



Shikshan Prasarak Mandal, Anadur's
Jawahar Arts, Science & Commerce College,
Anadur, Tq. Tuljapur, Dist- Osmanabad -413603
INTERNAL QUALITY ASSURANCE CELL

INTERNAL QUALITY ASSURANCE CELL

Course Outcomes (COs)

INDEX

Sr. No.	Subject	Page No.
1	Marathi	2
2	Hindi	6
3	Sanskrit	14
4	English	19
5	History	23
6	Political Science	27
7	Economic	30
8	Sociology	33
9	Commerce	35
10	Physics	41
11	Chemistry	44
12	Mathematics	49
13	Botany	52
14	Zoology	54
15	Geography	56

MARATHI

B.A.Marathi F.Y B.A.& B.Sc.Marathi Paper I & II(S.L)(MAR001&MAR002)Gadya Padya V Upyojit Marathi

1. Learners will get introduced to the literature of the writers from medieval and modern time.
2. Learners will be aware of the social, political, cultural and economic conditions of the times.
3. The style of prose, fiction and poetry will be introduced to the learners.
4. Awareness will be received about Marathi grammar and punctuations.
5. Development of language skill will be achieved for media.

F.Y.B.com Marathi Paper I&II(S.L.) (MAR001&MAR002)Gadya Padya V Upayojit Marathi

1. Marathi literature having tremendous facts to deal with, but we have work with our limited syllabus.
2. Short listing the syllabus and teaching students with the real facts and with each dialogue, sentence and phrase it helps the students to understand the philosophy of Marathi and to develop their thinking and reasoning skills and the most important on their communications skills.
3. Maharashtra state having heavy population of non marathies to whom Marathi is second language but it is very important to learn and focus on their second language because of need and communication, writing and expressing the views to others.

F.Y.B.A Marathi Paper I (Opt.)(MAR101)Kavytmak Sahitya

1. Introduce student to Marathi Poetry.
2. Create interest in Marathi poetry & connect it to real life.
3. Understand various ideologies, movements in the history of Marathi poetry.
4. mportance of literature specially poetry in life.

F.Y.B.A Marathi Paper II (Opt)(MAR102) NATYATMAK WANGMAY

1. Jyoti mapsekar and others authors are the eminent writers and orators of Marathi language , learning drama and understanding drama one of the achieving think of human and while dealing with Marathi drama. Its gets prior to understand to express the fabulous dramatics.
2. Drama is the way to understand to realistic view of life.
3. The expression, thoughts, ideas and all characteristic of human humanities is understood by drama.
4. It correlates the drama with are life we get to know the social religious and above human welfare.

F.Y.BA Marathi Paper III (Opt.)(MAR103) Kathatmak Sahitya

1. Introduce student to Marathi story literature.
2. Create interest in Marathi stories & connect it to real life.
3. Understand various ideologies, movements in the history of Marathi language & literature.
4. Importance of literature in life.

F.Y. B.A. Marathi Paper IV (Opt) (MAR104)MUDRIT MADHAMASATHI LEKHAN KAUSHALUA

1. Language is the only way the convey the message to everyone to express the filling and realistic view is only done by language
2. Sources like television, mobile, newspaper, magazine and etc. are the best medium to get know about external world in simpler way Marathi.

3. In our college we in coverage students to fulfill their ability and to acquired good opportunities and services in mass media

S.Y. B.A, B.Sc. Marathi Paper III&IV (SL) (MAR003&MAR004)Gadya Padya Upyojit Marathi

1. Students will get introduced to thoughtful writings.
2. Creation of awareness about meaning and history of folk culture.
3. Introduction to the different trends in literature of several authors will be given.
4. Understanding of literary analysis will be developed.
5. Awareness of literary syntax of Marathi language.
6. Raise interest in Marathi literature, different Ideology and types.
7. Introduction of information technology and social news media.
8. Develop art of living through study of literature.
9. Absorb knowledge of definitions of literature, science, official transactions.

S.Y.B.COM Marathi Paper II (S.L)(MARC01&MARC02)Marathi bhasha ani vanijya vhavhar

1. Give the knowledge of Marathi language of commerce & business.
2. How the language is ued in offices, comcece field and business sector.
3. Need and the structure of the language.
4. Develop writing skill of commerce language.
5. Raise competency of through reading culture.

S.Y. B.A. Marathi Paper V (Opt.)(MAR105)Aadhunik Marathi vangmayacha itihis. (1800-1920)

1. Study of literature history after 1800.
2. Compact of social, cltural background, social movement ideology during 1800-1920 on literature.
3. Background, inspiration, importance of authors & their literary work in 1800-1920.
4. Study of translated literature & different types of literature like periodic, story, poetry, novel, biography, autobiography.

S.Y.B.A, Marathi Paper VI(MAR106)(Druk shravya Madhyamansathi lekhan kaushalya)

1. Introduction to the function and structure of radio language.
2. Ideas will be offered for becoming anchor for radio.
3. Receiving of ideas for production of different programs on radio.
4. Understanding of different websites and webpages for media purposes.
5. Development of critical enquiry

S.Y.B.A. Marathi Paper VII (Opt.)(MAR107)Aadhunik Marathi vangmayacha itihis. (1800-1920)

1. Theatre culture, tradition, development and emergence of Marathi theatre.
2. Father of Music play (sangit natak) Annasaheb kirloskar and his and his contribution.
3. Study of translated literature & different types of literature like periodic, story, poetry, novel, biography, autobiography.
4. Study of poetry, biography, autobiography and their speciality. Keshavasut (Father of modern Marathi poetry) and his contemporary.

S.Y.B.A, Marathi Paper VIII(MAR108)Sahitya Prakarantar Ani Sahityache Madhymanantar

1. Introduction to the function and structure of radio language.
2. Ideas will be offered for becoming anchor for radio.
3. Receiving of ideas for production of different programs on radio.
4. Understanding of different websites and webpages for media purposes.

5. Development of critical enquiry

T.Y.B.A. Marathi Paper IX & XIII (Opt.)(MAR109&MAR113)Bhartiy aani pashchimatya sahitya vichar

1. Introduce students basic scientific literature Indian and foreigner literature
2. Encourage the student on types of literature
3. To develop the clear concept of literature
4. Poetry is the begets way to Conway your message to other, to express to demonstrate and and to invite to new feeling and basic human character tics.
5. Marathi poetry is embedded with various forms of realistic human character like affection, anger and pleasure. the great diverse forms help student to create there humanistic skill and sense of duty and empathy.
6. The core aim of language is communication which is bitterly explained in poetry.
7. However our aim must be to engender more in functional users of comfort and leisure. Poetry is one of the simplest way to do if and helps student understand others feeling in better way which is very important in this new generation.

T.Y.B.A, Marathi Paper, X, XIV (Opt.) (MAR110&MAR114)Bhasha Vidnyan: Vyakran v Nibandha

1. Awareness about the structural patterns of sounds in Marathi.
2. Ideas about history and development of Marathi language and its spoken forms.
3. Ideas about consonants, vowels and their pronunciation will be gained.
4. Students will have clearer ideas of Marathi grammar in its forms like word formation, suffix & prefixes.
5. Learners will get introduced to dialects of Marathi language.

T.Y. B.A. Marathi Paper XI (MAIN)(MAR111) Madhyayugin Marathi vangmayacha itihās. (Start to 1600)

1. Introduction of Start age of Marathi & Mukundraj.
2. Information of Mahanubhav Sect and their contribution in Marathi literature.
3. Specialty of ideology, philosophy of mahanubhav sect & their literary work.
4. Contribution of Varkari sampraday (sects) and their literary work.

T.Y. B.A. Marathi Paper XV(MAIN)(MAR115) Madhyayugin Marathi vangmayacha itihās. (1601 -1818)

1. Introduction of Panditi sahitya and their inspiration, specialty and structure.
2. Information of pandit kavi and their literature.
3. Contribution of Shahiri literature, inspiration, structure and specialty.

T.Y.B.A. Marathi Paper XII & XVI (MAR112&116)(Main Project)

1. After working hard with student to convey the message or motto of with story, poem or drama we assemble the for a new where the student is and how much more practice and effectors students too have to do for their progress.
2. We allot them with a most effective project were they have to think and express their view were they student or most off develop full logic which helps them to create their own new thought and even to think more on core idea of project.
3. Project enhance their skills in thinking memorizing and implementing it in their real life which helps them to be a skill full and self dependent creature to express their view
4. to create a interest in Marathi language where many of them can be future pother rather or good author in Marathi which focus on today's needs of good thinker or author.

Ph.D. Marathi Programmes Outcomes: After completion of programme the research scholar will know:
Obtaining Ph. D. in Marathi helps in varies ways like:

1. Scope in Marathi literature and Marathi language.
2. Varity in Marathi literature and philosophy of Marathi helps to create to image to discover a new root of Marathi.
3. As it is mother tongue Maharashtrian it gets easier to understand to explore the diversity of Marathi.

पर -
परवचत गए

(SL – III & IV) (., .

., .) CO1:

CO2:

CO3: व ह क आध वनक ग स ह व वनिक रच न पर रचय करन ।

CO4: पररचय

CO5: व ह ररक , रय जन म ल क त थ स र षण म ल क स य क व ह

ष स व पर र व च त और र ज म र

यह इस

CO6: प ल खन क स र , आव दन प , ब क ग त थ स र क

य ल य र य जन म ल क ष स व व पर र व च त

CO7: व ह स ह व व त , स , र ख व च , उ य ,

आ क थ , ज व न , व न ब ध , य व व , य

ररप , आ व द व व ओ पर र च य भ र य कर च क

ह । ज व न म ल , भ व - न ओ प्र र च य क स आ ध व न क

स ध न भ र य क स कर इ स क पर र च य भ

र य व त ह ।

Sanskrit

BA, B. Sc. B.Com. I - SANSKRIT Paper I & II SL - Sanskrit Sarita

1. To introduce students to Sanskrit language, Literature & Indian culture
2. To study the usage of Sanskrit language in modern period
3. To highlight the importance of language in communication skills & personality development
4. To create interest in Sanskrit language for the study of scientific views in Sanskrit literature

BAFY SANSKRIT - Optional Paper - I Aarshamahakavya

1. To introduce students the ancient Sanskrit poetics
2. To introduce students to epics Ramayana & Mahabharata
3. To develop literary values & ethics
4. To study the importance of the epics in Sanskrit Literature

Paper- II Vyakaranparampara

1. To understand the development and structure of Sanskrit grammar
2. To study the origin & development in Sanskrit grammar
3. To know the impact of Sanskrit grammar on Sanskrit language
4. To study the Trimuni grammar tradition in Sanskrit grammar

Paper - III Pratimanatak

1. To study Bhasa's literature according to social, political, cultural & moral values
2. To introduce the ancient & developed Sanskrit drama traditions

Paper- IV Kathasahitya

1. To introduce the tradition of Sanskrit stories
2. To study the literary merits of Sanskrit stories such as - imagination, description, symbolism, etc.
3. To study the ancient teachings and the behavioural trainings

**B.A., B.Sc. B. Com SY SANSKRIT - Second Language (SL) Paper –
III & IV Girvanmanjari**

1. To introduce students to various forms of Vaidic Literature
2. To introduce various aspects of Sanskrit language & develop the accuracy in their Sanskrit phonetics
3. To study the different styles of meters in Sanskrit poetics for the recitation of poems.

BASY SANSKRIT - Optional Paper - V Pancha Mahakavyacha Etihas

1. To study the tradition of skilful Panch Mahakavyas in Sanskrit literature
2. To understand the characteristics of skilful Panch Mahakavyas
3. To study the themes, character sketches, styles, rasa, alanakaras and meters of Panch Mahakavyas and learn the impact of various aspects of literature on it

Paper- VI Raghuvansham

1. To learn the introductory nature of kalidasas Raghuvansham
2. To understand the style of Raghuvansham
3. To study the literary values of Raghuvansham
4. To study the idols in Raghuvansham

Paper - VII Shukanasopadesh

1. To study the nature of Prose tradition in Sanskrit literature
2. To study the nature and characteristics of prose Kadambari
3. To enhance the awareness of the importance of teacher's teachings for the youths
4. To discuss the effects of power, asset and youthfulness in reference to Shukanasopadesh

Paper- VIII Sangeet Saubhadra

1. To study the drama Sangeet Ssaubhadra as a symbol of modern Sanskrit literature
2. To understand the translated Sanskrit literature

BATY SANSKRIT - Optional Paper - IX Vaidic Suktē

1. To introduce the ancient Vaidic Language and Vaidic Literature
2. To study the Vaidic Literature and culture in the point of view of science
3. To learn the oral tradition of education through different Vaidic Suktas

Paper- X Natyalakshan & Natak

1. To study the properties of Natya in reference to Natyashastra
2. To develop interest in the studies of socio-cultural aspects and idols of Abhijnansakuntalam
3. To prepare students to go for detail study and understanding kalidasa's writing skills in dialogues, aesthetics and characters

Paper - XI Vyakaran

1. To study the topic Sandhi because without this Sanskrit studies are not possible
2. To familiarize the students with different types of Sandhi to understand the language better.

Paper- XIII Tattwajnan

1. To introduce students to the spiritual life of Indian culture
2. To understand the philosophy in Bhagawadgita

Paper - XIV Natak (Abhijnanshakuntalam)

1. To introduce students literary merit, beauty and creativity of Kalidas
2. To study Abhijnansakuntalam as a pre-eminent creation in Sanskrit literature

Paper - XV Sahityashastra

1. To understand the nature of poem and poetics
2. To familiarize the learners with different types of rhetoric
3. To aware students for enjoying the perception of pleasure of literary sources with the help of rhetoric.

Paper -XII & XVI Project

1. To develop students to establish research values, findings

2. To create the confidence about creative writings
3. To introduce some advanced units of language so that they become aware of practical usage.

English

B. A. English Paper II & IV: Reading Literature Aim of the Course

1. **CO1:** To enable students to read and appreciate various forms of literature and critically interact with them from different perspectives.
2. To introduce students to appropriate literary strategies to read literature.
3. To pinpoint how far literary language deviates from ordinary language.
4. To unravel many meanings in a literary text.

Paper IV: Semester Two Unit One: Methodology of Literature

1. Develop their appreciation for the purposes and pleasures of prose fiction and nonfiction.
2. Articulate ways that literary works construct values and ethical meanings.
3. Practice analytical reading on multiple examples of each genre chosen to illuminate different literary choices and conventions, including texts that are culturally and historically diverse.
4. Identify major features of literary form and construct arguments about the relationship between form and the work's meaning.
5. To understand of various forms of literature, the ode, the lyric, the Sonnet, the novel and dramatic type's comedy and tragedy
6. To understand the various aspects of novel and drama

BA II English Optional

1. To enable students to read and appreciate various forms of literature and critically interact with them from different perspectives. Objectives of the Course
2. To introduce students to appropriate literary strategies to read literature.
3. To pinpoint how far literary language deviates from ordinary language.
4. To unravel many meanings in a literary text

Paper V & VII: LITERATURE IN ENGLISH 1550-1750 Paper V: Semester III

On successful completion of the course, the students will be able to:

1. Interpret various forms of literature.
2. Distinguish and analyze literary forms like essay, mock epic, drama and novel.
3. Compare and differentiate between literary language and ordinary language.
4. Unravel many meaning in literary text.

Paper VI & VIII: LITERATURE IN ENGLISH 1750-1900 Paper VI: Semester III

On successful completion of the course, the students will be able to:

1. Understand the literary forms of poetry: Ballad and dramatic monologue, romantic poetry, prose, play and novel in 18th century and 19th century.
2. appreciate the poems of S.T Coleridge and Robert Browning,
3. Comment on the themes and styles of Oscar Wilde's play.
4. Understand plot, characters and setting in the novel of Thomas Hardy.

BA III English Optional

1. To introduce the students to Modern English Literature as production of the age.
2. To familiarize the students with the literary terms and introduce to them the various streams in literary criticism and develop in them skills for literary evaluation.
3. To help the students to approach and appreciate Indian literature in English and make them see its place among world literature in English.
4. To introduce the students to American literature and its diverse cultures reflected in its writing.
5. To make the students able to understand the background of English literature and help them to write on its development.
6. To make the students understand how the literature of modern period relates to the important trends of the period.
7. To make the students aware of the fact that all readers are critics and introduce them to basic texts in criticism while developing critical thinking in them.
8. To introduce the students to the thematic concerns, genres and trends of both Indian Writing in English and American Literature.
9. To lead the students to see how texts are affected by the context.

Paper IX & XIII: Twentieth Century English Literature Semester V Contents: Unit One:

Poetry

On successful completion of the course, the students will be able to:

1. Understand how the literature of modern period relates to the important trends of 20th century.
2. Appreciate poem by T.S Eliot and W.B Yeats.
3. Comment on the themes of Osborne and G.B Shaw's plays
4. Understand the plot, character setting in the novels of Kingsley Amis and D.H Lawrence.

Paper X & XIV: Introduction to Literary Criticism and Terms Semester

On successful completion of the course, the students will be able to

1. Identify and discuss the classical Greek critics of literature.
2. Provide a brief overview of the major critical theories by critics like Aristotle, Sir Philip Sidney, William Wordsworth and F.R. Leavis.
3. Learn the terms related to various genres of literature
4. Cultivate an understanding of major critical and interpretive methods

Paper XI & XV: Indian Writing in English

1. To introduce to nineteenth Century Reform Movements in India; the Indian National Movement; Rise of the Indian Novel; Caste-Class;
2. To make aware the students of social, political, and cultural issues reflected in Indian writing in English, with reference to Indian social reformations, freedom struggle, women education and empowerment in nineteenth century.
3. To appreciate the artistic and innovative use of language employed by the writers to instill the values and develop human concern in students through exposure to literary texts.
4. To familiarize the students with the emergence and growth of Indian Writing in English in the context of colonial experience.
5. To discuss issues concerning Indian Writing in English such as the representation of culture, identity, history, constructions of nation, (post) national and gender politics, cross-cultural transformations.

Semester V Poetry:

On successful completion of the course, the students will be able to:

1. Understand the background of Indian English literature and its development.
2. Critically appreciate the themes in the poems of Nissim Ezekiel and Arun Kolatkar.
3. Understand and evaluate the themes, Plot, character in the plays of Girish Karnad and Vijay Tendulkar.
4. Appreciate the theme, setting, characters in the novels of Raja Rao and U.R Anantha Murthy

Paper XII & XVI: Project Work on History of English Literature

1. To understand the background of the English literature and help students to write on its development.
2. To write down the aspect of research methodology.
3. To write research papers.
4. To understand new trends, movements in English literature.

History

B. A. History Paper I & III Shivaji and His Times (1630-1707) & History of Maratha (1707-1818)

1. Introduce innovative study techniques in the study of History of Maratha to make it Value based, conceptual and thought provocative. The secular ruler was very accommodating of all religions. He had numerous Muslim soldiers in his army. His only aim was to overthrow Mughal rule and establish Maratha Empire. He was also very supportive of people who converted to Hinduism.
2. Introduce international elements in the study of Marathas to facilitate comparative analysis of this history.
3. Highlight the importance of past in exploration of present context.
4. Understand the socio-economic, cultural and political background of 17th century Maharashtra.
5. Increase the spirit of healthy Nationalism & Secularism among the student.

Paper II & IV History of Modern Maharashtra (1818-1905) & Twentieth Century Maharashtra (1905-1960)

1. To give the student an introduction to the study of Maharashtra.
2. To acquaint the student with the basis understanding of how Maharashtra has grown to the present position and how the state has reached the present day.
3. To impart high quality of education to the students.
4. To prepare the students for a variety of challenging careers through innovation in teaching and research.
5. To develop comprehensive understanding of interdisciplinary issues of the society.

Paper V & VII History of Early India (up to B.C. 300) & History of India (BC 300- AD 650)

1. The study of ancient Indian history is important to those who want to understand the true nature of many races and tribes intermingled in early India.
2. Ancient India also saw the birth of Brahmanism of Hinduism, Jainism, and Buddhism, but all these cultures and religious intermingled and interacted.
3. Increase the spirit of healthy nationalism & secularism among the student.

4. The study of ancient Indian history is important to those who want to understand the true nature of the past and also to those who seek to understand the nature of the obstacles that impede India's progress as a nation.

History General Paper-VI & VIII History of Delhi Saltanath (1200-1526) & History of Mughal India (A.D. 1526- A.D. 1757)

1. To study the Mughal contribution to the Indian subcontinent.
2. The study of Mughal period would see a more fruitful blending of Indian, Iranian and Central Asian artistic, intellectual and literary traditions than any other in India's history.
3. To study Persian art and culture amalgamated with native Indian art and culture.
4. To study the political unity provided by the Mughal rulers.

History General Paper – IX Historiography

1. The study of development of history as a discipline.
2. The study of the writing of historical accounts.
3. Indicate the importance of thinking "historiographically" as well as historically.
4. To provide new angles to research and new interpretations to dispute.

History General Paper-X History of Indian national Movement (A.D. 1885-A.D. 1947)

1. To provide a comprehensive understanding of the transformations in the economy of colonial India.
2. To introduce land and agrarian policies under the British rule.
3. To develop nationalism in student mind.
4. To understand the British economic policy and why Indian revolted.
5. To understand all the Government and British parliamentary acts that led to the foundation for the constitution

History General Paper – XIII Fields of History (Archaeology, Museology and Tourism)

1. History is allied and deeply rooted in the various fields of professions.

2. This course will orient the students in leading and using then as a part of their historical acknowledge

History General Paper – XIV Landmarks in the History of Modern World

1. To understand the trends in History during the first and second world war
2. To study the Historical perspectives of developed, developing and underdeveloped nations through the History of colonization and decolonization.

History Paper XI (Main) History of Modern China (1900-1950)

1. To understand Political and Economic Conditions of China during first two decades of 20 th Century.

History Paper XII & XVI (Main) Project Work

1. To understand the methodology of Research Paper Writing.
2. To become aware about new areas, topics on our Subject/History.
3. To find out the important persons activity which they are worked for Society.

History Paper XV (Main)- Glimpses of the History of Marathwada (Upto 1948)

After completion of the course, the students will be able to

1. Understand the history of Marathwada.

2. Understand and criticize the social and national work of the freedom fighters.
3. Know the glory of marathwada in various fields like culture, education, social development etc.

Political Science

B. A. Political Science Pol-101, Basic Concept of Political Science

CO1: To Know the Students Concept of State and Its origin, Nature & Elements.

CO2: To Study the Development of the Concept of Rights- State background of Political History.

CO3: To analyze transitions in societal systems the structure and order of the system.

CO4: To Enable Students to Understand Basic Concepts in Political Science.

Pol-102, Government and Politics of Maharashtra

CO1: To establish pattern of Maharashtra State.

CO2: To examine the government and non-government responses.

CO3: To History of the Freedom Movement in India Collected from the Bombay Government Records.

CO4: To understand Historical and Political Background of Maharashtra.

CO5: To explain Structure and Functions of State Government in India.

CO6: To understand the Political Process of Maharashtra.

Pol-103, Basic Concept of Political Science

CO1: To defined terms in a social science outside of their immediate area of expertise, for example economist needing information regarding a political science term.

CO2: To create awareness among students about democracy.

CO3: To help the students to understand social and political values in indian political system.

CO4: To understand the concept of welfare state.

Pol-104, Government and Politics of Maharashtra

CO1: To contest elections to be a part of legislative and executive large parties came to be dependent upon smaller parties for the formation of government's power.

CO2: To provide solution to social problems.

CO3: To help the students to know the

CO4: To study Panchayat raj History.

CO5: To orient the student about ideology and programme of political parties in maharashtra.

Pol-105, Indian Government and Politics

CO1: The government is to secure all round progress and prosperity of society.

CO2: The more important political events in recent government of India.

CO3: To understand basic principles of Indian constitution.

CO4: To study various constitutional institutional in India.

Pol-106 International Relations

CO1: To explain the behavior of individual entrepreneurs and firms rather than world politics, liberalism contains a theory of international relations.

CO2: The study has important implications for international law and international relations generally.

CO3: To explain basic concepts in international relations.

CO4: To understand the stages of development of international relation as a separate discipline.

Semester - IV Pol-107, Indian Government and Politics

CO1: To explain structure of union government and budgetary process in India.

CO2: To understand the framework of Indian supreme court. CO3: To explain about party system and electoral reforms. CO4: To evaluate the federal structure and centre state relation.

Pol-108, International Relations

CO1: To explore the nature of informal reasoning in international relations and to consider how instruction could help enhance.

CO2: To study the various international and regional organization.

CO3: To aware about some major issues in internationalism.

CO4: Critically evaluate the non-alignment movement.

Semester V Pol - 109, Indian Political Thinkers

CO1: To understand modern political thinkers contribution.

CO2: It has been a problem in cultural transformation how best to accomplish the Cultural transformation of Indians into non-Indians.

CO3: To study the religious political, social and cultural thoughts of Indian political thinkers.

Pol - 110, Western Political Thinkers 33

CO1: To understand the views of western political thinkers.

CO2: To understand the ideas of western political thinkers and its relevance.

CO3: To understand the thoughts of Plato on various political concepts.

CO4: To know ideas of Aristotle and how he is father of political science.

Pol - 112, Indian Political Thinkers

CO1: To study Dr.B.R.Ambedkar's thoughts on democracy, economy and society.

CO2: To CRitically evaluate M.N. Roy's radical humanism.

CO3: To understand Nehru's democratic and secular views and its applicability.

CO4: To know of ideas of Maulana Azad views on religion and politics.

Pol - 113, Western Political Thinkers

CO1: To present and thoroughly document the wealth of historical and institutional material.

CO2: To study the thoughts of J. S. Mill and its applicability.

CO3: Critically evaluate the thoughts of Karl Marx and its relevance.

CO4: To understand the theory of utilitarianism.

Pol – 111, Political Ideologies

CO1: To Study the development and features of the political ideologies.

CO2: To understand relevance of political ideology in contemporary period.

CO3: To show how these ideologies originated and how and why they have for most of the twentieth century, the clash of three political ideologies, liberalism, communism, and fascism.

CO4: To relate the theoretical discussion and analysis of ideologies to the transformations,

Pol - 114, Political Ideologies

CO1: To study of ideology of socialism.

CO2: Critically evaluate the ideology of fascism.

CO3: To study the development and features of the communism.

CO4: To explain the ideology of feminism.

Economics

B.A. Economics Micro Economics:

1. This paper is a foundation of economics.
2. To understand the meaning and scope of micro economics, the behavior of an economic agent, namely, a consumer, a producer, a factor owner and the price fluctuation in a market.
3. To study the behavior of a unit and analysis is generally static and in partial equilibrium framework.

Price Theory:

1. To understand various components regarding price determination under various types of markets.
2. To understand theory of production, Cost and revenue analysis, forms of market and factor pricing theories.

Indian Economy:

1. To study the analytical factor of the students, by highlighting an integrated approach to be functioning aspects of the Indian economy, keeping in view the scope for alternative approaches.
2. To study social, political and economic environment influencing policy decisions.
3. To develop all these themes, the courses are divided into specific modules.

Macro Economics:

To study awareness of the basic theoretical framework underlying the field of macro economics.

Development Economics:

To understand theories of development underlying the field of development economics.

International Economics:

1. To understand the basic principles that trend to govern the free flow of trade in goods and services at global level.
2. To understand and analyze the deference between various economies of the world.

Agricultural Economics:

1. To study the treatment of issues in agriculture economics to those intending to specialize in the area.
2. To familiarize students with policy issues those are relevant to Indian agricultural economics.
3. To analyze the issues using basic micro economics.

History of Economic Thought:

1. To understand basic ideas of classical, new classical and marginalist economist.
2. To compare the basic economic ideas of various economic thinkers of the world.

Money Banking and Finance:

1. Money and banking constitutes important components of modern economy.
2. To understand the operations of money and banking and their interaction with the rest of the economy is essential to realize how monetary forces operate.
3. To understand the monetary and banking system in India.

Public Finance:

1. To study the significance and scope of Public Finance.
2. To provide detailed information about the fiscal policy, public revenue, public debt and public expenditure.

Statistical Methods:

1. To understand the techniques of statistical analysis which are commonly applied to economic problems.
2. To study the tools and techniques of statistical methods.
3. To understand how to collect data, its presentation, analysis and making inferences.

Research Methodology:

1. To understand the social sciences research to the students of economics.
2. To know the importance of social research design, data collection and presentation of data.
3. To understand the idea of research in social sciences.

Industrial Economics:

In the contemporary world with globalization and liberalization more and more attention is being given to industry. This paper strengthens the Students to deal or adjust with above situation.

Economy of Maharashtra:

1. To understand the basic features of the economy of Maharashtra.
2. To study the problems related agriculture, industries, cooperative sector and infrastructure in the Maharashtra state.

Sociology

B. A. Sociology B.A. Part-I, Semester I Paper no-I: - Introduction to sociology & Paper No-II:-Individual & Society

CO1: Introduction to the basic concept of Sociology, subject matter & Importance of Sociology and origin and development of sociology

CO2: Understanding in brief the knowledge of human Society and the institutions and other structural elements

B.A. part-I, Semester II, Paper no III - Introduction to Subfields of Sociology& Paper No IV – Indian Social Composition

CO1: Student of Sociology must have the Knowledge of those branches to understand the scope of sociology & its wideness.

CO2: This course mainly covers the broad segments of Indian society which are India's geographical ethnic and religious distinctiveness

B.A. Part-II, Semester III Paper No-V: -Problems of Rural India Paper no-VI: - Contemporary Urban Issues

CO1: A student of sociology must be aware about the changing scenario of Rural India and the contemporary problems of rural development

CO2: Understanding and analytical capacity among students about urbanization urban planning and urban problems

B.A. part-II, Semester IV Paper no- VII -: Population in India Paper No-VIII: - Sociology of Development

CO1: To understand causes, consequences of Indian population change.

CO2: Provides broad introduction to many development Issues in India

B.A. part-III Semester V paper: - Paper IX: Sociological Tradition Paper No. X:

Introduction to Research Methodology Paper No. XII (Main) Urban Sociology

CO1: To provide the students with the basic understanding of emergence of sociological thought and to know about pioneer sociologists with their contributions to sociology

CO2: To introduce the Research Methodology for better understanding of application of social sciences

CO3: To enable the students of urban Sociology to comprehend the basic elements of the subject and to draw attention of the students towards increasing urbanization

B. A. part - III Semester VI Paper NoXIII. : Sociological Theories Paper No. XIV: Social Research Methods Paper No.XVI: Urban Society in India

CO1: Acquaintance with the sociological thought of the Pioneers of Sociology

CO2: Introduction to various steps in conducting research.

CO3: To analyze critically social problems of urban Indian and to discuss regarding impact of modernization and industrialization upon the cities

Commerce

B.Com First Year, Semester II (CBCS Pattern) Financial Accounting II (Paper–III)

- CO1:** To provide knowledge of basic accounting concepts, accounting standards and accounting principles the aim is also to provide the practical accounting knowledge.
- CO2:** To enable the students about depreciation and royalty account.
- CO3:** To make an ability to understand accounts of non trading concern and branch accounts.
- CO4:** To enrich students in financial accounting
- CO5:** To enhance the ability to solve practical sums of departmental accounts and consignment accounting.

Business Mathematics and Statistics II (Paper–IV)

- CO1:** To make students learn and understand the concept of Co-relation.
- CO2:** Student is expected to have knowledge of the types and methods of estimating regression lines.
- CO3:** This course provides Knowledge about Index Numbers, its types and uses.
- CO4:** To understand the procedure of application of Probability.
- CO5:** This Course provides knowledge & ability among students for using statistical tools with Computer.

Business Organization and Management (Paper –V)

- CO1:** To make students learn and understand the foundation of Indian Business & emerging opportunities in Business.
- CO2:** Student is expected to have knowledge of the forms of organization.
- CO3:** This course provides Knowledge about process of Management & Organization.
- CO4:** To understand the procedure of Leadership, Motivation & Control.
- CO5:** This Course provides knowledge of functional areas of management.

Business Communication (Paper–VI)

CO1: To make students learn and understand Business communication.

CO2: Student is expected to have knowledge about the Business correspondence i.e. letter writing, preparing the resume and job application letter.

CO3: This course provides Knowledge about report writing.

CO4: To understand the procedure of oral presentation.

CO5: This Course provides knowledge & ability among students for modern forms of communicating.

Optional Group Entrepreneurship Development (Paper-VII)

CO1: To make students learn and understand the role of Entrepreneurship in Economic Development.

CO2: Student is expected to have knowledge of the emerging trends in Entrepreneurship Development

CO3: This course provides Knowledge about Project identification and Resource Management.

CO4: To understand the procedure of Entrepreneurship Development Program.

CO5: This Course provides knowledge for students how to Selection, Preparation & what are the requirement for the project.

Office Management (Paper–VII)

CO1: To make students learn and understand the Modern office & its Functions

CO2: Student is expected to have knowledge about office system and role of manager in system

CO3: This course provides Knowledge about office services.

CO4: To understand the procedure of record management and reporting.

CO5: This Course provides knowledge for EDP Environment for effective office management.

B.Com. S. Y. III Semester III (CBCS Pattern) Corporate Account-I (Paper -III)

CO1: To create awareness about Corporate Accounting in conformity with the provisions of Companies Act and as per Indian Accounting Standards.

CO2: To make aware about the conceptual aspect of corporate accounting.

CO3: To acquaint about issue and forfeiture of shares with re-issue procedure.

CO4: To make practice the final account of Joint Stock Company.

CO5: To enable students to acquire the knowledge of redemption of debentures and preference shares.

CO6: To understand the knowledge of profit prior to incorporation.

Cost Account-I (Paper -IV)

CO1: To create ability of students to understand basic cost accounting concepts and the classification of cost.

CO2: To provide the knowledge of material handling methods such as LIFO, FIFO, simple average and weighted average.

CO3: To explain the labor costing methods like incentive scheme, wage payment, time and piece rate etc.

CO4: Awareness will be received about costing methods and techniques.

CO5: To develop overheads knowledge and its methods of distribution.

I.T. Application in Business I (Paper -V)

CO1: To aware about C-Language and relevant software.

CO2: To acquaint the student about importance of operators in C and use of computer for it.

CO3: To enhance the knowledge of control benchmarking and decision making in C.

CO4: To guide students about loop and its type.

CO5: To make practice arrays and strings.

CO6: To encourage students to learn practical application of C- Language.

GST Account-I (Paper -VI)

CO1: Creating ability of students to learn tax concepts, procedure and legislation pertaining to GST in India.

CO2: To make perfection in learning of GST Registration process.

CO3: To understand practical online GST registration process and filling GST returns.

CO4: To provide knowledge of supply under GST and valuation of supply.

CO5: Ability of student is to be existed to learn input tax credit.

CO6: Understand GST accounting with their documentation and keeping process of records in GST.

Financial Management-(Paper -VII)

CO1: To enhance financial literacy of students.

CO2: To make aware students about financial planning and financial sources.

CO3: To analyses budgeting and learned different methods or techniques of capital structure.

CO4: To acquaint about working capital management of a firm and its importance.

CO5: To learn how to analyze leverages.

CO6: To enlighten students regarding the dividend policy and decision making in finance.

Indian Economy (Paper -VII)

CO1: To orient the students about the recent trends in Indian Economy.

CO2: To create awareness about economic reforms in India since 1991.

CO3: To inculcate knowledge of various aspects of Indian Economy through practical approach like calculation of GDP, national income etc.

CO4: To provide detail information of causes, effects and government measures to reduce unemployment in India.

CO5: To acquaint the knowledge of five years plans and budget.

B.Com. T.Y. Old Pattern (Semester V and VI) Advanced Financial Accounting-I (Paper No. XXIX) and Advanced Financial Accounting-II (Paper No. XXXV)

CO1: To equip the students with the ability to analyze, Interpret and use financial account in business enterprise.

CO2: To introduce stock market, Electricity Company, insolvency accounts accounts of local government and farm accounting.

CO3: To provide the knowledge of social accounting, departmental accounting, investment accounting, bank final account and accounts of insurance companies.

Management Accounting-I (XXX) and Management Accounting-II (XXXVI)

CO1: To equip the students with the ability to analyze interpret accounting information in managerial decision making.

CO2: To have a good working knowledge of the subject.

CO3: To understand the application of management accounting techniques.

CO4: To provide the knowledge of budgeting and responsibility accounting.

Cost Accounting-I (XXXI) and Cost Accounting-II (XXXVII)

CO1: To expose the students to the basic concepts and the tools used in cost accounting.

CO2: To provide the knowledge about Single and output costing.

CO3: To explain the different accounting methods such as contract costing, operating costing and process costing.

Indirect Taxes and Direct Taxes-I (XXXII) and Indirect Taxes and Direct Taxes-II (XXXVIII)

CO1: To expose students to the basic tax concepts, procedure and legislation pertaining to indirect tax.

CO2: To provide the basic of Income tax act 1961.

CO3: To understand practical knowledge of income for salary and business and profession.

CO4: To provide knowledge to student of all direct sources of income tax.

New Auditing Trends-I (XXXIII) and New Auditing Trends-II (XXXIX)

CO1: To understand about the auditing procedure.

CO2: To enable the students to understand the auditing concepts and new auditing trends.

CO3: To explore the knowledge Cost and Management Audit, Human Resource Audit, Investigation, Trends in Cooperative Audit and Tax Audit are explained throughout the subject work.

Optional Group Banking and Insurance-I (XXXIV) and Banking and Insurance-II (XXXX)

CO1: To familiarize student with banking and practices of banking.

CO2: To equip the students with the knowledge of modern banking.

CO3: To develop employability of student in banking, financial and other economic sector.

CO4: This course enables the students to know Fundamental of Insurance.

Information and Communication Technology-I (XXXIV) and Information and Communication Technology-II (XXXX)

CO1: To familiarize the students with the programming in C environment.

CO2: To familiarize the student with all the latest new age system prevalent in business Domain.

CO3: To Provide the knowledge of E-banking, Security in e-banking, ERP, BPO and Knowledge Management.

PHYSICS

F. Y. B. Sc. Physics 101- Paper No I: Mechanics, properties of matter & sound:

1. To familiarize students with basic concepts of Mechanics.
2. To have deep understanding of Newton's laws of gravitation and their applications.
3. To understand the concepts of viscosity and elasticity thoroughly.
4. To understand the phenomena of surface tension and its applications.
5. To understand the concept of ultrasonic and acoustics effectively.
6. To enable students to solve numerical problems involving topics covered.

Paper No II: Heat and Thermodynamics

1. To understand the concept of thermal conductivity and its application.
2. To understand the concept of real gases and transform phenomena.
3. To enable students to understand the laws of thermodynamics and thermodynamic processes.
4. To study the concept of entropy thoroughly.
5. To study heat engines and their efficiency.
6. To enable students to solve numerical problems involving topics covered.

Semester II 104- Paper No IV: Geometrical and Physical Optics

1. To familiarize students with basic concepts of optics.
2. To have deep understanding of cardinal points of optical system.
3. To understand the concept of interference thoroughly.
4. To enable students to summarize the phenomena of diffraction and polarization.
5. To enable to solve numerical problems involving topics covered.

Paper No V: Electricity and Magnetism

1. To understand the basic concepts and laws in electrostatics.
2. To study the basic concepts and laws in dielectrics.
3. To get knowledge of the basic concepts and laws of magnetism.
4. To understand the basic concepts of Transient current.
5. To enable students to solve numerical problems involving topics covered

S. Y. B. Sc. Physics Semester III 201- Paper No VII: Mathematical, Statistical Physics and Relativity

1. To familiarize students with the mathematical methods used in physics.
2. To familiarize students with the vector algebra.
3. To get acquaintance with the differential equations.
4. To familiarize students with partial differential equations.
5. To familiarize students with Classical and quantum Statistics.
6. To understand the concepts of special theory of relativity.

7. To apply these mathematical methods to solve problems in physics.

202- Paper No VIII: Modern and Nuclear Physics

1. To familiarize students with basic properties of nucleus.
2. To have deep understanding of radioactivity and its applications.
3. To familiarize students with nuclear forces and elementary particles.
4. To understand construction and working of various particle accelerators and detectors.
5. To understand construction and working of photoelectric effect.
6. To study different photoelectric cells.
7. To enable students to solve numerical problems involving topics covered.

Semester IV 205- Paper No XI: General Electronics

1. To familiarize students with the basic electronic components.
2. To understand the concept of semiconductors.
3. To have deep knowledge about semiconductor devices.
4. To familiarize with the transistor circuits and their characteristics.
5. To understand oscillators and multivibrators.
6. To understand the process of modulation and demodulation.
7. To solve numerical problems involving topics covered.

206- Paper No XII: Solid state Physics

1. To familiarize students with basic concepts of structure of solids.
2. To familiarize with various types of characterization techniques.
3. To understand the concept of bonding and band theory of solids deeply.
4. To understand the transport properties thoroughly.
5. To enable students to solve numerical problems involving topics covered.

T. Y. B. Sc. Semester V 54 301- Paper No XV: Classical and Quantum Mechanics

1. To understand the mechanics of the system of particles.
2. To understand d'Alembert's principle, Lagrange's Equation and its application.
3. To familiarize students with the historical background of Quantum Mechanics.
4. To understand the wave function and its physical interpretation clearly.
5. To familiarize with the time dependent and time independent Schrodinger equations and their applications.
6. To familiarize students with various operators used in Quantum Mechanics.
7. To enable students to solve numerical problems involving topics covered

Paper No XVI: Electrodynamics

1. To familiarize students with various differential operators to study the Gauss law.

2. To familiarize with basic concepts and equations related to time varying fields such as Faradays law, Len's law etc.
3. To write expression for poynting vectors for electromagnetic waves.
4. To enable to to write wave equations.
5. To solve numerical problems involving topics covered.

Semester VI 305- Paper No XIX: Atomic, Molecular Physics and LASER

1. To familiarize students with conceptual development of atomic model.
2. To understand one or two valence electron systems deeply.
3. To understand Zeeman effect, paschan back effect, Stark effect.
4. To understand Molecular Raman Spectroscopy.
5. To have deep introduction to lasers.
6. To familiarize students with different types of laser.
7. To understand construction and working of various types of lasers.
8. To be aware with various applications of lasers.
9. To enable students to solve numerical problems involving topics covered.

Paper No XX: Non-conventional Energy sources and Optical Fibers

1. To introduce students with various types of renewable energy sources.
2. To familiarize students with various applications of solar energy.
3. To familiarize students with various applications of biomass energy.
4. To familiarize students with the wind mechanics.
5. To create awareness among students about energy conservation.
6. To familiarize students with optical fibers.
7. To familiarize students with various applications of optical fibers.
8. To enable students to solve numerical problems involving topics covered.

Chemistry

B. Sc. Chemistry Paper I Inorganic Chemistry

1. To study the basics of atomic structure - Atomic orbitals, Quantum numbers, Heisenberg uncertainty, Aufbau and Pauli exclusion principles, Hund's multiplicity rule. Electronic configurations of the elements, Bohr's atomic model.
2. To understand some periodic properties - atomic and ionic radii, ionization energy, electron affinity and electro negativity with reference to trends in periodic table and application in predicting chemical behavior.
3. To study s and p- block elements.

Paper No. II Organic Chemistry

1. To understand basic concepts in organic chemistry- reactions, reagents and mechanisms of organic reactions.
2. To study stereochemistry and its importance.
3. To familiarize open chain compounds like alkanes, alkenes and aromatic compounds chemistry and their importance.

Paper V Physical Chemistry

1. To understand basic mathematical concepts - logarithmic relations, curve sketching, linear graphs and calculation of slopes, differentiation of functions simple mathematical functions, maxima and minima, partial differentiation.
2. To understand kinetic theory of gases, kinetic gas equation, and gas laws - Boyles Law, Charles Law, Grahams Law of diffusion, Avogadro's hypothesis, deviation from ideal behavior, van der Waals equation of state.
3. Critical Phenomena: PV isotherms of real gases.
4. To study chemical kinetics: Factors influencing the rate of reaction, rate law and characteristics of simple chemical reactions - zero order, first order, second order, Pseudo order, half life. Arrhenius equation, concept of activation energy. Catalysis: Definition, types, and characteristics, Enzyme catalysis.
5. To understand basics of liquid and solid state - Intermolecular forces, structures, liquid crystals: Classification, structure of nematic and cholestric phases.

6. To study solids, Miller Indices, laws of crystallography, X-ray diffraction by crystals.
Derivation of Bragg equation.
7. To familiarize with colloidal state

Paper VI Inorganic Chemistry - II

1. To understand chemical properties of the noble gases, chemistry of xenon, structure and bonding in xenon compounds.
2. To understand types of bonds- ionic, covalent and coordinate, Hydrogen bonding, Van- der- Waals forces, Metallic bond Theories of bonding - VBT, VSEPR, MOT with formation and shapes of molecules.
3. To understand the basics of nuclear chemistry - Isotopes, Isobars mass, Binding Energy, Packing fraction N/Z ratio, Radio activity, properties of fundamental particles, Artificial transmutation. Applications with respect to trans-uranic elements, carbon dating.
4. To study theory of volumetric analysis - Types of titrations, volumetric apparatus, calibration of pipette and burette, indicators used in pH - titrations, oxidizing agents used in titrations. Theory of Internal, External and self indicators for redox titration.

(Organic Chemistry) Paper IX

1. To understand structure, reactivity, and methods of preparation and chemical reactions of different types of compounds - alcohols, Phenols, aldehydes-ketones, amines and carboxylic acids.
2. To study named reactions- Pinacol-Pinacolone rearrangement, Fries Rearrangement, Claisen Rearrangement, Gatterman Synthesis and Reimer Tiemann Reaction, Baeyer- Vileger Oxidation, Benzoin, Aldol Knoenenagel condensations, Mannich Reactions. Hoffmann Bromamide Reactions, Gattermann Koch synthesis, Hell-Volhard-Zelinsky Reaction. Regents in organic chemistry - LiAlH_4 , LTA, PTC.
3. To understand the basic functional group transformations, Aromatic electrophilic substitution reactions, nucleophilic additions.

(Physical Chemistry-I) Paper X

1. To understand the basic concepts in thermodynamics.
2. To understand the laws of thermodynamics and terms like W , q , du and dH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process, Hess's law.
3. To study Carnot cycle, its applications, concept of entropy, Gibbs and Helmholtz Functions, Criteria for thermodynamic equilibrium and spontaneity, their advantage over entropy change. Variation A with P , V and T .
4. To understand equilibrium constant and free energy - law of mass action, Le Chatelier's principle, Reaction isotherm and reaction isochore, Clapeyron equation, Clausius- Clapeyron equation.

(Physical Chemistry-II) Paper XIV

1. To study the basic terms and laws- Henry law, Raoult's law in phase equilibrium and phase rule.
2. To understand different systems- Water, Pb-Ag, Mg-Zn, $FeCl_3-H_2O$, phenol-water, trimethyl amine - water, nicotine- water system, acetone-dry ice.
3. To understand the concept of ideal behavior and deviations from ideality.
4. To understand the concept of conductivity and its types, Kohlrausch's law, Arrhenius Theory of Electrolyte Dissociation, Ostwald's dilution law, Transport number: and its determination, Conductometric titrations.
5. To familiarize with types of reversible electrodes, Nernst Equation, Cell E.M.F., single electrode potential, Reference electrodes, Electro-chemical series, Electrolytic and galvanic cells, types of cells, Thermodynamic quantities of cell reactions, Concepts - pH , pK_a and their determination, Buffers- types, and mechanism of action, Henderson- Hasselbalch equation. Corrosion: Concept, types and electrochemical theory.

(Inorganic Chemistry) Paper XIII

1. To familiarize with transition elements, lanthanides and actinides with reference to characteristics, position in periodic table and variation in periodic properties.
2. To understand concepts and theories in coordination compounds -Werner's co-ordination theory, EAN rule, VBT, isomerism, chelates.
3. To understand the concepts of acids and bases - Arrhenius, Bronsted-Lawry, Lux-Flood, Solvent System and Lewis Concept of Acids and Bases
4. To study chemical reaction in non-aqueous solvents.

Paper XVII Physical Chemistry

1. To understand concepts in Quantum Mechanics - Black body radiation, Planck's radiation law, photoelectric effect, Bohr's modes of hydrogen atom, Compton Effect. De Broglie Hypothesis, the Heisenberg's uncertainty principle, Hamiltonian operator, Schrödinger wave equation postulates of quantum mechanics. Schrödinger wave equation for H-atom.
2. To study the basics of spectroscopy - Electromagnetic radiation, regions of the spectrum, Born-Oppenheimer approximation, Rotational Spectrum - Diatomic molecules, energy levels of a rigid rotor (semi classical principles), selection rule, rotational spectra of rigid diatomic molecule, determination of bond length.
3. To understand photochemistry - Photochemical processes, laws of photochemistry, Grothus - Drapper law, Stark-Einstein law, Jablonski diagram qualitative description of fluorescence, phosphorescence, nonradiative processes, quantum yield and photosensitized reactions.
4. To study some physical properties and their relation with the assignment of molecular structure- Optical activity, dipole moment, magnetic property.
5. To introduce nano-materials - Properties, methods of synthesis and applications.

Paper XVIII Organic Chemistry

1. To introduce organic spectroscopy - ^1H NMR, shielding and deshielding, chemical shifts, interpretation of PMR spectra of simple organic molecules, combined problems on UV, IR and PMR spectroscopic techniques.
2. To familiarize students with organometallic compounds - Structure, methods of synthesis and synthetic applications of Grignard reagents, Organozinc and organolithium compound.
3. To understand organic synthesis via enolates - Active methylene compounds, Claisen condensation, Acidity of alpha hydrogen and its synthetic applications.
4. To introduce Fats, oils and detergents - Saponification value, iodine value, and acid value. Detergents preparation of sodium alkyl sulphonate, alkyl benzene sulphonate, and amide sulphonate, cleansing action of detergent.

Paper XIX Organic Chemistry

1. To understand nature metal-ligand bonding in transition metal complexes - crystal field theory with respect to octahedral, tetrahedral and square planer complex.
2. To familiarize with electronic spectra of transition metal complexes.
3. To introduce organo metallic compounds - classification, nomenclature, synthesis and reactions.
4. To study the roles and biological functions of metals in biological systems.
5. To introduce chromatography - types, classification and applications.

Paper No. XVII Organic Chemistry

1. Curriculum benefits to study the heterocyclic compounds in details, their aromatic characters and importance in medicinal chemistry, structure elucidation of five and six member heterocyclic compounds using molecular orbital theory.
2. It covers synthesis and properties of some five and six member heterocyclic compounds.
3. It helps to study carbohydrates chemistry and their importance.
4. It covers synthesis and properties of some polymers, polymerization reactions.
5. It covers constitution, classification, synthesis and properties of some dyes.
6. It covers constitution, classification, synthesis, properties and applications of some drugs.

Mathematics

B. Sc.- Mathematics Differential Equations

- CO1:** To understand the homogeneous and separable first order differential equations.
- CO2:** To understand the exact differential equations.
- CO3:** To understand homogenous linear equation with constant coefficient and variable coefficient
- CO4:** To find the solution of non homogenous first order differential equations.
- CO5:** To find the solution of Bernoulli's equation.

Geometry

- CO1:** To understand geometrical terminology for plane, right line, sphere, cylinder and cone.
- CO2:** To know the geometrical results to find centre and radius of the circle.
- CO3:** Students find equation of lines and planes in space.
- CO4:** Student will be able to find angle between two planes and to find length of perpendicular from a given point to a given line.
- CO5:** Students are able to identify parallel and perpendicular lines.

Differential and Integral Calculus

- CO1:** Students develop the concepts of limit, function, continuity, discontinuity and derivative.
- CO2:** Students become familiar with hyperbolic functions, inverse hyperbolic functions, derivatives, and higher order differentiation.
- CO3:** Students understand the consequences of Rolle's Theorem and mean value theorem for differentiable function.
- CO4:** Student understands definite integral as the limit of a sum.
- CO5:** Student will be able to understand the concept of divergence, curl, gradient and it's applications.

Number Theory

CO1: Students are able to find quotient and remainders from integer division.

CO2: Students apply Euclid's algorithm and Backward substitutions.

CO3: Students understand the concept of Congruences, residue classes and least residue.

CO4: Student knows the concepts addition and multiplication of integers modulo n .

CO5: Students are able to solve linear congruences.

Numerical Methods.

CO1: Student becomes familiar with numerical solutions of nonlinear equations in a single variable.

CO2: Students know the concepts numerical interpolation and approximation of functions.

CO3: Student solve first order initial value problem using Euler's method.

CO4: Student solve first order initial value problem using a second order Runge- Kutta Method.

CO5: Students are able to find numerical solution of ordinary differential equations.

Integral Transform and Partial differential Equations

CO1: Students understand the concept of beta and gamma function and its application.

CO2: Students are able use to Laplace transform to solve ordinary and partial differential equation.

CO3: Students apply the properties of Laplace Transform to solve examples.

CO4: Students know the difference between linear and nonlinear partial differential equations.

CO5: Student able to solve the linear and nonlinear partial differential equation by various methods like Lagrange's, Charpit's, Jacobi's, Monge's Method.

Mechanics (I & II)

CO1: Students understand the concepts particle, rigid body, force, equilibrium etc.

CO2: Students can find the components of velocity and acceleration in a given direction.

CO3: Students follow the concepts momentum, angular momentum, work, energy and points functions in mechanics.

CO4: Students know what is projectile and motion of projectile.

CO5: Students know the differential and pedal equations of central orbits and their applications

Abstract Algebra (I & II)

- CO1:** Students understand the number systems and algebraic structures.
- CO2:** Students understand the concept Ring and special types of Rings.
- CO3:** Students identify the difference between homomorphism and isomorphism of a group.
- CO4:** Students know and apply the concepts of linear dependence and linear independence of vectors.
- CO5:** Students are able to give the examples of inner product space.

Ordinary Differential Equations (I & II)

- CO1:** Students know the difference between equation and differential equation.
- CO2:** Students are able to find the solution of linear differential equation of first and second order.
- CO3:** Students understand the initial value problem and its solutions.
- CO4:** Students know the concept Wronskian of solution.
- CO5:** Students can find singular point and regular singular point of the differential equation.

Real Analysis (I & II)

- CO1:** Students become familiar with terminology sets, elements, operations on sets, functions, operations on functions.
- CO2:** Students are able to define and recognize the basic properties of the field of real numbers.
- CO3:** Students are able to understand the concept of series of real numbers, convergence and Divergence.
- CO4:** Students are able to understand the definition of Metric Space and continuous function on metric space and difference between open sets and closed sets.
- CO5:** Students are able to define Riemann integral and its properties and also Fourier series and its application

Botany

B. Sc. Botany Diversity of Cryptogams-I

CO1: Introduction about basic plant group like Algae and Fungi.

CO2: To equip the students with all life science fundamental practical skills.

CO3: Make aware about the economic and medicinal value of cryptogrammic plant.

Morphology of Angiosperms

CO1: Introduction about basic structure of plants.

CO2: To develop practical knowledge of Angiosperm plants

Diversity of Cryptogams-II

CO1: To understand the various category of plants with morphological features of Bryophytes and Pteridophytes.

CO2: Analyze the peculiar characteristics features of plant groups in relation with its internal characteristics.

CO3: Make aware of economic and medicinal value of cryptogrammic plant.

Histology, Anatomy and Embryology

CO1: To get detail knowledge of internal structure of plant parts CO2: To use this knowledge in Wood Industry, Forensic science. CO3: To understand development of seed and seed certification.

Taxonomy of Angiosperm

CO1: Familiarize with basic terminology, plant systematic and its different classification.

CO2: To identify Angiosperm plants and their use.

Plant Ecology

CO1: Knowledge of anatomical characterization of plant for the understanding ecological adaptation.

CO2: Study its eco-friendly conservation and sustainable utilization.

CO3: Students cop up with the ecosystem mechanism, analyzing plants ecosystem.

Gymnosperms and Utilization of plants

CO1: To make aware about the economic and medicinal value of Gymnosperms and Angiosperms.

CO2: To understand some important terminology in industrial economically important higher plant groups species.

Plant Physiology

CO1: To understand plant physiology, different life process, streams like Plant genetics and Plant biotechnology.

CO2: To use the knowledge for advance study in plant sciences.

Cell and Molecular Biology

CO1: To create the innovative approaches to aware the students in basic terminology of plant cell

CO2: To get the detailed knowledge of cell at molecular level.

CO3: To apply this information for development of humankind

Diversity of Angiosperms-I

CO1: Create awareness about the plant resources

CO2: To classify plants on the basis of various morphological aspects

CO3: Participate in laboratory experiments for understanding the basic principles of life sciences and helpful for gaining primary information.

Genetics and Biotechnology

CO1: To Study basic terms in Mendelian and Non mendelian genetics

CO2: To focus on Biotechnological importance for improvement and satisfaction of all need of human kinds

CO3: To give basic information regarding the plant biotechnology and its application in agriculture, Horticulture, medicinal and industrial crops.

Diversity of Angiosperms-II

CO1: To study its eco-friendly conservation and sustainable utilization of plants

CO2: Knowledge about flora in the area.

Zoology

B. Sc. Zoology Protozoa to Annelida

CO1: To create awareness about fundamental invertebrate animals in nature and their classification as phylum system anatomy and development.

CO2: To equip the students with all life science fundamental practical skills.

Cell biology I

CO1: To understand the important terminology structure and function important Cell organelles in animal cell.

CO2: To study cell structure, process of cell division. Arthropoda to Echinodermata &

Protochordata

CO1: To introduce the students to higher invertebrates, morphological features, evolutionary development and connecting links and adaptations.

CO2: To analyze the peculiar characteristics of animal groups in relation with its internal characteristics.

Genetics-I

CO1: To understand some important terminology in Genetics, Laws, & its applications

CO2: To observe and calculate probabilities in cross, heredity and variations in.

Vertebrate Zoology

CO1: To familiarize with basic terminology, Animal systematics and its different Classification, Anatomy and development.

CO2: To understand classification, morphological structures, identification of specimens and anatomy of some animals, embryological process of development

Genetics-II

CO1: To create awareness of mechanism of protein synthesis, DNA fingerprinting, Recombinant DNA technology, various methods employed for rDNA.

CO2: To understand mechanism of protein synthesis, problems on genetics.

Animal physiology

CO1: To study different animal processes

CO2: To understand life processes through experiments.

Biochemistry & Endocrinology

CO1: To focus on biochemical processes, metabolism and catabolism process.

CO2: To inculcate the knowledge for advance study in biochemical reactions, analysis instruments principle & use.

Ecology

CO1: To study basic terms and subject application in life Sciences

CO2: To understand the basic information of types of ecosystems, role of living things in ecosystems, deals with basic ecological concepts.

CO3: To analyze biotic and abiotic factors, animal interactions etc.

Evolution

CO1: To study basic terms and subject application in life Sciences.

CO2: To participate in laboratory experiments for understanding the basic principles of evolution through models and helpful for gaining primary information.

Geography

B.A.I Semester I /II

Elements of Physical Geography (Geo 101)

Geography of Land formation (Geo 103)

Paper No. I/III

COS1. Students understanding to the key areas of Physical Geography.

COS 2. Student interested in Geography field for his carrier.

COS 3. Understanding the origin of the earth.

COS 4. Descriptions Exogamic process.

B.A.II Semester III /IV

Climatology (Geo 106)

Oceanography (Geo 108)

Paper No. VI / VIII

COS1.Students understands to the key areas of Climatology and Oceanography.

COS 2. Understanding atmospheric pressure and wind.

COS 3. To understand the Role of Climate in human life.

COS 4. Human are understands the impact of marine environment

COS 5. Explains the physical and chemical property of sea water.

COS 6. Understand marine biological environment.

B.A.III Semester V/VI**Physical Geography of India (Geo 111)****Agricultural Geography of India (Geo 115)****Paper No. XI/XV**

COS1. Student is getting the knowledge to functioning of the India and State information.

COS 2. To study the art and culture with amalgamate to Indian culture.

COS 3. Understanding Tourism planning and development.

COS 4. Understand the scope and significance of Agriculture Geography.

COS 5. Determinants of Agricultural patterns of Physical, economic, social and techniques.

Practical V/X

Practical knowledge of Statistical and cartographic analysis of Economic Attributes,
Economic Maps and Diagrams.