DEPARTMENT OF ECONOMICS
S.D Women's College, Rajgangpur
Economics (B.A)

1. **PROGRAMME OUTCOMES (PO):-**

PO1-Economics & Knowledge: economics subject enables the learners to buildup a professional carrier as economists, financial advisors, economics planners, bankers & policy makers. It prepares them to cope up with the stress & strain involved in the process of economic development.

PO-2Economics & Skills: department organizing study tour, workshops, seminars, and industrial visit & extension activities it enables students to learn economics, particularly its applications & foster the development of their own skills in economics reasoning & understanding.

PO-3Economics & Ethics: apply basic mathematical & statistical ethics & skills necessary for analysis of a range of problems in economics actuarial studies.

PO-4 Economics & Environment: as environmental problems are the burning issues of present day, the study of environmental economics helps them to know the methods of controlling environment. Pollution & thereby to achieve sustainable development.

2. **PROGRAMME SPECIFIC OUTCOMES (PSO):-**

PSO-1: To provides the students with a unique opportunity of obtaining a professional qualification in economics focusing on the advanced practical areas.

PSO-2: Understand basic concepts of economics & to analyze economics behavior in practice.

PSO-3: Understand the economic way of thinking.

PSO-4: Students will be able to effectively communicate economic ideas.

PSO-5: To develop comprehensive understanding of interdisciplinary issues & ASPECTS OF SOCIETY.

PSO-6: To prepare the students for scientific research in economics.

PSO-7: Predict the impact of economics variables, economic growth & development at national & international level.

3. **Course Outcomes (CO's):-**

I-SEMESTER:

CORE-1: Micro Economics-I

- To understand the concept of the production function

- To understand concept of theories of cost
- To understand concept of partial & general equilibrium
- To understand concept of market mechanism & social welfare Understand the basic micro economic problems of scarcity & choice, utility demand, utility function ordinary & theory of demand.

CORE-2: Mathematical Methods in Economics-I

- To understand linear models
- Preliminaries & functions of one real variables
- Derivative of a function
- Matrices & determinants
- Second & higher order derivatives & integration
- Single & multivariable optimization
- Optimization with equality constraints

II-SEMESTER:

CORE-3: Macro Economics

- To understand the circular flow of income in two, three & four sector economy
- Exploring the subject matter of economics markets & welfare
- Theory of consumer choice
- The firm & market structures
- The input markets
- Profit maximization

CORE-4: MATHEMATICAL METHODS FOR ECONOMICS-II

- To understand linear models
- Preliminaries & functions of one real variables
- Derivative of a function
- Matrices & determinants
- Second & higher order derivatives & integration
- Single & multivariable optimization
- Optimization with equality constraints

III-SEMESTER:

CORE-5: MICRO ECONOMICS-I

- To understand the concept of the production function
- To understand concept of theories of cost
- To understand concept of partial & general equilibrium
- To understand concept of market mechanism & social welfare

CORE-6: MACRO ECONOMICS-I

- To understand the circular flow of income in two, three & four sector economy
- Exploring the subject matter of economics markets & welfare
- Theory of consumer choice
- The firm & market structures
- The input markets
- Profit maximization

CORE-7: STATISTICAL METHODS FOR ECONOMICS

- Data collection & measures of central tendency & dispersion
- Correlation & regression analysis
- Time series & index number
- Probability theory & sampling

IV-SEMESTER:

CORE-8: MICRO ECONOMICS-II

- To understand concept of theories of cost
- To understand concept of partial & general equilibrium
- To understand concept of market mechanism & social welfare

CORE-9: MACRO ECONOMICS-II

- To understand the circular flow of income in two, three & four sector economy
- Exploring the subject matter of economics markets & welfare
- Theory of consumer choice
- The firm & market structures
- The input markets

- Profit maximization

CORE-10: RESEARCH METHODOLOGY

- Basics of research & approaches
- Research problem & collection of data
- Issues in research & testing of hypothesis
- Actions in research
- Report writing

V-SEMESTER:

CORE-11: INDIAN ECONOMY

- Basic characteristics of Indian economy as a developing economy
- Population & human development
- National income in India & current challenges
- Economic planning in India

CORE-12: DEVELOPMENT ECONOMICS-I

- Study of economic development & growth
- Theories of economics growth & development
- Poverty, inequality, agriculture, industry & development
- Institutions & economic development
- Dualism & economic development
- International trade, environment & development

DSE-1: PUBLIC ECONOMICS-I

- Introduction to public finance & public budgets
- To understand public expenditure
- To understand public revenue
- To understand public debt

DSE-2: MONEY BANKING AND FINANCIAL MARKET

- Introduction to Indian financial system
- Understanding the functions of money market
- Understanding the banking system

VI-SEMESTER:

CORE-13: INDIAN ECONOMY-II

- Basic characteristics of Indian economy as a developing economy
- Population & human development
- National income in India & current challenges
- Economic planning in India

CORE-14: DEVELOPMENT ECONOMICS-II

- Study of economic development & growth
- Theories of economics growth & development
- Poverty, inequality, agriculture, industry & development
- Institutions & economic development
- Dualism & economic development
- International trade, environment & development

DSE-3: ENVIRONMENTAL ECONOMICS

- Economy & environment
- The economics of pollution & climate change
- Valuation of environmental damage
- Natural resources & sustainable development

DSE-4: DISSERTATION/PROJECT

DEPARTMENT OF EDUCATION
S.D.Women's College, Rajgangpur
EDUCATION (B.A)

1. PROGRAMME OUTCOMES (PO):-

PO-1: Students get insight imagination of information Technology, Communication technology
PO-2: Develop fellow feeling, sociability through Different Non-academic activities. PO-7- Participate in different creative and aesthetic Activities
PO-3: Understand evolution and history of Indian Education. PO-2-Students are now being able to carry on Research activities.
PO-4: Can understand concept of statistics in Education and can compute in behavioral Sciences.
PO-5: Establish relationship of education with that Politics, Economics, Sociology, Health and Hygiene.

2. PROGRAMME SPECIFIC OUTCOMES (PSO):-

PSO-1: Knowledge: - Acquire knowledge on Different concept, facts, ideas, information on research, statistics, Technology, Management, Special education.
PSO-2: Understanding: - Understand recent Development in education, Research, science, Technology etc.
PSO-3: Skills: - Develop skills in preparing and Delivering lesson, adopting methodology and pedagogy of teaching.
PSO-4: Application: - Students are now able to apply the acquired knowledge in solving their day to day problem.
PSO-5: Appreciation: - They appreciate contribution of educational thinkers

3. COURSE OUTCOMES (COS):-

I-SEMESTER:

Core-1: Educational Philosophy
Appreciate the contribution of various Indian school of philosophy to the field of education.
Core-2: Educational Psychology
Understand various methods used to study individual behavior.

II-SEMESTER:

Core-3: Educational Sociology
Education as a sub-system of society and how other sub-systems affect Education.
Core-4: Changing Pedagogical Perspective
Differentiate Pedagogy from other allied concepts.

III-SEMESTER:

Core-5: Educational Assessment and Evaluation
Understand the nature purpose and types of educational assessment and evaluation
Core-6: Educational Research
Analyze research design in education, prepare the research report
Core-7: Statistics in Education
Compute relevant measures of average and measures of variation and bi-variate distribution to analysis and interpretation.

IV-SEMESTER:

Core-8: History of Education in India
Understand the development of education in India during ancient period, medieval period and pre-independence period.
Core-9: Curriculum Development
Differentiate curriculum from courses of study, text book
Critically examine National Curriculum Framework-2000 and 2005
Core-10: Guidance and Counseling
State the concept, scope and type of counseling and explain the qualities and role of a counselor

V-SEMESTER:

Core-11: Development of Education in Odisha
Grasp the structure of educational system of Odisha
Core-12: Information and Communication Technology in Education
Explain the concept, nature and scope of ICT in education
DSE-1: A. Pedagogy of Language (English)
B. Pedagogy of Language (Odia)

DSE-2: A. Pedagogy of Social Sciences
B. Pedagogy of Mathematics

VI-SEMESTER:

Core-13: Contemporary Trends and issues in Indian Economy
Core-14: Educational Management and Leadership
DSE-3: A. policy and practices in school education in India
B. policy and practices in school education in India
.
DSE-4: DISSERTATION/Project
To prepare a report or research project on any educational problem or issues.

DEPARTMENT OF HOME SCIENCE
S.D.Women's College, Rajgangpur
Home.Science (B.A)

1. **PROGRAMME OUTCOMES (PO):-**

PO1: Cover a broad spectrum of Science and technology, human development, child care, health, nutrition, housing, clothing
PO2: Understand the conditions contributing to spiritual, psychological and social development
PO3: Analyze physical components of existence and quality and availability of services which enrich life.
Po4: Awakening the community and safeguarding the interests of the people and helping them to improve their ways of life.

2. **PROGRAMME SPECIFIC OUTCOMES (PSO):-**

PSO1: Understand and appreciate the role of interdisciplinary sciences in the development and well- being of individuals, families and communities

PSO2: Understand the sciences and technologies that enhance the quality of life of people

PSO3: Acquire professional and entrepreneurial skills for economic empowerment of self in particular, and community in general

PSO4: Develop professional skills in food, nutrition, textiles, housing, product making, communication technologies and human development

PSO5: Take science from the laboratory to the people

3. COURSE OUTCOMES (COS):-

I-SEMESTER:

CORE-1: HUMAN DEVELOPMENT-I: THE CHILDHOOD YERAS
The objective is to understand importance of Human development & principles involved in it and to study the developmental pattern of children starting from prenatal period up to middle childhood years in the areas of physical, motor, social, emotional & language development.

CORE-2: FOOD AND NUTRITION
The objective is to understand basic concepts of food, nutrition and their related terms, to study the functions, requirement& deficiency of macro & micronutrients in the human body, to

examine the difference between weights & measures of raw & cooked foods, to gain knowledge on nutritional contribution of various foods and principles involved in its cooking.

II-SEMESTER:

CORE-3: EXTENSION EDUCATION

The objective is to enable the student to understand the meaning, principles, philosophy of Home Science Extension Education, to enable the student to know about different methods used in Extension Education, to enrich the Knowledge of the students about teaching learning process in Extension education

CORE-4: FAMILY RESOURCE MANGEMENT

The objective is to achieve goals in life through judicious resource management and to utilize the available resources effectively.

III-SEMESTER:

CORE-5: TEXTILES

The Objective is to know the manufacturing process of different types of textile fibers, their structures and uses, to know the manufacturing process of different types of fabrics, to impart knowledge on different textile finishes.

CORE-6: DYNAMICS OF COMMUNICATION The objective of the paper is to understand the different spheres of communication and to understand the concept, process, models and process of communication

CORE-7: PERSONAL FINANCE AND CONSUMER STUDIES The Objective is to gain knowledge about the need of consumer education and to create awareness among consumers through education

IV-SEMESTER:

CORE-8: HUMAN DEVELOPMENT –II: DEVELOPMENT ADOLESCENCE AND ADULTHOOD

The Objective is to know the different developmental tasks during adolescence and to know the socio-emotional and cognitive developments of adulthood.

CORE-9: NUTRITION: A LIFE CYCLE APPROACH

The Objective is to know the importance of nutrition in different stages of life cycle and to study the nutritional need in special conditions.

CORE-10: FASHION DESIGN

The objective is to support and collaborate with fashion, textiles and design industry to achieve a sustainable progress and to give advance knowledge and pushing the boundaries in fashion, textile and designing.

V-SEMESTER:

CORE-11: THERAPEUTIC NUTRITION

The objective is to study about principles of therapeutic nutrition and to know the nutritional need during different disease conditions

CORE-12: PHYSIOLOGY AND PROMOTIVE HEALTH

The objective is to understand the structure and functions of various organs of the body and to focus on different mechanism of human body.

DSE-1: INDIAN TEXTILES HERITAGE

DSE-2: COMMUNICATION SYSTEMS AND MASS MEDIA

VI-SEMESTER:

C CORE-13: RESEARCH METHODOLOGY

The objective is to understand the meaning and process of research in social sciences, to know about the technique of collection, analysis and interpretation of data, to understand the meaning & process of research in social sciences, to have fundamental knowledge about analysis of data & the diagrammatic representation of data and to learn the techniques of interpretation of data & report writing.

CORE-14: SOCIO-ECONOMIC ENVIRONMENT

The objective is to know the relationship between society, economy and environment, to create awareness among people regarding constraints in economic environment and its consequences.

DSE-3: MARRIAGE AND FAMILY RELATIONSHIP

DSE-4: DISSERTATION/PROJECT

DEPARTMENT OF POLITICAL SCIENCE
S.D.Womens College, Rajgangpur
Political. Sc (B.A)

1. PROGRAMME OUTCOMES:-

PO1: Understanding the interrelationship between policy decisions and its effects on society. This is achieved through a comprehensive teaching of the practice of public administration in India.

PO2: Effective Citizenship**:** the course curriculum inculcates among students a basic understanding of the rights and duties of citizenship and thereby to act as responsible citizens through the observation of important days such as Independence Day, Republic Day and also spreading awareness in society through street plays based on specific socio political issues such as domestic violence, disillusioned youth of the materialistic world etc.

PO3: To provide strong foundation to the students regarding political Science

PO4: To motivate and inform students about the opportunities and future prospects in the field.

PO5: To motivate the students to pursue higher studies in Political Science.

2. PROGRAMME SPECIFIC OUTCOMES (PSO):-

PSO1: Students will be able to know and understand the behavioral patterns of different political institutions, agents, issues and their applications.

PSO2: The students may opt for civil services, politics, law, journalism, etc as a path of services to the people.

PSO3: In general the students will be able to understand and link the past and present political conditions of the country.

PSO4: The students will be able to comprehend the interdisciplinary aspects of political science and its relevance.

3. COURSE OUTCOMES (CO'S):-

I SEMESTER

CORE 1: UNDERSTANDING POLITICAL THEORY

Analyzing what is Politics and explaining the approaches to study of Political Science- Normative, Behavioral, Post Behavioral, and Feminist. Understanding the nature, scope and significance of political theory. Acquainting with the theories, concepts, and principles of Political Theory.

Examining the various traditional and modern theories of political science. Evaluating theories of origin of the state. Analyzing Tradition of Political Theory: Liberal, Marxist, Anarchist and Conservative. Comprehending Postmodern perspective of Political Theory.

CORE 2: CONSTITUTIONAL GOVT. AND DEMOCRACY IN INDIA

Critically analyzing the important institutions of the Indian Union : The Executive : President, Prime Minister, Council of minister, Governor, Chief Minister and Council of Minister, The Legislature : Rajya Sabha, Lok Sabha, Speaker, committee System, State Legislature, The Judiciary : Supreme Court and The High Court, Judicial Review and Judicial Activism. Looking at the constitutional Amendment Procedure with focus on the main recommendations of the Constitutional Review Commission. Critically evaluating the Indian Party System – its development and looking at the ideology of dominant national parties. Evaluating the role of various forces on Indian Politics: Religion, language, Caste, Tribe, Regionalism, communalism. Analyzing the Electoral Process in India with focus on the Election Commission: Composition, Functions and Role. Examining the social movement and new social movement

II SEMESTER

CORE 3: POLITICAL THEORY CONCEPTS AND DEBATES

On completion of the course the student will be able to comprehend and analyze the various concepts examined by contemporary and classical political thinkers. Identify the recent trends in political theory. Understand the basics of political philosophy. Evaluate the core concepts of political values and their importance in political and social life.

CORE 4: POLITICAL PROCESSES IN INDIA

Discern the institutional and social dynamics and political processes in contemporary India. Explain the working of party system in India. Understand the salient features and trends of Indian Politics.

III SEMESTER

CORE 5: INTRODUCTION TO COMPARATIVE GOVT. AND POLITICS

Analyzing the approaches and models of comparison: system analysis, structural functionalism and institutional approach. Critically analyzing the features of a liberal democratic and Socialist political system with focus on UK, USA, CHINA, SWITZERLAND and FRANCE.

Conducting an intensive Comparative study of the Executive (UK,USA,FRANCE,SWITZERLAND and CHINA) Critically looking at the rights of the citizens of UK, USA, CHINA, FRANCE and SWITZERLAND from a comparative perspective.

CORE 6: PERSPECTIVES ON PUBLIC ADMINISTRATION

Analyze the major approaches and recent trends, concepts of Public Administration. Comprehend and analyze classical and neo classical theories of Public Administration, contemporary theories of Public Aministration and the basics of Public Policy Process.

CORE 7: PERSPECTIVES ON INTERNATIONAL RELATIONS AND WORLD HISTORY

Studying the role of Diplomacy, Propaganda, and Military capabilities in the making of foreign policy. Appreciating the foreign policy their determinants, features and its relevance.
Critically analyzing the India's bilateral relations with major power and neighboring countries.
Explaining certain basic concepts like Globalization in contemporary world order.
Describing the cold war phases and understanding the post cold war. Evaluating the working of UN and its organ, peace keeping function and Human Rights. Analyzing the regional organization: EU, ASEAN, APEC, SAARC, NAFTA and NAM. Examining the contemporary issues: Environment, Terrorism etc.

IV SEMESTER

CORE 8: POLITICAL PROCESSES AMD INSTITUTIONS IN COMPARATIVE PERSPECTIVE

Understand the main concepts and debates in comparative Political Studies. Analyze the relationship between various individuals, actors and processes across different political systems both historical and contemporary.

CORE 9: PUBLIC POLICY AND ADMINISTRATION IN INDIA

Comprehend the dynamics of local self govt. in India, the concept of budgeting and its significance in the Indian context. Analyze social welfare policies in India from the perspective of social welfare administration.

CORE 10: GLOBAL POLITICS

Analyze and explain contemporary international phenomena. Identify the important historical continuities and changes in international relations in the machinery of diplomacy. Evaluate the various theoretical insights across a range of issues.

V SEMESTER

CORE 11: WESTERN PLOTICAL PHILOSOPHY

Providing an insight into the dominant features of Ancient Western Political Thought: Ancient Greek Political Thought with focus on Aristotle and Plato. Examining the features of Medieval

Political Thought. Evaluating the Renaissance, Political Thought of Reformation, and Machiavelli.

Critically examining Bodin's contributions to the theory of sovereignty, Hobbes as the founder of the science of materialist politics, Locke as the founder of liberalism with focus on his views on natural rights, property and consent and Rousseau's views on Freedom and Democracy, Bentham's Utilitarianism and John Stuart Mill's views on liberty and representative government.

Taking an insight into the following: Hegel's views on Civil Society and State, Utopian and Scientific socialism: basic characteristics. Analyzing the thought of Karl Marx and Lenin on dictatorship of proletariat, class struggle and communist society and state.

CORE 12: INDIAN POLITICAL THOUGHT

Tracing the evolution of Indian Political Thought from ancient India to Modern India.

Analyzing ancient political thoughts of Manu , Kautilya, Aganseeta, Barani, Abulfazal and Kabir.

DSE-1 INTRODUCTION TO HUMAN RIGHTS

To identify issues and problems relating to the realization of human rights and strengthen the ability to contribute to the resolution of human rights, issues and problems

DSE-2 DEVELOPMENT PROCESS AND SOCIAL MOVEMENTS IN CONTEMPORARY INDIA

To introduce the students to the conditions, context and forms of political contestation over development paradigms and their bearing on the retrieval of democratic voice of citizens.

VI SEMESTER

CORE 13: CONTEMPORARY POLITICAL PHILOSOPHY

The students will be able to know the basic ideas of modern Political thinkers like Rousseau, Mill, Max, etc. To evaluate the strength and weaknesses of the arguments deployed by the above thinkers.

CORE 14: MODERN INDIAN POLITICAL THOUGHT

Comprehend the contribution of contemporary political thinkers and their contribution in the framing of Indian Constitution. To understand the main concepts and debates in Indian Political Philosophy.

DSE-3 INDIA'S FOREIGN POLICY IN A CHANGING WORLD

Trace the genesis of India's Foreign Policy from pre-independence to post –independence. Enable engagement with persisting issues surrounding international trade, security and environment in the Indian context.

DSE-4 DISSERTATION/PROJECT

DEPARTMENT OF HISTORY
S.D.Womens College, Rajgangpur
HISTORY (B.A)

1. **PROGRAMME OUTCOMES (PO):-**

PO1: Understand about the evolution of human society and how the society begun
PO2: To acquire the knowledge about the ancient Greek and roman society.
PO3: To learn about the rise of modern west world and transition of the society
PO4: To acquaint with the European crisis and French revolution

2. **PROGRAMME SPECIFIC OUTCOMES (PSO):-**

PSO1: Understand the background of our religion, customs, institution, administration and so on.
PSO2: Understand the present existing social, political religious and economic condition of the people.
PSO3: Analyze relationship between the past and the present of the history.
PSO4: Develop practical skills like drawing historical maps, charts and historical model tools.
PSO5: Collect ancient arts, old coins and other historical materials.
PSO6: Participate in historical drama and historical occasions.

3. COURSE OUTCOMES (COS):-

I SEMESTER
CORE 1- HISTORY OF INDIA-I
Understanding the Ancient Indian Polity, Society and Class- Caste system
CORE 2- SOCIAL FORMATION AND CULTURAL PATTERNS OF THE ANCIENT WORLD
Understanding Evolution of Human and their relationship with other group in various manner

II SEMESTER
CORE 3- HISTORY OF INDIA –II
Analysis of Socio-cultural, Socio Economic Condition of early Medieval India.
CORE4- SOCIAL FORMATION AND CULTURAL PATTERNS OF MEDIEVAL WORLD
Comparative study in social formations and cultural patterns of the medieval world

III SEMESTER
CORE 5- HISTORY OF INDIA-III (750-1206 century)
Understanding Early Medieval India, its problem and achievements and emergence of the early concept of globalization in India.
CORE 6- RISE OF MODERN WEST-I
Rise of Modern west its nature scope i.e. Capitalism, Liberalism
CORE 7- HISTORY OF INDIA –IV(1206-1526 century)

Invasion and strong influence of Islam in India perspectives and problems.

IV SEMESTER

CORE 8- RISE OF MODERN WEST-II

Understanding the trending global change in 19th century world, the great revolutions, its impact, the possibilities and problems

CORE 9- HISTORY OF INDIA –V(1526-1750 century)

Understanding the Mughals, Mughal rule and Socio-cultural development under Mughals in India

CORE 10- HISTORICAL THEORIES AND METHODS

Understanding Historical theories, Principles and perspectives for advance stues in history.

V SEMESTER

CORE 11- HISTORY OF MODERN EUROPE-I (1780-1880 century)

Understanding the age of global revolution and its perspectives in modern World.

CORE 12- HISTORY OF INDIA-VII (1750-1857 century)

Colonial Government in India, its problem and perspectives

DSE 1- HISTORY AND CULTURE OF ODISHA-I

Understanding regional and political History of Odisha.

DSE 2- HISTORY AND CULTURE OF ODISHA-II

A student will learn about the early historical development such as Kalinga War.

VI SEMESTER

CORE 13-HISTOPRY OF INDIA –VIII (1857-1950)

Comparative study between Mughal India and British India

CORE 14- HISTORY OF MODERN EUROPE-II (1880-1939)

Working class movement and socio economic condition of modern world.

DSE 3-HISTORY AND CULTURE OF ODISHA-III

Socio- Cultural History of Odisha.

DSE4- DISSERTATION/PROJECT

DEPARTMENT OF ODIA
S.D.Women's College, Rajgangpur
ODIA (B.A)

1. PROGRAMME OUTCOMES (PO):-

- ସୁସ୍ଥ ଜୀବନ ବଞ୍ଚିବାର ପ୍ରେରଣା ଯୋଗାଇ ଥାଏ ଓଡିଆ ଭାଷା ଓ ସାହିତ୍ୟ ।
- ଗୋଟିଏ ଜାତିର ଭାଷା ଓ ସାହିତ୍ୟର ବିକାଶରେ ସହାୟକ ହୋଇଥାଏ ଓଡିଆ ଭାଷା ଓ ସାହିତ୍ୟ ।
- ଓଡିଆ ଭାଷା ଓ ସାହିତ୍ୟ ଅତୀତ ଇତିହାସ ସଂପର୍କରେ ତଥ୍ୟ ଯୋଗାଇ ଥାଏ ।
- ଓଡିଆ ଭାଷା ଓ ସାହିତ୍ୟ ଅଧ୍ୟୟନ କରି ଭବିଷ୍ୟତରେ ଗବେଷଣାତ୍ମକ ଦିଗ ଓ ବୃତ୍ତି କ୍ଷେତ୍ରରେ ଅଗ୍ରସର ହୋଇପାରିବେ ।

2. PROGRAMME SPECIFIC OUTCOMES (PSO):-

- ଓଡିଆ ସାହିତ୍ୟର ବିଭିନ୍ନ ବିଭାଗ (ଗଳ୍ପ, ନାଟକ,ଏକାଙ୍କିକା, କାବ୍ୟ, କବିତା,ଉପନ୍ୟାସ,ପ୍ରବନ୍ଧ) ମାନଙ୍କରେ ଥିବା ଆଦର୍ଶ ଚରିତ୍ରକୁ ଅବଲମ୍ବନ କରି ଭବିଷ୍ୟତରେ ଉତ୍ତମ ଚରିତ୍ର ଗଠନ କରି ନିଜ ତଥା ସମାଜର କଲ୍ୟାଣ ସାଧନ କରି ସୁସ୍ଥ ସାମାଜିକ ଜୀବନ ଅତିବାହିତ କରିବାର ପ୍ରେରଣା ଲାଭ କରିବେ ।
- ଗୋଟିଏ ଜାତିର ଆତ୍ମପରିଚୟ ହେଉଛି ସେହି ଜାତିର ଭାଷା,ସଂସ୍କୃତି, ଓ ସାହିତ୍ୟ । ଗୋଟିଏ ଜାତିର ଆତ୍ମପରିଚୟକୁ ରକ୍ଷା କରିବା ସହ ଗୋଟିଏ ଭାଷାକୁ ସମୃଦ୍ଧ କରିଛି । ଗୋଟିଏ ଭାଷାକୁ ଜୀବନ୍ତ କରିଥାଏ ସେହି ଭାଷାର ସାହିତ୍ୟ ।
- ଓଡିଆ ସାହିତ୍ୟର ବିଭିନ୍ନ ତତ୍ତ୍ୱ ଓ ତଥ୍ୟ ସମ୍ପର୍କରେ ଛାତ୍ରୀମାନେ ଜ୍ଞାନ ଆହୋରଣ କରି ନିଜର ସମାଲୋଚନାତ୍ମକ ଜ୍ଞାନର ବିକାଶ ଘଟାଇଥାନ୍ତି ।
- ଓଡିଆ ଭାଷା ସାହିତ୍ୟକୁ ପାଥେୟ କରି ଭବିଷ୍ୟତରେ ଭଲ ଗବେଷକ /ଉଚ୍ଚମାନର ବିଶ୍ୱବିଦ୍ୟାଳୟରେ ଅଧ୍ୟୟନ କରିବେ ତାହାର ପ୍ରସ୍ତୁତି ଏହି ସ୍ତରରେ ଦିଆଯାଉଛି ।

3. COURSE OUTCOMES (COS):-

I-SEMESTER:

CORE – 01 (ଓଡ଼ିଆ ସାହିତ୍ୟର ଇତିହାସ)

ଓଡ଼ିଆ ସାହିତ୍ୟର ମୂଳ ଉତ୍ସ ସଂପର୍କରେ ଅବଗତ ହେବା ।

ପ୍ରାଚୀନ ସାହିତ୍ୟର ପୃଷ୍ଠଭୂମି ବିଷୟରେ ଧାରଣା ଦେବା ।

ଓଡ଼ିଆ ସାହିତ୍ୟ ର ଆଦ୍ୟ ସ୍ରଷ୍ଟା ମାନଙ୍କୁ ଜାଣିବା ।

CORE – 02 (ମଧ୍ୟଯୁଗୀୟ ଓଡ଼ିଆ ସାହିତ୍ୟ)

ମଧ୍ୟଯୁଗୀୟ ଓଡ଼ିଆ ସାହିତ୍ୟର ପୃଷ୍ଠଭୂମି ଏବଂ ପରିବେଶ ସହିତ ପରିଚୟ କରାଇବା ।

ମଧ୍ୟଯୁଗୀୟ ସାହିତ୍ୟର ଆଙ୍ଗିକ ଓ ଆତ୍ମିକ ବୈଚିତ୍ର୍ୟ ସହ ଅବଗତ ହେବା ।

II-SEMESTER:

CORE – 03 (ଆଧୁନିକ ଓଡ଼ିଆ ସାହିତ୍ୟ)

ଆଧୁନିକ ସାହିତ୍ୟର ପୃଷ୍ଠଭୂମି ଏବଂ ନବଜାଗରଣ ର ସମ୍ବନ୍ଧରେ ଜାଣିବା ।

ଆଧୁନିକ ସାହିତ୍ୟର ପ୍ରମୁଖ ସ୍ରଷ୍ଟା ସହିତ ପରିଚୟ ଏବଂ ଚେତନା ସଂପର୍କୀୟ ଧାରଣା ଦେବା ।

CORE – 04 (ସ୍ୱାଧୀନତା ପରବର୍ତ୍ତୀ ଓଡ଼ିଆ ସାହିତ୍ୟ)

ସ୍ୱାଧୀନତା ପରବର୍ତ୍ତୀ ସମୟରେ ଓଡ଼ିଆ ସାହିତ୍ୟରେ ବିଭିନ୍ନ ଚେତନା ଓ ଧାରା ସମ୍ବନ୍ଧରେ ଜାଣିବା ।

ସ୍ୱାଧୀନତା ପରବର୍ତ୍ତୀ ସ୍ରଷ୍ଟାଙ୍କ ସଂପର୍କରେ ଜାଣିବା ।

III-SEMESTER:

CORE – 05 (ଓଡ଼ିଆ ଭାଷାର ଐତିହାସିକ ବିକାଶ କ୍ରମ)

ଓଡ଼ିଆ ଭାଷା ଏବଂ ଲିପି ବିଷୟରେ ବିଶେଷ ଧାରଣା ଦେବା ।

ବିଭିନ୍ନ ଶିଳାଲେଖ ଓ ଚର୍ଯ୍ୟାପଦର ଭାଷା ବିଷୟରେ ଜ୍ଞାନ ଆହରଣ କରିବା ।

CORE – 06 (ଓଡ଼ିଆ ଭାଷାର ମୌଳିକ ରୂପ ପରିଚୟ)

ଭାଷାର ସଂଜ୍ଞା, ସ୍ୱରୂପ ଏବଂ ପ୍ରକାର ଭେଦ ସଂପର୍କରେ ଅବଗତ କରାଇବା ।

ଓଡ଼ିଆ ଆଞ୍ଚଳିକ ଭାଷା ଗୁଡ଼ିକ ସହିତ ପରିଚିତ ହେବା ।

ଓଡ଼ିଆ ଭାଷା ଉପରେ ବିଭିନ୍ନ ଭାଷାର ପ୍ରଭାବ କୁ ଉପଲବ୍ଧି କରିବା ।

CORE – 07 (ଓଡ଼ିଆ ବ୍ୟାବହାରିକ ବ୍ୟାକରଣ)

ଓଡ଼ିଆ ବର୍ଣ୍ଣମାଳା, ବାକ୍ୟଗଠନର ରୀତି ସମ୍ବନ୍ଧରେ ଅବଗତ ।

ଅଳଙ୍କାର ଏବଂ ବ୍ୟାକରଣ ସମ୍ବନ୍ଧୀ ଜ୍ଞାନ ଆହରଣ ।

IV-SEMESTER:

CORE – 08 (ଓଡ଼ିଆ ଲୋକ ସଂସ୍କୃତି ଓ ଲୋକ ସାହିତ୍ୟ)

ଲୋକ ସଂସ୍କୃତି ଏବଂ ଲୋକ ସାହିତ୍ୟ ସହିତ ପରିଚିତ ହେବା ।

ବିଭିନ୍ନ ଲୋକ କାହାଣୀ, ଗୀତ, ନାଟକ ସମ୍ବନ୍ଧୀୟ ଧାରଣା ଦେବା ।

CORE – 09 (ସାହିତ୍ୟ ତତ୍ତ୍ୱ: ପ୍ରାଚ୍ୟ ଓ ପାଶ୍ଚାତ୍ୟ)

ପ୍ରାଚ୍ୟ ସାହିତ୍ୟ ର ବିଭିନ୍ନ ତତ୍ତ୍ୱ ସଂପର୍କରେ ଧାରଣା ଦେବା ।

ବିଭିନ୍ନ ପାଶ୍ଚାତ୍ୟ ତତ୍ତ୍ୱ ସମ୍ବନ୍ଧୀୟ ଅଧ୍ୟୟନ କରିବା ।

CORE 10: ଓଡିଆ କବିତା ପ୍ରାଚୀନରୁ ଆଧୁନିକ

ସାରଳା ମହାଭାରତ (ଦୁର୍ଯୋଧନ ଙ୍କ ରକ୍ତନଦୀ ସନ୍ତରଣ), ଭାଗବତ (୨୪ ଗୁରୁ ପ୍ରସଙ୍ଗ) ରସ କଲ୍ଲୋଳ (ପ୍ରଥମ ଛନ୍ଦ) ଓ କୋଟି ବ୍ରହ୍ମାଣ୍ଡ ସୁନ୍ଦରୀ (ପ୍ରଥମ ଛନ୍ଦ), ମହାଯାତ୍ରା (ସପ୍ତମ ସର୍ଗ) ମଙ୍ଗଳେ ଅଇଲା ଉଷା , ବନ୍ଦୀର ସାନ୍ଧ୍ୟ ଅନୁଚିନ୍ତା , ପ୍ରତିମା ନାୟକ

V-SEMESTER:

CORE – 11 (ଓଡ଼ିଆ ନାଟକ ଏବଂ ଏକାଙ୍କିକା)

ଓଡ଼ିଆ ସାହିତ୍ୟର ଦୁଇଟି ନାଟକ ଅଭିଯାନ (କାଳୀଚରଣ ପଟ୍ଟନାୟକ) ଏବଂ ନନ୍ଦିକା କଶେରୀ (ମନୋରଞ୍ଜନ ଦାସ) ଅଧ୍ୟୟନ କରିବା ।

ଦୁଇଟି ଏକାଙ୍କିକା କୋକୁଆ – ବିଜୟ କୁମାର ଶତପଥୀ ଜାଣିବା ।

CORE – 12 (ଓଡ଼ିଆ କଥା ସାହିତ୍ୟ)

ଦୁଇ କାଳଜୟୀ ଉପନ୍ୟାସ ଛ' ମାଣ ଆଠ ଗୁଣ୍ଠ (ଫକୀରମୋହନ ସେନାପତି) ଏବଂ ଦାନାପାଣି (ଗୋପୀନାଥ ମହାନ୍ତି) ର ବିଶଷେ ଅଧ୍ୟୟନ କରିବା ।

କତେୋଟି ପ୍ରମୁଖ ଗଳ୍ପ ସଂପର୍କରେ ଧାରଣା ଦେବା ।

DSE 1

ଓଡିଶାର ସାଂସ୍କୃତିକ ଇତିହାସ ଓ ଓଡିଆ ସାହିତ୍ୟ

UNIT 1 ଓଡିଶାର ସଂକ୍ଷିପ୍ତ ଇତିହାସ,

UNIT 2 ଓଡିଶାର ବୌଦ୍ଧ ସଂସ୍କୃତି, ଶୈବ ସଂସ୍କୃତି ଓ ବୈଷ୍ଣବ ସଂସ୍କୃତି

UNIT 3 ଶ୍ରୀ ଜଗନ୍ନାଥ ସଂସ୍କୃତି ଓ ଆଦିବାସୀ ସଂସ୍କୃତି

UNIT 4 ଓଡିଆ ଓଷା ବ୍ରତ ଓ ପର୍ବ ପର୍ବାଣୀ

DSE 2

ଓଡିଆ ଶିଶୁ ସାହିତ୍ୟ ଓ ବିଜ୍ଞାନ ଭିତ୍ତିକ ସାହିତ୍ୟ

UNIT 1 ଓଡିଆ ଶିଶୁ ସାହିତ୍ୟର ସ୍ୱରୂପ ଓ ପ୍ରକାର ଭେଦ

UNIT 2 ଓଡିଆ ବିଜ୍ଞାନ ଭିତ୍ତିକ ସାହିତ୍ୟର ସ୍ୱରୂପ ଓ ବିକାଶ ଧାରା

UNIT 3 ପୃଥିବୀ ବାହାରେ ମଣିଷ – ଗୋକୁଳାନନ୍ଦ ମହାପାତ୍ର

UNIT 4 ବିଚିତ୍ର ବିଶ୍ୱ - ଦେବକାନ୍ତ ମିଶ୍ର

VI-SEMESTER:

CORE – 13 (ଓଡ଼ିଆ ଗଦ୍ୟ ସାହିତ୍ୟ)

ଓଡ଼ିଆ ଗଦ୍ୟ ସାହିତ୍ୟ ରମ୍ୟରଚନା ଏବଂ ଭ୍ରମଣ କାହାଣୀ ସମ୍ବନ୍ଧରେ ଜାଣିବା ।

ଓଡ଼ିଆ ଗଦ୍ୟ ସାହିତ୍ୟ ସଂଜ୍ଞା, ସ୍ୱରୂପ ଏବଂ ପ୍ରକାର ଭେଦ ବିଷୟରେ ଜ୍ଞାନ ଆହରଣ କରିବା ।

CORE – 14 (ଓଡ଼ିଆ ଭାଷାର ବ୍ୟାବହାରିକ ପ୍ରୟୋଗ)

ଭାଷଣ, ସମ୍ବାନ, ଫିଚର, ବିଜ୍ଞାପନ ଏବଂ ପତ୍ର ଲିଖନ ଆଦି ବ୍ୟାବହାରିକ ଦିଗ ସଂପର୍କରେ ଜ୍ଞାନ ଅର୍ଜନ କରିବା ।

ଓଡ଼ିଆ ଭାଷାର କମ୍ପ୍ୟୁଟରୀକରଣ ଜାଣିବା ।

DSE 3

ଓଡିଆ ପଦ୍ୟ ସାହିତ୍ୟ

UNIT 1 ଜଗନ୍ନାଥ ଜଣାଣ –କବିସୂର୍ଯ୍ୟ ବଳଦେବ ରଥ

ଆକାଶ ପ୍ରତି – ମଧୁସୂଦନ ରାଓ

ଯାତ୍ରା ସଂଗୀତ। – ବୈକୁଣ୍ଠନାଥ ପଟ୍ଟନାୟକ

ମୌସିମୀ – ରାଧାମୋହନ ଗଡନାୟକ

UNIT 2 କ୍ଷୁଦ୍ରଗଳ୍ପ

ଡିମିରି ଫୁଲ – ଅଖିଳ ମୋହନ ପଟ୍ଟନାୟକ

ଭଙ୍ଗା ଖେଳନା – କିଶୋରୀ ଚରଣ ଦାଶ

ଅନ୍ଧ ରାତିର ସୂର୍ଯ୍ୟ – ମହାପାତ୍ର ନୀଳମଣି ସାହୁ

ବସି ମଡା – ସୁରେନ୍ଦ୍ର ମହାନ୍ତି

UNIT 3

ପ୍ରବନ୍ଧ ଓ ସମାଲୋଚନା

ମହାସ୍ରୋତ – ବିଶ୍ୱନାଥ କର

ଚିତ୍ରଗ୍ରୀବର ଉଚିତ ଅଭିମାନ – ଗୋଲୋକ ବିହାରୀ ଧଳ

UNIT 4

ଉପନ୍ୟାସ

ମାଟିର ମଣିଷ – କାଳିନ୍ଦୀ ଚରଣ ପାଣିଗ୍ରାହୀ

DSE 4: DISSERTATION/PROJECT

ପ୍ରବନ୍ଧ ପ୍ରସ୍ତୁତି ଓ ଉପସ୍ଥାପନ

DEPARTMENT OF CHEMISTRY
S.D.Women's College, Rajgangpur
CHEMISTRY (B.Sc)

1. **PROGRAMME OUTCOMES:-**

PO1: Students will have a form foundation in the fundamentals and application of current chemical and scientific theories including those in analytical, organic, inorganic and physical chemistry`.
PO2: Students will understand the importance of the elements in the periodic tables including their physical and chemical nature and role in daily life.
PO3: They will understand the concept of chemistry to inter relate and interact to the other subjects like mathematics, physics, biological science etc.
PO4: To introduce the students to modern laboratory methods and principles using state of the art scientific equipment's. The students are exposed to applied laboratory techniques, critical thinking, independent and team leaving and are provided with research opportunities

2. PROGRAMME SPECIFIC OUTCOMES:

PSO1: Have sound knowledge about the fundamentals and applications of chemical and scientific theories.
PSO2: Develop analytical skills and problem-solving skills requiring application of chemical principles.
PSO3: Every branch of science and technology is related to chemistry and so the students will have an access to different branches of science and technology.
PSO4: Will become familiar with different branches of chemistry like analytical, physical, organic, inorganic, environmental, polymer and bio-chemistry.
PSO5: Apply appropriate techniques for the qualitative and quantitative analysis of chemicals in laboratories and in industries.
PSO6: Easily assess the properties of all the elements discovered till yet.

3: COURSE OUTCOMES:

I SEMESTER

CORE 1: INORGANIC CHEMISTRY

C1: To visualize the interior of atoms and molecules and therebypredicting properties of matter.
C2: To explain some important chemical and physical properties ofelements.

C3: To understand how the concept of valance can account for, andpredicts the formulas of compounds, sketch Lewis structure of molecules and ions.
C4: Determine and learn about dipole moment and bond angel ofthe inorganic molecule.

CORE 2: PHYSICAL CHEMISTRY

C1: To explain the principles concerning solid state structure.C2: To describe specific crystals structures by applying basic crystallographic concept.
C3: To explain about solid state.
C4: To explain about Ionic equilibria.

II SEMESTER

CORE 3: ORGANIC CHEMISTRY

C1: To understand nucleophile and electrophile groups and theirproperties.
C2: To learn and apply various concepts such as stereochemistry andfundamental principles of stereoselectivity in organic chemistry.
C3: Associate different bond types of carbon and its hybrid orbitals.

CORE 4: PHYSICAL CHEMISTRY

C1: Explain fundamental thermodynamic properties.
C2: To explain second law and third law of thermodynamics.C3: To define and discuss Le-Chatelier's principle.
C4: Discuss the concept of colligative properties.

III SEMESTER

CORE 5: INORGANIC CHEMISTRT-II

C1: To explain general principles of metallurgy.
C2: To describe different types of acid-base reaction.
C3: to discuss the fundamental aspects of main group chemistry.C4: to understand the structure, nomenclature, reactivity and properties of S & P block elements.
.

CORE 6: ORGANIC CHEMISTRY-II

C1: To explain the method of preparation of necleophiticsubstitution reaction.
C2: To explain the method of preparation and properties of alcohol,phenol, ethers and epoxides.
C3: To describe the structure, reactivity and preparation of carbonylcompound

CORE 7: PHYSICAL CHEMISTRY-III

C1: To explain the phase diagrams of different systems.
C2: To understand phase equilibrium, criteria, CST, Gibb's-Dubem-Margules equation.
C3: To describe rate law and rate of reaction, theories of reactionrate catalysts.
C4: To explain about catalysts and surface chemistry

IV SEMESTER

CORE 8: INORGANIC CHEMISTRY-III

C1: understand the terms ligands, VBT, CFT etc.
C2: To explain the electronic configuration, magnetic and catalyticproperties of transition elements.
C3: To explain the chemistry of Ti, V, Cr, Mn, Fe and CO

CORE 9- ORGANIC CHEMISTRY-III

C1: To explain the preparation and properties of nitrogen containingfunctional groups.
C2: To explain the preparation and the synthetic application ofdiazonium salts.
C3: To explain the classification, nomenclature, structure, aeromaticity in 5-membered and 6-membered ringe containing andhetero atom.

CORE 10- PHYSICAL CHEMISTRY-IV

C1: To explain the chemistry of conductance and the variation withdilution, migration of ions in solutions.
C2: To learn the applications of conduction measurements.C3: To explain about electrochemistry.
C4: To explain about electrochemistry and electrical properties ofmolecules and atoms.

V SEMESTER

CORE 11- ORGANIC CHEMISTRY-IV

C1: To explain the basic principles of UV spectroscopy.C2: To determine functional groups in molecules.
C3: To explain the application of NMR and mass spectroscopy. C4: To describe the occurrence, classification and the biologicalimportance of carbohydrate.

CORE 12-PHYSICAL CHEMISTRY –V

C1: To explain about quantum chemistry.
C2: To explain the different types of bonding in chemical compound.C3: To explain rotational and

vibrational spectroscopy.

DSE 1- POLYMER CHEMISTRY

C1: To explain the history and functionality and its importance ofpolymer material.
C2: To explain the mechanism and kinetics of polymer. C3: To explain the molecular weight and glass transitiontemperature of polymer.

DSE 2- GREEN CHEMISTRY

C1: To explain the principles of green chemistry.
C2: To explain the designing a chemical synthesis of green chemistry.C3: To explain the examples and reaction of green chemistry.
C4: To explain future trends in green chemistry.

VI SEMESTER

CORE 13- INORAGNIC CHEMISTRY-IV

C1: To explain organometalic compound.
C2: To explain different preparation and properties of organometalscompound.
C3: To explain the catalysis of organometalic compound.
C4: To explain the thermodynamic and kinetic aspects and reactionmechanism of metal complex.

CORE 14- ORGANIC CHEMISTRY-V

C1: To explain about amino acids, peptides and proteins.C2: To explain about enzymes and nucleic acids.
C3: To explain about lipids and concept of energy in bio cycles.C4: To explain pharmaceutical compounds, its structure and importance.

DSE 3- INDUSTRIAL CHEMICALS AND ENVIRONMENT

C1: To explain about industrial gases and inorganic chemicals.C2: To explain about environment and its segment.
C3: To explain about water pollution and industrial wastemanagement.
C4: To explain energy and environment

DSE 4- DISSERTATION/ PROJECT

DEPARTMENT OF PHYSICS
S.D.Women's College, Rajgangpur
PHYSICS (B.Sc)

1. PROGRAMME OUTCOMES (PO):-

PO1: Demonstrate a thorough conceptual understanding in the core areas of physics (Classical mechanics, electrodynamics, statistical mechanics, quantum mechanics and the supporting mathematics including the range of validity of key concepts

PO2: Identify the most relevant physics concepts in approaching a messy problem that might arise in everyday life, and devise a strategy in order to arrive at the solution

PO3: Function effectively as an individual, and as a member or leader in diverse teams and in multi- disciplinary settings.

PO4: Locate existing scientific research relevant to a given topic and evaluate its accuracy

PO5: Students will participate and succeed in competitive examinations for PG programs& Govt. services.

PO6: Communicate the results of scientific work effectively making use of clear and well organized writing and presentation skills and employ equations and visualizations tools as needed.

2. PROGRAMME SPECIFIC OUTCOMES (PSO):-

PSO1: To understand the basic laws and explore the fundamental concepts of Physics

PSO2: To carry out experiments to understand the laws and concepts of Physics

PSO3: To apply the theories learnt and the skills acquire to solve the real time problems

PSO4: To produce graduates who excel in the competences and values required for leadership to serve global community

PSO5:.To apply and verify the theoretical concepts and facts by laboratory experiments.

3. COURSE OUTCOMES (CO'S):-

I SEMESTER:

Core 1: MATHEMATICAL PHYSICS-I: Calculus, Vector Algebra, Orthogonal Coordinates, Dirac delta function, Vector Differentiation and Integration.

Core 2: MECHANICS: Rotational dynamics, Non-inertial systems, Elasticity, Fluid Motion, Gravitation and Central Force Motion, Oscillation, Special Theory of Relativity.

II SEMESTER:

Core 3: ELECTRICITY AND MAGNETISM: Electric field and potential, Magnetic field, Dielectric properties, Electromagnetic induction, Electrical circuit and Network Theorem.

Core 4: WAVES AND OPTICS: Geometrical Optics, Wave motion, Interference, Fraunhofer Diffraction

III SEMESTER:

Core 5: MATHEMATICAL PHYSICS-II: Fourier Series, Frobenius method, Polynomials, Partial Differential

Core 6: THERMAL PHYSICS: Introduction to thermodynamics and law of Thermodynamics, Entropy, Thermodynamic Potentials, Maxwell's Thermodynamic relations, Kinetic Theory of Gases, Real Gases.

Core 7: DIGITAL SYSTEMS AND APPLICATION: Integrated circuits, Digital circuits, Boolean Algebra, Introduction to CRO, Data processing circuits, Arithmetic circuits, Timers, Shift Registers, Counters

IV SEMESTER:

Core 8: MATHEMATICAL PHYSICS-III: Complex Analysis, Integral Transforms, Application of Fourier transforms, Laplace transforms, Derivatives and integrals of Laplace Transforms.

Core 9: ELEMENTS OF MODERN PHYSICS: Atomic spectra and models, Bohr Theory, Wave-particle Duality, Heisenberg Uncertainty Principle, Nuclear Physics, Fission and Fusion.

Core 10: ANALOG SYSTEM AND APPLICATIONS: Semiconductor diodes, two-terminal devices, types of diodes, BJT, Amplifiers, Coupled amplifiers, Feedback in amplifiers, OP-AMPS and application.

V SEMESTER:

Core 11: QUANTUM MECHANICS AND APPLICATIONS: Schrodinger equation and operators, Time-independent Schrodinger equation, Bound states in arbitrary potential, one-dimensional rigid box, atoms in electric and magnetic fields and external magnetic fields.

Core 12: SOLID STATE PHYSICS: Crystal structure, Lattice dynamics, Magnetic properties of matter, dielectric properties of matter, band theory, LASERS, Superconductivity.

DSE 1: CLASSICAL DYNAMICS: Classical mechanics of point particles, Hamiltonian, Small oscillation and canonical transformation, Special Theory of relativity.

DSE 2: NUCLEAR AND PARTICLE PHYSICS: General properties of nuclei, Nuclear models, Radioactivity decay, Nuclear reactions, Detector of Nuclear radiations, Particle accelerator, Particle physics.

VI SEMESTER:

Core 13: ELECTROMAGNETIC THEORY: Maxwell's equation, EM waves in bounded and unbounded media, Optical fibers and polarization of EM waves.

Core 14: STATISTICAL MECHANICS: Classical Statistics and Thermodynamic functions, Radiation, Quantum statistics

DSE 3: NANO MATERIALS AND APPLICATIONS

In the nano systems and its implications in modifying the properties of materials at the nano scale. Concept of Quantum confinement 3D, 2D, 1D AND 0D nanostructure with examples. Optical properties of nano structured materials, modification of band gap, excitonic confinement

DSE 4: DISSERTION AND PROJECT

DEPARTMENT OF MATHEMATICS
S.D.Women's College, Rajgangpur
MATHS (B.Sc.)

1. PROGRAMME OUTCOMES (PO):-

PO1: Inculcate critical thinking to carry out scientific investigation objectively without being biased with preconceived notions.
PO2: Equip the student with skills to analyze problems, formulate a hypothesis, evaluate and validate results, and draw reasonable conclusions thereof.
PO3: Prepare students for pursuing research or careers in industry in mathematical sciences and allied fields
PO4: Imbibe effective scientific and/or technical communication in both oral and writing.
PO5: Continue to acquire relevant knowledge and skills appropriate to professional activities and demonstrate highest standards of ethical issues in mathematical sciences.

2. PROGRAMME SPECIFIC OUTCOMES (PSO):-

PSO1: Demonstrate basic manipulative skills in algebra, geometry, trigonometry, and beginning calculus.
PSO2: Communicate mathematical ideas both orally and in writing
PSO3: Investigate and solve unfamiliar math problems
PSO4: Understanding of the fundamental axioms in mathematics and capability of developing ideas based on them.
PSO5: Prepare and motivate students for research studies in mathematics and related fields.
PSO6: Provide knowledge of a wide range of mathematical techniques and application of mathematical methods/tools in other scientific and engineering domains.
PSO7: Provide advanced knowledge on topics in pure mathematics, empowering the students to pursue higher degrees at reputed academic institutions.
PSO8: Strong foundation on algebraic topology and representation theory which have strong links and application in theoretical physics, in particular string theory.
PSO9: Good understanding of number theory which can be used in modern online cryptographic technologies.

3. COURSE OUTCOMES (CO's):-

I-SEMESTER:

Core 1: CALCULUS: Hyperbolic function, Higher order derivative, Riemann Integration, Volume by splicing, triple product
Core 2: DISCRETE MATHEMATICS: Set relation function, Equivalence relations, Principle of Mathematical Induction, Matrices, Graph Theory.

II-SEMESTER:

Core 3: REAL ANALYSIS: Review of algebraic and order properties, sequence, limit , differentiability.

Core 4: DIFFERENTIAL EQUATIONS: Differential equation and mathematical Model, Compartmental model, Homogeneous equations, equilibrium point, battle model and its analysis.

III-SEMESTER:

Core 5: THEORY OF REAL FUNCTIONS: L' Hospitals rules, Taylors theorem, Riemann Integration improper integral, series of function.

Core 6: GROUP THEORY: Symmetric of a square, Group, Subgroup, Normal subgroup, factor group, Cauchy theorem, Homomorphism, Isomorphism.

Core 7: PARTIAL DIFFERNTIAL EQUATIONS AND SYSTEM OF ODEs: Basic concepts and geometrical interpretation, heat equation, wave equation, Laplace equation, Cauchy Problem, System of linear differential equations.

IV-SEMESTER:

Core 8: NUMERICAL METHODS AND SCIENTIFIC COMPUTING: Rate of convergence, Error, system of algebraic equation, interpolation, numerical integration.

Core 9: TOPOLOGY OF METRIC SPACES: Metric spaces, subspaces, continuity, contraction mapping and its application.

Core 10: RING THEORY: Ring, sub-rings, prime and maximal ideal, polynomial ring, divisibility of integral domain.

V-SEMESTER:

Core 11: MULTIVARIATE CALCULUS: Function of several variables, Limit and continuity, extreme function, triple integral, line integral.

Core 12: LINERA ALGEBRA: Vector space, subspace, linear transformation, matrix representation, eigen space, orthogonal complement.

DSE – 1: LINEAR PROGRAMMING: Introduce to LPP, Simplex method, two phase method, Big M method, transportation problem, game theory.

DSE – 2: PROBABILITY AND STATISTICS: Sample space, events, Probability distribution, mathematical expectation, special probability distribution, sampling distribution.

VI-SEMESTER:

Core 13: COMPLEX ANALYSIS: complex numbers and complex plane, Cauchy theorem and its application, Morera's Theorem, Meromorphic function.

Core 14: GROUP THEORY – II: Automorphism, Commutator subgroup, Group action, Sylow's Theorem, Class equations.

DSE – 3: DIFFERENTIAL GEOMETRY: Theory of space curves, evolutes and involutes of curves, principle and Gaussian curvature, Geodesics, Canonical Geodesics equations.

DSE – 4: DISSERTATION/PROJECT

DEPARTMENT OF BOTANY
S.D.Women's College, Rajgangpur
BOTANY (B.Sc)

1. **PROGRAMME OUTCOME (PO) :-**

PO-1: CRITICAL THINKING: - Apply the knowledge of biology to make scientific queries and enhance the comprehension potential.
PO-2: EFFECTIVE COMMUNICATION: - Successful transfer of scientific knowledge both orally and writing.
PO-3: SOCIAL INTERACTION: - Functions as an individual as a member of a leader to perform a task in classroom situation and during field study.
PO-4: EFFECTIVE CITIZENSHIP: - Responsible for learning develop honesty in work and respect for self and others.
PO-5: ETHICS: Convey and practice social, environmental and biological ethics.
PO-6:- ENVIRONMENT AND SUSTAINABILITY: - Insist the significance of conserving a clean environment for perpetuation and sustainable development.
PO-7:- SELF – DIRECTED AND LIFE LONG LEARNING: - study incessantly by self to cope with growing competition for higher studies and employment.

2. PROGRAMME SPECIFIC OUTCOMES (PSO):-

PSO-1: Educate students about plant science, basic concepts of the plant group, their metabolism, and components at the molecular level, biochemistry, taxonomy and ecology.
PSO-2: Inculcate strong fundamentals on modern and classical aspects of botany.
PSO-3: Build life skills in edible mushroom, biofertiliser production, greenhouse maintenance and seed technology through value added courses.
PSO-4: Create platform for higher studies in Botany.
PSO-5: Facilitate the students to take up successful career in Botany.

3. COURSE OUTCOMES (COS):-

I-SEMESTER:

CORE-1: MICROBIOLOGY AND PHYCOLOGY
Understand the microbial world and algae.
CORE-2: BIOMOLECULES AND CELL BIOLOGY
A detailed idea about cell and its parts as well as the biomolecules present in the cell.

II-SEMESTER:

CORE-3: MYCOLOGY AND PHYTOPATHOLOGY :
Understand structure, nutrition , reproduction of fungi and also different plant diseases caused due to virus , bacteria , mycoplasma and fungi and its control measures.
CORE- 4: ARCHEGONIATES:
Understand the diversity of plants related to Bryophytes, Pteridophytes and Gymnosperms. Also student have idea about palaeobotany.

III-SEMESTER:

CORE-5: ANATOMY OF ANGIOSPERMS:
Understanding the internal structure of different parts of the plants and their functions.
CORE-6: ECONOMIC BOTANY:
Understanding the origin, cultivation and economic importance of cereals , legumes , spices , oil , drugs , woods etc..
CORE- 7: GENETICS
Understanding gene, gene mutation, Mendelian genetics , population and evolutionary genetics.

IV-SEMESTER:

CORE-8: MOLECULAR BIOLOGY:
Understanding in detail about Nucleic acids, DNA replication and mechanism of protein synthesis.
CORE- 9: PLANT ECOLOGY AND PHYTOGEOGRAPHY:
Understanding the concept about environment and its function as well as its phytogeography.
CORE-10 :- PLANT SYSTEMATICS :
Study about plant classification , Nomenclature and Phylogeny of Angiosperms. Descriptive studies of different families of Angiosperms.

V-SEMESTER:

CORE-11: REPRODUCTIVE BIOLOGY OF ANGIOSPERMS:
Understanding the stages of sexual reproduction and life cycle of Angiosperms.
CORE-12 : PLANT PHYSIOLOGY :
Understanding the different physiological process such as nutrient uptake , plant growth regulators , Mechanism of flowering etc..
DSE-I: **ANALYTICAL TECHNIQUES IN PLANT SCIENCE**
Understanding the analytical techniques such as microscopy , centrifugation , spectrometry , chromatography etc..
DSE-II: BIOSTATISTICS :
Understanding different statistical methods and interferences .

VI-SEMESTER:

CORE-13: PLANT METABOLISM:
Understanding carbohydrate , lipid and nitrogen metabolism in plants.
CORE- 14: PLANT BIOTECHNOGY:
Understanding plant tissue culture , recombinant DNA technology and various applications of biotechnology in agriculture.
DSE-III: HORTICULTURAL PRACTICES AND POST HARVEST TECHNOLOGY
DSE-IV: - **DISSERTATION/PROJECT**
To learn latest technology and application in the field of Botany.

DEPARTMENT OF ZOOLOGY
S.D.Women's College, Rajgangpur
ZOOLOGY (B.Sc)

1. PROGRAMME OUTCOMES (PO):-

PO-1: Analyse complex interactions among the various animals of different phyla, their distribution and their relationship with the environment
PO-2: Understand the complex evolutionary processes and behavior of animals.
PO-3: Apply the knowledge of internal structure of cell, its functions in control of various metabolic functions of organism
PO-4: To inculcate knowledge and skill in the fundamentals of animal science and living organisms
PO-5: Correlate the physiological process of animals and relationship of organ systems.
PO-6: Information and skill of applies zoology including sericulture, apiculture, fisheries, poultry, vermiculture agricultural pests and their control etc.
PO- 7: Aware students about ethical principles and commit to professional ethics

2. PROGRAMME SPECIFIC OUTCOMES (PSO):-

PSO-1: Understand the nature and basic concepts of cell biology, genetics, taxonomy, physiology, ecology and applied zoology.
PSO-2: Analyze the relationships among the animals, plants and microbes
PSO-3: Perform procedures as per laboratory standards in the areas of Taxonomy, Physiology, Ecology, Cell Biology, Genetics, Applied Zoology, Clinical Science, tools and techniques of Animal biotechnology
PSO-4: Immunology and research methodology
PSO-5: Gain knowledge about research methodologies, effective communication and skills of problem solving methods

3. COURSE OUTCOMES (COS):-

I-SEMESTER:

CORE-1: ANIMAL DIVERSITIES- NON CHORDATES-I

After successfully completing this course, students will be able to:

1. To understand the animal diversity around us.
2. To understand the underlying principles of classification of animals.
3. To understand the terminology needed in classification.
4. To classify invertebrates and to be able to understand possible group of the invertebrates observed in nature.

CORE-2: PRINCIPLES OF ECOLOGY

After successfully completing this course, students will be able to:

1. Students will understand the various features and aspects of population ecology, community, community ecology and ecosystem ecology. They might have the knowledge about environmental biology in details.
2. They will acquire knowledge about various tools and techniques of field ecology.

II- SEMESTER:

CORE-3: ANIMAL DIVERSITY-NON- CHORDATES-II

After successfully completing this course, students will be able to:

1. Students will be learning about classification of coelomate invertebrates and the structure, function of these taxonomic categories as well.
2. They will understand about different vector born diseases and the related life cycles, epidemiology, pathology, diagnosis, symptoms and treatments.
3. They will also know the basics of sericulture, apiculture and lac culture.

CORE- 4: CELL BIOLOGY

After successfully completing this course, students will be able to:

1. Students will understand the structures, positions and functions of plasma membrane and all cellular organelles in details.
2. They will acquired knowledge about chromosomes and cell divisions, both mitosis and meiosis.
3. They will also know about cell signaling and cancers.

III -SEMESTER:

CORE-5: DIVERSITY OF CHORDATES

After successfully completing this course, students will be able to:

1. Students will understand the classification structure, function and biology of chordates OF DIFFERENT taxonomy classes.
2. They will also learn some special topic like zoogeography, metamorphosis, snake biting mechanics, migration of birds, parental care of Amphibian.

CORE-6: PHYSIOLOGY: CONTROLLING AND COORDINATING SYSTEMS

After successfully completing this course, students will be able to:

1. Students will learn about basics of histology AND tissue staining.
2. They will also understand the physiology of muscles, nerves, reproductive systems and bone.
3. They will learn details of endocrinology with classification of hormones, their biosynthesis, receptors, mode of molecular action, physiological functions and related disorders.

CORE-7: FUNDAMENTAL OF BIOCHEMISTRY

After successfully completing this course, students will be able to:

1. Students will understand the basics and fundamental biochemistry of carbohydrates, proteins, lipids and nucleic acid.
2. They will also understand the nature, mechanisms and kinetics of enzyme action.
3. Some instrumentation such as microscope, chromatography, electrophoresis, centrifugation, spectrophotometer etc will be learn.

IV -SEMESTER:

CORE-8: COMPARATIVE ANATOMY OF VERTEBRATES

After successfully completing this course, students will be able to:

1. Students will have understood the structures of different systems such as integumentary , skeleton, digestive, respiratory, circulatory, urinogenital , sensory organs in comparative way among the vertebrate groups.

CORE-9: PHYSIOLOGY: LIFE SUSTAINING SYTEMS

1. Students will know the physiology of digestion, respiration, circulation, excretion and blood.

CORE-10: BIOCHEMISTRY OF METABOLOC PROCESSSES

After successfully completing this course, students will be able to:

1. Students will understand the metabolism of carbohydrates, proteins, lipids in details.
2. They will also learn about oxidative phosphorylation and redoxreaction .

V -SEMESTER:

CORE-11: MOLECULAR BIOLOGY

After successfully completing this course, students will be able to:

1. Students will acquire knowledge about replication, transcription, translation, post transcriptional and post translation modifications, gene regulation,DNA repair mechanisms

and techniques like PCR, Southern northern and western blotting, recombinant DNA technology etc.
2. 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.

CORE-12: PRINCIPLES OF GENETICS

After successfully completing this course, students will be able to:
1. Students will learn the fundamental genetics like mendelian and non mendelian inheritance, linkages, mutations, sex determination of various animals etc.
2. They will also understand the various aspects of biostatistics such as central tendency, t-test, chi-square, correlations and regression.

DSE-1: ANIMAL BEHAVIOR AND CHRONOBIOLOGY

After successfully completing this course, students will be able to:
1. Students will learn in details about patterns of behaviors, survival, strategies, social and cooperative behaviors, design of signals and chronobiology.
2. They will also know to construct ethograms.

DSE-2: IMMUNOLOGY

After successfully completing this course, students will be able to:
1. Students will develop knowledge about structures and function of immune cells, immunoglobulin, antigens and their interactions with antibodies.
2. They will know about MHC molecules, cytokines, hypersensitivity reactions and cellular mode of immunity development.

VI -SEMESTER:

CORE-13: DEVELOPMENTAL BIOLOGY

After successfully completing this course, students will be able to:
Students will learn the different aspects of early and late and post embryonic developments.
1. 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.

CORE-14: EVOLUTIONARY BIOLOGY

After successfully completing this course, students will be able to:
1. Students will know about population genetics, human revolution, various concepts about origin of species, phylogenetics tree making.

2. They will also understand few basic of bioinformations.

DSE-3: FISH AND FISHERIES

After successfully completing this course, students will be able to:

1. Students will be learnt details about taxonomy and biology of fishes as well as various aquaculture techniques in details.
2. Student will also learn about the fish culture.
3. Students will learn about the different types of fish.

DSE-4: DISSERTATION/PROJECT

AECC HINDI (MIL) SEMESTER-II

Program Specific outcomes उद्देश्य:

पाठ्यक्रम: कविता, गद्य, शब्द ज्ञान , सामान्य ज्ञान

- ❖ साहित्यिक कृतियों के पाठन और आस्वादन हेतु विद्यार्थियों में रूचि विकसित करना |
- ❖ आधुनिक हिन्दी गद्य व पद्य से विद्यार्थियों का परिचय |
- ❖ भक्तिकालीन काव्य और आधुनिकयुगीन काव्य के प्रति विद्यार्थियों का समझ का विकास |
- ❖ हिन्दी व्याकरण के प्रति विद्यार्थियों का कौशल्य का विकास |
- ❖ निबंध विधा के प्रति विद्यार्थियों का रुचि विकसित करना |
- ❖ अध्ययन से ज्ञानात्मक आधार पुष्टि हो पायेगा |

Course Outcomes परिणाम:

- ❖ पाठ्यक्रम के माध्यम से विद्यार्थियों में हिन्दी कविता, निबंध, शब्द ज्ञान तथा निबंध लेखन से ज्ञान प्राप्त हो पायेगी |
- ❖ विद्यार्थियों में भाषिक कौशल्य का विकास हो सकेगा |
- ❖ निबंध लेखन से विद्यार्थियों में रचनात्मकता की प्रवृत्ति का विकास करना |
- ❖ आधुनिक साहित्य की समझ व समीक्षा का विकास |
- ❖ आधुनिक कवियों और कथाकारों के कृतियों का परिचय |
- ❖ आधुनिक कविता की समझ व समीक्षा का विकास

DEPARTMENT OF ENGLISH
S.D.Women's College, Rajgangpur

SKILL ENHANCEMENT COURSES (SECC OPTION-I) COMMUNICATIVE ENGLISH

1. **PROGRAMME OUTCOMES (PO):-**

PO1: To acquaint students with the basic language skills i.e. Listening, Speaking, Reading, and Writing (LSRW) emphasizing each skill at a time

PO2: To enable students to communicate and express themselves in English Language by improving their speaking and Writing skills

PO3: To enhance Listening and Reading skills by using ICT tools

PROGRAMME SPECIFIC OUTCOMES (PSO):-

PSO 1: To enable students learn correct pronunciation, spelling, meaning and usage of English Vocabularies.

PSO2: To make students frame correct sentences with known vocabularies based on daily routines.

PSO3: To give English language skill practice to students to enhance their English proficiency.

PSO4: To expose students to native speaker's spoken language and to enable students to recognize native speaker's accent and language usage.

PSO5: To simulate real life situations in the classroom to practice real English dialogues and speeches to gain English language fluency.

PSO6: To give both silent and loud reading practice to students, to enhance their comprehension and English sound recognition skills.

PSO7: To help students overcome their fear of speaking in English language in front of their peers and teachers by building their self-confidence through various classroom activities and outdoor activities.

Course Outcome:

C01- This paper intends to build up the four primary skills that are listening, speaking, reading and writing in students in the academic as well as in the wider domains of use like public offices.

CO2- To make the students competent in the use of English language through use of different means.