations. CO3 To recover the product using suitable methods and ensuring quality of the finished product by quality assurance tests. CO4 To acquaint fermentation economics, process patentability, process validation.
	Agriculture Microbiology	MB 356	CO1 To understand plant growth improvement with respect to disease resistance, environment tolerance. CO2 To correlate stages of plant disease development, epidemiology and symptom based

			classification, control methods. CO3 To understand the importance of microorganisms in sustainable agriculture, biotechnological application of bio films, edible vaccines. CO4 To correlate Soil Micro biome and Role of microorganisms in soil health CO5 To determine the use of Microorganisms as tools in plant genetic engineering.
	Marine Microbiology	MB 3510	CO1 To impart the awareness of unseen and unexplored niche of marine ecosystem of microbes. CO2 To acquire advances in the knowledge of marine microbes and marine ecology. CO3 To learn the field research on marine process and laboratory research on microoraganism. CO4 To comprehend the role of marine microbes in bioremediation and bioprospecting . CO5 To avail opportunities in marine equcation, industry and research .
	Dairy Microbiology	MB 3511	CO1 To understand prospects of dairying at commercial marketing. CO2 To acquires skills of processing of milk and dairy products. CO3 To assess quality control in dairy industry. CO4 To comprehend production of dairy product of commercial emphasis to local and global market demand.
	Practical Course I Diagnostic Microbiology and Immunology	MB357	CO1 Students were able to perform blood grouping CO2 They were also able to perform haemoglobin,ESR,PCV,RBC,WBC counting.
	Practical Course II Enzymology and	MB358	CO1 Students were able to perform paper chromatography techniques. CO2 Students able to estimate total carbohydrates,

	Genetics		protein from natural sample.
	Practical Course II Fermentation Technolody I Agricultural Microbiology	MB359	CO1 Students came across about isolation and identification of *Xanthomonasspecies* from *Citruscancker*. CO2 Students known about collection of plant disease specimen and study of symptoms.

Sem II

Class	Name of Paper	Subject code	Course wise Outcomes
F.Y.B.Sc	Bacterial Cell and Biochemistry	MB 121	CO1 Students got familiar with the parts of bacterial cells. CO2 Students got knowledge with classification of bacteria and introduction to bergey's manual
	Microbial Cultivation and Growth	MB 122	CO1 Students well known about the nutritional requirement for the growth of Microorganisms CO2 Students were able to perform different microscopic technologies used in industrial sectors
	Practical Course Based On Paper I and II	MB 123	CO1 Students practiced the method of isolation of microorganisms CO2 Students known about cultivation of microorganisms CO3 Students learned to preserve the microbial cultures
S.Y.B.Sc	Bacterial Genetics	MB 241	CO1 Students became familiar with ii. Types of nucleic acids i.e (DNA and RNAs) CO2 Students understood broadly about Plasmids CO3 They got knowledge about Gene Expression CO4 They understood the mechanism of DNA replication
	Air ,Water and Soil Microbiology	MB 242	CO1 Students understood about the organisms present in Air ,Water And Soil CO2 They understood the Methods of Air sampling and types of air samplers CO3 Students understood the Role of microorganisms in composting and humus formation CO4 Students got brief knowledge about the microorganisms involved in the Biofertilizers,

			Biocontrol agents
	Practical course based on Paper I & Paper II	MB 243	CO1 Students got knowledge about the methods of air sampling CO2 Students got idea of bacteriological test of water
T.Y.B.Sc	Medical Microbiology II	MB 361	CO1 Developed the identification systems for microbial disease diagnosis, disease treatment and prevention measures. CO2 Comprehension of pathogenesis of specific pathogens causing microbial diseases.
	Immunology II	MB 362	CO1 Understand immune system structure, composition, function and comparison of different types of immunity. CO2 Acquire knowledge about antigens, Recognition of pathogens; antigen processing and presentation; Immunity to infection and pathological consequences of immuno deficiencies. CO3 To learn the applications of Immunology in monoclonal antibodies, vaccines production and Immunotherapy. CO4 Understand abnormal working of Immune system in hypersensitivity, auto immune diseases, immune tolerance and transplantation immunology. CO5 To develop strategies for Diagnosis of diseases based on antigen and antibody reactions with emphasis on prevailing communicable diseases.
	Metabolism	MB 363	CO1 To learn mechanisms of transport of solutes across the membrane CO2 To get acquainted with mechanism of biosynthesis and degradation of bio molecules. CO3 To comprehend basic concept of autotrophic mode of metabolism of prokaryotes.
	Molecular Biology	MB 364	CO1 To get introduced to concept of recombination and bacteriophage Genetics. CO2 To understand the concept cloning in bacteria. CO3 To demonstrate the knowledge of common and advanced laboratory practices in Molecular Biology.
	Fermentation	MB	CO1 To impart technical understanding of

	Technology II	365	commercial fermentations. CO2 To comprehend the large scale productions of commercially significant fermentation products of classical and recent significance. CO3 To learn modern trends in microbial production.
	Food Microbiology	Mb 366	CO1 To describe food safety problems and solution in India and global scale. CO2 Identify and classify types of microorganisms in food processing and compare their Characteristics and behavior CO3 To learn food classification based on their perish ability, intrinsic and extrinsic factors affecting the growth of microbes in foods, role of microorganisms in food fermentation. CO4 To acquire knowledge about food spoilage, food borne diseases, predisposition and preventive and control measures. CO5 To apply principles of sanitation, heat treatment, irradiation, modified atmosphere, antimicrobial preservatives and combination of method (hurdle concept) to control microbial growth with emphasis on HACCP guidelines.
	Waste Management	MB 3610	CO1 To understand waste management and it practicable applicability . CO2 To assess the magnitude and influences of hazards content of waste, pollution of water and wastewater technologies. CO3 To learn the design and working of treatment plant and methods used for liquid and solid waste treatment . CO4 To impart the understanding of kinetics of biological systems used in waste water treatment. CO5 To learn the standards of waste management and competent authorities involved at national and international level.
	Nanobiotechnology	MB 3611	CO1 To understand design, development and application of nano material and their application in Nanodevices CO2 To learn fundamentals of nanotechnology as to synthesis and characterization techniques of nanoparticles

			CO3To acquire knowledge of applications of nanomaterials in different disciplines of human life. CO4 To compare the merits of using nanotechnology with existing technologies.
	Practical Course I Diagnostic Microbiology and Immunology	MB 367	CO1 Students known about Double diffusion technique. CO2 Students came across about isolationand identification of yeast and fungle pathogens.
	Practical Course II- Metabolism and Molecular biology	MB 368	CO1 Students known about enzyme production (Screening, Production) CO2 Students able to estimate blood sugar, blood urea, serum cholesterol, serum protein
	Practical Course III Fermentation technology and Food Microbiology	MB 369	CO1 Students came across about enrichment, isolation, preparation and application of bioinoculat. CO2 Students able to detect the aflatoxin.

DEPARTMENT OF BOTANY

Class	Course Name	Course Code	Course Outcomes
Semester-I F.Y.B.Sc	**Plant life & Utilization I**	**BO. 111**	CO1 Know the economic importance of cryptogams. CO2 Identify the diversity of life forms in ecosystem. CO3 Well understand about entire life cycle of different plants. CO4 Easily classify the different plant groups through classification system
	Plant Morphology and Anatomy	**BO.112**	CO1 Well define about vegetative & reproductive structure. CO2 Able to describe morphological characters. CO3 Understand the internal structure of different tissues. CO4 Use of practical knowledge in research purpose.
Semester-II F.Y.B.Sc	**Plant Life And Utilization II**	**BO.121**	CO1 Know the economic importance of higher plants. CO2 Understand the utilization of phanerogams in different fields.

			CO3 Understand the life cycle of cycus&nephrolepis. CO4 Develop the practical knowledge.
	Principles of Plant Science	**BO.122**	CO1 Know the different physiological concepts related to plants. CO2 Understand the phases of plant life cycle. CO3 Students well understand molecular level concepts of plants. CO4 Develop the practical knowledge in students.
S.Y.B.Sc Semester-III	**Taxonomy Of angiosperms & Plant Ecology**	**BO.231**	CO1 Students well understand about ecological groups. CO2 Comparative account among plants families. CO3 Understand the importance of taxonomy & systematic. CO4 To gain proficiency in use of key & identification manuals for identifies any unknown plant species.
	Plant Physiology	**BO.232**	CO1 Acquire the basic knowledge about growth & development in plants. CO2 Understand the relationship of plants with water. CO3 Know the importance of photosynthesis & metabolic processes in plants. CO4 Acquired the practical skills which are useful in research.
S.Y.B.Sc Semester-IV	**Plant Anatomy & Embryology**	**BO.241**	CO1 Students know about development of monocot & divot embryo. CO2 Well define characteristics of plant development. CO3 Knowledge about various tissue system. CO4 Students well perform laboratory techniques.
	Plant Biotechnology	**BO.242**	CO1 Use of transgenic technology for improvement of quality of plant. CO2 Understand the advantage of in vitro propagation. CO3 Realize the importance of plant tissue culture. CO4 Develop the certain strategies against plant pest and diseases.

DEPARTMENT OF STATISTICS

Class	Course Name	Course Code	COURSE WISE OUTCOMES
F.Y.B.Sc (CBCS) Semester-I	Descriptive statistics-I	ST-111	CO1 Understand data related concepts CO2 Develop the practical knowledge. CO3 Students well understand about Statistical industrial work. CO4 Students well understand about practical knowledge.
	Discrete probability & probability Distributions-I	ST -112	CO1 Understand the concepts of random variable, probability distribution and Correlation and regression Understand the detailed concepts of probability distributions. CO2 Students well understand about Statistical industrial work. CO3 Students well understand about practical knowledge.
Semester-II	Descriptive Statistics-II	ST-121	CO1 Students learn to design data collection plans and basic tools of descriptive statistics CO2 Develop the practical knowledge. CO3 Students well understand about Statistical industrial field work. CO4 Students well understand about practical knowledge.
	Discrete probability & probability Distributions-II	ST-122	CO1 Understand the basic Operators in calculus of finite difference and analytical functions. CO2 Develop the practical knowledge in students.
S.Y.B.Sc (CBCS) Semester-III	Discrite probability Distribution &Time Series	ST-231	CO1 Students learn to design data collection plans and basic tools of descriptive statistics. CO2 Students well understand about Statistical industrial work. CO3 Students well understand about practical knowledge.
	Continuous Probability Distributions	ST-232	CO1 Students learn different types of continuous distribution with their properties and applications. CO2 Students well understand about Statistical industrial work. CO3 Students well understand about practical knowledge.

Semester-II	Test of Significance And Statistical Methods	ST-241	CO1 Students well understand about Statistical test of significance. CO2 Students well understand about Statistical analysis. CO3 Students well understand about Statistical industrial work. CO4 Students well understand about practical knowledge.
	Sampling Distributions And Exact Tests	ST-242	CO1 Understand the concept of sampling distribution of a statistic and its properties, difference between parameter and statistic. CO2 Students well understand about Statistical industrial work. CO3 Students well understand about practical knowledge.

DEPARTMENT OF MATHEMATICS

Class	Course Title	Outcome
SEM I **F.Y.B.Sc.**	**MT-111** **Algebra**	CO1 Define Basic concepts of Set, Relations and functions. CO2 Use the division algorithm, Euclidian algorithm, in computations and proofs about the integers CO3 Learn about some important results in the theory of numbers including the prime number theorem, describe the properties of prime numbers, CO4 Show that every positive integer can be expressed as product of prime power in unique way CO5 Write a formula for the number of positive integers less than n that are relatively prime to n CO6 Define congruence and describe the properties of congruence CO7 State Chinese Remainder Theorem, Fermat's and Wilson's theorem CO8 Compute sums, products, quotients, conjugate, modulus, and argument of complex numbers · CO9 Apply De-Moivre's theorem to find the nth roots of unity.
	MT-112 **Calculus I**	CO1 Describe the Algebraic and Order Properties of R CO2 Understand absolute value function and its properties, triangle inequality and its consequences, neighborhood of a point on real line. CO3 Define of Upper bound, Lower bound, supremum, infimum of subsets of R, completeness property of R. CO4 Know Archimedean property and its consequences, the density theorem CO5 Learn to define sequence in terms of functions from to a subset of . CO6 Recognize bounded, convergent, divergent, Cauchy and monotonic sequences and to calculate their limit superior, limit inferior, and the limit of a bounded sequence. CO7 Learn to check function is continuous understand the consequences of the intermediate value theorem for continuous functions.
	MT-113 **Mathematics Practical**	CO1 Learn Maxima software. CO2 Learn to find graphs, roots and primes integer using maxima software CO3 Problem solve on algebra and calculus by using maxima software. CO4 Knowledge of application of mathematics

SEM III **S.Y.B.Sc.**	**MT-231- Calculus of Several Variables**	CO1 Learn conceptual variations while advancing from one variable to several variables in calculus. CO2 Understand Functions of two variables, Domain and Range, CO3 Graphs, Level Curves, Functions of Three or More Variables, Limits and Continuity. CO4 Applications of multivariable calculus tools in physics, economics, optimization, and understanding the architecture of curves and surfaces in plane and space etc. CO5 Understand Partial Derivatives CO6 Learn Higher Derivatives, Clairaut's Theorem, Partial Differential Equations, Wave equation, Chain Rule, Homogeneous Functions, Euler's theorem. CO7 Recognize the major classification of PDEs and the qualitative differences between the classes of equations. CO8 Be competent in solving linear PDEs using classical solution methods CO9 Understand Extreme values of functions of two variables. CO10 Learn Necessary conditions for extreme values, Second Derivative Test, Lagrange Multipliers CO11 Inter-relationship amongst the line integral, double and triple integral formulations. CO12 Sketch curves in Cartesian and polar coordinate systems.
	MT-232(A) Numerical Methods & it's applications	CO1 Obtain numerical solutions of algebraic and transcendental equations. CO2 Learn about various interpolating and extrapolating methods. CO3 Define Basic concepts of operators CO4 Find the difference of polynomial CO5 Solve problems using Newton forward formula and Newton backward formula. CO6 Derive Newton forward formula and Newton backward interpolation formula. CO7 Apply Lagrange's Interpolation formula when difference interval are unequal CO8 Understood the concept of Numerical Differentiation (Derivatives using Newton's forward difference formula) CO9 Apply various numerical methods in real life problems

		CO10 Derive general quadrature formula CO11 Derive Trapezoidal rule, Simpson's 1/3 and 3/8 rules -using general quadrature formula CO12 Solve initial and boundary value problems in differential equations using numerical methods. CO13 Find the solution of ordinary differential equation of first by Taylor's Series method, Picard's method of successive approximations, Euler method, Modified Euler's methods and Runge-Kutta methods
	MT-233 Mathematics Practical	CO1` Learn Maxima software. CO2 Problem solve on analytic geometry and calculus by using maxima software. CO3 Problem solving on geometry and calculus. CO4 Give the knowledge of geometry using maxima software.
Course outcome : B.Sc. (Mathematics)		
Class	**Course Title**	**Outcome**
SEM II F.Y.B.Sc.	**MT-121 Analytical Geometry**	CO1 Describe the various forms of equation of a plane, straight line, Sphere, Cone and Cylinder. CO2 Find the angle between planes, Bisector planes, Perpendicular distance from a point to a plane, Image of a line on a plane, Intersection of two lines CO3 Define coplanar lines and illustrate CO4 Compute the angle between a line and a plane, length of perpendicular from a point to a line CO5 Define skew lines CO6 Calculate the Shortest distance between two skew lines
	MT-122 Calculus II	CO1 Assimilate the notions derivative of a function at a point CO2 Calculate the limit and examine the continuity of a function at a point. CO3 Apply derivative tests in optimization problems appearing in social sciences, physical sciences, life sciences and a host of other disciplines. CO4 Understand L' Hospital Ruleand Successive Differentiation CO5 Understand the genesis of ordinary differential equations. CO6 Solve first order differential equations utilizing the standard techniques Learn various techniques of getting exact solutions of solvable first order differential

		equations and linear differential equations. CO7 Grasp the concept of a general solution of a linear differential equation of an arbitrary order and also learn a few methods to obtain the general solution of such equations. CO8 Formulate mathematical models in the form of ordinary differential equations to suggest possible solutions of the day to day problems arising in physical, chemical and biological disciplines.
	MT-123 Mathematics Practical.	CO1 Solves Problem on Calculus and analytical geometry CO2 Introduction to application of mathematics in real life. Learn to build logical concept.
SEM IV **S.Y.B.Sc.**	**MT-241 Linear Algebra**	CO1 Solve linear systems (using matrices) by Gauss elimination and Gauss-Jordan elimination method CO2 Understand the concepts of vector spaces, subspaces, bases, dimension and their properties. CO3 Recognize the concepts of the term linear independence, linear dependence, basis, and dimension, and apply these concepts to various vector spaces and subspaces CO4 Understand about Row, Column and Null Space of a matrix, and Rank and nullity CO5 Discuss the linear transformations, properties and equality CO6 Understand the concepts of Kernel and range CO7 State Rank-Nullity theorem CO8 Use matrix algebra and the related matrices to linear transformations CO9 Relate matrices and linear transformations; compute eigen values and eigen vectors of linear transformations. CO10 Find the characteristic equation, eigen values and eigen vectors of a matrix. CO11 State Cayley- Hamilton theorem CO12 Learn basic Matrix Transformations in R^2 and R^3 Understand linear Isomorphism
	MT-242(B) Dynamical	CO1 Students understand fundamental concepts related to modeling time dependent phenomena. Students extend their knowledge of calculus to solve problems in difference equations. CO2 Students improve problem solving skills.

	Systems	CO3 Students will cooperate when appropriate to help each other understand the concepts of dynamical systems and to learn how to function in a work.
	MT-243 Mathematics Practical	CO1 To demonstrate used of interpolation method in numerical analysis. CO2 Use computational techniques and algebraic skills essential for the study of systems of Linear equations, matrix algebra, vector spaces, eigenvalues and eigenvectors, Orthogonality and Diagonalization

Co-ordinator
Internal Quality Assurance Cell (IQAC)
M. S. Kakade College, Someshwarnagar

PRINCIPAL
Mugutrao Sahebrao Kakade College
Someshwarnagar, Dist . Pune-412306

Mugutrao Sahebrao Kakade College
Tal. Baramati, Dist. Pune
Someshwarnagar