PROGRAMME OUTCOME (PO)

PROGRAMME SPECIFIC OUTCOME (PSO)

&

COURSE OUTCOME (CO)

FOR UNDER GRADUATE COURSES

INTERNAL QUALITY ASSURANCE CELL (IQAC)

GANJAM COLLEGE, GANJAM

Dist. Ganjam, Odisha

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ARTS STREAM

ECONOMICS

PROGRAMME OUTCOMES

PO1.	Economics subject enables the learners to build up a professional carrier as economists, financial advisors, economics planners and policymakers including self-employment.
PO2.	Students could be involved with several developmental activities undertaken by central and state govt.
PO3.	Through research the students could be able to know the real problems prevailing in this country which motivate them to work for national development.

PROGRAM SPECIFIC OUTCOMES

PSO1.	Make the students understand basic principles of Economics and shall have knowledge the historical developments in the economic thoughts propounded by different schools.
PSO2.	Understand the micro and macro level issues.
PSO3.	Know about different theories of international trade with barriers.
PSO4.	Acquaint with some basic statistical methods as well as mathematical methods to be applied in economics.
PSO5.	Learn the evolution of money and important of financial institutions in India.
PSO6.	Acquaint with some basic theoretical concept of fiscal policy and monetary policy.
PSO7.	Acquaint with the measurement of development with the help of theories along with the conceptual issues of Indian economy.
PSO8.	Learn the salient features of Indian economy.
PSO9.	Know the important of green GNP through SDG along with different types of solution.

COURSE OUTCOMES

SEMESTER –I

Core – I (INTRODUCTORY MICROECONOMICS)

CO1	After completion of this course, the students shall be able to explore the subject matter of Economics
CO2	They will be able to know market forces (demand and supply) and welfare economics.
CO3	The students shall have knowledge about different type of markets.
CO4	They shall be able to know about budget constraints and consumers' behaviour

Core – II (MATHEMATICAL METHODS FOR ECONOMICS – I)

CO1	After completion of this paper, the students will be able to know basic concepts of mathematical tools .
CO2	This course will enable students to know more about Number system and set operations.
CO3	They shall Use matrix to solve the equations in economics.
CO4	They can use mathematical tool to optimize different problems.

SEMESTER – II

Core – III (INTRODUCTORY MACRO ECONOMICS)

CO1	After completion of this paper, the students will be able to know basic concepts of macro economics.
CO2	They shall have knowledge about Measurement of macroeconomic values.
CO3	This will enable the students to know about evolution and functions of money.
CO4	They shall be able to understand about Business Cycle.

Core – IV (MATHEMATICAL METHODS FOR ECONOMICS – II)

CO1	After completion of this paper, the students will be able to know basic concepts of applied Economics.
CO2	They shall have knowledge about Second, higher order derivatives total derivatives.
CO3	They shall be able to solve the linear programming problem.
CO4	They can solve Single and multivariable optimization with constraints.

SEMESTER –III

Core – V (MICROECONOMICS-1)

CO1	After completion of this course, the students shall be able to know the Basic concepts of microeconomics such as laws of demand and supplyand different types of elasticity etc.
CO2	They shall understand Concepts of consumer behaviors' like cardinal utility and ordinal utilityanalysis and about consumers' surplus.
CO3	This will enable students to make understand maximization of consumers utility.
CO4	They shall be able to know different production function, laws of returns to scale, law of variable proportion.

Core – VI (MACROECONOMICS – I)

CO1	The students will be able to know the different theory related with macro level issues.
CO2	They can do research with this macro level data along with different theory i.e theories of Investment Function. Inflation, unemployment, expectations and trade cycles.
CO3	They shall have knowledge about function of money.
CO4	They shall have knowledge about private and public investment and MEI and MEC.

Core – VII (STATISTICAL METHODS FOR ECONOMICS)

CO1	After completion of this paper the students shall be able to understand about the basic concept and important of statistics in real world.
CO2	This will surely help the students in their research works.
CO3	They shall have knowledge about how to calculate CPI and WPI with the help of index number.
CO4	They shall have ideas about probabilities theories.

SEMESTER – IV

Core – VIII (MICROECNOMICS – II)

CO1	After completion of this course the students shall have analytical knowledge behavioral patterns of different economic agents regarding profit, price, cost etc.

CO2	They may be capable in the decision making process in different market situations such as perfect competition, monopolistic competition, monopoly and oligopoly markets in real world.
CO3	They shall have knowledge about supply condition with different time frame and welfare theorems.
CO4	This will enable the students to understand game theory and their application.

Core – IX (MACROECONOMICS – II)

CO1	This course will help students understand financial markets and reforms.
CO2	This course intends to enable the students to understand various alternative theories of output and employment determination in an economy in short run as well as long run.
CO3	The students will be aware of the long run dynamics issues like growth and technical progress.
CO4	They shall have knowledge about Schools of macroeconomic thought and the fundamentals of macroeconomic theory and policy.

Core – X (RESEARCH METHODOLOGY)

CO1	This course is to develop a research orientation among the students and to acquaint them with fundamentals of research methods.
CO2	It aims at introducing the students to the basic concepts used in research both scientific and social research methods such as sampling techniques , research designs and techniques of analysis.
CO3	This will be very helpful for them in higher studies and make them as a successful researcher
CO4	This will enable the students to involve in different developmental programmes undertaken by government.

SEMESTER – V

Core – XI (INDIAN ECONOMY – I)

CO1	After completion of this course, the students shall be able to have knowledge of basic characteristics of Indian economy as a developingeconomy.
CO2	This course will enable the students to examine the sector-specific policies and their impact in shaping trends in key economic indicators in India.
CO3	They shall have knowledge about sectoral development and Indian economics trend.
CO4	It would help them to highlight major policy debates and to evaluate the Indian empirical evidence

Core – XII (DEVELOPMENT ECONOMICS – I)

CO1	The students shall be able to have knowledge of economic development theories.
CO2	This would help the students to understand the aggregate models of growth and cross national comparisons of growth experiences helping to evaluate these models..
CO3	The student would be able to link the political institutions to growth and inequality by discussing the role of the state in economic development.
CO4	This will also help to understand the environment development linkages.

DSE – I (PUBLIC ECONOMICS)

CO1	After completing this course, the student will be able to study the various government policies from the point of view of economic efficiency and equity.
CO2	The student will have idea about the nature of government intervention and its implications on issues of allocation, distribution and stabilization.
CO3	This will also help the students to analyse the formal government taxation and expenditure, public goods, market failure and externalities
CO4	The students shall have knowledge about public debt i.e internal and external debt and its effects and burden on us.

DSE – II (MONEY, BANKING AND FINANCIAL MARKET)

CO1	After completion of this course, the students will know about evolution of money and important and function of banking system.
CO2	This course exposes students to the theories and functioning of the monetary and financial sectors of the economy.
CO3	It will enable the students to acquire knowledge about interest rates, monetary management and instruments of monetary control with special reference to Indian economy.
CO4	The students shall have knowledge of Indian financial market.

SEMESTER VI

Core – XIII (INDIAN ECONOMY – II)

CO1	Once the course is completed, the students shall have an idea about Agricultural development in India.
CO2	They have deeper idea of Industrial development in India and Tertiary sector and HRD.
CO3	The students shall have knowledge of Indian economy and environment - Environmental Policies, rules, National Forest policy, Policy statement for abatement of pollution,National conservation strategy, etc.
CO4	This will enable the students to know External sector- Foreign trade, export and import, balance of payment,trade policies,and foreign capital.

Core – XIV (DEVELOPMENT ECONOMICS – II)

CO1	This course will enable students to know about Population and development - Demographic concepts, costs and benefits of population growth etc.
CO2	This shall enable the students to have knowledge Dualism and economic development - Geographic, social and technological, regional inequalities, international inequality, dependency,exploitation and unequal exchange.
CO3	The students shall have ideas of Globalisation, and link between international trade and economic development.
CO4	This will help the students the basic understanding of international financial market.

DSE – III (INTERNATIONAL ECONOMICS)

CO1	Having completed this course, the students should know the Importanceof trade and trade theories.
CO2	This course will give opportunity to the students to understand various theories of international trade and to develop insights into trade policy and balance of payments.
CO3	The student can have a deeper understanding of international financial system and trade policies of India.
CO4	The students shall have knowledge about exchange rate and international monetary basket.

DSE – 4: DISSERTATION/RESEARCH WRITING

CO1	At the end of the course students should have been clear about the research statement and its rationale.
CO2	Students should have made review of literature stating the validity of the project.
CO3	Students should have learnt research methodology and its application, data collection and interpretation.
CO4	Students should be able to state the contribution of the project to the existing body of research and direction for future research.

ENGLISH

A) PROGRAMME OUTCOMES (POs)

PO1	Read, interpret and write about a diverse range of texts in English
PO 2	Understand those texts analytically and critically.
PO 3	Understand those texts on the basis of careful close reading.
PO 4	Understand those texts through past and current literary theory.
PO 5	Participate in the critical and cultural discourses of English.
PO 6	Participate appropriately through multiple spoken and written forms.
PO 7	Analyze instances of the variety of literary forms closely in terms of style, figurative language and convention.

B) PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO 1	The students acquire the requisite literary sense, approach and comprehension of the subject.
PSO 2	The students acquire the skills for academic, creative and critical, content and review writing among others.
PSO 3	The students gain knowledge over the cultural history of countries and continents t.
PSO 4	The students learn research methodology and its application on texts and genres.
PSO 5	The students acquire excellent oratorical and communication skills.
PSO 6	The students can prepare for Post-B.A. endeavors including higher studies and careers in academics, journalism, editing, content writing, Book Review, publishing and others.

C) COURSE OUTCOMES (C0s)

SEMESTER I

CORE -- 1: BRITISH POETRY AND DRAMA: 14TH TO 17TH CENTURIES

CO1	After completion of this course, students shall have an understanding of 14^{th} century poetry and drama, spirit of renaissance including the socio-cultural milieu of the period.
CO2	Students will have an understanding of major poets and dramatists of 14^{th} C & Renaissance and their texts.
CO3	Students will develop understanding of genres like Mysteries, Miracles, Tragedy, Comedy, Epic, Ballad, Beast Fables, Sonnets, Lyrics
CO4	Students will develop an understanding of literary devices like allegory and concepts like medievalism, Renaissance, Humanism, Reformation and others.

CORE -- 2: BRITISH POETRY AND DRAMA: 17TH & 18TH CENTURIES

CO1	This course will enable students to have knowledge of English Revolution, Puritanism, Restoration, Glorious Revolution, Neo-classicism, Enlightenment etc.
CO2	It will enable students to understand the genres -- Comedy of Humours, Masques, Beast Fables, Comedy of Manners, Heroic Tragedy, Satire, Heroic Poetry .
CO3	It will enable students develop an understanding of the major texts and authors of 17^{th} and 18^{th} Century
CO4	Students shall gain knowledge of the historical, social and cultural significance of the period including the key events.

SEMESTER II

CORE -- 3: BRITISH PROSE: 18^{th} CENTURY

CO1	This course will lead the students to develop understanding of the genre of Prose and the circumstances that led to its development.
CO2	Students will gain familiarity with the major prose writers of 18^{th} Century and the form of Periodical Essay.
CO3	Students will gain insight into the first feminist literature in Mary Wollstonecraft.
CO4	Students will have an understanding of this age and why it is called the Age of Prose and Reason.

CORE -- 4: INDIAN WRITING IN ENGLISH

CO1	Students will get an understanding of the factors that led to the development of Indian Writing in English.
CO2	Students will gain an understanding of historical factors like the arrival of the East India Company, Implementation of Macaulay's Minutes etc.
CO3	Students will be familiar with the major texts and writers of Indian Writing in English.
CO4	By the end of this course students will have an understanding of the key points of Indian Writing in English including its emergent issues.

SEMESTER III

CORE -- 5: BRITISH ROMANTIC LITERATURE

CO1	After completing this course students will have gained understanding of Romantic Revival and its association with the French Revolution including the revolutionary spirit among the poets.
CO2	Students will have gained an understanding of the concept of Romanticism vs. Classicism.
CO3	Students shall have gained knowledge of the characteristic features of the romantic literature like relationship with nature, imagination, individualism etc.
CO4	Students will be familiar with the major poets and their work including Wordsworth's "Preface" to the 2nd Edition of *Lyrical Ballads*.

CORE -- 6: BRITISH LITERATURE 19th CENTURY

CO1	After completing this course students would have gained an understanding of the major socio-political developments of the century like industrialization, large scale mobilization of people from rural to urban centers etc.
CO2	Students will have read major Victorian poets and novelists and understand the tone of Victorian Literature.
CO3	Students will have an understanding of genres like Dramatic Monologue and Novels of social realism.
CO4	Students will have gained an understanding of Literary Criticism through Matthew Arnold's "Study of Poetry".

CORE -- 7: BRITISH LITERATURE: EARLY 20th CENTURY

CO1	At the end of this course students will have gained understanding of impact of the First World War and the crisis that came over knowing and perceiving.
CO2	Students will have understood Marxian concept of class struggle and Freudian concept of the Unconscious.
CO3	Students will have gained understanding of the major early 20th Century poets, dramatists and novelists and their work.
CO4	Students will have understood genres like the Stream of Consciousness Narrative and Literary Criticism like Eliot's "Tradition and Individual Talent"

SEMESTER IV

CORE -- 8: AMERICAN LITERATURE

CO1	Students shall have an understanding of the genesis and evolution of American Literature.
CO2	Students shall have an understanding of the defining myths of American Literature like

	city on a hill, frontier myth, American Dream etc.
CO3	Students shall attain an understanding of the major authors who shaped the American Literature.
CO4	Students shall have attained an understanding of the major texts of American Literature.

CORE -- 9: EUROPEAN CLASSICAL LITERATURE

CO1	The students shall be able to know Classical Antiquity including the cultural history of the Greco-Roman empire.
CO2	Students shall attain an understanding of Epic poetry.
CO3	Students shall have an understanding of Classical Tragdy.
CO4	Students shall have attained an understanding of Aristotle's *Poetics.*

SEMESTER V

CORE -- 10: WOMEN'S WRITING

CO1	At the end of this course students shall attain a critical understanding of the issues of gender, patriarchy etc.
CO2	Students should have attained an understanding of the seminal texts of women's writing from different cultures and nations.
CO3	Students shall have attained an understanding of the literary representation of women.
CO4	Students shall have attained an understanding of the history of women's writing.

CORE -- 11: MODERN EUROPEAN DRAMA

CO1	Students should have attained an understanding of the stage, text and performance and techniques.
CO2	Students should have an understanding of concepts related to modern European drama like realism and Experimental theatre.
CO3	Students should have attained an understanding of the major dramatists of this period and their work.
CO4	Students should have attained an understanding of genres like Epic Theatre and Theatre of the Absurd.

DSE 1: LITERARY THEORY

CO1	At the end of the course students should be able to understand the basic premises and issues of major theoretical approaches to literary texts.
CO2	Students should be able to understand New Criticism, Formalism and Structuralism and its application to literary texts.
CO3	Students should be able to understand Marxist Criticism and its application.

CO4	Students should be able to understand Feminist Criticism and its application in textual analysis.

DSE 2: WORLD LITERATURE

CO1	At the end of the course students should have knowledge of texts beyond the Classical European Canon and cultural globalization.
CO2	Students should be able to understand contemporary European Literature through texts like Albert Camus's *The Outsider*.
CO3	Students should be able to understand Caribbean and Canadian Literature.
CO4	Students should have an understanding of Latin American Literature, esp. Poetry.

SEMESTER VI

CORE -- 13: POSTCOLONIAL LITERATURE

CO1	At the end of the course students should have attained an understanding of Postcolonialism and the movements and theories against the Empire.
CO2	Students should be able to think and approach the text through the layered response of compliance, resistance, mimicry and subversion.
CO3	Students should have attained an understanding of the leading postcolonial thinkers like Edward Said. Spivak, Franz Fanon and others.
CO4	Students should have attained an understanding of postcolonial writers and their work.

CORE -- 14: POPULAR LITERATURE

CO1	Students should have attained an understanding of popular literature including the debates surrounding high brow/low brow culture.
CO2	Students should have attained an understanding of genres like Children's Literature, Detecitve Fiction, Campus Fiction and others.
CO3	Students should have attained an understanding of the major writers of Popular Literature and their work.
CO4	Students should have attained an understanding of popular literature as opposed to literary fiction.

DSE – 3: PARTITION LITERATURE

CO1	At the end of the course students should have attained an understanding of partition literature including the issues of loss, trauma, communalism among others.
CO2	Students should have an understanding of texts and authors of Partition Literature.
CO3	Students should be able to trace the trajectory of partition literary representations.
CO4	Students should be able to understand the ideological contours of all representations of partition.

DSE – 4: DISSERTATION/RESEARCH WRITING

CO1	At the end of the course students should have been clear about the research statement and its rationale.
CO2	Students should have made review of literature stating the validity of the project.
CO3	Students should have learnt research methodology and its application, data collection and interpretation.
CO4	Students should be able to state the contribution of the project to the existing body of research and direction for future research.

HISTORY

A) PROGRAMME OUTCOMES (POs)

PO1	Interpret history of evolution of men and development of civilization.
PO 2	Examine the history of ancient India and also highlighted the important dynasties.
PO 3	Evaluate the history of ancient and world civilization.
PO 4	Examine the concepts, theories and methods of history and historiography.
PO 5	Elaborate history of political and socio- economic issues modern India.
PO 6	Trace the development in regional history.
PO 7	Apply historical concepts,tools and techniques in project writing.

B) PROGRAMSPECIFICOUTCOMES (PSOs)

PSO 1	The students acquire the knowledge of history of human origin to the growth of human being.
PSO 2	The students acquire the knowledge of great and glorious past of India and also developed the sense of respect and pride for their culture.
PSO 3	The students gain knowledge over the great leaders, their contribution and struggles for independence
PSO 4	The students learn research methodology and its application on their project works, which help them for further research work
PSO 5	The students acquire knowledge on History nomenclature and topography of Odisha.
PSO 6	The students can prepare for Post-B.A. endeavors including higher studies and careers in academics, research works and others competitive examinations.

C) COURSE OUTCOMES (COs)

SEMESTER I

CORE -- 1: HISTORY OF INDIA-I

CO1	Students developed critical thinking through evolution of the record of the past and understood how historians and others have interpreted it.
CO2	Students will have an understanding of pre-historic culture and development of tool makings ,food production and beginning of agriculture.
CO3	Students will develop understanding the origin, settlement and town planning, religious beliefs ofHarappan civilization.
CO4	Students will develop their knowledge about the ancient texts of India of Vedic age and find out the difference of Early Vedic and Later Vedic age.

CORE -- 2: SOCIAL FORMATION AND CULTURAL PATTERNS OF THE ANCIENT WORLD

CO1	After the completion of the unit the students will be trace the origin of people known as the first modern human and identify the time and place in which these people lived.
CO2	It will enable students to discuss and define technological advancements during the Neolithic age.
CO3	It will enable students develop an understanding of major Bronze age civilization like Egypt, Mesopotamia and China and they can know about their economic, cultural and diplomatic networks .
CO4	Students shall gain knowledge of the ancient Greece – Sparta and Athens geographical location and their political, economic can easily understand by them.

SEMESTER II

CORE -- 3: HISTORY OF INDIA-II (300 BCE-750CE.)

CO1	This course will lead the students to develop understanding the institutional basis of Ancient India
CO2	Students will easily understand the post Mauryan politics and changing political scenario of south India,.
CO3	Students will gain insight into the history of early Medieval India and changing norms of marriage and proliferation of jatis.
CO4	Students will gain knowledge of religious principles, culture, art and architecture of ancient India.

CORE -- 4: SOCIAL FORMATIONS AND CULTURAL PATTERNS OF THE MEDIEVAL WORLD

CO1	Students will get an understanding about the religion, culture, literature and philosophy of the ancient Roman civilization.
CO2	Students can also learn about the socio-economic and political condition of the feudal organization , town's formation, trade and commerce, technological developments and crisis of feudalism in Europe.
CO3	Students will be familiar with the religion and cultural development in medieval European society,
CO4	By the end of this course students will have an understanding about rise of Islam and origin of Shariah law.

SEMESTER III

CORE -- 5: HISTORY OF INDIA-III (c. 750-1206)

CO1	After completing this course students will have gained understanding of evolution of Rajputs and Cholas and also developed idea of Arab conquest.
CO2	Students will have gained an understanding of agrarian structure and social changes of early mediaeval India.
CO3	Students shall have gained knowledge of maritime trade and forms of exchange and urbanization process .
CO4	Students will be familiar with the puranic tradition , islamic intellectual tradition and evolution of regional art and literature.

CORE-- 6: RISE OF MODERN WEST -I

CO1	After completing this course students would have gained an understanding about the rise of the modern west and transition the society and economy from feudalism to capitalism
CO2	Students will have gained an understanding of sea voyages and exploration .
CO3	Students will have an understanding about the origin and rise of Renaissance in Italy and spread of humanism and results of the European Reformation in the 16th century.
CO4	Students will have gained an understanding of Shift economic balance from the Mediterranean to the Atlantic, Commercial Revolution and growth of industries.

CORE -- 7: HISTORY OF INDIA IV (c.1206-1526)

CO1	Students of history will learn about the foundation, expansion and consolidation of the Sultanate of Delhi .
CO2	Students will have understood the emergence of provincial dynasties & Consolidation of regional identities like, Bahamani, Vijayanagar and Odisha.
CO3	Students will acquire the knowledge about the activities of Delhi Sultanate i.e., revenue systems, market regulations, growth of urban centers, trade and commerce,Indian overseas trade.
CO4	Students can get the idea of religious syncretism; rise of Sufi and Bhakti movement and their impact on Indian society.

SEMESTER IV

CORE -- 8: RISE OF MODERN WEST-II

CO1	Students shall have an understanding of European Politics in the 18th century.
CO2	Students shall have an understanding of impact of modern science on European society.
CO3	Students shall attain an understanding of impact of Industrial revolution ,growth of Mercantilism
CO4	Students shall have attained an understanding of American revolution and socio-economic issues of America.

CORE --9: HISTORY OF INDIA-V (c. 1526-1750)

CO1	The students shallbe acquire knowledge towards the Turkey's invasion & Struggle for Empire in North-Western India and foundation of the Mughal Rule in India
CO2	Students shall attain an understanding of administrative institution of Mughals and also inspired by the heroic rise of Shivaji.
CO3	Students shall have an understanding of trade routes, internal and overseas trade of mediaeval period.
CO4	Students shall have attained an understanding of Mughal cultural ideals and religious tolerance.

SEMESTER V

CORE -- 10: HISTORICAL THEORIES AND METHODS

CO1	At the end of this course students can understand the meaning, scope and value of history.
CO2	Students should have attained an understanding of the traditional history writings i.e., Greeco Roman Traditions, Medieval understanding, scientific history, total history.
CO3	Students shall have attained an understanding of relation of history with other

	interdisciplinary practice like Anthropology, Political science and others,
CO4	Students shall have attained an understanding of ideas of research area, representation in history and the challenges of writing in history.

CORE -- 11: HISTORY OF MODERN EUROPE –I (c.1780-1880)

CO1	At the end of the course students should have attained an understanding of French revolution of 1789.
CO2	Students should have an understanding of formation of national assembly in Europe and Napoleonic consolidation and reforms.
CO3	Students should have an understanding of revolution in Europe between 1815-1848.
CO4	Students should have an understanding of socio-economic transformation of Europe.

CORE -- 12: HISTORY OF INDIA –VII (c.1750-1857)

CO1	Students should have an understanding of the Socio, economic, cultural and Political background of Modern India.
CO2	Students should have an understanding of colonial ideology and development of education system under British's rule.
CO3	Students should have attained an understanding of economic system and commercialization of agriculture under British.
CO4	Students should have attained an understanding of popular resistance uprising in India.

DSE 1: HISTORY AND CULTURE OF ODISHA-I

CO1	At the end of the course students should be able to understand the historical geography of Odisha and also know about the background of Kalinga war which became a turning point for Odisha history
CO2	Students should be able to understand the great rulers and their contribution for enrich the history of Odishaand also highlights the political administration, economy and cultural significance of Bhaumakaras and Somavamsis.
CO3	Students should be able to understand the post Gajapatis development in Odisha before the advent of Muslim invaders.
CO4	Students should be able to understand the socio-cultural life in early and medieval Odisha.

DSE 2: HISTORY AND CULTURE OF ODISHA-II

CO1	At the end of the course students should have knowledge regarding the political and cultural condition of Odisha under the Muslim, Maratha and British rule.
CO2	Students should be able to understand the different resistance movements of people of Odisha against the Britishe rule and also help them to know the growth of Education and Odia language.

CO3	Students should be able to understand the reason behind the growth of Odia nationalism and the historical movement for creation of separate province of Odisha can also admire them.
CO4	Students should have an understanding of national movement of Odisha and contribution of Odia leaders for the freedom movement of Odisha.

SEMESTER VI

CORE -- 13: HISTORY OF INDIA-VIII (c. 1857-1950)

CO1	At the end of the course students should have attained an understanding of socio-religious reform movements, emancipation of women and anti caste movements.
CO2	Students should be able to know the political ideologies and activities of moderates and extremist for initial fight against British.
CO3	Students can acquire knowledge about the perspectives and methods of Mahatma Gandhi power in Indian politics and his activities towards the freedom movement.
CO4	Students should have attained an understanding of raise communal politics and opposition politics on the eve of the freedom movement in India and aftermath of partition in India.

CORE -- 14: HISTORY OF MODERN EUROPE –II (c.1880-1939)

CO1	Students should have attained an understanding of working class movements and socialism in 19^{th} and 20^{th} centuries.
CO2	Students should have an understanding of political crisis of Russia.
CO3	Students should have attained the privilege to know about economic evolution, political and diplomatic upheaval of the time.
CO4	Students should have attained an understanding of major intellectual trends.

DSE – 3: HISTORY AND CULTURE OF ODISHA-III

CO1	At the end of the course students should have attained an understanding of major religious development of Odisha.
CO2	Students should have an understanding of growth of Odia literature and Panchasakha literature.
CO3	Students should be able to trace the development of temple architecture and also develop idea about Buddhist art.
CO4	Students should be able to understand the activities of Christian missionaries and Neo-Hindu movements in Odisha.

DSE – 4: PROJECT REPORT

CO1	At the end of the course students should have been clear about the research statement and its rationale.
CO2	Students should have made review of literature stating the validity of the project.

CO3	Students should have learnt research methodology and its application, data collection and interpretation.
CO4	Students should be able to state the contribution of the project to the existing body of research and direction for future research.

PHILOSOPHY

PROGRAM OUTCOMES

PO1	Students graduating through B.A. Hons. Programme in Philosophy are expected to develop an analytical skill which will enable them to solve the problem related issues in the next level of studies.
PO2	Students of this programme will become capable to ask questions, critically appreciate a scholarly presentations and debate upon the issues which invite cross discussions.
PO3	Students graduating in this programme become able to relate the social and national issues to what they have learnt from their books and in the classroom situations.
PO4	Project work and field study give them an experience to learn by themselves and experiment with the theoretical knowledge that they were given within the four wall of the classroom.
PO5	Students completing the programme become confident in the sense that they feel they are employable.
PO6	This college trains the students to undertake primary level of researchwork and thus they become motivated for advanced research when they go for higher studies.

PROGRAMME SPECIFIC OUTCOMES (PSO)

PSO1	BA Philosophy Honours students will be able to acquire knowledge that is vital to the disciple of Philosophy, including knowledge of core concepts, distinctions, theories, argumentative techniques, movements and influential figures within the core fields of aesthetics, ethics, epistemology, logic, metaphysics, social and political Philosophy.
PSO2	The students will be able to reason clearly, employing the principles of logic to construct cogent arguments in both speech and writing.
PSO3	The students will be able to speak and write clearly and cogently.
PSO4	They will be able to think creatively and independently.
PSO5	The students will develop a strong set of critical, imaginative and informed reasoning skills which will help them to understand human mind.

COURSE OUTCOMES

SEMESTER – I

Core – I (GENERAL PHILOSOPHY)

CO1	Students should be able to learn the definition, nature and function of Philosophy.
CO2	Students should have a thorough understanding of the problems of being: Monism and Pluralism.
CO3	Students should have a thorough understanding of the problematics of knowledge and ethics.
CO4	Students should have a thorough understanding of the problems of Metaphysics.

Core – II (LOGIC AND SCIENTIFIC METHOD)

CO1	Students should be able to learn the Definition of logic, Science and Probability.
CO2	Students should have a thorough understanding of the Classification of propositions.
CO3	Students should have a thorough understanding of the Inference – Immediate inference.
CO4	Students should have a thorough understanding of the Inductive reasoning and scientific enquiry.

SEMESTER – II

Core – III (SYSTEMS OF INDIAN PHILOSOPHY – I)

CO1	Students should be able to learn the Salient features of Indian Philosophy.
CO2	Students should have a thorough understanding of the Carvakas.
CO3	Students should be able to learn Jainism and Buddhism.
CO4	Students should have a thorough understanding of the Samkhya dualistic system.

Core – IV (SYMBOLIC LOGIC)

CO1	Students should be able to learn the Introduction to symbolic logic.
CO2	Students should have an understanding of the calculus of propositions.
CO3	Students should be able to learn the elements of predicate calculus.
CO4	Students should have a thorough understanding of the combination of symbols, axioms etc. and the rules of inference.

SEMESTER III

CORE -- 5: SYSTEMS OF INDIAN PHILOSOPHY – II

CO1	This course introduces the rich and diverse Indian schools of Philosophy and contrast them with recent views.
CO2	Students will be able to understand ancient Upanisadic view of Atma and Brahman Vidya and Avidya
CO3	Students will be familiar with Sankara's view on Maya, jiva, isvara.
CO4	In a nutshell students will get a brief understanding of various concepts of Ramanuja.

CORE -- 6: ETHICS

CO1	Students will get an idea about definition, nature and scope of ethics.
CO2	Theories of Utilitarianism and Hedonism will be helpful to students in a decision making process.
CO3	Concepts of Rigorism and Perfectionism will help in character building of the students
CO4	The course will enable the students to understand the impor5tance of morality and virtues and to apply them in their personal as well as professional lives.

CORE -- 7: HISTORY OF GREEK PHILOSOPHY

CO1	This course will provide a brief understanding of nature of Greek Philosophy.
CO2	Students will be able to understand basic philosophy and ideas of Socrates.
CO3	Students will be familiar with various concepts of Plato.
CO4	Students will be well versed in the concepts of Aristotle.

SEMESTER IV

CORE -- 8: CONTEMPORARY INDIAN PHILOSOPHY

CO1	Students shall have attained an understanding of Tagore and his theories about nature of Man, God, Reality and Religion
CO2	Students will be well versed in Sri Aurobindo's ideology of World, Maya, Evolution and Reality.
CO3	Students shall have attained some basic understanding of philosophies of M.K. Gandhi and B.R Ambedkar.
CO4	Students will be familiar with theories of Dr. S. Radhakrishnan

CORE -- 9: HISTORY OF MODERN EUROPEAN PHILOSOPHY

CO1	Students will get thorough understanding of Bacon's theory of Idola and Inductive Method.

CO2	Students will get diverse understanding of Spinoza's concepts of Substance, Attribute and Modes.
CO3	Students will get diverse understanding of various theories of Locke and Hume about Human Mind.
CO4	Students will get thorough understanding of Kant's theory of Reconciliation between Empiricism and Rationalism.

CORE -- 10: PHILOSOPHY OF LANGUAGE

CO1	At the end of this course students shall attain a basic understanding of Word meaning: Ambiguity and Vagueness.
CO2	Students should have attained an understanding of Connotative, Denotative and Ostensive meaning.
CO3	Students shall have attained an understanding of Criteria of sentence meaning
CO4	Students shall have attained an understanding of the concept of Correspondence, Coherence and Truth as it works.

SEMESTER V

CORE – 11: WESTERN CLASSICS: MEDITATIONS OF RENE DESCARTES

CO1	Students should have attained an understanding of Descartes' philosophy of cogito-ergo-sum, sum- res- cogitans, and The Wax Argument
CO2	Students should have an understanding of Theory of ideas and Existence of God
CO3	Students should have attained an understanding of God is no deceiver, Will intellect, Essence of Material Things.
CO4	Students should have attained an understanding of the concept of Mind Body Dualism.

CORE – 12: INDIAN TEXT: ISA UPANISAD

CO1	Students should have attained an understanding of What is Upanishad? Place of Upanishads in Indian Philosophy and what is Isa Upanishad?
CO2	Students should have an understanding of various mantras of Isa upanisad, focusing mainly from Mantra 1 to 9
CO3	Students should have attained an understanding of Mantra 10 to 14 of Isa Upanisad.
CO4	Students should have attained an understanding of Mantra 15 to 18 of Isa Upanisad.

DSE 1: PHILOSPHY OF BHAGVAD GITA

CO1	At the end of the course students should be able to understand the basic premises of Dharma and its types like Varnadharma, Swabhava, Swadharma and Paradharma.
CO2	Students should be able to understand Karma and it s classification.
CO3	Students should be able to understand Jnana, distinction between Jnana and Vijnana.

CO4	Students should be able to understand Bhakti Yoga, four kinds of Devotee and Relation between Bhakti Yoga nad Jnana Yoga.

DSE 2: PHILOSOPHY OF RELIGION

CO1	At the end of the course students should have knowledge of Judaic- Christian concept of God.
CO2	Students should be able to understand Philosophy of Religion Grounds for belief in existence of God.
CO3	Students should be able to understand Problem of Evil as per in Philosophy of Religion Grounds for belief in existence of God.
CO4	Students should have an understanding of Problems of Religious Language.

SEMESTER VI

CORE -- 13: SOCIAL AND POLITICAL PHILOSOPHY

CO1	At the end of the course students should have attained an understanding of Social science and social laws. In addition to that Relation between Individual and Society.
CO2	Students should be able to understand PoLitical ideals like Justice, Liberty and Equality and Political Doctrines like Humanism, Secularism, Femminism and Philosophy of Ecology.
CO3	Students should have attained an understanding of Democratic Ideals which incorporates Democratic Government, Conditions for successful functioning of Democracy and Human Rights.
CO4	Students should have attained an understanding of Political Ideologies like Anarchism, Marxism and Sarvodaya.

CORE -- 14: APPLIED ETHICS

CO1	Students should have attained an understanding of Ethics and its theories like Deontology, Utilitarianism, Relativism and Subjectivism.
CO2	Students should have attained an understanding of Animal Rights and Reverence for Life.
CO3	Students should have attained an understanding of Environmental Ethics and it s various concepts like Anthropocentricism, Non-Anthropocentricism and Deep Ecology.
CO4	Students should have attained an understanding of Professional Ethics

DSE – 3: GANDHIAN STUDIES

CO1	At the end of the course students should have attained an understanding of Gandhi's concept of Just Society, Truth, Non-violence, Equality and Freedom.

CO2	Students should have an understanding of Gandhi's idea of Social Engineering, Fight against Sovial Evils and Upliftment of Women.
CO3	Students should be able to Social Ideals of Gandhi like Sarvodaya, grama Swaraj, Anarchism and Trusteeship.
CO4	Students should be able to understand the concept of Satyagraha, its methods and types.

DSE – 4: DISSERTATION/RESEARCH WRITING

CO1	At the end of the course students should have been clear about the research statement and its rationale.
CO2	Students should have made review of literature stating the validity of the project.
CO3	Students should have learnt research methodology and its application, data collection and interpretation.
CO4	Students should be able to state the contribution of the project to the existing body of research and direction for future research.

POLITICAL SCIENCE

(A) PROGRAMME OUTCOMES (POs)

PO 1	Comprehend the basic structures and processes of government systems
PO 2	Develop ability to formulate and construct logical arguments about political phenomena and ability to evaluate these through empirical and theoretical methods
PO 3	It will create awareness of the crucial questions raised by classical and contemporary political philosophers, and of some of the solutions proposed by them to answer fundamental questions about the role of politics in human life
PO 4	Can opt for enormous opportunities in the federal, provincial, and local governments whose institutions include the executive, legislative and judicial branches, civil society organizations, such as non-governmental organizations (ngos), and in the private sector as policy analyst legislative, assistant, public relations specialist, social media manager, marketing research analyst, political consultant, and many more.
PO 5	Can also prepare themselves for a career in teaching and research

D) COURSE OUTCOMES (C0s)

SEMESTER 1

CORE -- 1: UNDERSTANDING POLITICAL THEORY

CO1	Enabling students to understand what Politics is and explaining them the different approaches to the Study of Political Science – Normative, Behavioral, Post Behavioral, and Feminist.
CO2	Assessing the theories of State (Origin, Nature, Functions): Contract, Idealist, Liberal and Neo-Liberal Theories.
CO3	Students will develop understanding of various issues related to women.
CO4	Students will develop an understanding of the theory of class and class struggle.

CORE -- 2: CONSTITUTIONAL GOVERNMENT AND DEMOCRACY IN INDIA

CO1	This course will introduce the Indian Constitution with a focus on the role of the Constituent Assembly and examining the essence of the Preamble..
CO2	It will enable students to examine the Fundamental Rights and Duties of Indian citizens with a study of the significance and status of Directive Principles.
CO3	It will enable students to assess the nature of Indian Federalism with focus on Union-State Relations
CO4	Students shall gain knowledge on the functioning of local self government.

SEMESTER 2

CORE -- 3: POLITICAL THEORY CONCEPTS AND DEBATES

CO1	This course will lead the students to develop basic understanding of concepts of Liberty, Equality, Rights, Law and Justice
CO2	Students will gain familiarity with the major concepts like cultural relativism and multicultutralism.
CO3	Students will gain insight into the pros and cons of affirmative action.
CO4	Students will have an understanding of the three generations of rights.

CORE -- 4: POLITICAL PROCESS IN INDIA

CO1	Students will get an understanding of Party sytem in India
CO2	Students will gain an understanding of voting behavior.
CO3	Students will be familiar with the regionalism and secularism.
CO4	By the end of this course students will have an understanding of the functional aspect of Indian government.

SEMESTER 3

CORE -- 5: INTRODUCTION TO COMPARATIVE GOVERNMENT AND POLITICS

CO1	After completing this course students will have gained understanding of the various major constitutions of the world.
CO2	Students will have gained an understanding of the concept of globalisation
CO3	Students shall have gained knowledge on the characteristic features of Socialism and capitalism
CO4	Students will be familiar with Colonialism and Decolonization.

CORE -- 6: INTRODUCTION TO PUBLIC ADMINISTRATION

CO1	After completing this course students would have gained an understanding of the Evolution of Public Administration
	Students will gain a thorough understanding of various theories of Public Administration
CO3	Students will have an understanding of the concept of Good Governance
CO4	Students will have gained an understanding of the formulation and implementation of public policy.

CORE -- 7: PERSPECTIVE OF INTERNATIONAL RELATION

CO1	At the end of this course students will have gained understanding of impact of the First World War and the crisis that came over knowing and perceiving.
CO2	Students will have understood important theories of International Relation.
CO3	Students will have gained understanding of cold war and the end of cold war.
CO4	Students will have understood the concept of Third world.

SEMESTER 4

CORE -- 8: POLITICAL PROCESS AND INSTITUTION IN COMPARATIVE PERSPECTIVE

CO1	Students shall have an understanding of the concept of political culture.
CO2	Students shall have an understanding of Election and Party system
CO3	Students shall attain an understanding of the concept of Nation State
CO4	Students shall have attained an understanding the process of democratization in post-colonial societies.

CORE -- 9: PUBLIC POLICY AND ADMINISTRATION IN INDIA

CO1	The students shall be able to know Public policy process in India.
CO2	Students shall attain an understanding of Budget.
CO3	Students shall have an understanding of the concept of decentralisation.
CO4	Students shall have attained an understanding of the RTI and Citizen's charter etc..

CORE -- 10: GLOBAL POLITICS

CO1	At the end of this course students shall attain a critical understanding of the various issues concerning global governance.
CO2	Students should have attained an understanding about the global political economy
CO3	Students shall have attained an understanding of the various environmental issues and steps taken thereof to address it.
CO4	Students shall have attained an understanding of the genesis of terrorism and various institutional mechanism to address the crisis.

SEMESTER 5

CORE -- 11: WESTERN POLITICAL PHILOSOPHY

CO1	This course would familiarize the students about the some towering personalities in political philosophy and their major contributions.
CO2	Students should have an understanding of various concepts including justice, state, liberty and class.
CO3	Students should have attained an understanding of the theory of social contract and the genesis of the state.
CO4	Students will attain an understanding as how time influences the political philosophy.

CORE -- 12: INDIAN POLITICAL THOUGHT (ANCIENT AND MEDIAVAL)

CO1	This course would familiarize the students about the rich political tradition of ancient and medieval India.
CO2	Students should have an understanding of various concepts like Rajdharma and social laws.
CO3	Students shall attain an understanding of the famous Indian texts and their authors.

DSE 1: INTRODUCTION TO HUMAN RIGHTS

CO1	At the end of the course students should be able to understand the basic premises and major theoretical approaches to Human Rights.
CO2	Students should be able to understand the concept of three generation of human rights.
CO3	Students will learn the concepts of human rights in the major constitutions of the world.
CO4	Students will learn about the various international laws and conventions to defend the human rights.

DSE 2: DEVELOPMENT PROCESS AND SOCIAL MOVEMENTS IN CONTEMPORARY INDIA.

CO1	At the end of the course students should have knowledge about the development process since Independence.
CO2	Students should be able to understand the development strategy and its impact on the social structure.
CO3	Students should be able to understand various social movements.
CO4	Students should have an understanding of the rise OF LWE in India.

SEMESTER 6

CORE -- 13: CONTEMPORARY POLITICAL PHILOSOPHY

CO1	At the end of the course students should have attained an understanding of the contemporary political philosophy.
CO2	Students will delve deep into the issue of justice and class.
CO3	Students should have attained an understanding of the neo-marxism.

CORE -- 14: MODERN INDIAN POLITICAL THOUGHT

CO1	Students should have attained an understanding of the political ideas of Gandhi and Ambedkar.
CO2	Students should have attained an understanding of the political thoughts of Tagore and Svarkar.

CO3	Students should have attained an understanding of the issue of Nationalism and socialism
CO4	Students should have attained an understanding of the political philosophy of J.P Narayan and Lohia

DSE – 3: INDIA'S FOREIGN POLICY

CO1	At the end of the course students should have attained an understanding of India's Foreign policy in a changing world.
CO2	Students should have an understanding of India's relation with major powers and neighbours.
CO3	Students should be able to trace the genesis of India's relations with several countries.

DSE – 4: DISSERTATION/RESEARCH WRITING

CO1	At the end of the course students should have been clear about the research statement and its rationale.
CO2	Students should have made review of literature stating the validity of the project.
CO3	Students should have learnt research methodology and its application, data collection and interpretation.
CO4	Students should be able to state the contribution of the project to the existing body of research and direction for future research.

BOTANY

PROGRAMME OUTCOMES (POS)

PO1	Knowledge and understanding of: 1. The range of plant diversity in terms of structure, function and environmental relationships. 2. The evaluation of plant diversity. 3. Plant classification and the flora of Maharashtra. 4. The role of plants in the functioning of the global ecosystem. 5. A selection of more specialized, optional topics. 6. Statistics as applied to biological data.
PO2	Intellectual skills – able to: 1. Think logically and organize tasks into a structured form. 2. Assimilate knowledge and ideas based on wide reading and through the internet. 3. Transfer of appropriate knowledge and methods from one topic to another within the subject. 4. Understand the evolving state of knowledge in a rapidly developing field. 5. Construct and test hypothesis.
PO3	Practical skills: Students learn to carry out practical work, in the field and in the laboratory, with minimal risk. They gain introductory experience in applying each of the following skills and gain greater proficiency in a selection of them depending on their choice of optional modules. 1. Interpreting plant morphology and anatomy. 2.

	Plant identification. 3. Vegetation analysis techniques. 4. A range of physiochemical analyses of plant materials in the context of plant physiology and biochemistry.
PO4	Scientific Knowledge: Apply the knowledge of basic science, life sciences and fundamental process of plants to study and analyze any plant form.
PO5	Problem analysis: Identify the taxonomic position of plants, formulate the research literature, and analyze non reported plants with substantiated conclusions using first principles and methods of nomenclature and classification in Botany.

PROGRAMME SPECIFIC OUTCOMES (PSOS)

PSO1	Design solutions from medicinal plants for Health problems, disorders and disease of human beings and estimate the phytochemical content of plants which meet the specified needs to appropriate consideration for the public health.
PSO2	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and development of the information to provide valid conclusions.
PSO3	Create, select, and apply appropriate techniques, resources, and modern instruments and equipments for Biochemical estimation, Molecular Biology, Biotechnology, Plant Tissue culture experiments, cellular and physiological activities of plants with an understanding of the application and limitations.
PSO4	Apply reasoning informed by the contextual knowledge to assess plant diversity, its importance for society, health, safety, legal and environmental issues and the consequent responsibilities relevant to the biodiversity conservation practice.
PSO5	Apply ethical principles and commit to environmental ethics and responsibilities and norms of the biodiversity conservation
PSO6	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

COURSE OUTCOMES

Core Paper I	**MICROBIOLOGY AND PHYCOLOGY**	1. The students would be able to understand the diverse nature of microbes and their interaction with other organisms. 2. The students certainly get the opportunities to learn the basics of the nature and impact of viruses. 3. The students shall be able to understand the potential of various microbes and the approaches to use them for human welfare. 4. The students would be able to identify the important microbes including bacteria, cyanobacteria, and algae available in local environments and understand their beneficial roles. 5. The students shall learn about the immense potential the algal resources and understand the methods of cultivation and use of algae.

Core Paper II	**BIOMOLECULES AND CELL BIOLOGY**	1. Students will understand the importance of energy for cellular processes. 2. Students will understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles. 3. Students will understand how these cellular components are used to generate and utilize energy in cells. 4. Students will apply their knowledge of cell biology to selected examples of changes or losses in cell function. These can include responses to environmental or physiological changes. 5. Students will understand the cellular components underlying mitotic and meiotic cell division.
Core Paper III	**MYCOLOGY AND PHYTOPATHOLOGY**	1. Have an idea on the vast fungal diversity in nature and method of their identification and culture. 2. Know the life cycle of commonly occurring fungal genera and the disease caused by them. 3. Have knowledge on the types of fungal associations and their importance. 4. Have knowledge and skill on the application of fungi and fungal biomolecules in human welfare. 5. Have skill to understand the host - parasite relationship and its role in establishment of viral, fungal and bacterial diseases in plants. 6. Understand the causes and conditions for commonly occurring plant diseases and the methods of their control.
Core Paper IV	**ARCHEGONIATAE**	1. Able to understand the mechanism of the evolution of the higher plants and their adaptation to land habit. 2. Knowledge on the diversity of archegoniates and their and their pattern of habitat specific distribution. 3. Knowledge on the characteristics of bryophytes and skill to differentiate the genera on the basis of their morphology and anatomy. 4. Ability to identify the members of pteridophytes and knowledge on their characteristic features. 5. Understand the unique features and distribution of gymnosperms. 6. Capacity to analyze various types of fossils on the basis of their characters.
Core Paper V	**ANATOMY OF ANGIOSPERMS**	1. The ability to examine the internal anatomy of plant systems and organs. 2. Develop a critical understanding of the evolution of the concept of organization of shoot and root apex. 3. Analyze the composition of different parts of plants and

		their relationships. 4. Evaluate the adaptive and protective morphological systems of plants.
Core Paper VI	**ECONOMIC BOTANY**	1. Have an understanding on the fundamental concepts of Economic Botany and its application in human welfare. 2. Be able to know the origin and evolution of crops and the importance of wild relatives in crop improvement 3. Develop a basic knowledge on germplasm and the basics for their conservation. 4. Be aware about the cultivation practices for important crops. 5. Have an understanding of plants as a source of food, beverages, spices, and materials.
Core Paper VII	**GENETICS**	1. Learn the basic principles of inheritance at the molecular, cellular and organismal levels. 2. Understand the mechanism of inheritance and its relationship with the expression of morphological traits. 3. understand the relationships between molecule/cell level phenomena (“modern” genetics) and organism-level patterns of heredity (“classical” genetics) 4. Know about the variations by polyploidy, chromosomal aberration and gene mutations. 5. test and deepen their mastery of genetics by applying this knowledge in a variety of problemsolving situations.
Core Paper VIII	**MOLECULAR BIOLOGY**	1. Be able to describe Organization and structure and replication of DNA and RNA. 2. Have theoretical and practical knowledge the prokaryotic and eukaryotic nucleic acids. 3. Have a clear understanding on the structure and function of organellar genome. 4. Understand the processes of bidirectional, semi-conservative and semi discontinuous mode of replication and the importance of the genetic code. 5. Have ability to understand the mechanism of translation in prokaryotes and eukaryotes
Core Paper IX	**PLANT ECOLOGY & PHYTOGEOGRAPHY**	1. Have ability to understand the ecological functioning of ecosystems and would certainly help students to maintain the local ecosystems. 2. Have information on species’ geographical range and how the size and life history influenced by the various components of ecosystems. 3. An understanding of the factors that influence patterns of abundance and distribution in populations. 4. Have knowledge on the process of soil formation and approaches to study the nature of soils. 5. Have skill to evaluate the dynamics of change of population characteristics.

Core Paper X	**PLANT SYSTEMATICS**	1. Knowledge on various levels of taxonomic hierarchy and the relationships among various hierarchical levels with respect to their similarities and variations of characters. 2. The skill to use various taxonomic literature, Flora and herbaria, keys of both physical and digital types for plant identification and floristic studies. 3. Critical thinking on the ancient, traditional and modern classification systems and evaluation of their applicability in taxonomic placement of taxa. 4. Knowledge on the evolution of the concepts in classifying plants and weighing the potential of various tools. 5. Ability to build the phylogeny among various taxa of different levels of hierarchy and identifying the apomorphy and plesiomorphy. 6. Critical observations of the morphology of plant materials for taxonomic description and identification to the family, genus and species level.
Core Paper XI	**REPRODUCTIVE BIOLOGY OF ANGIOSPERMS**	1. Have an understanding on the fundamental concepts of Economic Botany. 2. Develop a basic knowledge on the evolution of crops/varieties. 3. be aware about the importance of germplasm diversity and learn the methods for their conservation. 4. Increase appreciation of diversity of plants and plant products used in everyday life of human and the methods for their enhanced production. 5. Have an understanding of plants as a source of food, beverages, spices, and materials
Core Paper XII	**PLANT PHYSIOLOGY**	1. the governing principles behind the various physiological life processes in plants. 2. about various uptake and transport mechanisms (water and solutes) in plants and the factors governing these processes. 3. the role of various plant hormones, signaling compounds, and stress responses. 4. The skills to manipulate the plant hormones in plants for desired morphological and physiological responses. 5. The climatic and physiological requirements for molecular signaling of plants for growth, differentiation, maturity.
Core Paper XIII	**PLANT METABOLISM**	1. Be able to understand the importance of biochemical pathways and their regulatory mechanisms. 2. Have understanding of the signaling pathways and signal reception and delivery mechanisms.

		3. Have an understanding of various carbon fixation pathways and their evolutionary significance. 4. Have proper level of knowledge on carbon oxidation and energy synthesis. 5. Know the processes of lipid metabolism and its importance in the germinating seeds. 6. Be able to understand the nitrogen assimilation pathways.
Core Paper XIV	**PLANT BIOTECHNOLOGY**	1. Have knowledge the about methods of Plant Tissue culture and its application. 2. Be able to describe the Somatic embryogenesis; Embryo culture and embryo rescue 3. Have skill to isolate plant Protoplast and differentiate the normal and hybrid protoplasts 4. Have knowledge the Gene Construct; construction of genomic and cDNA libraries, screening DNA libraries 5. Gain knowledge on methods for developing transgenic plants and application of transgenics for human welfare.
DSE-I	**ANALYTICAL TECNIQUES IN PLANT SCIENCES**	1. Proper understanding of the microscopy and knowledge to analyze plant samples using electron microscopy and flow Cytometer. 2. Separation of biomolecules and cell organelle and appropriate application of the knowledge of centrifugation for the same. 3. Basic knowledge on the use of radioisotopes for analysis of biological samples. 4. Extraction and qualitative and quantitative analysis of extracts as well as the assay mixtutes using spectrophotometer. 5. skillful application of chromatographic techniques for separation of amino acids, pigments and biomolecules. 6. Proper method for characterizing protein and nucleic acids and skill on handling electrophoresis equipment for preparation of gels. 7. Methods for compilation, presentation, and analysis of biological data and selection of appropriate statistical method for comparison of data.
DSE-II	**NATURAL RESOURCE MANAGEMENT**	1. Be able to understand importance of each component of natural resources and try to use the available resources judiciously. 2. Know about different biological conventions and treaties emphasizing the conservation of biological diversities. 3. Clearly understand the importance of sustainable use of natural resources and procedures for their assessment. 4. Have skill to use renewable energy sources for the betterment of the human civilization and actively

		participate in popularization of the methods of energy and resource conservation. 5. Know the national and international efforts for management and accounting of natural resources.
DSE-III	**HORTICULTURAL PRACTICES AND POST-HARVEST TECHNOLOGY**	1. An understanding on the importance of crop diversification and the contribution of horticulture to nutritional security and economic growth of the country. 2. Ability to classify ornamental, vegetable, fruit and floricultural import plants and their agroclimatic requirements. 3. Skill to identify the pests, pathogens and method of their control in horticultural crop by environment friendly approaches. 4. Skills on various modern methods of plant propagation and improvement of horticultural crops. 5. Knowledge to understand the IPR issues and the government and non-governmental initiatives at various complexities for conservation, popularization and improvement of horticulture.
DSE-IV	**DISSERTATION / PROJECT WORK**	1. Gain knowledge over research methodology; 2. Innovative approach to a research problem; 3. Team Work; 4. Gain Knowledge of Lab. set-up.

CHEMISTRY

A) PROGRAMME OUTCOMES (POs)

PO1	Demonstrate, solve and an understand the major concepts in disciplines of chemistry.
PO2	Employ critical thinking and the scientific knowledge to design carry out, record and analyze the results of chemical reactions
PO3	Create an awareness of the impact of chemistry on theenvironment and society.
PO4	Design and develop the green route for chemical reaction for sustainable development
PO 5	To inculcate the scientific temperament and encourage students to learn modern techniques and software.

B) PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO 1	Expand the understanding of Chemistry through theory and practical
PSO 2	To explain nomenclature, stereochemistry, structures, reactivity,mechanism and related mathematical problems of the chemical reactions.
PSO 3	Use modern chemical tools, Models, Chem-draw, charts and equipments.
POS 4	Understand good laboratory practices and safety protocols.
POS 5	Develop research oriented skills

C) COURSE OUTCOMES (COs)

SEMESTER – 1

CORE – 1: INORGANIC CHEMISTRY-1

CO1	After completion of this course, students shall have indepth knowledge regarding structure of atoms, subshells, orbitals and distribution curves of electrons.
CO2	A good deal of knowledge about different fundamental properties like(IP,EA, $Z_{EFF,}$ radii, E.N) of elements in group and period.
CO3	Students will have understandings about VBT,HYBRIDISATION, MOT, VSEPR THEORY to explain bonding ans structure of molecules.
CO4	Know about different forces and interactions and its effect on properties like(m.p, b.p, solubilities etc.) and principle of volumetric analysis.

CORE – 2: PHYSICAL CHEMISTRY-1

CO1	After completion of this course students will gain a clear idea about ideal gas, real gas and different types of velocities possessed by gas molecules and its critical cont
CO2	Students will have enhanced idea of liquids state and its properties like surface tension, viscosity and its application(cleansing action of detergents)
CO3	A comprehensible knowledge of crystal structure, methods to know crystal structure, and defects in crystal can be achieved.
CO4	$\mathbf{P}^{H}$ calculation, buffer solutions and its application in industry, acid-base indicator and its application in titration

SEMESTER-2

CORE – 3: ORGANIC CHEMISTRY-1

CO1	After end of the course students will earn in depth knowledge in electronic displacement and different types of reaction intermediates.
CO2	Students will develop a vivid idea about structure, geometry, isomeric str. And relative configurations.
CO3	Will help students to have deeper idea into elimination and addition reaction of alkenes with mechanism.
CO4	Students will grow insight into different conformation of cyclohexane and energy diagram and relative stability.

CORE – 4: PHYSICAL CHEMISTRY-2

CO1	After completion of this course , students will have strong idea about basics of thermodynamics,
CO2	Detail information regarding second law of thermodynamics could be achieved.
CO3	Students could gain great idea about chemical potential, concept of fugacity, Gibbs free energy.
CO4	Students would have developed enhanced concept in solution chapter and osmotic pressure and its application.

SEMESTER-3:

CORE – 5: INORGANIC CHEMISTRY-2

CO1	By the end of this course , students would have developed a good sense of knowledge in metallurgy, Ellingham diagram, different refining process.
CO2	Students could gain deep concept about acids and bases.
CO3	Students would gain high information s and p-block and noble gas as well.

CORE – 6: ORGANIC CHEMISTRY-2

CO1	By the completion of the course ,students would have developed concept about SN1 reaction and mechanism.
CO2	Preparation, properties and reaction of alcohols, phenols, ethers and epoxides.
CO3	Good deal of knowledge of preparation properties and mechanism of carbonyl compounds, AdN reations , carboxylic acids and its derivatives.

CORE – 7: PHYSICAL CHEMISTRY-3

CO1	By the end of this course , student would have knowledge about phase equilibria,phase diagrams, different components systems.
CO2	Good knowledge would about chemical kinetics.
CO3	Students could gain knowledge about enzymes and catalysis

SEMESTER-4:

CORE – 8: INORGANIC CHEMISTRY-3

CO1	By the completion of the course, students could gain knowledge about VBT,CFT, and J-T theorm.
CO2	Could gain knowledge in about transition elements and lanthanoids and actinoids.
CO3	Would develop good sense of knowledge in biochemistry.

CORE – 9: ORGANIC CHEMISTRY-3

CO1	By end of the course, students would gain knowledge in nitrogen containing functional group.
CO2	Hetero-cyclic compounds and alkaloid with nomenclature, structure, synthesis

CORE – 10: PHYSICAL CHEMISTRY-4

CO1	By the completion of the course, students will get deep insight into construction of cell and determination of p^H using these electrodes.
CO2	Students could gain knowledge about conductivity and transport number, conductometric titration

SEMESTER-5

CORE – 11: ORAGANIC CHEMISRTY-4

CO1	By the completion of this course, students would have gained indepth khowledge regarding different spectroscopic techniques and structure elucidation of unknown organic compound.
CO2	Student could gain knowledge about different dyes and its uses .
CO3	Student would have good depth in polymer chemistry (preparation, application ans uses)

CORE – 12: PHYSICAL CHEMISTRY-5

CO1	By the end of the course, students would have clear idea about quantum chemistry and its application.
CO2	Students would gain in-depth knowledge about to application of molecular spectroscopy to determine structure, symmetry, bond-length, fluorescence and phosphorescence.
CO3	Students could know about different photochemical process as well as role of photo chemical reaction in biochemical process.

DSE-1: POLYMER CHEMISTRY

CO1	By the end of the course students would have achieved significant information regarding different types of polymer, its functionality and importance.
CO2	Students could have learned about properties of polymer and its application in day to day life.

DSE-2: GREEN CHEMISTRY

CO1	By the end of the course students would have achieved about great deal of information of green chemistry and its principles, tragedy of world faced due to chemical incidents.
CO2	Different green synthesis and real world cases and future trends in green chemistry.

CORE-13: INORGANIC CHEMISTRY-5

CO1	By the end of the course students could know the methods about preparation of carbonyl compounds.
CO2	Catalysis of organometallic compounds in different industrial methods

CORE-14: ORGANIC CHEMISTRY-4

CO1	By the completion of the course students would have deep knowledge about nuclicacids and its methods of preparation , enzyme and its application in biological process.
CO2	Methods of preparation of aminoacids, proteins, lipids. Different pharmaceutical compounds and its application and synthesis.

DSE-3: INDUSTRIAL CHEMICALS AND ENVIRONMENT

CO1	By the end of the course students would have achieved deep understanding about synthesis, uses, storage, handling, of different chemicals helpful for job prospective
CO2	Different types of environment hazards and pollutions and its managements and preventions.

DSE-4: PROJECT WORK

CO1	Project work done by students included basic understandings of research methodology, critical thinking, writing skill and presentation of work.
CO1	It prepares them for future research on Industry, Petrochemicals, Biochemistry and others.

MATHEMATICS

A. PROGRAM OUTCOME (POS):

PO1	This program will also help students to enhance their employability for jobs in banking, data analysis and other public enterprises.
PO2	Ability to communicate mathematics effectively by written, computational and graphic means.
PO3	Formulate and develop mathematical arguments in a logical manner.

B. PROGRAM SPECIFIC OUTCOME (PSOS):

PSO1	To develop own learning capacity.
PSO2	Develop abstract mathematical thinking.

C. COURSE OUTCOME

SEMESTER 1

CORE-1	**CALCULUS**	1) Students learn to generate plane curves by using parametric equation. 2) All the concepts help students to learn graphic display of objects on computer. 3) To learn basic properties of differentiability and integrability.
Core-2	**DISCREATE MATHEMATICS**	1) In this course students learn the properties of the set of integers in detail. 2) To learn divisibility of integers and congruence relation. **3)** To learn basic Logic and their argument and Matrix algebra.

SEMESTER 2

CORE-3	**REAL ANALYSIS**	1) To learn basic techniques of topology, and functional analysis. 2) To learn basic sequence and series. 3) To learn basic theorem based on mean value.
CORE-4	**ODINARY DIFFERENTIAL EQUATION**	1) To solve system of 1^{st} and 2^{nd} order differential equation. 2) To learn method of linear and homogeneous differential equation. 3) To learn methods for solving homogeneous and non homogeneous differential equation.

SEMESTER 3

CORE-5	**REAL FUNCTION**	1) To apply notion of derivative in mean value theorem. 2) To study different tests for solving improper integrals of 1^{st} and 2^{nd} kind, 3) To study point wise and uniform convergence of sequences and series of function.
CORE-6	**GROUP THEORY**	1) To learn fundamental properties and mathematical tools such as closure , identity, inverse and generators. 2) To learn to compare two different algebra structure and study transfer of properties in between these structure through homomorphism and isomorphism.
CORE-7	**PARTIAL DIFFERENTIAL EQUATION(PDE)**	1) Learn method to solve 1^{st} and 2^{nd} order36 2) Learn methods to solve problem based on wave and heat equation. 3) To learn about boundary value problem.

SEMESTER 4

CORE-8	**NUMERICAL ANALYSIS**	1) The students will be able to learn come useful approximation and interpolation techniques in mathematics as well as extrapolation. 2) To learn to apply the various numerical technique for solving real life problem.

CORE-9	**RING THEORY**	1) To study the algebraic structure Ring, field of an integral domain. 2) To study the notion of ideals and factor ring. 3) To study unique factorization domain, Euclidean domain.
CORE-10	**MATRIC SPACE**	1) To equip student with basic math such as open and close sets , continuity , connectedness, compactness which can be used to study general topology and real and complex analysis. 2) To generalise the notion of distance, convergent sequence and continuity of function.

SEMESTER 5

CORE-11	**MULTIVARIABLE CALCULUS**	1) To study function of several variables and Differentiablity of function. 2) To learn evalution of double and triple integration and its application to area and volume. 3) Learn calculation of gradient, divergence and curl and important integral theorems like Green's theorem and Strok's theorem. 4) Triple integrals, Triple integral over a parallelepiped and solid regions. Volume by triple integrals, cylindrical and spherical co- ordinates. Change of variables in double integrals and triple integrals.
CORE-12	**LINEAR ALGEBRA**	1) Students will understand vector space, subspace, linear span, linear dependence and independence, basics, dimensions, range, kernel, rank and nullity. 2) Students will understand matrices and linear maps, rank and nullity of a matrix, elementary row operations, rank of matrices, Eigen value and Eigen vector. 3) Students will understand group, sub group, cyclic group, permutation group and homomorphism. 4) Students will understand ring, ideals, quotient rings, ring homomorphism, isomorphism theorem, and polynomial ring.
DSE 1	**LINEAR PROGRAMMING**	1) The students should be able to formulate a given simplified description of a suitable real-world problem as a linear programming model in general, standard and canonical forms

		2) The students should be able to sketch a graphical representation of a two-dimensional linear programming model given in general, standard or canonical form. 3) The students should be able to classify a two-dimensional linear programming model by the type of its solution 4) The students should be able to use the simplex method to solve small linear programming models by hand, given a basic feasible point.
DSE 2	**PROBABILITY**	1) The students should be able to Calculate the expectation and moments of random variables. 2) The students should be able to explain the concept of convergence and check for the convergence of a given sequences of random variables. 3) The students should be able to find the expressions for the characteristic function of a random variable and verify its properties. 4) The students should be able to apply the various laws of large numbers to sequences of random variables.

SEMESTER 6

CORE 13	**COMPLEX ANALYSIS**	1) Students will be equipped with the understanding of the fundamental concepts of complex variable theory and skill of contour integration to evaluate complicated real integrals via residue calculus. 2) Apply problem-solving using complex analysis techniques applied to diverse situations in physics, engineering and other mathematical contexts. 3) Should be able to decide when and where a given function is analytic and be able to find its series development. 4) Students should be able to present the central ideas in the solution of Dirichlets problems etc.
CORE 14	**GROUP THEORY 2**	1) After studying this course, the student should be able to apply the Internal Direct Product Theorem

		in simple cases. 2) The student should be able to decide whether a given group is cyclic, and given a finite cyclic group, find a generator for a subgroup of a given order. 3) The student should be able to express a given finite cyclic group as the direct product of cyclic groups of prime power order and, given two direct products of cyclic groups, determine whether or not they are isomorphic. 4) The student should be able to recognise the dihedral and dicyclic groups when described using a standard form.
DSE 3	**DIFFERENTIAL GEOMETRY**	1) At the end of the course students should be able to define the equivalance of two curves and find the derivative map of an isometry. 2) At the end of the course students should be able to analyse the equivalence of two curves by applying some theorems defining surfaces and their properties as well as express definition and parametrization of surfaces. 3) At the end of the course students should be able to express tangent spaces of surfaces, explain differential maps between surfaces and find derivatives of such maps as well as integrate differential forms on surfaces. 4) At the end of the course students should be able to list topological aspects of surfaces define the concept of manifolds give examples of manifolds and investigate their properties.
DSE 4	**PROJECT**	1) At the completion of this course students should be able to gain insight in written and oral presentation of mathematical material through case study. 2) The student learns to plan and execute the project work from start to finish. 3) The student learns research methodology and its application. 4) The student learns collaboration and team work.

PHYSICS

PROGRAMME OUTCOMES:

This undergraduate course in Physics would provide the opportunity to the students.

1. To understand the basic laws and explore the fundamental concepts of physics.
2. To understand the concepts and significance of the various physical phenomena.
3. To carry out experiments to understand the laws and concepts of Physics.
4. To apply the theories learnt and the skills acquired to solve real time problems.
5. To acquire a wide range of problem solving skills, both analytical and technical and to apply them.
6. To enhance the student's academic abilities, personal qualities and transferable skills and this will give them an opportunity to develop as responsible citizens.
7. To produce graduates who excel in the competencies and values required for leadership.
8. To serve a rapidly evolving global community. To motivate the students to pursue PG courses in reputed institutions.
9. This course introduces students to the methods of experimental physics.
10. Emphasis will be given on laboratory techniques specially the importance of accuracy of measurements. Providing a hands-on learning experience such as in measuring the basic concepts.
11. Understanding the properties of matter, heat, optics, electricity and electronics.

PROGRAMME SPECIFIC OUTCOMES:

1. General competence, and analytical skills on an advanced level, needed in industry, consultancy, education, research, or in public administration. The students would gain substantial knowledge in various branches of physics: Electronics,
2. Quantum, classical, statistical mechanics, condensed matter physics, astrophysics, particle, nuclear and high energy Physics. Would learn use of mathematical tools in solving complex physical problems and have the solid.
3. Background and experience required to model, analyze, and solve advanced problems in physics. Would able to apply advanced theoretical and/or experimental methods, including the use of numerical methods and simulations.
4. This course would empower the student to acquire scientific and engineering skills.
5. The required practical knowledge by performing experiments in general physics and electronics. Would also get some research oriented experience by doing theoretical and experimental, projects in the last semester under the supervision of faculty.
6. The course as a whole opens up several career doors for the students interested in various areas of science and technology in private, public and government sectors.
7. Students may get job opportunities in higher education, research organizations, physics consultancy, radiology, radiation oncology and many others.

COURSE OUTCOMES

PAPER	COURSE	OUTCOMES
C-1	**Mathematical methods - 1**	The students will gain knowledge about vector algebra and about the solution of differential equations and its application in the physical world. Also they shall learn about the different co-ordinate frames together with the concept of probability and various sources of error and how to calculate them. **LAB**:-Scilab and C-Programmes will help to learn computer knowledge, various practical problems related to applications of mathematical tools to solve the problems in physics would be learned by students.
C-2	**Mechanics-**	At the end of the prescribed syllabus, the students will acquire basic knowledge of mechanics, gravitation and will understand how to apply the conservation of rotational motion in different parts of physics. They shall also gain knowledge of special theory of relativity. The students would learn about the behaviour of physical bodies it provides the basic concepts related to the motion of all the objects around us in our daily life. The course builds a foundation of various applied field in science and technology; especially in the field of mechanical engineering. The course comprises of the study vectors, laws of motion, momentum, energy, rotational motion, gravitation, fluids, elasticity and special relativity. **LAB**: Students would perform basic experiments related to mechanics and also get familiar with various measuring instruments would learn the importance of accuracy of measurements.
C-3	**Electrical and Magnetism**	Students will be able to understand electric and magnetic fields in matter, dielectric properties of matter, magnetic properties of matter, Electromagnetic induction and applications of Kirchofff's law in different circuits, Applications of network theorem in circuits. Electrostatics: Will gain knowledge about the electric field, Electrostatic energy and dielectrics. Current Electricity: Students will get the knowledge about direct current and alternating current and its application in electrical circuits. Magneto statics: Acquire basic knowledge of magnetic properties. It gives an opportunity for the students to learn about one of the fundamental interactions of electricity and magnetism, both as separate phenomena and as a singular electromagnetic force. The

		course contains vector analysis, electrostatics, magnetism, electromagnetic induction and Maxwell's equations. The course is very useful for the students in almost every branch of science and engineering. **LAB:** Students would gain practical knowledge about electricity and magnetism and measurements such as: Resistance, Voltage, current etc.
C-4	**Waves and Optics**	After successful completion of this course, students will be able to understand superposition of harmonic oscillations, different types of wave motions, superposition of harmonic waves, interference and interferometer, diffraction, holography. The course comprises of the study of superposition of harmonic oscillations, waves motion (general), oscillators, sound, wave optics, interference, diffraction, polarization. The course is important for the students to make their career in various branches of science and engineering, especially in the field of photonic engineering. **LAB:** The practical knowledge of wave motion doing experiments: Tuning fork, electric vibrations. They would also learn optical phenomena such as interference, diffraction and dispersion and do experiments related to optical devices: Prism, grating, spectrometers
C-5	**Mathematical Physics - II**	To motivate the students to apply matrices for solving problems in spectroscopy, would learn mathematical methods to solve the various problems in physics. The topics include the calculus of functions, Fourier transform, special functions and special integrals, partial differential equations, complex analysis and variables. **LAB**:-Scilab Programme to learn the mathematical solutions of fourier series etc,
C-6	**Thermal Physics**	The course makes the students able to understand the basic physics of heat and temperature and their relation with energy, work, radiation and matter. The students also learn how laws of thermodynamics are used in a heat engine to transform heat into work. The course contains the study of laws of thermodynamics. **LAB:** Students would gain practical knowledge about heat and radiation, thermodynamics, thermo emf, RTD etc. and perform various experiments.
C-7	**Analog System and its application**	The course makes to understand PN junction diode, Rectification, Zener Diode and act as voltage regulator, Idea of Transistor, amlpfiers, oscillators, OP-AMP used as adder, subtractor, devider, multiplier etc. **LAB**:-Understand the use of Zener didoe as a regulator, transistor

		as a amplifier, oscillator, CRO, application in various electronics.
C-8	**Mathematical Physics-III**	The students will gain knowledge about solution of second order differential equation and also about probability, fourier transformation, laplaces transformation, alfa and beta function, complex analysis will helpful for career growth in computer jobs and engineering applications. **LAB:** practical application by using Scilab in various mathematical methods.
C-9	**Modern Physics**	To provide a detailed study of atom and nucleus Liquid drop model, shell model, radioactivity also to learn the impact of magnetic fields in spectra. Students would know about the basic principles in the development of modern physics. The topics covered in the course build a basic foundation of undergraduate physics students to study the advance branches: quantum physics, nuclear physics, particle physics and high energy physics. The course contains the study of Planck's hypothesis, photoelectric effect, Compton effect, matter waves, atomic models, Schrodinger wave equations, and brief idea of nuclear physics. **LAB**-Elements of Modern Physics: In this course students would be able to understand Basic experiments of modern physics such as: Determination of Plank's and Boltzmann's constants, Determination of ionization potential, Wavelength of H-spectrum, Single and double slit diffraction, Photo electric effect and determination of e/m.
C-10	**Digital Systems and Application**	The students would gain the knowledge of Basic Electronics circuits, network theorems and measuring instruments: They would know about common solid state devices: Semiconductor diodes and transistors. The topics also include the Rectifiers, Filters and their applications, number systems and logic gates which are foundation blocks of digital electronics. **LAB**;- Learning of computer chips, RAM, ROM, TIMER, ADDER, SUBTRACTOR, Data storage, flip-flops series and parallel, Hardware technology.
C-11	**Quantum Mechanics**	To motivate the students to apply Schrödinger equation or solving problems in Wave Mechanics, Nuclear physics etc. Quantum mechanics provides a platform for the physicists to describe the behaviour of matter and energy at atomic and subatomic level. The course plays a fundamental role in explaining how things happen beyond our normal observations. The course includes the study of Schrodinger equations, particle in one dimension potential, quantum theory of H like atoms, atoms/molecules in

		electric and magnetic fields. **LAB**: Quantum Mechanics: Various practical problems solving methods related to Quantum Mechanics would be learned by students.
C-12	**Solid State Physics**	The students will get to know about the structure of a solid and also the concept of the magnetic properties of matter. Knowledge about laser, holography, optical fibres and their application will be acquired by the students. Students would be able to understand various types of crystal structures and symmetries and understand the relationship between the real and reciprocal space and learn the Bragg's X-ray diffraction in crystals. Would also learn about phonons and lattice. **LAB-** Solid State Physics: The course Provides practical knowledge of various physical phenomena such as: magnetism, dielectrics, ferroelectrics and semiconductors. Students would gain a hands-on learning experience by performing experiments on these properties of materials.
C-13	**Electro Magnetic Field Theory**	Thorough knowledge of electromagnetic nature of wave will be gained together with the proof of basic laws of reflection and refraction. **LAB:-**To know about Scattering of light, polarisation, wave and particle properties, spectrometer application, optical fiber application
C-14	**Statistical Mechanics**	Will gain the knowledge of statistical system and its co-ordinate together with application of MB, FD and BE statistics. The course contains the study of laws of thermodynamics, thermodynamic description of systems, thermodynamic potentials, kinetic theory of gases, theory of radiation and statistical mechanics. LAB:- Scilab application to FD,BE Statistics and Planck's radiation.
DSE-1	**Classical Mechanics**	The concept of central force system and application of variational principle to solve Different problems in mechanics will be learnt. In this course students would learn to apply the Newtonian laws using various mathematical formulations to describe the motions of macroscopic objects using generalized coordinates, momentum, forces and energy. The classical mechanics would be helpful in understanding of advanced branches of modern physics.
DSE-2	**Nuclear Physics**	To acquire knowledge and apply it to study the structure of nucleus. Know the formation of nucleus and their binding energy. To motivate the students and analyze the energy released by the nucleus during the fission and fusion. Radio activity, particle physics and particle accelerator.

		The course is important for the students to learn about the most fundamental building blocks of matter and radiation, interaction among elementary particles and hence to understand their behaviour. The course provides a platform for the students seeking research opportunities in high energy physics.
DSE-3	**Nano Materials and Applications**	To understand the idea of Nano-science and material application, quantum LED, optical properties, Synthesis, Characterization, application, CVD, MBE, SPRAY PYROLYSIS, CNT, MEMS, NEMS, Wide range of applications etc.
DSE-4	**Projects on various Topics**	Various Project has been given to students with different chapters to develop the quality of education through PPT presentation, Ledearship, communicative skills. This course is based on preliminary research oriented topics both in theory and experiments. The students are given particular research problems under the supervision of faculty members of the department. Students have the opportunity to work on theoretical as well as experimental topics in physics. The different research areas in which students can do projects are theoretical condensed matter physics, experimental material science, nuclear radiation detectors, radiation physics and environmental radioactivity. The knowledge gained during their project work play a key role in the students' career to pursue Ph. D degree and start their carrier in research in scientific institutions.

ZOOLOGY

Programme Outcome

This program is one of the most fundamental unit of basic sciences studied at undergraduate level. The program helps to develop scientific tempers and attitudes, which in turn can prove to be beneficial for the society since the scientific developments can make a nation or societyto grow at a rapid pace. After studying this program, students will be more equipped to learn and know about different biological systems, their coordination and control as well as evolution, behavior and biological roles of the animals in the ecosystem. Moreover, they will beable to qualitatively and quantitatively analyse evolutionary parametersusing various bioinformatics and computational tools used in modern sciences. This will provide them ample opportunities to explore different career avenues. The program will also provide a platform for classical genetics in order to understand distribution or inheritance of different traits and diseases among populations, their ethnicity andcorrelate with contemporary and modern techniques like genomics,metagenomics, genome editing and molecular diagnostic tools. After the completion of this course, students have the option to go for higher studies, i.e., M. Sc. / Integrated MS Ph.D. and then do research workfor the welfare of mankind. After higher studies, students can join as scientist or assistant professor or assistant teacher and can even look forprofessional job oriented courses, such as Indian Civil Services, Indian Forest Service, Indian Police Service etc. Science graduates can go to serve in industries or may opt for establishing their own industrial unit. Practical and theoretical skills gained in this program will be helpful in designing different public health strategies for social welfare. The program has been designed to provide in-depth knowledge of applied subjects ensuring the inculcation of employment skills so that students can make a career and become an entrepreneur in diverse fields. After the completion of the B.Sc degree there are various other options available for the science students.

Programme SpecificOutcome

Students enrolled in B.Sc. (Hons.) degree program in Zoology will study and acquire complete knowledge of disciplinary as well as allied biological sciences. At the end of graduation, they are likely to possess expertise which will provide them competitive advantage in pursuing higher studies from India or abroad; and seek jobs in academia, research or industries. Students will be able to define and explain majorconcepts in the biological sciences. They are able to correctly use biological instrumentation and proper laboratory techniques. Students will be able to communicate biological knowledge in oral and written form. Students will be able to identify the

relationship or synchronization between structure and function at all levels: molecular, cellular, and organismal. Students should be able to identify, classify and differentiate diverse chordates and nonchordates based on their morphological, anatomical and systemic organization. They will also be able to describe economic, ecological and medical significance of various animals in human life. This will create a curiosity and awareness among them to explore the animal diversity and take up wild life photography or wild life exploration as a career option. The procedural knowledge about identifying and classifying animals will provide students professional advantages in teaching, research and taxonomist jobs in various government organizations; including Zoological Survey of India and National Parks/Sanctuaries. Students will be able to apply the scientific method to questions in biology by formulating testable hypotheses, gathering data that address these hypotheses, and analyzing those data to assess the degree to which their scientific work supports their hypotheses. Students will be able to present scientific hypotheses and data both orally and in writing in the formats that are used by practicing scientists. Students will be able to access the primary literature, identify relevant works for a particular topic, and evaluate the scientific content of these works. Acquired practical skills in biotechnology, biostatistics, bioinformatics and molecular biology can be used to pursue career as a scientist in drug development industry in India or abroad. The students will be acquiring basic experimental skills in various techniques in the fields of genetics; molecular biology; biotechnology; qualitative and quantitative microscopy; enzymology and analytical biochemistry. These methodologies will provide an extra edge to our students, who wish to undertake higher studies. Students will be able to use the evidence of comparative biology to explain how the theory of evolution offers the only scientific explanation for the unity and diversity of life on earth. They will be able to use specific examples to explicate how descent with modification has shaped animal morphology, physiology, life history, and behavior. Students will be able to explain how organisms function at the level of the gene, genome, cell, tissue, organ and organ-system. Drawing upon this knowledge, they will be able to give specific examples of the physiological adaptations, development, reproduction and behavior of different forms of life. Students will be able to explicate the ecological interconnectedness of life on earth by tracing energy and nutrient flows through the environment. They will be able to relate the physical features of the environment to the structure of populations, communities, and ecosystems. Students undertaking skill enhancement courses like aquaculture, sericulture and apiculture will inculcate skills involved in rearing fish, bees and silk moth which would help them in starting their own ventures and generating self employment making them successful entrepreneurs. Acquired skills in diagnostic testing, haematology, histopathology, staining procedures etc. used in clinical and research laboratories will provide them opportunity to work in diagnostic or research laboratory. Candidates find opportunities in government departments, environmental agencies, universities, colleges, biotechnological, pharmaceutical, environmental/ecological fields. There are numerous career opportunities for candidates completing their B.Sc, M.Sc and Ph.D. in Zoology in public and private sector. Candidates may find jobs as Animal Behaviourist, Conservationist, Wildlife Biologist, Zoo Curator, Wildlife Educator, Zoology faculty, Forensic experts, Labtechnicians, Veterinarians

Course Outcomes

Course	Outcomes
NON-CHORDATES I : PROTISTS TO PSEUDOCOELOMATES **Core-I**	Students will have learning about the basic taxonomy and systematics and classification of Protozoa, Porifera, Cnidaria and Helminth groups. They also will acquire knowledge about the biology of these taxonomic categories as well as about some acoelomate plus pseudocoelomate parasites for their life cycles, epidemiology, pathology, diagnosis, symptoms and treatments. They will also have knowledge about the basics of parasitology such as origin and evolution of parasitism, role of vectors, parasitoids, host-parasite interactions etc.
PERSPECTIVES IN ECOLOGY **Core-II**	Students will be understanding the various features and aspects of population ecology, community ecology and ecosystem ecology. They might have the knowledge about environmental biology in details. They will acquire knowledge about various tools and techniques of field ecology.
NON-CHORDATES II : COELOMATES **Core-III**	Students will be learning about classification of coelomate invertebrates and the structure, function plus biology of these taxonomic categories as well. They will understand about different vector born diseases and the related life cycles, epidemiology, pathology, diagnosis, symptoms and treatments. They will also know the basics of sericulture, apiculture and lac culture.
CELL BIOLOGY **Core-IV**	Students will understand the structures, positions and functions of plasma membrane and all cellular organelles in details. They will acquire knowledge about chromosomes and cell divisions, both mitosis and meiosis. They will also know about cell signalling and cancers. They will know how to measure and stain different cell types.
DIVERSITY OF CHORDATES **Core-V**	Students will understand the classification, structure, function and biology of chordates of different taxonomic classes. They will also learn some special topics like zoogeography, metamorphosis, snake bites, migration of birds, parental care of amphibian, echolocation of mammals, poultry managements and different breeds of domestic animals.
PHYSIOLOGY: CONTROLLING AND COORDINATING SYSTEMS **Core-VI**	Students will learn about basics of histology and tissue staining. They will also understand the physiology of muscles, nerves, reproductive systems and bone. They will learn details of endocrinology with classification of hormones, their biosynthesis, receptors, mode of molecular actions, physiological function, feedback controls andrelated disorders.

FUNDAMENTALS OF BIOCHEMISTRY **Core-VII**	Students will understand the basic and fundamental biochemistry of carbohydrates, proteins, lipids and nucleic acids. They will also understand the nature, mechanism, and kinetics of enzyme action. Some instrumentation such as microscopy, chromatography, electrophoresis, centrifugation, spectrophotometry etc will also be learnt.
COMPARATIVE ANATOMY OF VERTEBRATES **Core-VIII**	Students will have understood the structures of different systems such as, integumentary, skeletal, digestive, respiratory, circulatory, urinogenital, nervous and sensory organs in comparative way among the vertebrate groups.
PHYSIOLOGY: LIFE SUSTAINING SYSTEMS **Core-IX**	Students will know the physiology of digestion, respiration, circulation,excretion and adaptation.
To BIOCHEMISTRY OF METABOLIC PROCESSES **Core-X**	Students will understand the metabolism of carbohydrates, lipids and proteins in details. They will also learn about oxidative phosphorylationand redox reactions.
MOLECULAR BIOLOGY **Core-XI**	Students will acquire knowledge about replication, transcription, translation, post transcriptional and post translational modifications, gene regulation, DNA repair mechanisms and various molecular tools and techniques like PCR, southern, northern and western blotting, recombinant DNA technology etc. They will also know the various tools and techniques related to bacterial microbiology. Some aspects of applied microbiology and diseases related to microbiology will also be learnt by the students.
PRINCIPLES OF GENETICS **Core-XII**	Students will learn the fundamental genetics like Mendelian and Non Mendelian inheritances, linkages, mutations, sex determination of various animals, extrachromosomal inheritances, transposable genetic elements etc. They will also understand the various aspects of biostatistics such as central tendency, t-test, chi-square, ANOVA, correlations and regression.
DEVELOPMENTAL BIOLOGY **Core-XIII**	Students will learn the different aspects of early, late and post embryonic developments. They will have the knowledge about implications of developmental biology in various fields, such as in teratogenesis, stem cell biology, in vitro fertilization, cryopreservation, cord blood transfusion etc.
EVOLUTIONARY BIOLOGY **Core-XIV**	Students will know about population genetics, human evolution, various concepts about origin of species, extinctions, phylogenetic tree making. They will also understand few basic of bioinformatics.
ANIMAL BEHAVIOUR & CHRONOBIOLOGY **DSE I**	Students will know in details about patterns of behaviours, survival strategies, social and cooperative behaviours, design of signals and chronobiology. They will also know to construct ethograms.

IMMUNOLOGY **DSE II**	Students will develope knowledge about structures and function ofimmune cells, immunoglobulins, antigens and their interactions with antibodies. They will know about MHC molecules, cytokines, hyper sensitivity reactions and cellular mode of immunity development. They will know the immune diffusion technique and ELISA.
BIODIVERSITY & WILDLIFE CONSERVATION **DSE III**	Student will be learning the various issues related to biodiversity loss and conservation as well as status, conditions and conservation of forests and wildlife. They will also able to use various tools used in field biology.
PROJECT WORK **DSE IV**	In this type of biology project, students are required to perform the scientific experiment in laboratories and field studies. Students must follow proper procedures and obtain the results on their own research. The results obtained through the experiments must be included in the conclusion of the project. It improves creativity and Scientific methodologies in students.

COMMERCE

A) PROGRAMME OUTCOMES (POs)

PO_1	**Outlines the fundamental of commerce viz., Business studies, finance, Accounting and Management.**
PO_2	**Understanding of General Business Functions Impacting Organization.**
PO_3	**Understanding Ethical, social sustainable Business Issues.**
PO_4	**Developing Entrepreneurship ability.**
PO_5	**Further the students are encouraged with add on value based and job- oriented courses which ensure them to the sustained in the organization level.**

B) PROGRAMSPECIFICOUTCOMES (PSOs)

PSO_1	**Demonstrate Ability to Interpret and Analyze Financial Statements.**
PSO_2	**Understanding the Rules and Regulations Laid down by Accounting Body.**
PSO_3	**Demonstrate Ability to work in Groups. Exhibit skills like Empathy, EQ Managerial and Inter-Personal Skills.**

PSO_4	**Understand the Ecosystem of start up in the country.**
PSO_5	**Demonstrate the Ability to create Business Plan.**
PSO_6	**Apply Management accounting concepts in determining and managing Costs, Revenue, Pricing and Budgetary techniques.**
PSO_7	**Generate Proactive decisions pertaining to business solutions with regard to application of economic principles and techniques at micro and macro level.**

C) COURSE OUTCOMES (C0s)

SEMESTER - 1

CORE -1: Financial Accounting

CO_1	Showing proficiency in basic accounting concepts, conventions and understanding of the accounting process.
CO_2	Exposed to various methods of depreciation accounting.
CO_3	Understand the process and preparation of financial statements for sole proprietorship, Departmental and Branch Business Organizations.
CO_4	This course would be very much helpful for the students to get in-depth knowledge of financial accounting along with its practical application.

CORE -2: BUSINESS LAW

CO_1	Generalize the understanding of Indian Contract Act.
CO_2	Develop an understanding of the basic law related to business.
CO_3	Understanding the basics of different Acts helpful in business operation like. - Consumer protection Act, Sale of goods Act, Negotiable Instrument Act.
CO_4	Understanding about legal formality related to business.
CO_5	The students would be able to deal with legal aspect of different business situations.

SEMESTER - 2

CORE - 3: COST ACCOUNTING

CO_1	It enables the students to understand the fundamental concepts of cost accounting.
CO_2	Critically analyze and work on cost sheet.
CO_3	Students able to get in-depth knowledge regarding Material, Labour & Overheads.

CO_4	Students able to seek different methods of costing such as Job costing, Batch costing, Process costing, contract costing.

CORE - 4: CORPORATE LAW

CO_1	To familiarize the students with the understanding and provision of Company Law.
CO_2	Generalize the understanding of the procedural aspects of the incorporation of a Company.
CO_3	Illuminate the fundamental provisions and rules of a company.
CO_4	Optimize the knowledge of various Directors.
CO_5	Understanding of the fundamental terms and types of share capital and debentures.
CO_6	It enables to gain the knowledge of provisions of meeting and resolutions of a company.

SEMESTER 3

CORE - 5: CORPORATE ACCOUNTING

CO_1	It enables students to attain the fundamental concepts of corporate accounts like Issue of shares, Underwriting of Shares.
CO_2	Critically analyze and work on redemption of preference shares and debentures.
CO_3	Preparation of Final accounts of Joint stock company as per schedule III of the companies Act 2013. Treatment of special items.
CO_4	Develop the procedure of valuation of goodwill and shares of companies.
CO_5	Gain conceptual clarity about the techniques to prepare financial statements of companies along with accounting treatment of various situations.

CORE–6: INCOME TAX AND PRACTICE

CO_1	Acquire the knowledge about the basic principles and concepts of Income tax.
CO_2	Understand the rules and provisions of Income tax under five heads of income.
CO_3	Familiarize with the computations of income for an individual.
CO_4	Analyse and apply the permissible exemptions and deductions from income under Income tax Act.
CO_5	Assess the income of an individual and the tax payable.
CO_6	Gain practical knowledge in computing tax liability of an individual and the filing of Income tax returns.

CORE – 7: MANAGEMENT PRINCIPLES & APPLICATIONS

CO_1	Acquire the basic knowledge on nature, scope and functions of management, types of plans and organizational At the end of this course students will have gained understanding of impact of the First World War and the crisis that came over knowing and perceiving.

CO_2	Understanding the importance of planning methods, principles of organization, techniques of control and communication in management.
CO_3	Familiarize the concept with methods and types of plans, develop the concepts of departmentation, delegation, delegation, decentralization, MBO & MBE.
CO_4	Analyze the need for motivation theories, leadership styles.
CO_5	Evaluate the techniques in co-ordination & control.

SEMESTER 4

CORE -- 8: GST & INDIRECT TAXES

CO_1	Acquire the basic knowledge of Indirect taxation. GST , CGST, SGST, IGST, Levy and collection of GST and Registration of GST.
CO_2	Familiarize and understand the concept of direct and indirect taxes, Goods and service Tax, goods, service, services, suppliers, business, manufacturer, casual trader, aggregate turnover, input and output tax, tax credits, integrated tax etc.
CO_3	Analyze the difference between direct and indirect taxation, advantages of GST, procedure for registration under GST.
CO_4	Evaluate the taxation structure before and after implementation of GST, types of tax rates under GST, eligibility and conditions for taking input credit.
CO_5	Evaluate the taxes subsumed under CGST and SGST, eligibility and conditions for taking input credit, place of supply of Goods or services.

CORE -- 9: FUNDAMENTALS OF DATA MANAGEMENT

CO_1	Identity, analyze, develop, implement, verify and document the requirements for a computing environment.
CO_2	Acquire basic knowledge of commonly used analytic tools in processing quantitative business decisions.
CO_3	Understand the basic concepts and the applications of database systems.
CO_4	To develop the ability to logically plan and develop web pages.
CO_5	To learn to write, test and debug web pages using HTML and Javascript.

CORE -- 10: MANAGEMENT ACCOUNTING

CO_1	Acquire the knowledge in management accounting in the aspects of scope, objectives, characteristics, functions, significance, limitations, ratio analysis, classification, need, importance of excess or inadequate working capital.
CO_2	Familiarize and understand the difference between financial accounting and management accounting. Significance and limitations of financial statements, components of balance sheet and profit & loss account.
CO_3	Develop the application skills to estimation of working capital, computation of

	contribution, p/v ratio, break even sales and margin of safety in the process of decision-making.
CO_4	Preparation of cash flow and fund flow statement to evaluate cash and fund flow of the company, managerial applications of marginal costing.
CO_5	Analyzing the financial statement using short-term, long-term, profitability ratios, factors determining working capital requirements.
CO_6	Construction of balance sheet in ratio analysis and preparation of budgets.

SEMESTER 5

CORE -- 11: COMPUTERIZED ACCOUNTING & E-FILING OF TAX RETURNS

CO_1	To introduce the students to Basic of Accounting and the usage of Tally for accounting purpose.
CO_2	To help students work with well-known Accounting software i.e. Tally ERP.9.Tally is an accounting package which is used for learning to maintain accounts.
CO_3	Students will learn to create company, enter accounting voucher entries including advance voucher entries, do reconcile bank statement, do accrual adjustments, and also print financial statements, etc. in Tally ERP.9 software.
CO_4	Demonstrate an understanding of various predefined inventory vouchers to suit the various business requirements and flexibility to create unlimited stock items, use simple to complex conversion units and generate invoices with the required information and dimensions.
CO_5	Demonstrate an understanding of how to maintain a payroll register. This helps to understand how to maintain management related information, statutory forms and reports in the prescribed formats such as : Pay Slip, Payroll Statements, Attendance and Overtime Registers etc.
CO_6	Develop the students use the Tally software, that helps to prepare Accounting, Payroll billing, sales and profit Analysis, Auditing Banking Inventory, Taxation such as GST,VAT,TDS,TCS etc.
CO_7	Know the difference between e-filing and regular filing of income tax returns and understand the circumstances when e-filing is mandatory.

CORE – 12 : FUNDAMENTALS OF FINANCIAL MANGEMENT

CO_1	Acquire the basic knowledge of the terms finance, financial management, capital structure, capital gearing, leverage, cost of capital, dividend, bonus shares, net working and core working capital.
CO_2	Understand the features of financial management, sound capital structure, difference between financial leverage and operating leverage, types of dividend policy, retained earnings and concepts of working capital.
CO_3	Familiarize the dividend decisions and functions, composition of security mix, calculation

	of specific cost of capital, dividend distribution and retained earnings, various report on working capital financing.
CO_4	Evaluate the factors determining financial decision making, capital structure, dividend policy and working capital management.
CO_5	Gain practical exposure to become a financial management consultant.

DSE – 1: FINANCIAL MARKETS, INSTITUTIONS & SERVICES

CO_1	Understand the role and importance of the Indian financial market.
CO_2	Apply and analyse the Concepts relevant to Indian financial markets and financial institutions.
CO_3	Analyse how financial markets and institutions operate and how they can be used toachieve economic objectives.
CO_4	Apply various types of financial services provided by Financial Institutions for investment advisor's perspective to the various kinds of investors.
CO_5	To provide an overview about the role of mutual funds and depositories in India.

DSE – 2: MERCHANT BANKING AND FINANCIAL SERVICES

CO_1	To understand the nature and management of merchant banking.
CO_2	Interpret the regulation and registration of merchant banking.
CO_3	Critically evaluate the SEBI guidelines for merchant bankers.
CO_4	Understanding of the nature and types of financial services.
CO_5	Interpret what type of risk involved in financial services.
CO_6	Understand the regulatory framework of financial services. Understanding the role merchant bankers.

SEMESTER 6

CORE– 13 : AUDITING AND CORPORATE GOVERNANCE

CO_1	Articulate the knowledge of fundamental audit concepts.
CO_2	Apply critical thinking skills and solve auditing problems using case studies.
CO_3	Demonstrate the use of the auditing, Assurance and ethics handbook.
CO_4	Explain the legal framework under which Indian company audits are conducted and apply the professions code of conduct.
CO_5	Gain knowledge about Corporate Governance.

CORE – 14 : BUSINESS MATHEMATICS

CO_1	Apply the knowledge of mathematics in solving business problems.(like algebra, matrices, calculus etc.)
CO_2	Describe and demonstrate the use of mathematical techniques of with emphasis on business application.
CO_3	Recognize the importance and value of mathematical thinking, training, and approach to problem solving, on a diverse variety of disciplines.
CO_4	Recognize and appreciate the connections between theory and applications and understand the important role of math plays in all facets of the business world.
CO_5	Demonstrate mathematical skills required in mathematically intensive areas in commerce such as Finance and Economics.

DSE – 3: CONSUMER AFFAIRS AND CUSTOMER CARE

CO_1	This paper seeks to familiarize the students with of their rights as a consumer, the social framework of consumer rights and legal framework of protecting consumer rights.
CO_2	It also provides an understanding of the procedure of redress of consumer complaints.
CO_3	The role of different agencies in establishing product and service standards.
CO_4	The student should be able to comprehend the business firms' interface with consumers.
CO_5	The consumer related regulatory and business environment.

DSE – 4: BUSINESS RESEARCH METHODS AND PROJECT WORK

CO_1	The course will impart learning about how to collect, analyze, present and interpret data.
CO_2	Apply a range of quantitative and / or qualitative research techniques to business and management problems / issues Understand and apply research approaches, techniques and strategies.
CO_3	Students can be able to Conceptualize the research process.
CO_4	Develop necessary critical thinking skills in order to evaluate different researchapproaches utilized in the service industries.
CO_5	Understand advanced design, methodologies and analysis in business research methods, including key terms, classifications and systematic applications to the research data and design of a research project.

ODIA

A) PROGRAMME OUTCOMES (POs)

PO1	ଓଡିଆ ସାହିତ୍ୟକୁ ପ୍ରାଞ୍ଜଳ ଭାବରେ ଅଧ୍ୟୟନ ସହିତ ବ୍ୟାଖ୍ୟା କରିବା ସଙ୍ଗେ ସଙ୍ଗେ ସର୍ଜନଶୀଳତାର ପରିପ୍ରକାଶ କରିବା ।
PO2	ଓଡିଆ ସାହିତ୍ୟକୁ ବିସ୍ତୃତ ଭାବରେ ଆଲୋଚନା ଓ ସମୀକ୍ଷା କରିବା ।
PO3	ଓଡିଆ ସାହିତ୍ୟକୁ ଯତ୍ନସହକାରେ ଅତି ନିଖୁଣ ଭାବରେ ଅଧ୍ୟୟନ କରିବା ।
PO4	ଓଡିଆ ସାହିତ୍ୟର ପୂର୍ବସୂରୀମାନଙ୍କର ବ୍ୟାଖ୍ୟାତ୍ମକ ଆଲୋଚନା ସହିତ ବର୍ତ୍ତମାନର ସାହିତ୍ୟିକଧାରାର ସମନ୍ୱୟ ଘଟି ନୂତନ ଦିଗ ଉନ୍ମୋଚନ ହେବା ।
PO5	ଦୁର୍ମୂଲ୍ୟ ସଂସ୍କୃତିକ ଆଲୋଚନା ଦ୍ୱାରା ମୂଳ ସଂସ୍କୃତି ଜାଣିବା ।
PO6	ପ୍ରତ୍ୟେକ୍ଷ ଭାବରେ ବିଭିନ୍ନ ମୌଖିକ ଓ ଲିଖିତ ରୂପକୁ ଆଦରି ନେବା ।
PO7	ଏକାଧିକ ସାହିତ୍ୟକୁ ଠିକ୍ ଭାବରେ ପଢିବାଦ୍ୱାରା ପଦ୍ଧତି ଓ ଶୈଳୀକୁ ରୂପକାତ୍ମକ ଭାବରେ ଜାଣିବା ।

B) PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO 1	ପାଠ୍ୟ ଖସଡାରେ ସଂଯୋଜିତ ବିଷୟ ଦ୍ୱାରା ଛାତ୍ରମାନଙ୍କର ଶିକ୍ଷଣୀୟ ଲେଖା, ସମାଲୋଚନା, ସର୍ଜନଶୀଳତା, ବିଷୟବିନ୍ୟାସ ଓ ସମୀକ୍ଷା କରିବା ଜ୍ଞାନ କୌଶଳର ଅଭିବୃଦ୍ଧି ଘଟିବ ।
PSO 2	ଓଡିଆ ଭାଷା ସାହିତ୍ୟର ଛାତ୍ରଛାତ୍ରୀମାନଙ୍କ ଦେଶ ତଥା ଆନ୍ତର୍ଜାତୀୟ ସ୍ତରର ସାଂସ୍କୃତିକ ଇତିହାସ ବିଷୟରେ ଜାଣିପାରିବ ।
PSO 3	ଶିକ୍ଷାର୍ଥୀମାନଙ୍କ ଗବେଷଣା, ଗବେଷଣା ପଦ୍ଧତି ଓ ଏହାର ପ୍ରାୟୋଗିକ ଦିଗ ଓ ସ୍ୱତନ୍ତ୍ର ପ୍ରକାଶ କଳା ସାହିତ୍ୟ ଉପରେ ଧାରଣା ସୃଷ୍ଟି ହେବା ।
PSO 4	ମୌଖିକ ଓ ଯୋଗାଯୋଗର କୌଶଳ ଦିଗରେ ଯତ୍ନବାନ ହେବା ।
PSO 5	ଉଚ୍ଚଶିକ୍ଷା ପାଇ ବିଭିନ୍ନ କ୍ଷେତ୍ରରେ ନିଜର ଦକ୍ଷତା ପ୍ରକାଶ କରିବା ସହିତ ଶିକ୍ଷକ, ସାମ୍ବାଦିକ, ସମ୍ପାଦକ, ଉଚ୍ଚକୋଟିର ଲେଖକ ଭାବରେ ନିଯୋଜିତ ହୋଇପାରିବେ ।

C) ପାଠ୍ୟାଂଶ ନିଷ୍କର୍ଷ **(COURSE OUTCOMES)**

(SEMESTER 1)

CORE -- 1: ପ୍ରାଚୀନ ଓଡିଆ ସାହିତ୍ୟର ଇତିହାସ

CO1	ଚର୍ଯ୍ୟାଗୀତିକା ଓ ନାଥ ସାହିତ୍ୟ ଅଧ୍ୟୟନ ଦ୍ୱାରା ବିଦ୍ୟାର୍ଥୀ ଇନ୍ଦ୍ରିୟ ସଂଯମତା ସହ ଅଷ୍ଟାଙ୍ଗ ଯୋଗ ଓ ପ୍ରାଣାୟମରେ ଅଧିକ ମନୋନିବେଶ କରିପାରିବେ ।
CO2	ଏଥିସହ ତତ୍ କାଳୀନ ସାହିତ୍ୟିକ ଭାଷା ସମ୍ପର୍କରେ ସମ୍ୟକ୍ ଧାରଣା ଜନ୍ମିପାରିବ ।
CO3	ସାରଳାଙ୍କ ସମୟର ସାମାଜିକ ପ୍ରେକ୍ଷାପଟରେ ସାଂସ୍କୃତିକ ଚିନ୍ତାଚେତନା ସହ ସାହିତ୍ୟିକ ଭାବ ଉଦ୍ରେକ ହୋଇପାରିବ ।
CO4	ପଞ୍ଚସଖା ସାହିତ୍ୟର ସ୍ରଷ୍ଟାଙ୍କ ସୃଷ୍ଟିରେ ଥିବା ଆଧ୍ୟାତ୍ମିକ ଭାବ ଓ ଭାବନା ସହ ବିଶେଷ କରି ଅତିବଡୀଙ୍କ ଭାଗବତରୁ ଗ୍ରାମୀଣ ଓଡିଆ ପ୍ରୀତିର ପରିଚୟ ପାଇପାରିବେ ।

CORE -- 2: ମଧ୍ୟଯୁଗୀୟ ଓଡିଆ ସାହିତ୍ୟ

CO1	ମଧ୍ୟଯୁଗୀୟ ସାହିତ୍ୟ ପାଠକଲେ ବିଦ୍ୟାର୍ଥୀଙ୍କ ତତ୍ କାଳୀନ ସମୟର ସାମାଜିକ, ସାଂସ୍କୃତିକ, ରାଜନୈତିକ ଓ ଧର୍ମୀୟ ଚିନ୍ତାଚେତନା ସହିତ ପରିଚିତ ହେବା ସଙ୍ଗେ ସଙ୍ଗେ ସାଂପ୍ରତିକ ଯୁଗ ଚେତନା ସହ ତୁଳନା କରିପାରିବ
CO2	ମଧ୍ୟ ଯୁଗୀୟ କାବ୍ୟରେ ଭାଷା, ଛନ୍ଦ, ବର୍ଣ୍ଣନା ଚାତୁରୀ ସହ ଅଳଙ୍କାରର ପ୍ରୟୋଗ ବିଷୟରେ ଧାରଣା ସୃଷ୍ଟିହେବ । ଯଦ୍ୱାରା ବିଦ୍ୟାର୍ଥୀଙ୍କର ବ୍ୟାକରଣ ଜ୍ଞାନ ବୃଦ୍ଧି ସଙ୍ଗେ ସଙ୍ଗେ ପ୍ରାଚୀନ ସାହିତ୍ୟ ପ୍ରତି ଆଗ୍ରହ ବଢିବ । ବିଶେଷତଃ ସମ୍ପର୍କରେ ପାରଦର୍ଶିତା ହେବେ
CO3	ମଧ୍ୟ ଯୁଗୀୟ ସାହିତ୍ୟ କଳ୍ପନା ପ୍ରଧାନ ହୋଇଥିବାରୁ କାବ୍ୟରେ ଆତ୍ମା ଭାବରେ ରସ, ସୌନ୍ଦର୍ଯ୍ୟ ଓ ଭାବକୁ ଆଖି ଆଗରେ ରଖି କାବ୍ୟ ରଚନା କରାଯାଉଥିଲା ।
CO4	ଏହି ସମୟର ମଣିଷ ସଂପୂର୍ଣ୍ଣ ଇଶ୍ୱର ବିଶ୍ୱାସୀ ଥିବାରୁ ଓ ସାହିତ୍ୟ ସୃଷ୍ଟିରେ ସାଙ୍ଗିତିକତାକୁ ପ୍ରାଧାନ୍ୟ ଦିଆଯାଉଥିବାରୁ ବିଭିନ୍ନ ଶୈଳୀରେ ରଚିତ ଗୀତିକବିତା ପାଠ କରିପାରିବେ ।

SEMESTER 2

CORE -- 3: ଆଧୁନିକ ଓଡିଆ ସାହିତ୍ୟ

CO1	ଆଧୁନିକ ଓଡିଆ ସାହିତ୍ୟର ପୃଷ୍ଠଭୂମି ପଢିଲେ ଇଂରାଜୀ ଶିକ୍ଷାର ବିସ୍ତାର, ପତ୍ରପତ୍ରିକା ପକାଶ, ମୁଦ୍ରଣ ଯନ୍ତ୍ର ପ୍ରତିଷ୍ଠା ତଥା ଓଡିଆ ଭାଷାର ସୁରକ୍ଷା ବିଷୟରେ ବିଦ୍ୟାର୍ଥୀଙ୍କ ଧାରଣା ଜନ୍ମିବ ।

CO2	ରାଧାନାଥ ରାୟ ଓ ଗଙ୍ଗାଧର ମେହେରଙ୍କ କାବ୍ୟ, ମଧୁସୂଦନଙ୍କ କବିତା ଓ ଫକୀରମୋହନଙ୍କ ଉପନ୍ୟାସ ପଢିବା ଦ୍ୱାରା ଆଧୁନିକ ଓଡିଆ ସାହିତ୍ୟର ବିଷୟରେ ନୂତନ ଚେତନା ଜାଗ୍ରତ ହେବ ।
CO3	ସତ୍ୟବାଦୀ ସାହିତ୍ୟ ପଢିବା ଦ୍ୱାରା ଜାତୀୟତାବୋଧ, ଆଦର୍ଶ , ତ୍ୟାଗ, ସ୍ୱାଭିମାନ, ନୈତିକତା ଓ ତପସ୍ୱା ବିଷୟରେ ପାଠକେ ଅନୁଭବ କରିବେ ।
CO4	ସବୁଜ କବିଙ୍କ ନବୀନ ସାହିତ୍ୟଗୋଷ୍ଠୀ ଓ ସାମ୍ରାଜ୍ୟବାଦ ବିରୋଧୀ ସ୍ୱରର ଆଭିମୁଖ୍ୟ ଜାଣିପାରିବେ ।

CORE -- 4: ସ୍ୱାଧୀନତା ପରବର୍ତ୍ତୀ ଓଡିଆ ସାହିତ୍ୟ

CO1	ସ୍ୱାଧୀନତା ପରବର୍ତ୍ତୀ ଓଡିଆ କବିତାରେ ସାଂପ୍ରତିକ ବିଶ୍ୱଚେତନା ବିଷୟରେ ଅବଗତ ହେବେ ।
CO2	ସ୍ୱାଧୀନତା ପରବର୍ତ୍ତୀ ଓଡିଆ କଥା ସାହିତ୍ୟ ପଢିବା ଦ୍ୱାରା ସାଂପ୍ରତିକ ସାମାଜିକ ସ୍ଥିତି ବିଷୟରେ ଅବଗତ ହେବେ ।
CO3	ସ୍ୱାଧୀନତା ପରବର୍ତ୍ତୀ ଓଡିଆ ନାଟକ ଓ ଏକାଙ୍କିକା ମାଧ୍ୟମରେ ପାରିବାରିକ ସମସ୍ୟା ବିଷୟରେ ଅବଗତ ହେବେ ।
CO4	ସ୍ୱାଧୀନତା ପରବର୍ତ୍ତୀ ଓଡିଆ ଗଦ୍ୟ ସାହିତ୍ୟ ମାଧ୍ୟମରେ ରାଜନୈତିକ ବିଷୟରେ ଅବଗତ ହେବେ ।

SEMESTER 3

CORE -- 5: ଓଡିଆ ଭାଷା ଓ ଲିପିର ଐତିହାସିକ ବିକାଶକ୍ରମ

CO1	ଓଡିଆ ଭାଷାର ଉତ୍ପତ୍ତି ଓ ବିକାଶର ବିଭିନ୍ନ ଉତ୍ସ ବିଷୟରେ ଜାଣିବା ।
CO2	ପ୍ରତ୍ନ ତାତ୍ତ୍ୱିକ ମାଧ୍ୟମରେ ଓଡିଆ ଲିପିର ଐତିହାସିକ ପରିବର୍ତ୍ତନ ବିଷୟରେ ଜାଣିବା ।
CO3	ମାନକ ଭାଷାର ପୂର୍ବାବସ୍ଥା ବିଷୟରେ ଅବଗତ ହେବେ ।
CO4	ଚର୍ଯ୍ୟା ସାହିତ୍ୟରେ ଓଡିଆ ଭାଷାର ପ୍ରଭାବ କିପରି ନିହିତ , ପାଠକେ ଅବଗତ ହେବେ ।

CORE -- 6: ଭାଷାର ସଂଜ୍ଞା ସ୍ୱରୂପ, ଓଡିଆ ଭାଷାର ବୈଶିଷ୍ଟ୍ୟ ଓ ବିବିଧତା

CO1	ବିଭିନ୍ନ ଭାଷାତତ୍ତ୍ୱବିତ୍ ମାନଙ୍କ ଦ୍ୱାରା ଭାଷାର ସଂଜ୍ଞା, ସ୍ୱରୂପ ଓ ପ୍ରକାରଭେଦ କିପରି ନିରୂପଣ ହୋଇଛି, ପାଠକେ ହୃଦବୋଧ କରିବେ ।
CO2	ବର୍ତ୍ତମାନ ବ୍ୟବହୃତ ଭାଷା କେଉଁ କେଉଁ ଉତ୍ସ ଦେଇ ବିଭିନ୍ନ ସିଦ୍ଧାନ୍ତରେ ଉପନୀତ ତାହା ଅବଗତ ହେବେ
CO3	ଓଡିଆ ଭାଷାର ବିଭିନ୍ନ ଆଞ୍ଚଳିକ ଭାଷାର ଉତ୍ସ ବିଷୟରେ ଜାଣିହେବ ।
CO4	ଓଡିଆ ଭାଷାରେ ବିଭିନ୍ନ ଭାଷାର ପ୍ରଭାବ କିପରି ପଡିଛି , ତାହା ହୃଦୟଙ୍ଗମ ହେବେ ।

CORE -- 7: ଓଡିଆ ବ୍ୟାବହାରିକ ବ୍ୟାକରଣ

CO1	ଓଡିଆ ବର୍ଣ୍ଣର ବୈଚିତ୍ର୍ୟ, ବାକ୍ୟ ଗଠନର କୌଶଳ ଓ ପ୍ରକାରଭେଦ ଉପରେ ଅବଗତ ହେବା ।
CO2	ବ୍ୟାକରଣର ଧାରା ଅନୁଯାୟୀ କାରକ, ବିଭକ୍ତି, କୃଦନ୍ତ ଓ ତଦ୍ଧିତର ପ୍ରୟୋଗ ବିଧି ଉପରେ ଧାରଣା ଜନ୍ମିବ ।
CO3	ତୁଳନାତ୍ମକ ଭାବରେ ସଂସ୍କୃତ ଓ ଓଡିଆ ବ୍ୟାକରଣରେ ବ୍ୟବହୃତ ଉପସର୍ଗ, ସନ୍ଧି ଓ ସମାସ ସମ୍ପର୍କରେ ଜାଣିବେ ।
CO4	ବିଭିନ୍ନ ଭାଷାରୁ ବିଭିନ୍ନ ଉତ୍ସ ମାଧ୍ୟମରେ ଓଡିଆରେ ବ୍ୟବହୃତ ଶବ୍ଦ ସମ୍ପର୍କରେ ଜାଣିବା ।

SEMESTER 4

CORE -- 8: ଓଡିଆ ଲୋକସଂସ୍କୃତି ଓ ଲୋକସାହିତ୍ୟ

CO1	ପ୍ରାଚୀନ କାଳରୁ ଅଦ୍ୟାବଧି ଓଡିଆ ଲୋକ ସଂସ୍କୃତିର ବୈଚିତ୍ର୍ୟ ଉପରେ ଧାରଣା ପାଇବା ।
CO2	ନିରକ୍ଷର ମଣିଷର ଆବେଗରୁ କିପରି ଗୀତ ଝରିଆସି ସ୍ରୋତାଙ୍କୁ ମୁଗ୍ଧ କରିଆସିଛି ସେ ଦିଗରେ ହୃଦୟଙ୍ଗମ କରିପାରିଛି ।
CO3	ଲୋକଗଳ୍ପରେ ସମାଜଚେତନାର ଧାରାକୁ ପାଠକେ ଜାଣିବେ ।
CO4	ସମାଜରେ ବ୍ୟବହୃତ ବିଭିନ୍ନ ଲୋକ ନଟକାର ଭୂମିକା ଛାତ୍ରଛାତ୍ରୀ ଅବଗତ ହେବେ ।

CORE -- 9: ସାହିତ୍ୟ ତତ୍ତ୍ୱ (ପ୍ରାଚ୍ୟ ଓ ପାଶ୍ଚାତ୍ୟ)

CO1	ମଣିଷ ମନରେ ସୁପ୍ତ ହୋଇ ରହିଥିବା ବିଭିନ୍ନ ଆବେଗର ନାମକରଣକୁ ଜାଣିବା ।
CO2	ଓଡିଆ ସାହିତ୍ୟରେ ରୀତି, ବକ୍ରୋକ୍ତି ଓ ଅଳଙ୍କାର ବ୍ୟବହୃତ ନିର୍ଦ୍ଦିଷ୍ଟ ନିୟମକୁ ଜାଣିବେ ।

CO3	ପାଶ୍ଚାତ୍ୟ ସାହିତ୍ୟର ପ୍ରଭାବ ଦ୍ୱାରା ଓଡିଶା ସାହିତ୍ୟରେ ବ୍ୟବହୃତ କ୍ଲାସିସିଜିମ୍ ଓ ରୋମାଣ୍ଟିସିଜିମ୍ ବିଷୟରେ ଜାଣିବା ।
CO4	ବିଷୟକୁ ସଂକ୍ଷେପରେ ପ୍ରକାଶ କରିବା ପାଇଁ ପ୍ରତୀକ ଓ ଚିତ୍ରକଳ୍ପର ବ୍ୟବହାର ବିଷୟରେ ଅବଗତ ହେବେ ।

CORE -- 10: ଓଡିଆ କବିତା ପ୍ରାଚୀନରୁ ଆଧୁନିକ

CO1	ଦୁର୍ଯୋଧନଙ୍କ ରକ୍ତନଦୀ ସନ୍ତରଣ ପଢିବା ଦ୍ୱାରା ପାପକର୍ମର ଫଳ କେତେ ଭୟଙ୍କର ତାହା ପାଠକେ ଜାଣିବେ ।
CO2	ଭଗବତର ଗୁରୁପ୍ରସଙ୍ଗ ପଢିବା ଦ୍ୱାରା ସାଂପ୍ରତିକ ଗୁରୁଙ୍କ ମହିମା ଓ ସମାଜରେ ଗୁରୁଙ୍କ ସମ୍ମାନ ସ୍ଥାନ ବିଷୟରେ ଅବଗତ ହେବେ ।
CO3	ରସକଲ୍ଲୋଳର ପ୍ରଥମ ଛାନ୍ଦରୁ କବିଙ୍କ ଭକ୍ତିମତ୍ତା ଓ ଶ୍ରୀ ଜଗନ୍ନାଥଙ୍କ ମହିମା କଥା ଜାଣିବେ ।
CO4	ଆଧୁନିକ କବିତାରୁ ସାର୍ବଜନୀନ ଚିନ୍ତା ଚେତନା କେତେ ବ୍ୟାପକ ପାଠକେ ଜାଣିବେ ।

SEMESTER 4

CORE -- 11: ଓଡିଆ ନାଟକ ଓ ଏକାଙ୍କିକା

CO1	ସାଂପ୍ରତିକ ସମାଜର ଦଳିତ ଚେତନା କେତେ ଉଗ୍ର ରକ୍ତମାଟିରୁ ପାଠକେ ହୃଦୟଙ୍ଗମ ହେବେ ।
CO2	ସାଂପ୍ରତିକ ସମାଜର ରାଜନୈତିକ ଚିତ୍ର ବିଷୟରେ ଅବଗତ ହେବେ ।
CO3	ସାଂପ୍ରତିକ ସମାଜର ବିଭିନ୍ନ ଦିଗ ବିଷୟରେ ଜାଣିହେବ ।
CO4	ସାଂପ୍ରତିକ ସମାଜର ପ୍ରେମ ପ୍ରଣୟର ନଗ୍ନ ଚିତ୍ର ସହ ଅର୍ଥନୈତିକ ଚିତ୍ର ହୃଦବୋଧ ହେବେ ।

CORE -- 12: ଓଡିଆ କଥା ସାହିତ୍ୟ

CO1	ଓଡିଆ କଥା ସାହିତ୍ୟର ବିଭିନ୍ନ ସ୍ତର ଦେଇ ସାର୍ବକାଳିକ ସ୍ତରର କଥାସାହିତ୍ୟ କିପରି ବିକଶିତ ତାହା ଜାଣିହବ ।
CO2	ସାଂପ୍ରତିକ ସମୟର ରାଜନୈତିକ, ଅର୍ଥନୈତିକ, ସାମାଜିକ ଚିତ୍ର ଓ କୂଟନୀତି ବିଷୟରେ ଜାଣିହେବ ।
CO3	ସମସାମୟିକ ସମାଜରେ ଦାନପାଣିକୁ ନେଇ କେତେ ନଟକୂଟ କରିବାକୁ ପଡିଛି ଓ ପରେ ପସ୍ତେଇବାକୁ ପଡିଛି ତାହା ଜାଣିହେବ ।

CO4	ଓଡିଆ ଗଳ୍ପ ପଢିବା ଦ୍ୱାରା ସମାଜର ବିଭିନ୍ନ ଦିଗ କଥା ଜାଣିହେବ ।

DSE 1: ଓଡିଶାର ସାଂସ୍କୃତିକ ଇତିହାସ ଓ ଓଡିଆ ସାହିତ୍ୟ

CO1	ଓଡିଶାର ସଂକ୍ଷିପ୍ତ ଇତିହାସ ମାଧ୍ୟମରେ ପାଠକେ ସାଂପ୍ରତିକ ସମାଜର ସାମାଜିକ, ରାଜନୈତିକ ଓ ଅର୍ଥନୈତିକ ଦିଗ ଜାଣିପାରିବେ ।
CO2	ଓଡିଶାର ବୌଦ୍ଧ, ଶୈବ ଓ ବୈଷ୍ଣବ ସଂସ୍କୃତି ମାଧ୍ୟମରେ ପାଠକେ ଭକ୍ତି ଓ ପ୍ରେମ ହିଁ ସବୁରି ମୂଳ ବୋଲି ଜାଣିବେ ।
CO3	ଶ୍ରୀ ଜଗନ୍ନାଥ ଓ ଆଦିବାସୀ ସଂସ୍କୃତି ମାଧ୍ୟମରେ ଉତ୍କଳୀୟ ସଂସ୍କୃତି କେତେ ମହନୀୟ ତାହା ଉପଲବଧି ହେବେ ।
CO4	ଓଡିଶାର ଓଷା ବ୍ରତ ଓ ପର୍ବପର୍ବାଣି ପଢିବା ଦ୍ୱାରା ଉତ୍କଳୀୟ ଆଧ୍ୟାତ୍ମିକ ଜୀବନ କେତେ ଉତ୍ସର୍ଗୀକୃତ ତାହା ଅନୁମେୟ ।

DSE 2: ଓଡିଆ ଶିଶୁ ସାହିତ୍ୟ ଓ ବିଜ୍ଞାନଭିତ୍ତିକ ସାହିତ୍ୟ

CO1	ଶିଶୁ ସାହିତ୍ୟ ମାଧ୍ୟମରେ ଶିଶୁର ମାନସିକ ସ୍ଥିତି ଜାଣିବାରେ ସହାୟକ ହେବେ ।
CO2	ସାଂପ୍ରତିକ ସମୟରେ ଓଡିଆ ବିଜ୍ଞାନଭିତ୍ତିକ ସାହିତ୍ୟ କିଭଳି ଉପଯୋଗୀ ହୋଇପାରିବ ତାହା ହୃଦବୋଧର ବିଷୟ ।
CO3	ପୃଥିବୀ ବାହାରେ ମଣିଷ ପାଠକଲେ ମଣିଷ ପୃଥିବୀ ଗ୍ରହ ବାହାରେ ମଧ ମଣିଷ ଜୀବନ କିଭଳି ସୁରକ୍ଷିତ ତାହା ଜାଣିବେ ।
CO4	ଏ ବିଶ୍ୱ କେଡେ ବିଚିତ୍ର ତାହା ବିଭିନ୍ନ ତତ୍ତ୍ୱ ତଥା ଫିତା ତତ୍ତ୍ୱ ମାଧ୍ୟମରେ ଜାଣିହେବ ।

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CORE -- 13: ଓଡିଆ ଗଦ୍ୟ ସାହିତ୍ୟ

CO1	ଆତ୍ମଜୀବନୀ, ଭ୍ରମଣ କାହାଣୀ ଓ ସମାଲୋଚନା ମାଧ୍ୟମରେ ପାଠକ ସମାଜର ବାସ୍ତବ ଅନୁଭୂତିକୁ ଜାଣିପାରିବେ ।
CO2	ମୋ ଫୁଟା ଡଙ୍ଗାର କାହାଣୀ ମାଧ୍ୟମରେ ଜଗତ ଓ ଜୀବନର ବାସ୍ତବ ଦିଗ ଉନ୍ମୋଚିତ କରାଏ।
CO3	ପଶ୍ଚିମ ଆଫ୍ରିକାରେ ଓଡିଆ ଢେଙ୍କି ମାଧ୍ୟମରେ ସାଂପ୍ରତିକ ସମାଜର ସ୍ଥିତି ବିଷୟରେ ହୃଦୟଙ୍ଗମ କରିପାରିବେ ।
CO4	ପ୍ରବନ୍ଧ ମାଧ୍ୟମରେ ସାମାଜିକ, ପୌରଣିକ ତଥା ବ୍ୟକ୍ତିକୈନ୍ଦ୍ରିକ ପ୍ରୋତ୍ସାହନ ତଥ୍ୟ ଓ ତତ୍ତ୍ୱ ଜାଣିବେ ।

CORE -- 14: ଓଡିଆ ଭାଷାର ବ୍ୟାବହାରିକ ପ୍ରୟୋଗ

CO1	"କହିଜାଣିଲେ କଥା ସୁନ୍ଦର" ଉକ୍ତି ମାଧ୍ୟମରେ ଦଳଗତ ଆଲୋଚନା ଓ ସାକ୍ଷାତକାର ମାଧ୍ୟମରେ ବାକ୍ ଚତୁରୀକୁ ଜାଣିବା ।
CO2	ସାଂପ୍ରତିକ ସମୟରେ ବ୍ୟବହୃତ ଭାଷା ମାଧ୍ୟମରେ ସଂବାଦ, ଫିଚର୍ ଓ ବିଜ୍ଞାପନ କୌଶଳକୁ ଉପଲବଧି କରିବା ।
CO3	କାର୍ଯ୍ୟାଳୟରେ ଓଡିଆ ଲିଖନ ବିଧିକୁ ବିଭିନ୍ନ ମାଧ୍ୟମରେ ଜାଣିବା ।
CO4	ଜଗତୀକରଣ ଯୁଗରେ ଓଡିଆ ଭାଷାର ପ୍ରୟୋଗ ବିଧିକୁ ଜାଣିବା ।

DSE – 3: ଓଡିଆ ପଦ୍ୟ ସାହିତ୍ୟ

CO1	ପାଠକେ ଆଧୁନିକ ଓଡିଆ କବିତାରେ ଭକ୍ତିଭାବ ଓ ସ୍ୱଦେଶପ୍ରୀତିର ସ୍ୱାଦ ଜାଣିପାରିବେ ।
CO2	ସାଂପ୍ରତିକ ପରିସ୍ଥିତିର ଜଟିଳ ସମସ୍ୟାକୁ 'ବାସି ମଢା' ଗଳ୍ପ ମାଧ୍ୟମରେ ଅନୁଭବ କରିପାରିବେ ।
CO3	ସମସାମୟିକ ସାଂସ୍କୃତିକ ଚେତନା ଓ ପ୍ରାବନ୍ଧିକଙ୍କ ରଚନା ଶୈଳୀ ବିଷୟରେ ଜାଣିପାରିବେ ।
CO4	ମାଟିର ମଣିଷ ଉପନ୍ୟାସ ପଢିବା ଦ୍ୱାରା ଗାନ୍ଧୀବାଦ କିଭଳି ଭାବରେ ପ୍ରଭାବ ପକାଇଛି, ହୃଦବୋଧ ହେବ ।

DSE – 4: ପ୍ରବନ୍ଧ ପ୍ରସ୍ତୁତି ଓ ଉପସ୍ଥାପନା

CO1	ସମାଲୋଚନା ଦ୍ୱାରା ସାହିତ୍ୟର ଦୋଷତ୍ରୁଟି ମାର୍ଜିତ ହୁଏ ତଥା ସାହିତ୍ୟ ବିକଶିତ ହୁଏ ।
CO2	ଅନୁବାଦର ବିଭିନ୍ନ କ୍ଷେତ୍ର ପ୍ରକାର ଭେଦ ଓ ବିଭିନ୍ନ ଉପାଦାନ ବିଷୟରେ ଅବଗତ ହେବା ।
CO3	ସମ୍ପାଦନା କୌଶଳ ଓ ସମ୍ପାଦନର ମୌଳିକ କର୍ମ ବିଷୟରେ ଅବଗତ ହେବା ।
CO4	ଗବେଷଣାର ମୁଖ୍ୟ ଆଭିମୁଖ୍ୟ ବୁଝିବା,ଦୁଇଟି ଆଭିମୁଖ୍ୟ ମଧ୍ୟରେ ପାର୍ଥକ୍ୟ ଜାଣିବା ,ଏକ ସମସ୍ୟା ଅଧ୍ୟୟନ ପାଇଁ ଏକ ସଠିକ ପନ୍ଥା ନିର୍ବାଚନ କରିବା ଓ ଗବେଷଣାର ବିଭିନ୍ନ ସୋପାନର ତାଲିକା ପ୍ରସ୍ତୁତ କରିବା ଇତ୍ୟାଦି ବିଷୟରେ ଅବଗତ ହେବା ।