

DEPARTMENT OF POLITICAL SCIENCE
RAYAGADA AUTONOMOUS COLLEGE, RAYAGADA

(PG: 1st Semester to 4th Semester)

The PG Program in Political Science is a base for stimulating learning, teaching and research interest. A thorough comprehension of the designed curriculum leads to promoting human resources needed to meet the contemporary knowledge. It broadens deepens and stretches the creative vision and innovative research necessary for the sustainability of democracy and universal peace. It enhances employment opportunities for the students both in electoral politics, social service, civil service and academics. The focus here is on political concepts, theories, techniques, strategies, perspectives, ideologies, idioms, imaginations, personality, institutional constitutional and state and global community related goals roles and policies and strategies.

1ST SEMESTER

PSC-101: WESTERN POLITICAL THINKERS – I

The course gives an introduction to Political Thought processes and Theory making in the West. This course goes back to Greek antiquity and familiarizes students with the manner in which the political questions were first posed. Machiavelli comes as an interlude inaugurating modern politics followed by Hobbes and Locke. This is a basic foundation course for students on Western Political Thinkers. It introduces the student to the richness and variations in the political perceptions of Western Thinkers. It provides a foundation to students of Political Science in familiarizing themselves to the Thought & Theory of Western Philosophy. It particularly focuses on the evolution of idea and institution of State in the West. It covers ancient, medieval and early modern thinkers.

Course outcome

- To introduce the student to the richness and variations in the political perceptions of Western Thinkers
- To provide a foundation to students of Political Science in familiarizing themselves to the Thought & Theory of Western Philosophy
- To focus on the evolution of idea and institution of State in the West
- To provide an insight into the dominant features of Ancient Western Political Thought: Ancient Greek political thought with focus on Aristotle and Plato

- To evaluate the Renaissance, political thought of Reformation and Machiavelli.
- To critically examine 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

PSC-102: MODERN POLITICAL ANALYSIS

There is a paradigm shift in the discipline of Political Science with Behavioural Revolution. The Revolution criticized the classical paradigm and offered a scientific one in its place in order to make social sciences more scientific. This is reflected in a framework generally known as Modern Political Analysis. Here, emphasis is laid on patterns and regulations in the social phenomena. This course aims at introducing the developments in the subject of political science the behavioural and post-behavioural revolutions brought in the form of new theories and models to study political phenomenon. The purpose is to familiarize students with the basic concepts and approaches to the study of politics. More specifically the course will focus on examining politics in a historical framework while engaging with various themes of comparative analysis in developed and developing countries.

Course Outcome

- To provide a framework for explanation and prediction of political problems
- To distinguish value-laden and value-neutral Political Analysis and to examine fact-value relationship
- To orient students with techniques and theories of political analysis
- To transform its readers into political analysts and commentators

PSC-103: PUBLIC ADMINISTRATION: CONCEPTS AND ISSUES

The paper will introduce the students to the basic concepts of Public Administration along with its founding principles and history. The paper shall also deal with the primary administrative theories and the basic principles of organisation which will help the students to develop a comprehensive understanding of the subjects. The students will also learn about structure of organisation and their intricacies.

Course Outcomes

- To explain the nature, scope and evolution of Public Administration; Private and Public Administration
- To trace the challenges in the discipline of Public Administration like New Public Administration (NPA)
- To discuss theories of organization: Scientific management, Human relations, Ecological and System Analysis
- To discuss administrative process: theories of leadership and motivation
- To discuss major issues in Administration
- To describe conceptual clarity of Personnel Administration, its issues, career systems and other terms covering various aspects of personnel administration.
- To detail understanding of the Personnel system and its related recruiting agencies of the Indian Republic
- To recognize and articulate how public policy issues are defined and framed within the context of a given discipline
- To provide a critical understanding of Employee-Employer Relationship.

PSC-104: INTERNATIONAL POLITICS: THEORIES AND CONCEPTS

This paper seeks to equip students with the basic intellectual tools for understanding International Politics. It introduces students to some of the most important theoretical approaches for studying International Politics. After having set the parameters of the debate, students are introduced to different theories in International Relations. It provides a fairly comprehensive overview of the major political developments and events starting from the twentieth century. Students are expected to learn about the key milestones in world history and equip them with the tools to understand and analyze the same from different perspectives. A key objective of the course is to make students aware of the Changing Nature of Warfare; Weapons of mass destruction; deterrence; conflict resolution, conflict transformation, The Nuclear Age and its impact on world politics.

Course Outcomes

- To identify geographic locations of most contemporary states
- To show an understanding of the key historical events which shaped the international system in the 20th century; the basic structures of the contemporary international system; and the key actors, institutions and their functions.

- To explain the role of individual and cultural values and perceptions, and the significance of empirical evidence in analyzing international problems.
- To argue the main international relations theories and the values implicit in each of these different ways of looking at the world, thus giving them the tools necessary to understand the day-to-day events reported in the media.
- To analyze articles of varying complexity on international topics.
- To locate resources on international politics through on-line library resources as well as those available on the World Wide Web.
- To assess the arguments and evidence surrounding a controversial issue in world politics and write a brief paper on the issue

PSC-105: FEDERALISM IN INDIA

The course attempts to consider the questions like: how does the State manage to resolve intergovernmental conflicts effectively; how satisfactory is the mechanism available to overcome backwardness in some regions towards a more equitable distribution of socio-economic goods and services and what kind of relationship is built between village government and the state government and how it strengthens or weakens the federal scheme of governance. The course critically brings to the fore the fact that the championing of federalism by the regional parties at the state level works against decentralization further down in reality. The units of the course address a wide range of complex issues affecting the centre- state relations in the context of political, social and economic developments.

Course Outcomes

- To analyse theoretical and constitutional framework of Indian federalism
- To assess the nature of Indian Federalism with focus on Union-State Relations
- To discuss issues of conflict in centre-state relations
- To examine new institutional mechanisms for cooperative federalism
- To evaluate challenges to Indian federalism and recommendations of various committee reports

2ND SEMESTER

PSC-201: MODERN WESTERN POLITICAL THINKERS

Philosophy and politics are closely intertwined. We explore this convergence by identifying four main tendencies here. Students will be exposed to the manner in which the questions of politics have been posed in terms that have implications for larger questions of thought and existence. This section will introduce students to the idea of modernity and the discourses around modernity.

Course Outcome

- To trace the philosophy of Utilitarian thinkers: Bentham's Utilitarianism; and John Stuart Mill's views on liberty and representative government.
- To take an insight into the following: Hegel's views on Civil Society and State; Utopian and Scientific socialism: basic characteristics.
- To discuss the philosophy of Karl Marx particularly his Ideas on Alienation; difference with other kinds of materialism; class struggle and revolution
- To discuss Mao's concept of continuous revolution and new democracy and Gramsci's power and hegemony

PSC-202 COMPARATIVE POLITICS

This paper has been designed to introduce the students to the Comparative Politics and various issues related to it. This paper contains an introduction to the Comparative Politics as well as both the Traditional and Modern Approaches, Theories of Comparative Politics, the Systems Analysis which focus on the General Systems Theory, Political System, Structural-Functional Analysis and Input-Output Analysis, and David Easton's contribution to Systems Theory. The course is comparative in both what we study and how we study, how to Compare: Methods of Comparisons, Development of Comparative Politics: Different Phases. In the process the course aims to introduce graduate students to some of the range of issues, literature and methods that cover comparative political.

Course Outcome

- To trace the evolution of Comparative Politics as a discipline and drawing a distinction between Comparative Politics and Comparative Government.
- To investigate the nature and scope of Comparative Politics.

- To analyse approaches and models of comparison: traditional, structural functional, systems and Marxist
- To describe development constitutionalism, political change and nation building
- To examine centre-unit relationships while analyzing political cultural economic and legislative factors
- To discuss politics of representation , participation and political parties of different countries
- To critically analyze the features of a liberal democratic and socialist political system of UK and USA and China
- To discuss the features of a federal system with special reference to USA, Canada France and USSR.

PSC-203 NEW SOCIAL AND POLITICAL MOVEMENTS IN INDIA

Under the influence of globalization, development processes in India have undergone transformation to produce spaces of advantage and disadvantage and new geographies of power. A variety of protest movements emerged to interrogate and challenge this development paradigm that evidently also weakens the democratic space so very vital to the formulation of critical consensus. This course proposes to introduce, students to the conditions, contexts and forms of political contestation over development paradigms and their bearing on the retrieval of democratic voice of citizens. To introduce the Social and Political movements in the Post – independent India with special reference to mobilization politics like movements for the formation of States, agrarian movements, anti – caste movements and movements related to development issues. To help the students to develop the capability of standing the perspectives of three major ideological strands represented by agrarian movements, Anti – caste movements & Women’s movement.

Course Outcome

- To help students to understand the impact of movements on shaping the pattern of politics
- To reveal and explore the relationship of People, State and society.
- To generate awareness among students about the historical overview, background and debates revolves around social and political movements
- To motivate students to comprehend the basic ideologies and strategies of the political and social movements
- To study the process of interaction between society and politics in contemporary India- Caste, tribe and religion.
- To introduce the genesis and growth of peasants movements
- To describe the regional movements with special reference of Jharkhand and

Gorkhaland

- To create awareness about movement, and empowerment related to women for equitable society and gender justice
- To equip the students with the knowledge of Sociology of Politics
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PSC-204: ISSUES IN INTERNATIONAL RELATIONS

This Course is designed to give students a sense of some important theoretical approaches to understand international relations; Concepts: State system and non-state actors, Power, Sovereignty; Contemporary Global Concerns International Political Economy and an outline of the evolution of International organizations and their possible future trajectory.

Course Outcome

- To explain the scope and subject matter of International Relations as an autonomous academic discipline
- To discuss functional and Neo-functional Approaches and International Regime analysis to study the discipline of international politics
- To describe the Cold War phases, American hegemony and understanding the post Cold War era.
- To discuss the importance of Non-alignment movement and democratic peace treaty
- To evaluate the working of UN and its organs; Peace keeping Function and Human Rights
- To analyse the contemporary global governance, environmental issues concerning global warming, climate change protocols
- To discuss humanitarian interaction and human security

PSC-205 INDIAN GOVERNMENT AND POLITICS

This course acquaints students with the constitutional design of state structures and institutions, and their actual working over time. The Indian Constitution accommodates conflicting impulses of liberty and justice, territorial decentralization and a strong union, for instance within itself. The course traces the embodiment of some of these conflicts in constitutional provisions, and shows how these have played out in political practice. It further encourages a study of state institutions in their mutual interaction, and in interaction with the larger extra-constitutional environment.

Course Outcome

- To delineate the evolution of Indian constitution, Indian nationalism and national movements
- To outline the basic values and philosophy of Indian Constitution as expressed in the Preamble.
- To study the basic structure of the Indian Constitution: Fundamental rights, duties and Directive Principles of State Policy.
- To discuss government structure at the national level: Executive, Legislature and Judiciary
- To evaluate the structures of government at the State level: Executive, Legislature and Judiciary
- To assess Judicial Activism in India with particular reference to Supreme Court.

3RD SEMESTER

PSC-301 INDIAN POLITICAL THINKERS

- The course tries to retrieve and resurrect the Indian thought by focusing on the works of pre and post colonial thinkers. It also intends to posit this Indianans as the pivot of academic curriculum and public discourse. For this reason, works of Indian thinkers like Tilak, Vivekakananda, Aurobinda Ghosh, Gandhi, Ambedkar Rammohan Roy, Nehru, M.N. roy and Jay Prakash running theme of social political integration and emancipation in their work. It discusses the thought process of important Indian political thinkers who range from ancient to modern times.

Course Outcome

- To help the students in accruing knowledge in the field of Indian Political thought in the initial stage of their study.
- To apprise the students about India' contribution towards the enrichment of the field of political thought.
- To gather knowledge regarding India's orientation towards politics and apprising the students about the growth of modern democratic political consciousness in India.
- To help the students in their future course of study in India's political thought.

PSC: 302: INDIA'S FOREIGN POLICY

This course's objective is to teach students the domestic sources and the structural constraints

on the genesis, evolution and practice of India's foreign policy. The endeavour is to highlight integral linkages between the 'domestic' and the 'international' aspects of India's foreign policy by stressing on the shifts in its domestic identity and the corresponding changes at the international level. Students will be instructed on India's shifting identity as a postcolonial state to the contemporary dynamics of India attempting to carve its identity as an 'aspiring power'. India's evolving relations with the superpowers during the Cold War and after, bargaining strategy and positioning in international climate change negotiations, international economic governance, international terrorism and the United Nations facilitate an understanding of the changing positions and development of India's role as a global player since independence.

Course Outcome

- To introduce students India's Foreign Policy; its determinants; and the role played by different institution in the policy formulation as well as implementation.
- To evaluate India's relations with neighbours as well as with global powers
- To provide a comprehensive understanding of India in the global stage
- To provide greater scope for employment in the policy planning divisions of Ministries as consultants and researchers

PSC-303 RESEARCH METHODOLOGY IN ADVANCED SOCIAL SCIENCES

This paper will introduce the students to the Research Methods in Social Science. This paper discusses the application of Scientific Methods in the Social Research. The second block deals with the Planning Procedures in the Social Science Research including the Formulation of Hypothesis and Research Design, describes various Methods of Data Collection, Sampling Procedure, and its Analysis and Interpretation. It focuses on the Theory Building in Scientific Social Research.

Course Outcomes

- To provide students with a rigorous training in Research Methodology. It begins by deliberating on the importance of research in Social Sciences.
- To explore the relationship between theory and research

- To analyses the critical difference between fact and value while doing research in the discipline of Political Science.
- To emphasize on the importance of the processes involved in collection and processing of data
- To provide methodological training on how to write a Report/Thesis.

PSC 304: FOREIGN POLICIES OF MAJOR POWERS

This course examines the foreign policies of a number of influential powers, including the United States, China, India, Britain and France, from 1945 to the present. In doing so, it focuses on the problems, threats and challenges that confronted these powers during the Cold War and in the period following the collapse of the old bipolar system; it assesses how these powers perceived these problems, threats and challenges, how they reacted to them and what policies they put in place to offset them. Hence, it also discusses the processes, the institutions and the actors involved in foreign policy making at national level.

The course not only analyses the geopolitical, military, economic and domestic constraints under which these powers acted, but it also considers the economic and military capabilities they relied on in pursuance of their foreign policy objectives. Last but not least, it considers important developments in world politics of the 20th century such as the world wars, the changing world economy, the Cold War, decolonization and conflict in the developing world, European integration and contemporary trends following the end of bipolarity. The course is specifically designed for those postgraduate students who are interested in contemporary diplomacy and statecraft, and who are keen to understand how the world's major powers sought to pursue their national interests in a highly complex post-war international system.

Course Outcomes

- To critically evaluate the causal assumptions and norms of governance along with the policy challenges posed by globalization.
- To provide an understanding of foreign policy and how the determinants that contribute towards framing foreign policy of a country
- To understand the changing pattern of international relations at a particular period of time
- To understand the changing nature of foreign policies of major powers as they are mainly responsible for shaping the behavior pattern of different countries

PSC: 305: INDIAN POLITICS: ISSUES AND PROBLEMS

Actual politics in India diverges quite significantly from constitutional legal rules. An understanding of the political process thus calls for a different mode of analysis that offered by Political Sociology. This course maps the working of 'modern' institutions, premised on the existence of an individuated society, in a context marked by communitarian solidarities, and their mutual transformation thereby. It also familiarizes students with the working of the Indian State, paying attention to the contradictory dynamics of modern state power.

Course Outcome

- To understand nation building and political culture in India
- To identify major problems and challenges being faced by national integration
- To explain issues and challenges of Good governance
- To discuss issues revolves around the Indian democratic system: party system, pressure groups and politics of defection
- To understand politics of regionalism, issue of sub-regionalism language politics, special category status

4TH SEMESTER PSC- 401: POLITICAL THEORY

The course begins with an overview of why we study political theory and what are the approaches and forms of political theory. It then proceeds to elaborate in a detailed manner on the key concepts of 'Liberty', 'Equality', 'Justice', 'Rights' and 'State and Sovereignty'. Each concept is explained through the thoughts and writings of noted theorists who have deliberated in length on that particular issue with emphasis given on readings of original writings.

Course outcomes

- To provide students an introduction to the fundamental concepts in political theory
- Accruing advance level of knowledge in political theory
- To distinguish systematic normative inquiry from other kinds of inquiry within the discipline of political science.
- To write a clear and coherent expository synopsis of the theory of a major thinker in the history of political thought.
- To identify the most important contributors to modern Western political thought and explain why their contributions are important.
- To explain the central concepts in modern Western political thought

- To help the students in the future preparation of their course of study in political theory
- To update their knowledge level in the field of study of political theory with latest information
- To demonstrate the ability to apply abstract theory to concrete problems by using the ideas of political theorists to address contemporary social issues.

PSC: 402: POLITICAL SOCIOLOGY

Political sociology is the study of the social organization of power. This course covers the major themes and debates in political sociology—a diverse field both in terms of the range of topics addressed and the theoretical perspectives used. Our main purpose will be to do an overview of the major perspectives and arguments comprising the field, including classical and contemporary readings. The issues studied in this field include the nature of power and the state, relations between state and society, social movements, political organization and civic participation, political culture, voting behavior, and citizenship.

Therefore, the course explores the social dimensions of power and political institutions. It examines social power and focuses on the political attitudes, values and behaviour of people in different societies. Students will study the politicization of social cleavages (divisions) such as class, race and ethnicity, gender, religion, and nationality; changing social values and attitudes; and political engagement and participation (such as turnout and protest politics). The course builds on some of the concepts, theories and knowledge introduced in the introduction to political science course — notably the study of representation, electorates, parties, civil society, who rules in a democracy, and public policy.

Course Outcomes

- To acquire a familiarity with major features of contemporary societies that are relevant to politics, especially for developed democracies.
- To have a basic understanding of sociological theories of the state
- To acquire an understanding of recent social and political science explanations of political processes and events;
- To acquire a grasp of the competing approaches in the field;

- To be able to relate this theoretical understanding to empirical data and analyses for various states
- To apply sociological principles to make sense of current world events and to contribute to social debates
- To comprehend different opportunities to influence political decisions by average citizens.
- To explain the non – institutional political processes and thereby to sensitize the students on informal processes of politics.
- To provide a deeper understanding of the concepts and approaches related to Political Sociology.
- To explain the social context of politics to the students.

PSC-403: INDIA AND REGIONAL ORGANISATIONS

The course aims to examine the conceptions and practices of security adopted by Regional Organisations (ROs) between Indian and foreign countries. Regional Organisations and Security analyses the primary ROs that are active in highlight disparities and similarities in how security is seen, prioritised, understood, practised, managed and implemented across regions. On this basis, the course reach conclusions about whether we live in an increasingly globalised or regionally distinct world, and go on to assess the prospects for a globalised system of security management and consider how this might be developed and organised.

Course Outcomes

- To understand the conceptual and theoretical regionalism and regional organization in the global context
- To examine India's foreign relations with its neighbours and great powers.
- To understand India's priorities and civilizational tie-up with international and regional organisations
- To use of case study method for analysing the working of important international and regional organisations like UN, EU, ASEAN, SAARC, BRICS etc.

PSC: 404: HUMAN RIGHTS: THEORIES AND PRACTICES

One of the most important issues facing the international human rights movement is the claim that human rights values are universal and not culturally specific, and thus can be used to understand, evaluate, and influence global actors. This claim has obvious political and philosophical dimensions. That the concept of international human rights is being taken seriously by both governmental and nongovernmental actors is a sign of the importance of human rights today. The number of countries ratifying the basic international human rights treaties has reached an all-time high. Nevertheless, current events are drawing into question the universality and efficacy of the human rights regime. These events include women's rights violations and genocide, violation of the humanitarian laws of war the increased use of the death penalty. It is a tribute to the resiliency and appeal of the human rights idea that efforts to address these situations have begun to attract some of the most thoughtful advocates and philosophers of the twentieth century. It addresses both the philosophical and political dimensions of the human rights debate, and provides useful guidelines for further advances in international human rights theory and practice. It ranges from philosophical inquiries concerning the source of international human rights norms to powerful critiques of our current understanding of the content of these norms and suggestions about how to create, support, and sustain an international human rights culture.

Course Outcome

- To build an understanding of human rights among students through a study of specific issues in a comparative perspective.
- To see how debates on human rights have taken distinct forms historically and in the contemporary world
- To anchor all issues in the Indian context, and pulls out another country to form a broader comparative frame.
- To expect to use a range of resources, including films, biographies, and official documents to study each theme.
- To discuss State response to issues and structural violence questions and collective

rights and vulnerable groups of children, women, Refugee and Ethnic groups

PSC-405: PROJECT WORK

The research experience of students is greatly enriched by early exposure to conducting research. There are numerous benefits of students who get involved in research. They are better off in understanding published works, determine an area of interest, can discover their passion for research and may start their career as a researcher. Further students will be able to develop ability for scientific inquiry and critical thinking, ability in the knowledge base and communication. This course is included to promote above mentioned abilities among the students.

A student is required to carry out a project on an issue of interest to him / her under the guidance and supervision of a teacher. In order to do so he/she must have the knowledge in research methodology and of steps in planning and conducting a research. An external examiner with the supervisor as the internal examiner will evaluate the research project on the basis of scientific methodology in writing the report, presentation skill and performance in the viva.

Course Outcome

- To help students to learn how to develop scientific research designs in the study of social and political phenomenon.
- To guide students to understand the previous research in their field of interest.
- To help them to arrive at a research problem and encourage the students to learn ways to describe and evaluate public policy implementation.
- To help students understand the logic of hypothesis testing in both quantitative and qualitative research.
- To make students to learn the methods of writing a research report. Students will be able to independently prepare a research design to carry out a research project
- To review the related research papers to find out a research problem and relevant

hypotheses

- To understand the dynamics of citizen – administrative interface and administrative behaviour.
- To learn the use of statistical techniques for interpretation of data.

Manase Mahant
HEAD OF THE DEPARTMENT

01/12/2021
PRINCIPAL
Principal
Rayagada (Auto.) College
Rayagada

Department of Economics

M.A. Economics 2 Years Programme

Programme Specific Outcomes

- ❖ To impart in depth knowledge to students about economic theory regarding utilization and allocation of resources including labour, natural resources and capital.
- ❖ To develop students understanding about how market for goods and services function and how income is generated and distributed.
- ❖ To give students in depth knowledge into special fields of choice like agricultural economics, industrial economics, financial market, development economics, international trade, urban economics econometrics, mathematical economics etc.
- ❖ To make students familiar with economic theories and their relevance, econometrics, quantitative techniques and applied research in a wide variety of fields within economics.
- ❖ Students would know how the economy is influenced by economic policy, technological advances and demographic conditions

Department of Economics
M.A. Economics (Semester I, II, III & IV)
(As per Choice Based Credit System)

Each paper carries 100 marks, which includes 20 marks of Mid-Semester written examination (except ECO-CC-405 Dissertation: no Mid-Semester) and 80 marks of End-Semester examinations (except for ECO-CC-303: 50 marks Theory in End-Semester examination and 30 marks in practical examination) and ECO-CC-405 Dissertation: 50 marks in Content, 30 marks in Seminar presentation and 20 marks in Viva.

Sl. No.	Semester/Paper Code	Title of the Paper	Total Marks TE+Mid-Sem	No. Of Credits
FIRST SEMESTER 20 CREDITS (500 MARKS)				
1	ECO-CC-101	Micro Economic Analysis-I	80+20	04
2	ECO-CC-102	Macro Economic Analysis-I	80+20	04
3	ECO-CC-103	Quantitative Analysis -I	80+20	04
4	ECO-CC-104	Public Economics -I	80+20	04
5	ECO-CC-105	Indian Economic Policy	80+20	04
SECOND SEMESTER 20 CREDITS (500 MARKS)				
6	ECO-CC-201	Micro Economic Analysis-II	80+20	04
7	ECO-CC-202	Macro Economic Analysis-II	80+20	04
8	ECO-CC-203	Quantitative Analysis-II	80+20	04
9	ECO-CC-204	Public Economics -II	80+20	04
10	ECO-CC-205	Research Methodology	80+20	04
THIRD SEMESTER 20 CREDITS (500 MARKS)				
11	ECO-CC-301	International Trade and Finance-I	80+20	04
12	ECO-CC-302	Economics of Social Sector and Environment-I	80+20	04
13	ECO-CC-303	Computer Applications in Economic Analysis	(50Theory+30Pract.)+20	04
14	ECO-CC-304	Financial Institutions & Markets-I	80+20	04
15	ECO-CC-305 (CBCT)	Indian Economic Problems	80+20	04
FOURTH SEMESTER 20 CREDITS (500 MARKS)				
16	ECO-CC-401	International Trade and Finance-II	80+20	04
17	ECO-CC-402	Economics of Social Sector and Environment-II	80+20	04
18	ECO-CC-403	Economics of Growth & Development	80+20	04
19	ECO-CC-404	Financial Institutions & Markets-II	80+20	04
20 or	ECO-CC-405	Dissertation	50 (Content) +30 (Seminar)+20 (viva)	04
20	ECO-CC-405	Agricultural Economics	80+20	04

ECO-CC- 101.1 Demand Analysis

Theories of Demand; Axiomatic Assumptions of Preference Ordering; Utility Function and its Related Concepts; Indifference Curve Analysis- Consumers Equilibrium; Marshallian and Hicksian Demand Functions; Slutsky Equation and Decomposition of Price Effect into Substitution Effect and Income Effect; Duality in Consumptions- Indirect Utility Function and Indirect Expenditure Function; Revealed Preference Hypothesis; Lancaster's Characteristics of Goods Approach; Consumer's Choice under Risk and Uncertainty. Asymmetric Information; Adverse Selection and Moral Hazard.

ECO-CC-101.2 Theory of Production and Costs

Production Function and its related concepts, Short-run and Long-run laws of Production; Homogeneous Production Function and Returns to Scale; Producer's Equilibrium and Optimal Choice of Inputs; Constrained and Unconstrained Profit Maximisation; Production Functions- Specification and Features of Cobb-Douglas and CES Production Functions; Duality in Production- Derivation of Supply and Cost Functions from Production Function; Cost Function- Traditional and Modern Theories of Cost.

ECO-CC-101.3 Price and Output Determination under Perfect, Monopoly and Monopolistic Market Structures

Price and Output Determination under different Market Structures: Perfect Competition- Equilibrium of the Firm and Industry (in the short run and long run); Monopoly- Short-run and Long-run Equilibrium, Monopoly Power, Control and Regulation; Discriminating Monopolist; Monopolistic Competition- Short-run and Long-run Equilibrium.

ECO-CC-101.4 Price and Output Determination under Duopoly and Oligopoly Market

Non-price Competition; Price and Output Determination under Non-collusive and Collusive Duopoly and Oligopoly: Non-collusive Models- Cournot, Stackelberg and Kinked Demand Curve Models; Collusive Models- Cartels and Mergers, Market Share, Price Leadership Models; Game Theoretic Approach to Duopoly.

Course Outcomes:

- Students are better able to understand various economic issues and applied part of the economics.
- A comprehensive knowledge of Micro Economics will empower students to explain the
- social reality with better arguments and optimum solutions.
- The students would know about the consumer behaviour.
- This course will impart complete knowledge of all concepts related to demand.
- The students would know about all concepts related to production and cost.
- The student can know the different market condition, models and game theory.
- It will demonstrate knowledge of laws of supply and demand and equilibrium
- Students will be familiar about a clear picture of circular flow model.

ECO-CC-102 MACRO ECONOMIC ANALYSIS- I

ECO-CC- 102.1 National Income Accounts and Social Welfare

Different Systems of National Income Accounting: Social Accounting, Input-output Accounting, Flow of Funds Accounting and Balance of Payments Accounting; United Nations System of National Accounts (NSA); National Income and Social Welfare, Measure of Economic Welfare (MEW).

ECO-CC- 102.2 Consumption Function

Keynes Psychological Law of Consumption, Implication of the Law, Short-run and Long-run Consumption Function, Empirical Evidence on Consumption Function,; Income-Consumption Relationship; Absolute Income, Relative Income, Life-Cycle and Permanent Income Hypotheses.

ECO-CC-102.3 Investment Function

Investment Multiplier, Theories of Investment and Accelerator; Super Multiplier, Influence of Policy Measures on Investment

ECO-CC-102.4 Determination of National Income

Determination of National Income in Two Sector Basic Model- Expenditure Approach and Investment-Saving Approach; Determination of National Income in Three Sector Model- with Government Expenditure, Lump Sum and Proportional Tax and Transfer Payment; Determination of National Income in Four Sector Model. Determination of Output and Employment: Classical & Keynesian Approach,

Course Outcome:

- To make student aware of the basic theoretical framework underlying the field of macroeconomics. It helps students to study the aggregates and to provide overall idea about national economic policies and its implications.
- It helps students to know about investment functions and theories related to investment, multiplier and accelerator.
- Students will learn the concept of fiscal and monetary policies and their effect on economy.

ECO-CC-103 Quantitative Methods – I (Statistical Methods)

ECO-CC-103.1 Probability and Theoretical Distribution

Deterministic and Non-deterministic Experiments; Various Types of Events; Classical and Empirical definitions of Probability- Law of Addition and Multiplication, Conditional Probability and Concept of Interdependence, Bay's Theorem and its Applications, Elementary Concept of Random Variable, Probability Mass and Density Functions, Expectations, Moments and Moment Generating Functions; Properties of Binomial, Poisson and Normal Distributions.

ECO-CC-103.2 Sampling and Estimation Theory

Basic Concept of Sampling- Universe and Sample, Theory of Sampling Distribution and Standard Error, Random and Non-random Sampling, Simple Random Stratified Random and P.S.S. Sampling, Point Estimation and Interval Estimation, Desirable Properties of an Estimator.

ECO-CC-103.3 Correlation and Regression analysis

Correlation- Simple, Partial and Multiple Correlation (applications only); Multiple Regression, Partial Regression Coefficient, Estimation of Regression Coefficients in a Multiple Regression Model; Standard Error of Regression Coefficients, Goodness of Fit of a Regression Model, Linear Regression Models and their Properties- BLUE; Identification Problem; Simultaneous Equation Models- Recursive and Non- recursive; Discrete Choice Models.

ECO-CC-103.4 A Testing of Hypothesis and Time Series Analysis

Null and Alternative, Type- 1 and Type- 2 Errors, Goodness of Fit, Confidence Intervals and Level of Significance, Hypothesis Testing based on z, t, Chi Square and F Tests Test relating

Course Outcomes:

- Students will learn different types of functions and their applications.
- Students will be familiar with the maxima and minima of functions.
- It will impart knowledge about the use of lagrange multiplier methods
- Students will gain knowledge about the use of net present value and other related concepts

ECO-CC-104 Public Economics- I

ECO-CC-104.1 Public Expenditure and Public Debt

Public Expenditure- Hypotheses: Wagner's Law of Increasing State Activities, Peacock-Wiseman Hypothesis, Pure Theory of Public Expenditure; Structure, Growth and Effect of Public Expenditure; Evaluation of Public Investment; Social Cost- Benefit Analysis- Project Evaluation, Estimation of Costs, Discount Rate, Public Debt- Sources, Effects, Burden and it's Management.

ECO-CC-104.2 Fiscal Policy and Budget

Fiscal Policy- Objectives of Fiscal Policy, Neutral & Compensatory and Functional Finance, Fiscal Policy for Stabilization- Automatic and Discretionary Stabilization; Inter-dependence of Fiscal and Monetary Policies, The Public Budgets- Kinds of Budgets, Zero-base Budgeting, Different Concepts of Budget Deficit, Budgetary Deficits and its Implications, Balanced Budget Multiplier

ECO-CC-104.3 Theories of Public Revenue

Public Revenue- Different Approaches to the Division of Tax Burden, Incidence and Effects of Taxation, Elasticity of Buoyancy, Taxable Capacity, Benefit and Ability to Pay Approaches; Theory of Optimal Taxation.

ECO-CC-104.4 Indian Public Finance

Indian Tax System, Trends in Revenue and Expenditure of the Central and State Government; Major Taxes in India; Base of Taxes, Direct and Indirect Taxes, Taxation of Agriculture, Expenditure Tax, Reforms in Direct and Indirect Taxes, Taxes on Services, Non-Tax Revenue of the Centre, State and Local Bodies; Analysis of the Union and State Government Budget, Trends in Public Debt, Fiscal Crisis and Fiscal Sector Reforms in India; Reports of Finance Commissions in India.

Course outcome:

- Understand the sources of finance both public and private, demonstrate the role of government to correct market failures and possible advantage of public financing.
- Understand the possible burden, benefits and distribution of various types of taxes among various classes of people, know the general trend and impact on general welfare and arouse them to suggest good and bad tax system.
- Understand the needs of public borrowing from all possible sources to meet necessary public investment/expenditures. Also be alerted to find sources for repayment.
- Deliver effectively the preparation of budget and how they are passed in the house. Understand the changes in size and flexibility of state and central budget along with the role played by Finance commission.

ECO-CC-105 Indian Economic Policy

ECO-CC- 105.1 Basic Economic Indicators of Indian Economy

Basic Economic Indicators – National Income of Different Sectors; Poverty, Unemployment, Migration and Inequality.

ECO-CC- 105.2 Objectives and Priorities of Planning

Objectives and Priorities of Planning; Five Year Plans; Problems of Resource Mobilization; New Economic Policy since 1991.

ECO-CC- 105.3 The Agricultural Sector

Agricultural Strategy– Land Relation and Land Reforms; Rural Credit; Role of Irrigation and Fertilizer; Agricultural Marketing; Prices of Agricultural Produce; Community Development; Institutional and Technological Aspects. New Agricultural Policy.

ECO-CC- 105.4 The Industrial Sector

Strategy of Industrial Development; Problem of Location; Problems of Large and Small Scale Industries; New Industrial Policy and Liberalisation; Sources of Industrial Finances; Role of Foreign Capital; Public Enterprises – Organisation, Management, Control, Accountability and Price Policy.

Course outcome:

- To have knowledge about the indicators of Indian Economy like planning, poverty, unemployment etc.
- To know about relationship between monetary policy, fiscal policy and economic development.
- To know about framework of policy making for the development of Indian economy.
- To know about the agriculture sector produce, its marketing and industrial sector associated with problems and foreign capital.

ECO-CC-201 MICRO ECONOMIC ANALYSIS- II

ECO-CC-201.1 Managerial and Behavioural Theories of the Firm

Critical Evaluation of Marginal Analysis: Representative Model of Average Cost and Full Cost Pricing; Baumol's Theory of Sales Revenue Maximisation; Bain's Limiting Price Theory; Morris and William's Static Managerial Model of the Firm.

ECO-CC-201.2 Neo- Classical Approach and Factor Pricing

Neo- Classical Approach- Marginal Productivity Theory; Euler's Theorem and Product Exhaustion; Factor Pricing in Perfect and Imperfect Markets

ECO-CC-201.3 General Equilibrium Analysis

General Equilibrium Analysis- Existence, Stability and Uniqueness of Equilibrium, Walrasian System, Efficiency of General Equilibrium in Exchange, Production and Competitive Markets.

ECO-CC-201.4 Welfare Economics

Pigovian Welfare Economics; Pareto Optimality Conditions; Compensation Principle, Bergson-Samuelson's Social Welfare Function; Theory of Second Best; Arrow's Impossibility Theorem; The Theory of Social Choice.

Course outcome:

- The students would be trained about economic application of economic theory.
- It would facilitate students learning by allowing students to see how economics can be used in decision making.
- It would help students in knowing how managerial economics can be treated as a special branch of economics.
- It will familiarized the students with different types of economic models.
- Students will get to know the different market structure.
- It will help to understand about the social welfare and optimality condition of pareto.

ECO-CC-202 MACRO ECONOMIC ANALYSIS- II

ECO-CC- 202.1 Demand for Money and Post-Keynesian Approaches

Classical Approach to Demand for Money; Quantity Theory Approach; Fisher's Equation; Cambridge Quantity Theory; Keynes' Liquidity Preference Approach; Transaction, Precautionary and Speculative Demand for Money; Aggregate Demand for Money; Neo-Classical and Keynesian views on interest; Post- Keynesian Approaches to Demand for Money; Patinkin and the Real Balance Effect; Friedman and the Modern Quantity Theory; Monetarism and Fiscalism.

ECO-CC-202.2 Supply of money

Components and Determinants of Money Supply; Factors Influencing Changes in Money Supply; Financial Intermediation, Growth and Role of Non-Banking Financial Intermediaries (NBFIs) and Regional Rural Banks; Distinction between Banks and NBFIs; RBI Approach to Money Supply; High Powered Money and Money Multiplier.

ECO-CC-202.3 The IS-LM and Post- Keynesian Approaches

The IS-LM Model; Extension of IS-LM Model with Labour Market and Flexible Price; General Equilibrium of Product and Money Markets; Neo- Classical and Keynesian views on interest; Extension of IS-LM Model with Government Sector; Relative Effectiveness of Monetary and Fiscal Policies.

ECO-CC-202.4 Theories of Business Cycles and Theory of Inflation

Business Cycles; Theories of Business Cycles- Schumpeter, Kaldor, Samuelson and Hicks; Macro-economic Equilibrium- Relative Roles of Monetary Fiscal Policies; Inflation; Theory of Inflation; Structuralist Approach to Inflation; Philips Curve Analysis; Short-run and Long-run Philips Curve, Tobin's Modified Philips Curve; Policies to Control Inflation; Rational Expectation Hypothesis and its Critique.

Course Outcomes:

- It will help the students to understand supply and demand models of money with respect to market to external events.
- It will help students to describe ISLM model.
- The course will illustrate the role of financial institutions in the economy.
- Students will be able to explain concept of business cycle, inflation and
- unemployment

ECO-CC-203 QUANTITATIVE METHODS –II (Mathematical Methods)

ECO-CC-203.1 Functions and Derivatives in Economics

Functions and Types of Functions and their Applications in Economics; Limit and Continuity; Sequence; Series; Simple Derivative Function and Differential (both First and Second Order) and their Applications in Economics; Partial Derivatives, Total Derivative and Total Differential and their Applications in Economics; Unconstrained and Constrained Optimization of Multivariate Functions and their Applications in Simple Economic Problems.

ECO-CC-203.2 Vectors, Matrices and Determinants

Vectors: Vectors and Types of Vectors; Geometrical Interpretation Vectors Operations; Linear Dependence and Independence of Vectors, Basis and Dimension of Vectors Space.

Matrix: Concept of Matrix and Types of Matrices; Operations on Matrices; Matrix Inversion and Rank of a Matrix; Concept of Quadratic Forms, Eigen Roots and Eigen Vectors of Matrices.

Determinants and its Properties; Simple Application of Vectors, Matrices and Determinants- Solution of Simultaneous Equations.

ECO-CC-203.3 Integration, Differential and Difference Equations

Integration and its Geometrical Interpretation, Methods of Integration, Application of Integration- Consumer's Surplus and Producer's Surplus; Differential Equations- Solution of First Order and Second Order Difference Equations, Stability Conditions and their Simple Applications in Economics.

ECO-CC-203.4 Elementary Operations Research and Computer Application

Linear Programming- Formulation of Linear Programming and its Graphical Method of Solution, Input-Output Analysis- Determination of Equilibrium Level of Outputs, Prices and Employment; Game Theory- Concept of Game; Solution of Game with Saddle Point and Mixed Strategies and Value of a Game.

Course Outcomes:

- The course will introduce the concepts of differentiation and integration and application in economics.
- The course will impart knowledge of matrices and determinants to the students and their applications in economics.
- The course will form the base for higher studies in research work.

ECO-CC-204.1 Role of Public Sector

Role of Government in Organized Society; Changing Perspectives of Government in a Mixed Economy, Public and Private Sector Cooperation and Competition, Government as an Agent for Economic Planning and Development, Government as a Tool of Operationalising the Planning Process, Private Goods, Public Goods and Merit Goods.

ECO-CC-204.2 Preference Revelation for Public Goods

Market Failure: Imperfections, Decreasing Costs, Externalities, Public Goods; Private and Public Mechanism for Allocating Resources, Problems for Allocating Resources; Problems of Preference Revelation and Aggregation of Preferences; An Economic Theory of Democracy, Role of Bureaucracy, Regulation of Market, Collusion and Consumer's Welfare.

ECO-CC-204.3 Rationales for Public Policy

Allocation of Resources- Theory of Public Goods, Voluntary Exchange Models, Impossibility of Decentralized Provision of Public Goods; Contributions of Lindahl and Johansen; Samuelson; Demand Revealing Schemes for Public Goods- Tiebout Model, Theory of Club Goods, Stabilization Policy- Keynesian Case for Stabilization Policy, Uncertainty and Expectations, Failure of Intertemporal Markets, Liquidity Preference, Social Goals, Poverty Alleviation, Provision of Infrastructural Facilities, Removing Distributional Inequalities and Regional Imbalances.

ECO-CC-204.4 Fiscal Federalism

Fiscal Federalism: Principles of Multi-tier Finance; Fiscal Federalism in India, Vertical and Horizontal Imbalance, Assignment of Function and Sources of Revenue, Constitutional Provisions, Finance Commission and Planning Commission, Devolution of Resources and Grants, Theory of Grants, Resource Transfer from Union to States- Criteria for Transfer of Resources, Centre- State Financial Relations in India: Problems of State's Resources and Indebtedness, Transfer of Resources from Union and States to Local Bodies.

Course Outcomes:

- The students would learn of the feature-the federal structure and financial relationship among them.
- The course would develop the analytical ability of students to distinguish between beneficial and detrimental effects of a government policy and their effect on macroeconomics framework of an economy.
- It will help students to critically analyse the fiscal reforms and policy choices of the government in developed and developing countries.
- It will help in understanding and analyzing the impact of public policy on the allocation of resources and the distribution of income in the economy and also analysis of public expenditures, taxation, budgetary procedures, stabilization instruments, debt issues.

ECO-CC-205.I Introduction to Social Science Research

Meaning- Objectives and Characteristics of Research, Types of Research, Positivism and Post Positivistic Approach to Research, Main Steps in Research- Selection of Research Problem- Sources, Formulation of a Research Problem, Methods of Research- Experimental, Descriptive, Historical, Qualitative and Quantitative, Meaning and Need of Research Design, Features of a Good Design, Different Research Designs for Exploratory, Descriptive, Diagnostic and Experimental Research, Review of Literature- Need and Sources; Setting up Objectives and Hypotheses; Preparation of a Research Proposal, Problems in Research.

ECO-CC-205.II Collection of Data

Data-Primary and Secondary Data, Methods of Collection of Primary Data- Observation, Interview, Questionnaire, Schedule, Pilot Survey and Case Study Method, Advantages and Disadvantages of Primary Data; Collection of Sensitive Information; Secondary Data-Sources; Advantages and Limitations of Secondary Data; Sampling Design- Methods and Sample Size.

ECO-CC-205.III Processing and Analysis of Data & Testing of Hypothesis

Editing, Coding and Classification; Data Presentation: Tabular and Graphical Presentation- Preparation of a Statistical Table, Requisites of a Good Table, Types of Tables, Figures and Charts; Analysis: Tools and Techniques for Qualitative and Quantitative Data; Hypothesis- Importance and Definition, Formulation- Null and Alternative Hypothesis, Types of Errors in Testing of Hypothesis, Testing of Hypothesis and Level of Significance.

ECO-CC-205.IV Report Writing

Report Writing- Significance and Steps, Foot Note and End Note; Bibliography and References- Style (APA, MLA, Chicago and Harvard); Steps for Writing Dissertation/Thesis, Method for Writing an Article for Conference/Seminar and Publication in a Journal; Ethics and Plagiarism in Research; Application of ICT in Research.

Course Outcome:

- To help students develop a thorough understanding of the fundamental theoretical ideas and logic of research
- To help students develop a thorough understanding of the issues involved in planning, designing, executing, evaluating and reporting research findings.
- To help students to get a sense of the importance of preparing and adhering to time schedules and financial budgets
- To train students in learning how to format documents to be used in research
- To train students in learning the accepted formats for writing

ECO-CC-301.1 Theory of International Trade-I

The Pure Theory of International Trade- Theories of Absolute Advantage, Comparative Advantage and Opportunity Costs; Empirical Testing of Classical Theory; Trade Equilibrium under Constant, Increasing and Diminishing Cost Conditions, and Imperfect Competition.

ECO-CC-301.2 Theory of International Trade- II

Heckscher- Ohlin Theory of Trade; Leontief Paradox; Theorem of Factor Price Equalization; Stolper- Samuelson Theorem; Rybczynski Theorem; Kravis and Linder Theorem of Trade; Technological Change and International Trade.

ECO-CC-301.3 Gains from Trade

Gains from Trade- Their Measurement and Distribution; Concept of Terms of Trade, Their Uses and Limitations; Hypothesis of Secular Deterioration of Terms of Trade, its Empirical Relevance and Policy Implications for Less Developed Countries; Terms of Trade and Income Distribution; Trade as an Engine of Economic Growth; Concept and Policy Implications of Intensifying Growth.

ECO-CC-301.4 Interventions in Trade

Theory of Interventions: Tariffs, Quotas and Non-Tariff Barriers; Effects of Tariffs under Partial and General Equilibrium Perspectives; Tariff and Income Distribution; Optimum Tariff; Types of Regional Economic Integration; Theory of Customs Union; Viner's Partial Equilibrium Approach to Welfare Effects of Customs Union; General Equilibrium Analysis of Customs Union; Lipsey Model and Vairex Model; Empirical Findings and Dynamic Consideration of Custom Union and Free Trade Area

Course outcome:

- Students would know the country – position regarding international trade, payments and foreign exchange.
- The students would learn the methods regarding improvement in terms of trade, international debt and balance of payments positions
- Students would know about the policies regarding increase in exports, to deal with international institutions and to maintain relation with other countries. Since globalization and international relations can increase the rate of growth and solve domestic problems
- like inflation, unemployment and issue of currency etc.

ECO-CC-302 ECONOMICS OF SOCIAL SECTOR AND ENVIRONMENT-I

ECO-CC-302.1 Economics of Environment Policy

Environmental Externalities and Market Inefficiency; Environmental Taxes and Subsidies; Marketable Pollution Permit; Deposit Refund System; Coase's Property Rights and Bargaining Solution; Command and Control Approach; Comparison of Regulations and Markets; Based Instruments; Global Environmental Externalities; Climate Change and Carbon Tax; Trade and Environment.

ECO-CC-302.2 Environmental and Natural Resource Policies in India

Mechanisms for Environmental Regulation in India; Environmental Laws and their Implementation; Policy Instruments for Controlling Water and Air Pollution; Forest Policy; People's Participation in the Management of Common and Forest Lands; Joint Forest Management; Social Forestry; Rationale and Benefit.

ECO-CC-302.3 Economics of Education

Education as an Instrument of for Economic Growth; Human Capital vs. Physical Capital; Demand for Education- Private and Social Demand; Cost of Education, Wastage and Stagnation Benefits of Education- Direct and Indirect Benefits, Private and Social Benefits.

ECO-CC-302.4 Economics of Health

Health Dimension of Development; Determinants of Health: Poverty, Malnutrition and Environmental Issues; Economic Dimensions of Healthcare: Demand and Supply of Healthcare; The Concept of Burden of Disease; Institutional Issues in Healthcare Delivery in India.

Course outcome:

- To gradually develop the capability of a student so that he/she masters the significance and scope of environmental economics and also understand the environmental resource problems, environmental and social services and the problem of valuation of these services, Environment-Economy Linkages.
- Realize the importance and influence of environment on the economy including the quality of manpower. Arouse their feelings to make cleaner environment so as to achieve harmonious development.
- Understand that environmental problem is not the problem of a single country or region but a global problem/issue. Hence, policy formulation may be for all countries.
- Demonstrate the scientific management of waste materials; realize the role and importance of individuals to keep the environment clean.
- Understand the causes and victims of environmental pollution like poverty, population explosion, and over-use of resources, careless or unscientific dump/management of wastes.

ECO-CC-303 COMPUTER APPLICATION IN ECONOMIC ANALYSIS

ECO-CC-303.1 Introduction to Computer and Operating Systems

Computer Organisation; Central Processing Unit, Types of Memory, Input and Output Devices; Classification of Computers; Programming Languages; Operating System- DOS and Windows; Data Representation and the Number Systems; Decimal, Binary, Octal and Hexa decimal.

ECO-CC-303.2 Computer for Office Automation

Spread Sheet- Concept and Use of Spread Sheet, Structure of a Spread Sheet, Spread in – Built Functions; Chart Feature of a Spread Sheet, Operation and Use of MS-Excel and Lotus Smart- Suite.

ECO-CC-303.3 Statistical Data Processing Techniques-I

Statistical Package Handling and Command Description; Statistical Package for Social Science (SPSS); Basic Statistical and Econometric Functions and their Analysis- Analysis of Regression, Analysis of Correlation.

ECO-CC-303.4 Statistical Data Processing Techniques-II

Analysis of Variance (ANOVA), Analysis of Covariance (ANCOVA), Linear Programming; Time Series Trend Analysis; Input-output Analysis, Game theory- Saddle-Point and Mixed Strategy Solutions

Course outcome:

- Get knowledge about alternative approach to teaching content by using computer applications that emphasize the empirical testing or applications of the theory.
- Get know the basic fundamentals of computer.
- Get to know about different economics applications on computer.
- Get to know data processing techniques like SPSS and ANOVA.

ECO-CC-304 FINANCIAL INSTITUTIONS AND MARKETS-I

ECO-CC-304.1 Nature and Role of Financial System

Money and Finance- Money and Near-money- Financial Intermediation and Financial Intermediaries-The Structure of the Financial System- Functions of the Financial Sector- Indicator of Financial Development- Equilibrium in Financial Markets- Financial System and Economic Development- Criteria to Evaluate Assets.

Risk and Financial Assets; Types of Risk Return on Assets; Risk- Return Trade off- Valuation of Securities.

ECO-CC-304.2 Structure of Interest Rates

Theories of Interest Rate Determination- Level of Interest Rates- Long Period and Short Period Rates- Term Structure of Interest Rates- Spread between Lending and Deposit Rates- Administered Interest Rates- Appropriate Interest Rate Policy.

ECO-CC-304.3 The Central Bank and Monetary Policy

Functions of Central Bank- The Aims and Objectives of the Monetary Policy in Developed and Developing Countries- Instruments of Monetary Policy- Proliferation of Banking and Non-Bank Financial Intermediaries- Effectiveness of Monetary Policy- Credit Creation and its Control.

ECO-CC-304.4 The Commercial Banks and Development Banks

Functions of Commercial Bank, Credit Creation, Profitability and Efficiency of Banks; Development Banks- Role and Functions, Investment Banking and Merchant Banking;

Course outcomes

- Students would get to knowledge regarding money market, capital market, stock exchange i.e. Indian Financial System which is the backbone of the country.
- Can explain the relationship between financial development and economic development.
- Can explain the broad features of Indian financial institutions with its apex banks' objectives and purview. Also understand the instruments to control credit in the country.
- Can narrate the kinds and components of money with its regulatory system, be aware of the functions, objectives and limitations of commercial banks.
- To Understand the conditions of financial markets and its impact in the economy.
- To Demonstrate the role and significance of foreign exchange rate and its markets with its impact on various sectors of the economy.

ECO-CC-305 INDIAN ECONOMIC PROBLEMS

ECO-CC- 305.1 Public Finance

Fiscal Policy; Growth of Public Expenditure; Tax Policy and Tax Reforms; Main Source of Revenue of Union and the State Governments; Fiscal Correction for Economic Growth; Public Debt Policy; External Debt; Deficit Financing.

ECO-CC- 305.2 Money, Banking and Prices

Organisation of Indian Money and Capital Markets; Reserve Bank of India; Supply of Money; Inflation and Analysis of Price Behaviour; Monetary Policy; Interest Rate Policy; Financial Sector Reforms; Working of SEBI.

ECO-CC- 305.3 Foreign Trade

Structure and Direction of Foreign Trade; Foreign Trade Policies and Reforms; Balance of Payments; Trends and Issues; Exchange Rate Policy; Foreign Exchange Reserves and Growth.

ECO-CC- 305.4 Foreign Capital and MNC

Foreign Capital and MNCs; Changing Patterns of Foreign Direct Investments; Globalisation and its Impact.

Course outcome:

- To know about relationship between monetary policy, fiscal policy and economic development.
- To know about capital market and money market, working of RBI and SEBI.
- To know about structure of foreign trade and its policies, BOP, FERA, FEMA.

ECO-CC-401 INTERNATIONAL TRADE AND FINANCE- II

ECO-CC- 401.1 Exchange Rate and Balance of Payments

Exchange Rate-Concepts and Theories; Foreign Exchange Market and Arbitrage; Meaning and Components of Balance of Payments; Equilibrium and Disequilibrium in the Balance of Payments; Devaluation and Balance of Payments Adjustment; Foreign Trade Multiplier with and without Foreign Repercussions and Determination of National Income and Output.

ECO-CC- 401.2 Approaches for Balance of Payment Adjustments

Absorption, Payments and Monetary Approaches for Adjustment in the Balance of Payments; Expenditure-Reducing and Expenditure-Switching Policies for Balance of Payment Adjustment;

Approaches for Achieving Internal and External Equilibrium Simultaneously; The Swan Model and Mundell- Fleming Model; Relative Merits and Demerits of Fixed and Flexible Exchange Rates in the Context of Growth and Development in Developing Countries

ECO-CC- 401.3 International Economic Co-operation

Regionalism- EU, Rationale and Progress of SAARC/SAPTA and ASEAN Region; Problems and Prospects of forming Customs Union in Asia; Multilateralism- UNCTAD, NIEO, GATT/WTO; Optimum Currency Areas; International Financial Institutions- IMF and World Bank; Need, Adequacy and Determinants of International Liquidity; Conditionality Clause of IMF from the point of view of India.

ECO-CC- 401.4 Trade Policies and India

Trade Problems and Trade Policies in India during the last five decades; Recent changes in the Direction and Composition of Trade and their Implications; Rationale and Impact of Trade Reforms since 1991 on Balance of Payments, Employment and Growth; Instruments of Export Promotion; Recent Import and Export Policies; and Agenda for the future.

Course outcome:

- To identify the basic difference between inter-regional and international trade, understand how international trade has helped countries to acquire goods at cheaper cost and explain it through the various international trade theories.
- To know the benefits of international trade in a way how nations with strong international trade have become prosperous and have the power to control world economy and how global trade can be one of the major contributors of reducing poverty.
- To Explain how restrictions to international trade would limit a nation in the services and goods produced within its territories and at the same time explain that a rise in international trade is essential for the growth of globalization.

ECO-CC-402 ECONOMICS OF SOCIAL SECTOR AND ENVIRONMENT- II

ECO-CC-402.1 Measurement of Environmental Values

Need of Environmental Valuation; Total Economic Value – Use Values, Option Values, and Non-use Values; Valuation Methods: Methods Based on Observed Market Behaviour– Hedonic Pricing Method and Travel Cost Method (Household Production Function Models); Methods Based on Response to Hypothetical Markets – Contingent Valuation Method; Environmental Values and Cost Benefit Analysis, Choice of Discount Rate

ECO-CC- 402.2 Economics of Non-Renewable Natural Resources Management

Types of Natural Resources; Concern for Natural Resource Scarcity; Theory of Optimal Extraction of Non-Renewable (Exhaustible) Resources- Extraction under Perfectly Competitive and Monopolistic Markets

ECO-CC- 402.3 Economics of Renewable Natural Resources Management

Theory of Optimal use of Renewable Resources – Biological Growth Process, Harvesting under Private Property and Open Access Conditions; Approach for Common Property Resources.

ECO-CC- 402.4 Environment and Development

Environment and Development Tradeoff, the Environmental Kuznets Curve Hypothesis and its Limitations; Sustainable Development- Weak and Strong Sustainability; Rules and Indicators of Sustainable Development; Integrated Environmental and Economic Accounting; Measurement of Environmentally-corrected GDP

Course outcome:

- To gradually develop the capability of a student so that he/she masters the significance and scope of environmental economics and also understand the environmental resource problems, environmental and social services and the problem of valuation of these services, Environment-Economy Linkages.
- Realize the importance and influence of environment on the economy including the quality of manpower. Arouse their feelings to make cleaner environment so as to achieve harmonious development.
- Understand that environmental problem is not the problem of a single country or region but a global problem/issue. Hence, policy formulation may be for all countries.
- Demonstrate the scientific management of waste materials, realize the role and importance of individuals to keep the environment clean.
- Understand the causes and victims of environmental pollution like poverty, population explosion, and over-use of resources, careless or unscientific dump/management of wastes.

ECO-CC- 403 ECONOMICS OF GROWTH AND DEVELOPMENT

ECO-CC- 403.1 Approaches to Development– I

Economic Growth versus Economic Development; Indicators of Economic Development: PQLI, HDI, SDGs, Poverty and Inequality- Concepts and Measurement. Partial Theories of Growth and Development -- Vicious Circles of Poverty, Circular Causation; Development Theories – Classical, Marx and Schumpeterian; Theories of Development: Unlimited Supply of Labour; Big Push; Balanced and Unbalanced Growth.

ECO-CC- 403.2 Approaches to Development – II

Critical Minimum Efforts Thesis, Low-Income Equilibrium Trap; Forward and Backward Linkage; Dualism – Technical, Behavioural and Social; Ranis & Fei Model; Dependency Theory of Development.

ECO-CC- 403.3 Economic Growth

Economic Growth versus Economic Development; Exogenous Growth Models- Harrod and Denier Growth Model and its Instability in Equilibrium; Solow Model; Meade's Steady State Growth Model; Kaldor's Model; Production Function Approach to the Determinants of Growth; Technical Progress- Hicks, Harrod and Solow Neutrality; Endogenous Growth- Role of Education, Research and Knowledge in Economic Growth; Romer's Endogenous Growth Model.

ECO-CC- 403.4 Investment Techniques

Investment Criteria and Choice of Technique- Capital Turnover Criterion, SMP Criterion, Marginal Per Capita Reinvestment Criterion; Labour versus Capital Intensive Techniques;

Course Outcomes

- Impart understanding of the basic assumption and features of economic growth and development.
- Provide understanding of the relevance of historical perspective of economic growth.
- To impart theoretical knowledge about the concepts of poverty, inequality and development gap.
- To explore diverse dimension and measures of development, as well as the application of microeconomic analysis to issues of development in poor countries, including the study of household decisions and the analysis of institutions and norms influencing development.

ECO-CC-404: FINANCIAL INSTITUTIONS AND MARKETS - II

ECO-CC-404.1 Non-Bank Financial Intermediaries

Definition and Types of Non-Bank Financial Intermediaries; Their Growth and Impact on India's Economic Development; Measures taken to Control their Operations.

ECO-CC-404.2 Financial Markets

Role and Structure of Money Market and Capital Market- Call Money Market, Treasury Bill Market, Commercial Bill Market including Commercial Paper and Certificate of Deposits, Discount Market; Regulation of Capital Market.

ECO-CC-404.3 Securities and Derivatives Markets

Government Securities Market- Markets for Derivatives: Features and Options and Other Derivatives; Types, Uses and Pricing of Derivatives- Primary and Secondary Market for Securities;

SEBI: Its Impact on the Working of Capital Market in India; IRDA and its Role in Financial Markets.

ECO-CC-404.4 International Financial Markets

Reforms in International Monetary System for Developing Countries- Lending Operations of World Bank and its Affiliates- Working of IDA and IFC; The Growth of Regional Financial Institutions; Asian Development Bank and its Lending Activities; Asian Development Bank and India; Euro-Dollar and Euro-Currency Markets; Their Developmental Role and Regulation at the International level.

Course outcome:

- Explain the broad features of Indian financial institutions with its apex banks' objectives and purview. Also understand the instruments to control credit in the country.
- Effectively narrate the kinds and components of money with its regulatory system, be aware of the functions, objectives and limitations of commercial banks.
- Identify the existence and development of non-banking financial institutions, know the important role of Mutual funds, life insurance companies etc., utilize and effectively participate in the development process.
- Understand the conditions of financial markets and its impact in the economy. CO5. Demonstrate the role and significance of foreign exchange rate and its markets with its impact on various sectors in the economy.

Objective of this subject is to make the students know the basic concepts in research and preparation of research and project work in Economics. This paper helps the students to develop the ability to apply theoretical and practical tools, techniques to solve real life problems related to industry, research laboratory and institutions and pursue further research in future in higher studies such as M.Phil. and Ph.D. after completion of project work, the student will be able to:

1. Identify problem in a system
2. Review literature related to a problem
3. Evaluation of research problem
4. Collect materials and know methods
5. Data analysis
6. Develop the ability to communicate effectively

In lieu of the core elective course ECO-CE-404 (Dissertation) the students have to undertake project work under the guidance of a guide provided to them from among the faculty members of the department. First of all they have to write a project proposal to the department. After approval of the project proposal by the department the students have to do research with the help of primary data and/or secondary data. They have to write a project report and submit it to the department with in the stipulated time.

Project is an independent investigation and own work of the student. It is a way of applying the knowledge gained through the various courses to the issues and concerns of day to day events in the economy. It is mandatory to submit a typed and bound copy of the project report. The length of the project work may be between 8000-10000 words (50-60 pages). It must be written in English.

Course outcome:

- To help students develop a thorough understanding of the fundamental theoretical ideas and logic of research.
- To help students develop a thorough understanding of the issues involved in planning, designing, executing, evaluating and reporting research findings.
- To help students to get a sense of the importance of preparing and adhering to time schedules and financial budgets.
- To train students in learning how to format documents to be used in research.
- To train students in learning the accepted format for writing.

ECO-CE-405 AGRICULTURAL ECONOMICS

ECO-CE-405.1 Agriculture and Economic Development

Nature and Scope of Agricultural and Rural Economics; Agricultural Production and Productivity; Cropping Pattern Shift, Resource Use and Efficiency; Factor Combination and Resource Substitution; Traditional Agriculture and its Modernisation; Role of Agriculture in Economic Development; Interdependence between Agriculture and Industry- some Empirical Evidence; Models of Interaction between Agriculture and the Rest of the Economy; Agricultural Development, Poverty and Environment.

ECO-CE-405.2 Land Reforms and Labour Market

Rural Labour Supply; Interlocking of Factor Markets; Mobility of Labour and Segmentation in Labour Markets; Marginalisation of Rural Labour; Nature, extent and Trends in Rural Unemployment; Agricultural Wages in India; Male-female Wage Differences; Non-agricultural Rural Employment- Trends and Determinants; Principles of Land Allocation; Land Distribution- Structure and Trends; Land values and Rents; Land Tenures and Farming Systems- Peasant, Capitalist, Collective and State Farming; Tenancy and Crop-Sharing: Forms, Incidents and Effects; Land Reform Measures and Performances; Problems of Marginal and Small Farmers.

ECO-CE-405.3 Rural Finance and Cooperation in India

Role of Capital and Rural Credit; Organised and Unorganised Capital Market; Rural Savings and Capital Formation; Characteristics and Sources of Rural Credit- Institutional and Non-institutional; Reorganisation of Rural Credit- Cooperatives, Commercial Banks, Regional Rural Banks, Role of NABARD; Cooperative Movement; Genesis and Growth of Cooperative Sector; Agricultural Cooperation in India- Problems and Prospects of Cooperative Institutions.

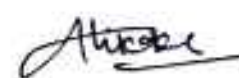
ECO-CE-405.4 Agricultural Marketing and Prices

Marketing and State Policy; Agricultural Markets and Marketing Efficiency- Marketing Functions and Costs; Market Structure and Imperfections- Integrated Markets, Marketed and Marketable Surplus; Behaviour of Agricultural Process- Collusion Model; Price and Income Stability- State Policy with respect to Agricultural Marketing, Warehousing, Prices; Taxation and Crop Insurance; Terms of Trade between Agricultural and Non-agricultural Sectors; Need for State Intervention; Objectives of Agricultural Price Policy- Instruments and Evaluation; Food Security in India and Public Distribution System; WTO and Indian Agriculture.

Course Outcomes

- Course provides knowledge agricultural background, farms and agro-business activities, agricultural finance and management.
- It introduces learner applied part of economics instead theoretical, which deals with allocation of land under various crops, specialization, diversification and other policy implications.
- Course offer relevant production and various techniques to understand agricultural production.
- cost-benefit analysis and enhance learner to make frontier-production function at least cost.


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HOD, Economics

C.B.C.S. COURSE STRUCTURE
P.G. Department of History
RAYAGADA AUTONOMOUS COLLEGE, RAYAGADA
SYLLABUS OBJECTIVE & OUTCOME
Session -2018-2020 & 2019-2021 & 2020-2022

SEMESTER-I
Core Course – 101

Paper – I
History of Ancients Societies and Civilization (World)

- This paper aims to introduce the students to the ancient western world and it gives the global historical perspective of the ancient world.
- Students will be able to examine institutional basis of Ancient world.
- To indicate multiple cultures (Greek, Rome, Persia, Hebrews etc) of Ancient world.
- Students will also able to illustrate the development of ancient civilization.

Core Course – 102

Paper – II
Political History of Ancient Indian from 6th Century B.C. to 1206 A.D.

- Student able to understand the key concept related to Ancient India.
- They take interest to read historical maps, biographies, and novel related to Ancient period.
- They take interest to visit historical place and understand ancient India through caves, Temple, Art Architecture.
- They develop ability of critical and logical thinking of Indian society.

Core Course – 103

Paper – III
Social, Cultural and Economic History of Ancient India
(From Pre-Historic Times to 1206 A.D.)

- Students of history knowing the importance of Sources of History.

- Student acquire knowledge of various term, concept related to Indian society and Varna system
- Student able to understand the Coinage system during Ancient period.
- They collect Art, coins, other material related to Ancient History.
- Students have understood Cultural development during the Mauryas.

Core Course – 104

Paper – IV

Rise of Modern West

- Students of history will learn about the rise of the modern west world and transition the society and economy from feudalism to capitalism.
- They will learn how to rise of Renaissance in Italy and spread of humanism in Europe and results of the European Reformation in the 16th century and Shift of economic.
- Students able to understand the Agrarian Revolution & Industrial Revolution in England-Causes, Major Inventions, Effects etc.

Core Course – 105

Paper – V

International Relations from- 1919 to 1939

- Students gained knowledge about political history of modern world.
- Students are able to understand the Problem of Disarmament, How Fascist Italy & Nazi Germany responsible for second world war.
- Students of history will learn Aim & Objective of League of Nations.

SEMESTER-II

Core Course – 201

Paper – VI

Political History of Medieval India from 1206 A.D. to 1757 A.D.

- Students of history will learn about the foundation, expansion and consolidation of the Sultanate of Delhi and also to the downfall of the Delhi Sultanate.
- They will learn towards the emergence of provincial dynasties & Consolidation of regional identities like, Bahamanis, Vijayanagar and Bengal.

- They also acquire the knowledge about the Changing scenarios of the urban and rural societies after consolidation of the rule of the Sultanate of Delhi.
- They can learn about the activities of Delhi Sultanate and their revenue systems monetization, market regulations, growth of urban centers, trade and commerce, Indian Ocean trade etc.
- Students of history also learn about the foundation, expansion and consolidation of the mughal rule in India and also they learn the disintegration of mughal rule.

Core Course – 202

Paper – VII

Social, Cultural and Economic History of Medieval India from 1206 A.D. to 1757 A.D.

- Students acquire knowledge towards the Turkey's invasion & Struggle for Empire in North-Western India and foundation of the Mughal Rule in India.
- Students will learn about the Mugham Indian society, economy and culture after consolidation of the Mughal rule India.
- They will learn about how the Regional Powers had been raised in different parts of India after downfall of the Mughal Empire of Delhi.
- They can gather knowledge to the downfall of the Mughal Empire only lack of unity among the Mughal courtiers and resulted to raise provincial kingdoms in Bengal, Hyderabad, Ayodhya, Mysore and Maratha in Western India.
- They can acquire knowledge towards the polity, economy, Religion, Art, Architecture and Society during Mughal rule in India.

Core Course – 203

Paper – VIII

History of Freedom Movement in India from 1885 A.D. to 1947 A.D.

- Students will learn the real historiography of Indian Nationalism, Birth of Indian National Congress, the Moderates and the Extremists, Partition of Bengal, the Swadeshi movement in Bengal in 1905

- To rise of Gandhi's power in Indian politics and his activities towards the freedom like, Rowlatt Satyagraha, Khilafat and Non-co-operation movement, The Swaraj party, Poona Pact, Civil Disobedience Movement, Quit India Movement.
- To raise communal politics and opposition politics on the eve of the freedom movement in India and aftermath of partition in India.

Core Course – 204

Paper – IX

History of Europe from 1789 A.D. to 1914 A.D.

- Students acquire knowledge about the French Revolution and its impact of European countries. Unity and power makes people to strength which has showed in the French revolution in 1789.
- The politics of super power among the European countries. How the sense regarding the nationalism and unification had developed among the European countries on eve of the First World War.
- Students will learn about the consolidation of Napoleon Bonaparte, Reforms and Foreign policy.

Core Course – 205

Paper – X

History of Europe from 1939 A.D. to 2000 A.D.

- Students acquire knowledge how Italy and Germany's aggressive foreign policy which influenced to form opposition allied powers of the world. Gradually, the 2nd world war had occurred and the UNO was established aftermath of the war which affected to the world politics. Ultimately, the world became divided into two super powers i.e. USSR and associate countries on the other hand USA and their associate powers.
- Students have understood the problems of contemporary world in the light of its background history
- Students will learn about the Regional Security and military Alliances: NATO, CENTO, WARESAW PACT, ASEAN, SEATO.
- Student gathered knowledge about Indian Foreign Policy, Emergence of India as a Nuclear State and India in Non Aligned Movement.

SEMESTER-III
Core Course – 301
Paper – XI

Political History of Modern India from 1757 A.D. to 1885 A.D.

- Students learn how to establish the Company's Rule in India after the battle of Plessey, their Administrative, Military, Police and Educational Reforms.
- They will also acquired knowledge about the renaissance and socio-religious reforms movement occurred by Rammohan Roy Brahma Samaj, and Dayananda Saraswati's Arya Samaj.
- Students gathered knowledge about Reforms of Lord Ripon, Lord Curzon, Warren Hastings, Lord Cornwallis and Reforms of Lord Dalhousie.
- Students also learn about the Revolt of 1857 and the government of India act 1858.

Core Course – 302
Paper – XII

Social, Cultural and Economic History of Modern India from 1757 A.D to 1947 A.D.

- Student will gather knowledge towards the changing scenarios of the social-cultural and economic life up to 19th Century.
- They acquire knowledge about the Missionaries activities and influence on the contemporary society this led to raise renaissance in Bengal.
- Students have understood the Economic History during the colonial period Agrarian Policy, Land settlement, Zamindari system and Ryotwari system, Commercialization of agriculture in India.
- The Student also learns about the Indian press under colonial rules, Period of Struggle between the press and government Vernacular Press Act 1878. Newspaper Act. 1908. Indian Press Act, 1910, The Indian Press Act – 1931, & Emancipation of women, abolition of sati and Female infanticide.

Core Course – 303
Paper – XIII
Research Methodology

- Students are able to analyze and evaluate of historical information from multiple Sources.

- Students applied techniques and methods like analytical operation for identifying the primary and secondary sources.
- Students got exposure to research methodology and presentation.
- Students developed critical thinking through evolution of the record of the past and understood how historians and others have interpreted.
- Student will gather knowledge about Analytical Operations, Synthetic Operations, Concluding Operations, Principles of Historical Imagination and Observation.

Core Course – 304

Paper – XIV

Political History of Odisha from the beginning to 1568

- Student will gather knowledge about different name of ancient Odisha -Odra, Kosala, Utkal, Tosali, Kalinga, Kangoda and its geographical location.
- Students can know about the career and achievements of Kharavela.
- Student also learns about the Kalinga War, its Causes and effects. How it popularized Buddhism became a world religion after patronized by Ashok.
- They acquire knowledge about the different dynasties of Odisha- Sailodbhabas, Bhaumakaras, Somavamsis, Later Gangas and Suryavamsis Gajapati rule in Odisha.

Core Course – 305

Paper – XV

Political History of Odisha from 1568 A.D. to 1947 A.D.

- Student will gather knowledge about Downfall of the Odisha Kingdom and rise of Afgans, Mughals & Marathas power in Odisha.
- They acquire knowledge about after British Conquest of Odisha different resistance against the British rule-Paik rebellion, Ghumusar rebellion, and Sambalpur rebellion.
- Students also know about the Utkal Salmini & creation of Odisha as a separate province the role of madhusudan Das and Krushna Chandra Gajapati.

SEMESTER-IV
Core Course – 401

Paper – XVI

History Application in Tourism

- Student will gather knowledge about Understanding Tourism-Definitions, forms. Traveler and Tourist, Purpose of visit, means of transport, Tourism Accommodation.
- They acquire knowledge about History of Tourism in India-Travel in Pre-Historic times, Travel in Middle Age, Development of Early and Modern Transportation system.
- Students got exposure Organization of Tourism-Role of the Government, Need for organization, Factors, the National Tourist organization, U.N. conference Recommendations, World Tourism organization, Pacific-Asia Travel Association.
- Students also know about the the Odisha State Museum and important place like Hari Sakar – Dist – Bolangir, Jaugad – Dist Ganjam, Gupteswar – Dist Koraput.
- Students also know about the Guides and Escorts: Definition and Role of a Guide Guiding as a technique, leadership factual knowledge, personality, Communication skill, command in language etc.

Core Course – 402

Paper – XVII

Historiography

- The Students of history able to know about Nature and Scope of History.
- Students have understood concept of Historiography and its different perspectives.
- Students have understood the basics of research, do's and don'ts and its methodology.
- Students will understand philosophy of Ancient Historiography, Medieval Historiography, Modern Historiography and Positive Historiography.
- Student will gather knowledge about themes in Indian History by studying art of writings of several historians.

Core Course – 403
Paper – XVIII
History of Science & Technology in India

- This course is intended to introduce students to the history of science and technology in Ancient India and to familiarize them with the major developments in different branches of science.
- Student will gather knowledge after the completion of the course, the students will have a comprehensive understanding of the development of science and technology in different fields in ancient India.
- The Students of history able to know Pioneer Indian Scientists and their contributions.
- Students have understood Development of Science in pre-historic period Technology, pre-Colonial India and Colonial India.

Core Course – 404
Paper – XIX
Social, Cultural and Economic History of Odisha up to 1568 A.D.

- Student will gather knowledge Salient feature of Odishan Art, Architecture, Sculpture, Painting, Rock Art, Temple Architecture etc.
- The Students of history able to know Condition of Women during Ancient & Medieval Period.
- They acquire knowledge about the religious belief and condition of Odisha.
- Students have understood the development of education and literature of Odisha History.

Core Course – 405
Paper – XX
Project Works & Viva Voce

COURSE OUTCOME FOR HISTORY STUDENTS

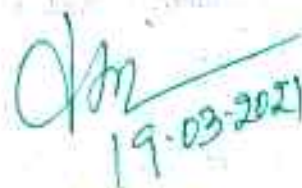
After completion of this course it helps to grow ethical values among history students. They gathered knowledge about the socio-cultural heritage of India and world as well. This course helps to grow intellectual values among history students and to develop liberal values

among them. As a branch of social science, this course helps to develop social values among history students.

Above all, it helps to grow national and international understanding among history students. Careers of history students can engage as educators in elementary schools, secondary schools and post secondary, historic Sites and Museums etc. as a researcher they will associated in several fields like, Museums and Historical Organizations, Cultural Resources Management and Historic Preservation etc. this course provides to the students as communicator like, Writers and Editors, Journalists, Documentary Editors and Producers of Multimedia Material.

History Student can employ as Information Manager in different fields i.e. Archivists, Records Managers, Librarians and Information Managers. They will engage as Lawyer like, Lawyers and Paralegals, Litigation Support, Legislative Staff Work and Foundations. They might be involved in Business Associates as Historians in Corporations or Contract Historians, Historians and Nonprofit Associations. They may directly engage in different ranks of the Archaeological Survey of India according to their performances like as Heritage Manager, Historic buildings inspector or conservation Officer, Museum Education Officer etc.




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COURSE OUTCOME

**P.G. DEPARTMENT
OF
LIFE SCIENCES**

**RAYAGADA AUTONOMOUS COLLEGE
RAYAGADA**

Life Sciences Program Outcome

The Life Sciences Program at the Rayagada Autonomous College provides grounding in the biological sciences for the all life science students. The goal of the Life Sciences Program curriculum is to expose students to four key areas:

- Acquisition, Application and Synthesis of Knowledge about biological sciences.
- Communication Skills
- Critical Thinking and Problem Solving
- Research Skills

Life Sciences Program curriculum will address these goals at the appropriate level.

M.Sc. Life Sciences

Sl. No.	CLASS/ SEMESTER	Name of the Course/Course Code/Title	Course Outcome
1	POSTGRADUATE FIRST YEAR SEMESTER-I	M.Sc. Life Sciences ML-CC-101 BIOPHYSICS AND BIOCHEMISTRY	- To get the knowledge about the basic fundamentals of biophysics and biochemistry. - Students can understand structure and composition of proteins and enzymes. - Students can get the knowledge about thermodynamic laws. - To get detailed idea about different metabolic pathways.
2		M.Sc. Life Sciences ML-CC-102 CELL BIOLOGY AND MICROBIOLOGY	- This course introduces the students to the basics of cell and its components. - This gives them a strong foundation on the basic unit of life. - The student has a strong foundation on the functions of the cell. - The student has understanding on the metabolism and mechanism of microbial life
3		M.Sc. Life Sciences ML-CC-103 GENETICS AND EVOLUTION	- Students get knowledge about Mendelian genetics, their principles and gene interaction. - They learn about chromosomal aberrations and structure of chromosomes - To understand the extra chromosomal inheritance. - To get the knowledge about the patterns of evolution and fossilization.
4		M.Sc. Life Sciences ML-CC-104 PRACTICAL CELL BIOLOGY AND MICROBIOLOGY	- To get the Practical knowledge about the squashing techniques - To understand the Human karyotype. - Micrometry analysis of cell size - To get the idea about different sterilization techniques and culture techniques.
5		M.Sc. Life Sciences ML-CC-105 PRACTICAL GENETICS AND EVOLUTION	- To analyze the test cross data and mapping the chromosome. - To get the practical knowledge about gene interaction. - To know the process of evolution basing fossil records

6	POSTGRADUATE FIRST YEAR SEMESTER-II	M.Sc. Life Sciences ML-CC-201 ECOLOGY AND BIOSTATISTICS	• This course imparts the knowledge of basic statistical methods to solve problems. • The students learn about ecology, population ecology and different environmental pollutions. • At the end of the course the students have a clear understanding on the importance of ecosystem
7		M.Sc. Life Sciences ML-CC-202 MOLECULAR BIOLOGY, BIOTECHNIQUES	• The course teaches the students about genes at molecular level. • To learn about molecular models of DNA, RNA and their replication. • To get the knowledge about the operon concept, Constitution of Eukaryotic genome, • To get the knowledge about the biomolecular techniques like microscopy, chromatography, centrifugation, spectroscopy, electrophoresis etc.
8		M.Sc. Life Sciences ML-CC-203 BIOTECHNOLOGY	• Students have the clear idea about basic tools in biotechnology. • To learn about different tissue culture techniques. • To clarify the concept and strategies of cloning vectors and their gene transfer techniques. • To get the knowledge about the different applications of biotechnology
9		M.Sc. Life Sciences ML-CC-204 PRACTICAL ECOLOGY AND BIOSTATISTICS	• Students can get practical knowledge about different ecological parameters • To get the practical knowledge about the statistical data interpretation in daily life sequences.
10		M.Sc. Life Sciences ML-CC-205 PRACTICAL BIOTECHNIQUES, MOL. BIOLOGY & BIOTECHNOLOGY	• To get the practical knowledge about the different techniques used in biotechnological studies. • To get the practical knowledge about the extraction and estimation of DNA and RNA, estimation of protein contents, gel electrophoresis and chromatography techniques.

11	POSTGRADUATE SECOND YEAR SEMESTER-III PLANT SCIENCE	M.Sc. Life Sciences MLB-CC-301 PLANT MORPHOLOGY AND TAXONOMY	• To get knowledge about different types of algae, their life processes and importance in various fields. • To get the knowledge about critical understanding on morphology, anatomy and reproduction of Bryophytes, Pteridophytes and Gymnosperms. • To get the knowledge about the origin and evolution of angiosperms. • Interpret the rules of ICN in botanical nomenclature. • To describe the affinities and phylogeny of monocots and dicots families.
12		M.Sc. Life Sciences MLB-CC-302 PLANT PHYSIOLOGY	• To describe about the Plant-water relations. • To explain the significance of Photosynthesis and photorespiration. • Explain chemical properties and deficiency symptoms in plants • To explain signal transduction and sensor regulatory system used in plant processes. • To know the types of stresses and their regulatory mechanisms.
13		M.Sc. Life Sciences MLB-CC-303 PLANT METABOLISM	• To know the knowledge about the all metabolic pathways. • To understand the lipid metabolism, nitrogen metabolism, carbohydrate metabolism.
14		M.Sc. Life Sciences MLB-CC-304 PRACTICAL PLANT MORPHOLOGY, TAXONOMY	• To get the practical knowledge about the anatomical, morphological structures of algae, fungi, bryophyte, Pteridophyte and gymnosperm. • To study and identify the different flora of locals by the help of flora books.
15		M.Sc. Life Sciences MLB-CC-305 PRACTICAL PLANT PHYSIOLOGY & METABOLISM	• To demonstrate the physiological processes by using different techniques. • To examine the photosynthesis in different conditions by the Wilmot's Bubbler

16	POSTGRADUATE SECOND YEAR SEMESTER-III ANIMAL SCIENCE	M.Sc. Life Sciences MLZ-CC-301 BIOLOGY OF NON-CHORDATA	• The course provides students with an in-depth knowledge of the diversity in form, structure and habits of non-chordates. • To understand the non-chordate evolutionary relationship. • To gain knowledge of the social life and economic importance of insects.
17		M.Sc. Life Sciences MLZ-CC-302 BIOLOGY OF CHORDATA	• Students can acquire knowledge on chordate origin and phylogenetic relationship. • Understand the importance of connecting link animals and their evolutionary significance. • To learn about parental care exhibited by fishes and amphibians.
18		M.Sc. Life Sciences MLZ-CC-303 ETHOLOGY AND DEVELOPMENT BIOLOGY	• To study the migration, orientation, social and reproductive behavior of different animals. • To study various stages involved in the developing embryo. • To understand the process of organogenesis, development of extra embryonic membrane and the nature and physiology of placenta. • To aware the students about totipotency, animal tissue culture, birth control methods, infertility, apoptosis and regeneration. • To know the process of induction and competence.
19		M.Sc. Life Sciences MLZ-CC-304 PRACTICAL NON-CHORDATA & CHORDATA	• To understand the anatomy of non-chordates and chordates by dissection with reference to nervous system and circulatory system, respectively. • To enhance the dissection skill method among the students.
20		M.Sc. Life Sciences MLZ-CC-305 PRACTICAL DEVELOPMENT BIOLOGY AND ANIMAL PHYSIOLOGY	• It helps the student to get a view about the chemical compositions of different macromolecules such as carbohydrate, protein and fat. • To study and observe different stages of chick embryo at various hours of its development.

21	POSTGRADUATE SECOND YEAR SEMESTER-IV PLANT SCIENCE	M.Sc. Life Sciences MLB-CC-401 PLANT ANATOMY AND DEVELOPMENTAL BOTANY	- To understand the scope & importance of Anatomy and Embryology. - Students able to understand the normal and anomalous secondary growth in plants and their causes. - To get the knowledge about microsporogenesis and megasporogenesis. - Students acquire the knowledge of fertilization, types of endosperm and embryogeny.
22		M.Sc. Life Sciences MLB-CC-402 PRACTICAL PLANT ANATOMY, DEVELOPMENTAL BOTANY	- To acquire knowledge on anatomy and developmental biology of the plants. - Students get adequate knowledge in internal structure of anther, L.S. of ovule, types of ovules and dicot embryo dissection. - To realize the applications of palynology in human welfare
23	POSTGRADUATE SECOND YEAR SEMESTER-IV ANIMAL SCIENCE	M.Sc. Life Sciences MLZ-CC-401 ANIMAL PHYSIOLOGY, IMMUNOLOGY, AND TAXONOMY	- To gain knowledge about the physiological processes like digestion, respiration, and excretion. - Students can get knowledge about neurobiology, neurophysiology and molecular biology. - Imparts in depth knowledge of tissues, cells and molecules involved in host defense mechanisms. - Interactions of antigens, antibodies, complements and other immune components. - To know about the basic concept of biosystematics, rules of nomenclature and classification and procedure in taxonomy.
24		M.Sc. Life Sciences MLZ-CC-402 PRACTICAL ANIMAL PHYSIOLOGY, IMMUNOLOGY AND TAXONOMY	- Students gain practical knowledge of animal physiology. - Skill development for the observation of blood cells and haemin crystals. - To learn about the tools and methods used for animal physiological experiments, practical skills of conducting basic clinical lab experiments.

25	POSTGRADUATE SECOND YEAR SEMESTER-IV PLANT/ANIMAL SCIENCE	M.Sc. Life Sciences ML-CC-403 SPECIAL PAPER ENVIRONMENTAL BIOLOGY	• Apply the scientific method and quantitative techniques to describe, monitor and understand environmental systems. • Use interdisciplinary approaches such as ecology, ethics and policy to devise solutions to environmental problems. • To aware the students about environmental issues such as pollution, climate change and loss of biodiversity. • To know about the significance of native biodiversity, need for its conservation and management. • To educate students about the Environment protection laws, pest control methods, sewage and solid waste management.
26		M.Sc. Life Sciences ML-CC-404 SPECIAL PAPER PRACTICAL	• To acquire practical knowledge of determination of pH, salinity, dissolved oxygen content, moisture content of given samples. • To study the biotic and abiotic components of ecosystem and ecological adaptations of plants and animals. • To enhance practical knowledge of analysis of soil of a pond and population density.
27		M.Sc. Life Sciences ML-CC-405 SEMINAR PRESENTATION AND PROJECT REPORT	• To develop ability for scientific inquiry and critical thinking, ability in the knowledge base and communication. • To improve the presentation skill. • To develop the further research ability to the students.


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 HOD
 PG Department of Life Sciences

Department of Chemistry (PG)

Class	Course/Course Code/Title	Course Objective and Outcome
F.Y.M.Sc Semester I	CHE-CC-101	This course gives the basics of organic chemistry with an in-depth understanding of a broad range of basic organic reactions such as substitution, addition-elimination reactions, fundamental prospective such as idea of reaction intermediates, drawing reaction mechanism, name reactions-rearrangement, organic photochemistry, understanding stereochemistry with conformations.
	CHE-CC-102	This course gives an in-depth understanding of a broad range of basics of inorganic chemistry. The course will give an overall understanding of bonding theory such as VBT, MOT; Metal-Ligand Equilibria in Solution Nuclear Chemistry.
	CHE-CC-103	This course will provide the basic concept of the structure, behaviour of molecule and chemical phenomena at the microscopic level.
	CHE-CC-104	This course gives an in-depth understanding of a broad range of basics of molecular spectroscopy. The student will learn about microwave, vibrational, Raman, and photoelectron spectroscopy. In addition student will learn the application of EPR and Mossbauer spectroscopy.
	CHE-CC-105	This is a basic organic chemistry practical course. In this laboratory course, students would be able to use their knowledge of chemical reactivity to plan and execute the preparation of compounds using various C-C and C-hetero bond-forming reactions and various organic transformations from commercially available starting materials. Upon completion of this laboratory course, the students would also get confidence on working independently and characterize the synthesized compounds using various modern techniques.
F.Y.M.Sc Semester II	CHE-CC-201	This course gives an in-depth understanding of reaction mechanisms i.e., aliphatic, aromatic nucleophilic, electrophilic substitutions, reduction, oxidation, addition and elimination reactions.
	CHE-CC-202	The students will learn regarding Spectral and Magnetic Properties of Transition Metal Complexes, Reaction Mechanism of Transition Metal Complexes, Metal fl-Complexes and Rings, Cages and Metal Clusters.
	CHE-CC-203	This course will provide the knowledge of thermodynamics and its relation to microscopic physical laws. The course also gives understanding of mechanism of chemical processes.
	CHE-CC-204	The student will learn how to identify an organic molecule through organic spectroscopy. The student should be able to know application of spectroscopy for unknown compound identification by Combined UV, IR, Mass and NMR spectroscopy.

CHE-CC-205	The student will learn the practical knowledge for Qualitative analysis of mixtures containing not less than six radicals, volumetric estimation of metal including magnetic state determination and preparation of inorganic metal complexes.
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Class	Course/Course Code/Title	Course Objective and Outcome
F.Y.M.Sc Semester III	CHE-CC-301	This course gives an in-depth understanding of pericyclic reactions, name reaction, molecular rearrangement and organometallic compounds.
	CHE-CC-302	This course gives an idea of disconnection approach, retrosynthesis, heterocyclic compounds and synthesis reagents.
	CHE-CC-303	This course will help to the students to get the knowledge the use of chemistry in their day to day life such as in medicine, agriculture, food stuffs and in their balanced diets.
	CHE-CC-304	This course gives an in-depth understanding of a broad range of environmental chemistry such as environmental processes, pollution, chemical analysis and natural resources.
	CHE-CC-305	The student will learn practical knowledge of physical and analytical chemistry.
F.Y.M.Sc Semester IV	CHE-CC-401	The student will get knowledge from advanced electrochemistry, surface chemistry and solid state chemistry.
	CHE-CC-402	The student will learn Thermal & Electrical methods of analysis, Atomic Absorption Spectroscopy, Data Analysis & Analysis of Food and Drugs.
	CHE-CC-403	The student will learn about Bioinorganic Chemistry of Alkali and Alkaline Earth Metals, Metalloproteins, Metalloenzymes; Supra molecular Chemistry.
	CHE-CC-404	The student will work in real in some state laboratory or at Rayagada Autonomous College as well as District Agriculture Office Lab, Pollution Control Board Lab and nearby industries of Rayagada such as Lab such as JK Paper, IMFA, Utkal Alumina and Vedanta of his/her choice. The student will inform ahead regarding where she/he is interested to work, provided with a consent letter from respective supervisor.

CHE-CC-405

The students will get analytical practical experience using instruments such as pH meter, Colorimeter, Conduct meter, Potentiometer and Spectrophotometer.

HOD of Chemistry

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Department of Physics
Rayagada Autonomous College, Rayagada

Course: M. Sc. (Physics)

Course outcomes for Post Graduate Program in Physics

PROGRAMME OUTCOMES (POs):

1. The basic concepts of core areas of Physics especially in mathematical Physics, electromagnetism, classical mechanics, statistical mechanics, condensed matter physics ,nuclear physics ,particle physics and quantum mechanics for unravelling the diverse phenomena observed in nature.
2. Perform the general Physics and research oriented experiments with appropriate analysis for proper interpretation of results; to undertake individual project and present the research findings
- 3.Independently carry out research / investigation to solve practical problems and write / present a substantial technical report/document
4. Having a clear understanding of the subject related concepts and of contemporary issues.
- 5.Having problem solving ability- to assess social issues (societal, health, safety, legal and cultural) and engineering problems.
- 6.Having a clear understanding of professional and ethical responsibility.
7. Having cross cultural competency exhibited by working as a member or in teams.
8. Having computational thinking (Ability to translate vast data in to abstract concepts and to understand database reasoning.
9. Having critical thinking and innovative skills
- 10 . Having a good working knowledge of communicating in English.

Course Outcomes

Title of the Paper :Mathematical Methods in Physics

Course code :PHY-101

Semester:1st

This paper enables the students to understand :

CO1:Learn about complex analysis ,contour integral ,Laurent series application in physical problems ,use of residue theorem .

CO2: To get knowledge about tensors and its classification ,application of tensor in physical problems .

CO3: To get knowledge about Group theory and its analytical application in Quantum Mechanics .

CO4:Use of special function ,Fourier and Laplace Transform in Physics .

Title of the Paper :Classical Mechanics

Course code :PHY-102

Semester:1st

This paper enables the students to understand :

CO1: Kinematics and dynamics of rigid body in detail and ideas regarding of Euler's equation of motion .

CO2: To learn about calculation of variation and its application to Hamilton's equations of motion .

CO3: To get knowledge about canonical transformation ,Poisson bracket,phase space coordinate system and principle about Liouville's theorem

CO4: To learn detail about Hamilton Jacobi Theory ,Action angles .

CO5: To get knowledge about small oscillations ,normal coordinates .

Title of the paper : Computer Programming and Numerical Analysis

Course code:CC-PHY-103

Semester :1"

This paper enables the students to understand ;

CO1: To get knowledge about Fortran Language and its numerical application in Physics .

CO2: To learn about different methods to solve linear and transcendental equations .

CO3: To apply different method to find eigen values and egen vectors .

CO4: To get basic knowledge about interpolation and extrapolation .

CO5: Use of Numerical integration like Trapezoidal rule and Simpson's rule .

Title of the paper : Quantum Mechanics-I

Course code:CC-PHY-104

Semester :1"

This paper enables the students to understand ;

CO1: To get knowledge about linear algebra and its mathematical application in quantum mechanics.

CO2: To get knowledge about quantum dynamics .

CO3: To get detail knowledge about orbital angular momentum in quantum mechanics .

CO4: To get knowledge about spin angular momentum

CO5: To get knowledge about addition of angular momenta and C.G coefficients .

Title of the paper : Computer Programming in Physics (Lab)

Course code:CC-PHY-105

Semester :1st

On completion of this course , students to should be able to understand ;

CO1: To get knowledge about computational physics .

CO2: To develop simulation skill in physics.

CO3:Experince with programming language Fortran .

CO4: Identify and describe the characteristics of various numerical methods

CO5: Use the tools ,methodologies ,languages and conventions of physics to test and communicate ideas and explanations .

Title of the paper : Classical Electrodynamics

Course code:CC-PHY-201

Semester :2nd

On completion of this course , students to should be able to understand ;

CO1:To explain and solve advanced problems based on classical electrodynamics using Maxwell's equation.

CO2: The students will be able to analyze radiation system in which the electric dipole ,magnetic dipole or electric quadrupole dominate.

CO3:The students will have an understanding of the covariant formulation of electrodynamics and the concept of retarded time for charges undergoing acceleration .

CO4: Various concepts of scattering application in electron .

Title of the paper : Basic Nuclear Physics

Course code:CC-PHY-202

Semester :2nd

On completion of this course , students to should be able to understand ;

CO1:To get knowledge about nuclear structure and its properties .

CO2: To get detail knowledge about nuclear force and scattering

CO3:To get the knowledge about the different nuclear reactions and concept about nuclear fission and fusion

CO4: To detail knowledge about different type of nuclear models .

Title of the paper : Basic Solid State Physics

Course code:CC-PHY-203

Semester :2nd

On completion of this course , students to should be able to understand ;

CO1:To get knowledge about crystal structure and its properties .

CO2: Behaviour of electron in solids including the concept of energy band and concept about metal and insulators .

CO3:To get the knowledge about the electrical, thermal and dielectric properties of solids

CO4: To detail knowledge about different type defects in solids.

Title of the paper : Quantum Mechanics -II

Course code:CC-PHY-204

Semester :2nd

On completion of this course , students to should be able to understand ;

CO1:To get knowledge about application of Schrodinger equation for Hydrogen atom .

CO2:Application of approximation methods and scattering theory .

Title of the paper : Optics (Lab)

Course code:CC-PHY-205

Semester :2nd

On completion of this course , students to should be able to understand ;

CO1:To perform different experiments on optics using Michelson interferometer, Babinet compensator

CO2: To get practical knowledge about spectroscopy .

Title of the paper : Relativistic Quantum Mechanics and Field Theory

Course code:CC-PHY-301

Semester :3rd

On completion of this course , students to should be able to understand ;

CO1: Important of relativistic quantum mechanics compared to non relativistic quantum mechanics

CO2: Various tools to understand field quantization and related concepts .

CO3: Exposure to quantum field theory and field quantization .

Title of the paper : Electronics

Course code:CC-PHY-302

Semester :3rd

On completion of this course , students to should be able to understand ;

CO1: To get knowledge about formulate different type amplifies and oscillating circuits .

CO2: Identify it major properties and main types op-amps circuits .

CO3: To design and concepts about digital circuits .

Title of the paper : Condensed Matter and Materials Physics-I

Course code:CC-PHY-303

Semester :3rd

On completion of this course , students to should be able to understand ;

CO1: To get knowledge about Phonons lattice vibration .

CO2: To get knowledge about theory about Hartee -Fock approximation and Density functional theory .

CO3: To get detail knowledge about superconductivity .

Title of the paper : Atomic and Molecular Spectra

Course code:CC-PHY-304

Semester :3rd

On completion of this course , students to should be able to understand ;

CO1: To get knowledge about atomic spectra of one and two valence electron atoms.

CO2: To get knowledge about theory about the change in behaviour of atoms in external applied electric and magnetic field .

CO3: To get detail knowledge rotational, vibrational electronic and Raman spectra of molecules .

Title of the paper : Modern Physics Lab

Course code:CC-PHY-305

Semester :3rd

On completion of this course , students to should be able to understand ;

CO1: calculate Planck's constant and using GM counter characterise Geiger tube ,verify inverse square law .

CO2: Design different logic gates

CO3: Characterise FET

Title of the paper : Statistical Mechanics

Course code:CC-PHY-401

Semester :4th

On completion of this course , students to should be able to understand ;

CO1: Connection between statistics and thermodynamics .

CO2: Different ensemble theories to explain the behaviour of the system.

CO3: Difference between classical and quantum statistics

CO4:Statistical behaviour of Ideal fermi and Bose system .

CO5: Concept about phase transition , Ising model .

Title of the paper : Elementary Particle Physics

Course code:CC-PHY-402

Semester :4th

On completion of this course , students to should be able to understand ;

CO1: Classification of elementary particles .

CO2: To get knowledge about discrete symmetry .

CO3: To get knowledge about unitary symmetry .

Title of the paper : Condensed Matter and Materials Physics -2

Course code:CC-PHY-403

Semester :4th

On completion of this course , students to should be able to understand ;

CO1: To get detail knowledge about optical properties of matter and Laser .

CO2: To get knowledge about magnetic properties of matter .

CO3: To get knowledge about Novel materials .

Title of the paper : Condensed Matter and Materials Physics Lab

Course code:CC-PHY-404

Semester :4th

On completion of this course , students to should be able to understand ;

CO1: To perform different experiment on solid state physics .

CO2: To calculate energy gap of semiconductor material ,

CO3: To calculate specific heat of given sample and find dielectric constant of given sample .

Title of the paper :Project and Seminar

Course code:CC-PHY-405

Semester :4th

On completion of this course , students to should be able to ;

1. Individual or group projects can be taken up
2. Involve in literature survey in the chosen field
3. Use Science principles to solve identified issues
4. Adopt relevant and well-defined / innovative methodologies to fulfil the specified objective
5. Submission of scientific report in a specified format (after plagiarism check).

20/3/2021
HOD ,Physics
(in charge)

03/03/2021
Principal
Principal
Rayagada Auto College
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LEARNING OUTCOMES OF PG (MATHEMATICS)

SEMESTER	SUBJECT	LEARNING OUTCOMES
I	CC101(PARTIAL DIFFERENTIAL EQUATIONS)	After completing this course, a student will be able to take more courses on wave equation, heat equation, diffusion equation, gas dynamics, non linear evolution equations etc. All these courses are important in engineering and industrial applications for solving boundary value problem.
	CC102(TOPOLOGY)	To generalize the concept of distance, open sets, closed sets and related theorems in real line and to learn basic concepts in Metric Spaces, Topological Spaces, compact spaces and connected spaces
	CC103(ALGEBRA-1)	To introduce the concepts Groups, Permutation groups, Direct product of groups, Rings, Euclidean Rings, Polynomial Rings and some related theories and to develop working knowledge of these concepts and also skills for applying them in number theory and construction of certain fields.
	CC104(ELEMENTARY COMPLEX ANALYSIS)	To introduce and develop the fundamental concepts of complex analysis such as analytic functions, Cauchy-Riemann relations and harmonic functions etc., To study Cauchy integral formula, general form of Cauchy theorem, the Fundamental theorem of Algebra, Maximum module Principle., To enable students to acquire skills of contour integration to evaluate definite integrals involving sines and cosines via residue calculus
	CC105(NUMERICAL ANALYSIS AND ITS APPLICATION)	i) Obtain numerical solutions of algebraic and transcendental equations. ii) Find numerical solutions of system of linear equations and check the accuracy of the solutions. iii) Learn about various interpolating and extrapolating methods. iv) Solve initial and boundary value problems in differential equations using numerical methods. v) Apply various numerical methods in real life problems.
II	CC201(ABSTRACT MEASURE)	To develop skills and to acquire knowledge on basic concepts of Lebesgue Measure, The Lebesgue Integral, Measurable Functions, L_p spaces, Minkowski

		inequalities, Holder inequalities, Convergence and completeness.
	CC202(ADVANCED COMPLEX ANALYSIS)	Metric spaces (in particular, the complex plane). • Analytic functions, Cauchy-Riemann differential equations, harmonic functions. 5 • Power series, zeros, singularities. • Cauchy's theorem, Cauchy's integral formula, and applications. • Cauchy's residue theorem, and applications. • Mobius transformations. • Riemann mapping theorem.
	CC203(ALGEBRA –II)	Concept of group action and theorems about group actions. • Structure of permutation groups. • Polynomial rings, EDs, PIDs, & UFDs, and relations among them. • Universality of Polynomial rings Skills gained: • Solving problems using the powerful concept of group action. • Facility in understanding the structure of a problem where the problem involves a permutation group - e.g. nature of the roots of a polynomial equation. • Ability to understand a large class of commutative rings by regarding them as quotients of polynomial rings by suitable ideals.
	CC204(MATHEMATICAL STATISTICS)	1) compute the probabilities of composite events using the basic rules of probability. 2) demonstrate understanding the random variable, expectation, variance and distributions. 3) explain the large sample properties of sample mean. 4) understand the concept of the sampling distribution of a statistic, and in particular describe the behavior of the sample mean 5) analyze the correlated data and fit the linear regression models. 6) demonstrate understanding the estimation of mean and variance and respective one sample and two-sample hypothesis tests.
	CC205(C PROGRAMMING AND PRACTICAL)	The aim of this course is to provide adequate knowledge of fundamentals of computer along with problem solving techniques using C programming. This course provides the knowledge of writing modular, efficient and readable C programs. Students also learn the utilization of arrays, structures, functions, pointers and implement these concepts in memory management. This course also teaches the use of functions and file systems. General
III	CC-301(FUNCTIONAL ANALYSIS)	Upon completion of this course, the student will be able to: 1) Understand the normed linear spaces, Banach space and Dual spaces 2) Understand inner product spaces, orthogonality and Hilbert spaces. 3) distinguish between finite and infinite dimensional spaces. 4) apply linear operators in the formulation of differential and integral equations.

		codes.
	CC-403(FLUID DYNAMICS)	Understand the basic principles of fluid mechanics, such as Lagrangian and Eulerian approach, conservation of mass etc. 2) Use Euler and Bernoulli's equations and the conservation of mass to determine velocity and acceleration for incompressible and inviscid fluid. 3) Understand the concept of rotational and irrotational flow, stream functions, velocity potential, sink, source, vortex etc. 4) Analyse simple fluid flow problems (flow between parallel plates, flow through pipe etc.) with Navier - Stoke's equation of motion. 5) understand the phenomenon of flow separation and boundary layer theory.
	CC-404(DISCRETE MATHEMATICAL STRUCTURE)	To develop skills and to acquire knowledge on some of the basic concepts in Truth tables, Tautology and contradiction, Tautological implication, variables and quantifiers, Logic, Finite Machines, Fundamental concepts and basic results of Boolean Algebra, Lattices and their Applications, and applications of switching circuits, Gating Network, Karnag diagrams
	CC-405(DISSERTATION, SEMINAR AND VIVA VOCE)	The objective is to help the student to develop the ability to apply theoretical and practical tools and techniques to solve real life problems related to industry, research laboratory and institutions. After Completion of the dissertation the student should be able to: 1. Identify the problem in a system. 2. Review the literature relating to the problem. 3. Evaluation of Research Problem. 4. Collecting Materials and Methods 5. Data Collection and Analysis, 6. Develop the ability to communicate effectively.


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	CC-302(NUMBER THEORY)	To develop problem solving skills and to acquire knowledge on basic concepts of Arithmetical Functions, Dirichlet Multiplication, Averages of Arithmetical Functions and Congruences.
	CC303(ORDINARY DIFFERENTIAL EQUATIONS)	To provide some standard methods for solving first-order, second-order and higher-order homogeneous and nonhomogeneous ordinary differential equations with constant and variable coefficients, linear equation with regular singular points, and to study the method of successive approximations, Lipshitz condition and non-local existence of solutions.
	CC-304(OPTIMIZATION TECHNIQUES)	To develop problem solving skills of linear programming problems using Two- Phase method, Duality theory, The Revised Simplex method, Game theory and integer Programming
	CC305(INTEGRAL EQUATIONS)	Theory and application of integral equations are important subjects in the different branches of science and it's advantage witnessed by the increasing frequency of it in the literature and in many recent texts on methods of advanced applied mathematics. Moreover these equations are used as mathematical models of many problems such as physical problems, chemical analysis, biological and engineering science.
IV	CC-401(GRAPH THEORY)	1) understand the basic concepts of graphs, directed graphs, and weighted graphs and able to present a graph by matrices. 2) understand the properties of trees and able to find a minimal spanning tree for a given weighted graph. 3) understand Eulerian and Hamiltonian graphs. 4) apply shortest path algorithm to solve Chinese Postman Problem. 5) apply the knowledge of graphs to solve the real life problem.
	CC-402(NUMBER THEORETIC CRYPTOGRAPHY-I)	Cryptography studies ways to share secrets securely, so that even eavesdroppers can't extract any information from what they hear or network traffic they intercept. One of the most popular cryptographic algorithms called RSA is based on unique integer factorization, Chinese Remainder Theorem and fast modular exponentiation. In this module, we are going to study these properties and algorithms which are the building blocks for RSA. In the next module we will use these building blocks to implement RSA and also to implement some clever attacks against RSA and decypher some secret

PG DEPARTMENT OF COMMERCE

COURSE OUTCOME

SEMESTER – I

MC-CC-101 MANAGEMENT CONCEPT & ORGANISATIONAL BEHAVIOUR

Objective: The objective of this course is to help students understand the conceptual framework of management and Organizational Behaviour.

Learning Outcomes: After completing this course the students will be able to: Understand the theoretical development of organizational behavior and its importance in managing people at the work place, Understand the behaviour of the people as individual and members of the group, Understand the foundation of group dynamics and the nature of conflict and its management, Distinguish between manager, boss and a leader and learn the theories of leadership, Understand different types of organizational structures, organizational climate and to know the importance of organizational culture apart from learning how to deal with change and stress.

MC-CC- 102 BUSINESS ENVIRONMENT

Objective: The objective of this course is to develop the ability to understand and scan business environment, analyze opportunities and take decisions under uncertainty.

Learning Outcomes: Students will be able to evaluate the legal, social and economic environments of business. Students will be able to describe the global environment of business. Students will demonstrate sensitivity towards ethical and moral issues and have ability to address them in the course of business. Students will demonstrate conceptual domain knowledge of Foreign Trade. Students will apply decision-support tools to decision making in Foreign Trade. Students will demonstrate employable and deployable skills for appropriate roles in management.

MC-CC- 103 ADVANCED STATISTICAL ANALYSIS

Objective: The course aims at making the students learn the application of statistical tools and techniques for decision making.

Learning Outcomes: Student will be able to independently calculate basic statistical parameters (mean, measures of dispersion, correlation coefficient, indexes), interpret the meaning of the calculated statistical indicators, to choose a statistical method for solving practical problems, to explain probability theory and probability distributions in relation to general statistical analysis, and to Understand and appreciate the need to solve a variety of business related problems using a systematic approach involving accepted statistical techniques.

MC-CC- 104 ACCOUNTING FOR MANAGERIAL DECISIONS

Objective: The objective of this course is to acquaint students with the accounting concepts, tools and techniques for managerial decisions.

Learning Outcomes: The successful completion of this course will enable the students to analyse the financial statements of the business organisation, to understand the concept of marginal costing and break-even analysis, essential of budgeting and budgetary control, and variances and their uses in management.

MC-CC- 105 FINANCIAL MANAGEMENT

Objective: The objective of this course is to help students to understand the conceptual framework of financial management and its applications under various environmental constraints.

Learning Outcome: After Completion of this course the student would be able to use business finance terms and concepts when communicating, explain the financial concepts used in making financial management decision, use effective communication skills to promote respect and relationship for financial deals, utilize information by applying a variety of business and industry software and hardware to major financial function and demonstrate a basic understanding of financial management.

SEMESTER – II

MC-CC- 201 MANAGERIAL ECONOMICS

Objective: This course aims to develop managerial perspective to economic fundamentals as an aid to decision making under given environmental constraints.

Learning Outcome: On completion of this course, the student should be able to: Describe the nature and scope of managerial economics, demand analysis and growth model of the firm. To learn the techniques of production function and cost analysis, comprehend the market forms and apply the pricing techniques to determine the price of factors of production, apply the knowledge of national income accounting and cost of living measurement in real world situations, assimilate the product and financial market equilibrium and decipher monetary and fiscal policies, and to describe the trade cycles in the open economy and exchange rate determination.

MC-CC- 202 MARKETING MANAGEMENT

Objective: The objective of this course is to facilitate understanding of the conceptual framework of marketing and its applications in decision making under various environmental constraints.

Learning Outcome: After successful completion of this course, the student shall be able to: familiarize the students with the fundamentals of marketing to enable them to take better marketing decisions, to discuss and make the students understand the nuances and complexities involved in various product and pricing decisions, to equip the students to take

effective distribution decisions for products and services, to develop the skills among students to enable them to design the Promotion-Mix strategies advertising campaigns and to make the students aware about the current trends in marketing to enable them to take proactive measures while taking marketing decisions.

MC-CC- 203 FINANCIAL INSTITUTIONS AND MARKETS

Objective: The course aims at providing students with an understanding of the structure, organization and working of financial institutions and markets in India.

Learning Outcome: After completion of this course, students should be able to: Understand the working of financial institutions and markets both individually and as an interlinked system, understand the factors affecting interest rates and yield curve and the importance of change in interest rates for all constituents of the financial system, understand the organization, role, functioning and need for regulation of different types of financial markets and the implications of the same on society, understand the organization, role, functioning and need for regulation of different types of nondepository institutions like mutual funds, pension funds, insurance, venture capital, private equity and hedge funds and the implications of the same on society, critically analyze the pivotal role of banking in a financial system and the reasons for it being among the most tightly regulated industries in the world, understand the impediments to financial inclusion and critically evaluate different ways of developing sustainable financial inclusion. Also critically analyse the working of the micro finance industry.

MC-CC- 204 COMPUTER APPLICATION IN BUSINESS

Objective: To provide an understanding the theoretical aspects computer, networking and word processing.

Learning Outcome: After successful completion of this course students will be able to know basic components of a computer and their operation, application of MS-EXCEL in finance, application of Tally and use of database.

MC-CC- 205 HUMAN RESOURCE MANAGEMENT

Objective: The objective of the course is to acquaint students with the techniques and principles to manage human resource of an organisation.

Learning Outcome: After completing this course the students will be able to: build an understanding, perspective and appreciation for HRD as discipline, process and activity, critically evaluate the existing theoretical edifice of HRD in order to draw a sketch of HRD relevant in present times, develop skills to assess need for HRD intervention, design learning and development programs and evaluation of HRD programs, develop a perspective to understand organizational dynamics and learning challenges possessed by organizational and social complexities and to integrate human with technology and other emerging realities in order to understand how theory unfolds itself in present world of practice.

SEMESTER – III

MC-CC- 301 BUSINESS RESEARCH AND BUSINESS COMMUNICATION

Objective:The objective of this course is to familiarize the students with the process and technique of scientific research and its relevance in the managerial decision making. Another objective of this course is to provide a broad view of communication skills to the students.

Learning Outcome:The successful completion of this course shall enable the student: To describe the meaning and role of Business Research, to formulate the research problem and understanding the major research designs, to determine data sources and learn the art of designing a questionnaire, to understand various sampling techniques and develop understanding of data collection and fieldwork, and to enable students to analyse data using various techniques and to learn how to communicate the results and follow up.

MC-CC- 302 INTERNATIONAL BUSINESS

Objective: The objective of this course is to provide a glimpse of global business environment and the emerging trends thereof.

Learning Outcome:The successful completion of this course shall enable the student to: Understand the importance and scope of international business and identify the main drivers of globalization that have led to the expansion of international business. Identify the basic decisions regarding entry of a firm into international business and evaluate the different modes of entry into international business, to analyse the changing dimensions of international trade and appreciate the role of trade theories in explaining trade patterns in different industries, to assess the political realities of world trade and measures taken by governments to intervene in international trade, to critically examine theories of international investment and bring out their relevance in global investment scenario, to appreciate the role international organisations like WTO in regulating global trade and investment, to examine the differences in the political, legal, economic and cultural environment of various countries and their implications for international business decisions, to understand the evolution and working of the International Monetary System and the role of international economic institutions such as IMF and World Bank in regulating international economic environment, and to appreciate the rationale and implications of regional economic integration and understand the levels of economic integration.

MC-CC- 303 CORPORATE FINANCIAL ACCOUNTING

Objective:The Objective of this course is to expose students to advanced accounting issues and practices.

Learning Outcome:After successful completion of this course, students will be able to know the process relating to valuation of goodwill and share, accounting issues relating to amalgamation, absorption and reconstruction of companies, accounting for reconstruction and conceptual framework of corporate disclosures.

MC-CC- 304 ACCOUNTING STANDARD AND CORPORATE REPORTING

Objective:To provide an understanding to the students regarding Accounting theories, standards and corporate reporting.

Learning Outcome: Student will be able to know different accounting standards and their implications, importance of Indian Accounting Standard and IFRS and the importance of corporate reporting.

MC-AE- 305 INVESTMENT IN STOCK MARKET

Objective: To enable the students to understand the modus operandi of Indian Stock market and to know the technical aspects of investment in Indian stock market.

Learning Outcome: After the successful completion of this course, student will be able to understand the operations of Indian capital market, listing of securities and regulation of secondary market, stock market quotations and indices, and will be able to analyse the stock market.

SEMESTER – IV

MC-CC- 410 MANAGEMENT INFORMATION SYSTEM

Objective: To provide an understanding to the students the basic information needs of manager for the decision making process. The supporting systems which continuously provide the information to the managers.

Learning Outcome: After successful completion of this course student will be able to know the role of information technology and information system in business, analyse how information technology impacts a firm, and can use information technology to solve business problems.

MC-CC- 402 E-COMMERCE

Objective: The Objective of this Course is to enable students gain knowledge about e-commerce and its various components.

Learning Outcome: After completing the course, the student shall be able to understand the basics of E-commerce, current and emerging business models, familiarize with basic business operations such as sales, marketing, HR etc. on the web, enhance the students' skills for designing and developing website, identify the emerging modes of e-payment, and understand the importance of security, privacy, ethical and legal issues of e-commerce.

MC-CE- 403 SPECIALISED ACCOUNTS

Objective: To provide opportunity understanding the peculiarities of each such special Accounts like H R Accounts, Environmental Accounts, Inflation Accounts and Government Accounts.

Learning Outcome: After successful completion of this course, student will be able to understand use of human resource accounting, major accounting issues in environmental accounting, methods and application of accounting for inflation, and recording financial transactions of government.

MC-CE- 404 COST AND MANAGEMENT AUDIT

Objective: To help the students to understand the meaning and importance of Auditing in costing, Management Accounting and Government Sector.

Learning Outcome: After successful completion of this course, student will be able to understand generally accepted auditing principles and techniques, provision of cost audit in companies Act., audit of various operations and management functions, and audit of government departments and public sector undertakings.

MC-CC- 405 DISSERTATION

Objective: The objective of the project course is to help the student develop ability to apply multidisciplinary concepts, tools and techniques to solve organizational problems. The project may be from any one of your areas preferably of specialization area: Comprehensive case study (covering single organization/multifunctional area, problem formulation, analysis and recommendations). Inter-organizational study aimed at inter-organizational comparison/validation of theory/survey of management practices, field study (empirical study).

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Head of Department Commerce

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