DEPARTMENT OF ECONOMICS
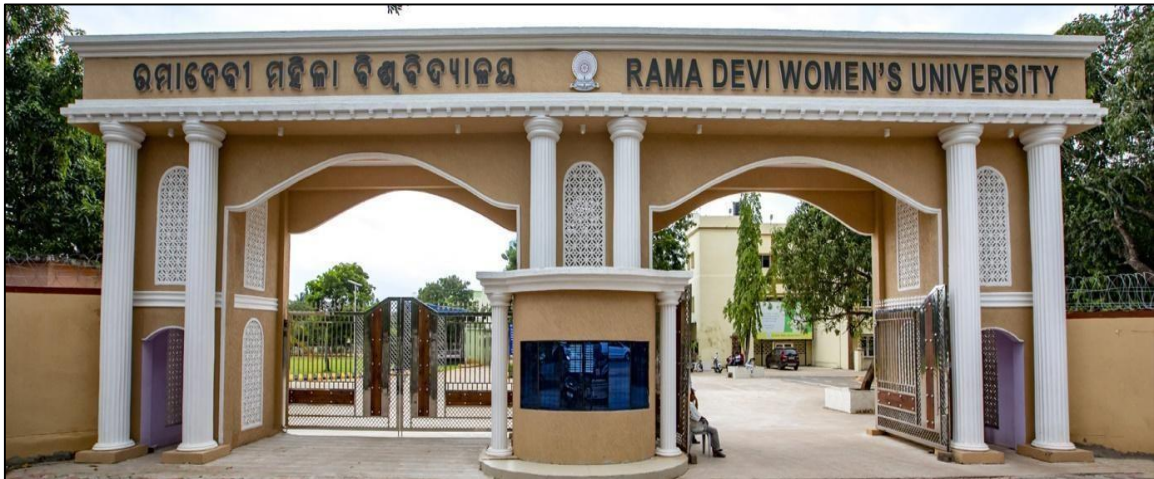## SYLLABUS OF UG PROGRAMME (B.A.)

RAMA DEVI WOMEN'S UNIVERSITY

Vidya Vihar, Bhubaneswar-751022, Odisha

Website: https://rdwu.ac.in

SKILLS	
EMPLOYABILITY	
ENTERPRENURESHIP	

Department of Economics

Syllabus for U.G. in Economics

Rama Devi Women's University

VIDYA VIHAR, BHUBANESWAR-751022

1

STATE MODEL SYLLABUS FOR UNDER GRADUATE
COURSE IN ECONOMICS
(Bachelor of Arts Examination)

UNDER
CHOICE BASED CREDIT SYSTEM

2

Semester	Course	Course Name	Credits	Total marks
I	AECC-I	AECC-I	04	100
	C-I	Introductory Microeconomics	06	100
	C-II	Mathematical Methods for Economics I	06	100
	GE-I	Indian Economy	06	100
			22	
II	AECC-II	AECC-II	04	100
	C-III	Introductory Macroeconomics	06	100
	C-IV	Mathematical Methods for Economics II	06	100
	GE-II	Indian Economy II	06	100
			22	
III	C-V	Microeconomics I	06	100
	C-VI	Macroeconomics I	06	100
	C-VII	Statistical Methods for Economics	06	100
	GE-III	Introductory Microeconomics	06	100
	SEC-I	SEC-I	04	100
			28	
IV	C-VIII	Microeconomics II	06	100
	C-IX	Macroeconomics II	06	100
	C-X	Research Methodology	06	100

Semester	Course	Course Name	Credits	Total marks
	GE-IV	Introductory Macroeconomics	06	100
	SECC-II	SECC-II	04	100
			28	
V	C-XI	Indian Economy I	06	100
	C-XII	Development Economics I	06	100
	DSE-I	1. Economic History of India (1857-1947) or 2. Public Economics	06	100
	DSE-II	1. Introductory Econometrics or 2. Odisha Economy or 3. Money and Banking	06	100
			24	
VI	C-XIII	Indian Economy II	06	100
	C-XIV	Development Economics II	06	100
	DSE-III	1. Environmental Economics or 2. History of Economic Thought	06	100
	DSE-IV	1. International Economics or 2. Agricultural Economics or 3. Project/Dissertation	06	100

Program Outcomes (POs):

PO1: Develop critical thinking among students.

PO2: Equip students for effective communication.

PO3: Prepare students for social interaction to elicit views of others, mediate disagreements and help reach conclusions in group settings.

PO4: Create awareness among students to demonstrate empathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

PO5: Equip students to recognize different value systems including their own, understand the moral dimensions of their decisions, and accept responsibility for them.

PO6: Making students understand the issues of environmental contexts and sustainable development.

PO7: Provide students with the opportunity to pursue courses that emphasize quantitative and theoretical aspects of Economics.

PO8: To provide students with the opportunity to focus on applied and policy issues in Economics.

PO9: Provide students with basic training relating to econometric estimation of economic relationships using statistical software packages.

PO10: Equip students with ability to think rationally, analyze situations and solve problems adequately.

Program Specific Outcomes (PSOs):

PSO1: Enhancing ability to understand economic theories and functioning of basic microeconomic and macroeconomic systems.

PSO2: Acquaint students with basic statistical and mathematical skills to solve real economic problems.

PSO3: Delineate the developmental policies designed for developed and developing economics. The course also acquaints with the measurement of development with the help of theories along with the conceptual issues of poverty and inequalities.

PSO4: This course emphasizes on environmental problems emerging from economic development.

PSO5: Acquaint students with basic issues of Indian economy and learn the basic concept of monetary analysis and financial marketing in Indian financial markets. This course reviews major trends in economic indicators and policy debates in India in the post-Independence period.

Core Course- C-I: Introductory Microeconomics
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: This will help to explain what economics is, why it is important, how economists use economic models. Also after studying the paper they are able to understand how production and consumption decisions are taken.

CO2: It will help in understanding the behaviour of individuals and small organizations in making decisions on the allocation of limited resources.

CO3: It will result in equipping the students in a rigorous and comprehensive manner with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm in modern non-profit maximizing framework.

CO4: It will helps to understand the different input market structure, the determinants of labour and capital, and equilibrium in input market. Also helps to understand the nature of different market structure. It uses the concepts of consumer, producer and total surplus to explain why markets typicallylead to efficient outcomes.

CO5: It will result in understanding the micro and macro theories of distribution, welfare economics, general equilibrium in closed and open systems and analysis of economic behaviour under uncertainty.

Syllabus

Unit I: Exploring the Subject Matter of Economics, Markets and Welfare

The Ten Principles of Economics: How people make decisions; Working of the economy as a whole; Thinking Like an Economist: The economist as Scientist – The scientific method: Observation, Theory and more observation; Role of Assumptions; Economic Models; Why economists disagree; Graphs in Economics

The Market Forces; Markets and Competition; The Demand and Supply curves – Market vs

Individual curves, Shifts in Demand and Supply Curves; Market Equilibrium and changes there in; Price Elasticity of Demand – determinants and computation; Income and Cross Elasticity of Demand; The Price Elasticity of Supply – determinants and computation; Consumer and Producer Surplus.

Unit II: Theory of Consumer Choice

The Budget Constraint; Preferences – representing preferences with indifference curves; Properties of Indifference Curves; Two extreme examples of indifference curves; Optimization – Equilibrium; Change in equilibrium due to changes in income, changes in price; Income and Substitution Effect; Derivation of Demand Curve; Three applications – Demand for Giffen goods, Wages and Labour Supply, Interest rate and Household saving.

Unit III: The Firm and Market Structures

Cost concepts; Production and Costs; The various measures of cost – Fixed and Variable cost,

Average and Marginal cost; Cost curves and their shapes; Costs in the short run and in the long run; Economies and diseconomies of scale. Firms in Competitive Markets – What is a competitive market; Profit maximization and the competitive firm's supply curve; The marginal cost curve and the firm's supply decision; Firm's short-run decision to shut down; Firm's long-run decision to exit or enter a market; The supply curve in a competitive market – short run and long run.

Unit IV: The Input Markets

The Demand for Labour – The production function and the marginal product of labour; Value of the marginal product of labour and demand for labour; Shifts in labour demand curve; The supply of labour – the trade-off between work and leisure; Shifts in the labour supply curve; Equilibrium in the Labour Market; Other factors of production: Land and Capital; Linkages among factors of production.

Text Book:

- Principles of Economics, Gregory N Mankiw, 6e Cengage Learning India Private Limited, New Delhi

Reference Book:

- Karl E. Case and Ray C. Fair (2007): *Principles of Economics*, 8th Edition, PearsonEducation Inc.
- Pindyck, Robert and Daniel Rubinfeld (2018): Microeconomics, 9th Edition, PearsonEducation Inc

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	5	4	4	4	5	5	4	5
CO2	5	4	5	4	5	5	4	5	4	5
CO3	5	4	5	5	5	5	4	4	4	5
CO4	5	4	4	4	2	2	5	4	4	5
CO5	5	5	4	5	5	5	5	4	4	5

Core Course- C-II: Mathematical Methods for Economics I

Course Outcomes (Cos):

After reading this paper, students should:

CO1: Have ability to understand the concepts of sets, functions, graphs, the number system, continuous functions and their graphs.

CO2: Have developed analytical ability of economic variables using differentiation method.

CO3: Have enhanced knowledge on application of derivatives to elasticity and demand analysis.

CO4: Be able to understand the detailed study of determinants and matrix algebra.

CO5: Have enhanced ability to apply mathematical skills learnt earlier to build and test models in economics and related fields.

Syllabus

Unit I: **Preliminaries and Functions of one Real Variable**

Sets and set operations; Cartesian product; relations; functions and their properties; Number systems

Types of Functions- constant, polynomial, rational, exponential, logarithmic; Graphs and graphs of functions; Limit and Continuity of functions; Limit theorems.

Unit II: Derivative of a Function

Rate of change and derivative; Derivative and slope of a curve; Continuity and differentiability of a function; Rules of differentiation for a function of one variable; Application- Relationship between total, average and marginal functions.

Unit III: Functions of two or more Independent Variables

Partial differentiation techniques; Geometric interpretation of partial derivatives; Partial derivatives in Economics; Elasticity of a function – demand and cost elasticity, cross and partial elasticity.

Matrices: concept, types, matrix algebra, transpose, inverse, rank; Determinants: concept, properties, solving problems using properties of determinants, solution to a system of equations - Crammer's rule and matrix inversion method.

Text Book:

- ☐ A.C. Chiang and K. Wainwright (2005): *Fundamental Methods of Mathematical Economics*, McGraw Hill International Edition.

Reference Book:

- ☐ K. Sydsaeter and P. J. Hammond (2002): *Mathematics for Economic Analysis*. Pearson Educational Asia

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	2	2	2	2	5	4	4	4
CO2	2	2	2	2	2	2	5	5	5	4
CO3	2	2	2	2	2	2	5	5	5	4
CO4	2	2	2	2	2	2	5	5	5	4
CO5	2	2	2	2	2	2	5	5	5	4

General Elective- GE-I: Indian Economy
Course Outcomes (Cos):
After reading this paper, students should:

CO1: Have insights into India's economic development since colonial period, The era of planning under different regimes – achievements and failures, critical understanding of economic reforms, the resultant structural changes and regional variations.

CO2: Be aware about India's demographic issues, education and health.

CO3: Be equipped with knowledge on trends in GDP, per capita GDP, poverty and inequality and their impact on growth and unemployment, Policy perspectives in growth and distribution**.**

CO4: Be able to study the changes in sector composition of economic growth since independence.

CO5: Be able to understand and analyse economic reforms in India.

Syllabus

Unit I: Introduction to Indian Economy and Current Challenges

Colonialism & British Rule: Exploitation and under-development in India; Basic features of

India Economy; Indian Economy as a developing economy; Demographic trends in India - Size and growth of population, Occupational structure, Sex composition, Age structure and demographic dividend; Causes of population growth and population policy; The problem of unemployment and recent policies for employment generation; The problem of inequality in income distribution and its causes, Policies to address inequality

Unit II: Indian Agriculture

Role of Agriculture in Indian Economy; Cause of low productivity, Green Revolution and Land Reforms, Agricultural Finance-Sources and Problems; Agricultural Marketing in India.

Unit III: Industrial Development in India

Role of Industrialization in Indian Economy; Small Scale & Cottage Industries: Meaning, Role, Problems and Remedies; Industrial Policies of 1948, 1956, 1977 and1991; Problems of Industrial Development in India; Industrial Sickness.

Unit IV: Service Sector in India

Growth & Contribution to GDP; Composition and relative importance of service sector; Factors determining growth of the sector; ICT and IT – Spread and Policy; Sustainability of services led growth.

Text Book:

- Misra, S. K. and Puri V. K. Indian Economy — Its Development Experience. Himalaya Publishing House, Mumbai

Reference Book

- Dutt R. and Sundharam K. P. M. *Indian Economy*. S. Chand & Company

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	2	5	2	2	4	2	4	2	4
CO2	5	2	5	4	2	2	2	5	2	4
CO3	5	2	5	5	2	4	2	4	2	2
CO4	5	2	5	2	2	2	2	5	2	2
CO5	5	2	5	4	2	4	2	4	2	4

Core Course- C-III: Introductory Macroeconomics

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Develop an understanding of the interrelationships among the various macroeconomic variables and the way they impact upon the working of the economy as a whole, thereby determining the course of the economy.

CO2: Explain the concepts of Macroeconomics and its interrelations with Microeconomics.

CO3: Associate the current economic phenomenon with existing theory and put their views on contemporary economic issues.

CO4: Apply the principle of Macroeconomics in explaining the behaviour of Macroeconomic variables at national as well as global level.

CO5: Student would be able discuss scope and importance of Macroeconomics, Circular flow of aggregate income and expenditure, the measurement of national product, Short run economic fluctuations and The Keynesian Principle of Effective Demand.

Syllabus

Unit I: Basic Concepts in Macroeconomics

Macro vs. Micro Economics; Limitations of Macroeconomics; Stock and Flow variables,

Equilibrium and Disequilibrium, Partial and General Equilibrium Statics – Comparative Statics and Dynamics; National Income Concepts – GDP, GNP, NDP and NNP at market price, factor cost, real and nominal; Disposable personal Income.

Unit II: Measurement of Macroeconomic Variables

Output, Income and Expenditure Approaches; Difficulties of Estimating National Income; National Income Identities in a simple 2-sector economy and with government and foreign trade sectors; Circular Flows of Income in 2, 3 and 4-sector economies; National Income and Economic Welfare; Green Accounting.

Unit III: Money and Changes in its Value

Evolution and Functions of Money, Quantity Theory of Money – Cash Transactions, Cash Balances and Keynesian Approaches, Value of Money and Index Number of Prices

Inflation – Meaning, Causes, and Anti-Inflationary Measures; Classical, Keynesian, Monetarist and Modern Theories of Inflation, Inflationary Gap, Deflation- Meaning, Causes, and Anti-Deflationary Measures, Depression and Stagflation; Inflation vs. Deflation.

Unit IV: Determination of National Income

The Classical Approach - Say's Law, Theory of Determination of Income and Employment with and without saving and Investment; Basics of Aggregate Demand and Aggregate Supply and Consumption-Saving– Investment Functions, The Keynesian Approach– Basics of Aggregate Demand and Aggregate Supply and Consumption, Saving, Investment Functions; The Principle of Effective Demand; Income Determination in a Simple 2-Sector Model; Changes in Aggregate Demand and Income- The Simple Investment Multiplier

Text Book:

☐ N. Gregory Mankiw (2010): *Macroeconomics*, 7th edition, Cengage Learning India Private Limited, New Delhi

Reference Book:

☐ Richard T. Froyen (2005): *Macroeconomics*, 2nd Edition, Pearson Education Asia, NewDelhi

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	5	4	4	4	5	5	4	5
CO2	5	5	4	4	4	5	4	4	2	4
CO3	5	4	4	5	5	5	4	5	5	5
CO4	4	4	5	5	4	4	4	5	4	5
CO5	5	5	5	4	4	4	5	5	4	5

Core Course- C-IV: Mathematical Methods for Economics II
Course Outcomes (Cos):
After reading this paper, students should:

CO1: Be able to understand input-output analysis and have the capacity to determine the equilibrium industry output.

CO2: Have understood characterizations, properties and applications of convex sets and convex functions.

CO3: Be able to solve optimization with equality and inequality constraints.

CO4: Have knowledge on application of differential calculus and integration for studying economic relationships.

CO5: Develop understanding of the general equilibrium through the mathematical framework of input-output analysis technique.

Syllabus

Unit I: **Linear models:**

Input- Output Model: Basic concepts and structure of Leontief's open and static Input-Output model; Solution for equilibrium output in a three industry model; The closed model.

Unit II: Second and Higher Order Derivatives and Integration:

Technique of higher order differentiation; Interpretation of second derivative; Second order derivative and curvature of a function; Concavity and convexity of functions; Points of inflection, Derivative of Implicit Function; Higher Order Partial Derivative.

Indefinite Integrals; Rules of Integration; Techniques of Integration: Substitution Rule, Integration by parts, and Partial Fractions; Definite Integral – Area Interpretation.

Unit III: Single and Multivariable Optimization:

Optimum values and extreme values; Relative maximum and minimum; Necessary versus sufficient conditions - First and Second derivative tests (using Hessian Determinants); Economic applications thereof, First and second order condition for extrema of multivariable functions; Convex functions and convex sets.

Unit IV: Optimization with Equality Constraints:

Effects of a constraint; Finding stationary value – Lagrange-Multiplier method (Two variable single constraint case only): First and second order condition; The Bordered Hessian determinant.

Text Book:

☐ C. Chiang and K. Wainwright (2005): *Fundamental Methods of Mathematical Economics*, McGraw Hill International Edition.

Reference Book:

☐ K. Sydsaeter and P. J. Hammond (2002): *Mathematics for Economic Analysis*. Pearson Educational Asia

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	2	2	2	2	5	4	4	2
CO2	2	2	2	2	2	2	4	4	2	2
CO3	2	2	2	2	2	2	4	4	4	2
CO4	2	2	2	2	2	2	5	5	4	2
CO5	2	2	2	2	2	2	5	5	4	2

General Elective- GE-II: Indian Economy II
Course Outcomes (Cos):
CO1: This will help to explain the importance of external sector in India, nation's performance by evaluating export and import and the role of different international organisation in achieving the objective of growth and development.

CO2: It may help to know the role and importance of financial markets, the policy of monetary institutions which will help to bring macroeconomic stability.

CO3: This would help to know the role of public authority in a developing nation, and how the authority can bring more welfare by experiencing the trade-off between equity and efficiency.

CO4: This will help to give a clear picture of contemporary issues that the economy is facing and the way forward.

CO5: It will help in developing the conceptual framework of government policies and programmes.

Syllabus

Unit I: External Sector in India

Trends, Composition & Direction in exports from and imports of India; Problems of Balance of Payment: Causes of deficit in BOP & measures to correct it; Trade Policy- Export Promotion Vs Import Substitution; Foreign Trade Policy of India; WTO and India.

Unit II: Financial Markets in India

Commercial Banking in India- Nationalization of Banks; Lead bank scheme and branch expansion; RBI - Functions, Monetary Policy; Development Banking- IFCI,IDBI, SIDBI and NABARD

Unit III: Indian Public Finance

Public Expenditure-Growth and Composition, Causes of Growth of Public Expenditure in India: Tax Revenue of Central and State Governments; Concept of VAT; Deficit Financing in India; Revenue, Budget, Fiscal and Primary Deficits; Purpose and Effects of Deficit Financing; India's Fiscal Policy-Objectives.

Unit IV: Current Challenges Facing Indian Economy

Inflation – Causes, Consequences and Anti-inflationary Policy; Poverty – Poverty line and Estimates, Major Poverty Alleviation Programmes; Environmental Degradation – Growth and Environment; Population Growth and Environment; Environment Policy; Economic Reforms, Globalization, Macroeconomic Stabilization, Structural Reforms, and their impact on the Indian Economy; Foreign capital and MNCs-Role and consequences.

Text Book:

- Misra, S. K. and Puri V. K. Indian Economy — Its Development Experience. Himalaya Publishing House, Mumbai.

Reference Book

- Dutt R. and Sundharam K. P. M. Indian Economy. S. Chand & Company Ltd., New Delhi.
- Basu, Kaushik (2016): An Economist in the Real World: The Art of Policy Making in India, Penguin.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	5	5	5	4	4	4	5	4	4
CO2	4	5	4	5	4	4	5	5	4	4
CO3	4	5	5	5	4	4	4	5	5	5
CO4	5	4	4	5	5	5	5	5	4	5
CO5	5	5	5	5	5	4	4	5	5	5

Semester III

Core Course- C-V: Microeconomics I
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: Ability to read and work with graphs.

CO2: Knowledge on workings of the market economy.

CO3: Basic understanding of individual consumer agents and their decision making behaviour.

CO4: Basic understanding of producer behaviour, cost concepts, and optimum output.

CO5: Basic ideas and tools of microeconomics which will be used throughout the other courses of the degree programme.

Syllabus

Unit I: Consumer Theory I

Preferences and Utility, Axioms of Rational Choice, Utility, Trades and Substitutions, Indifference curves; Mathematics of Indifference curves, Utility functions for specific preferences, the many good case; Utility Maximization and choice: the 2-good case (graphical analysis), the n-good case, Indirect utility function, the Lump sum principle, Expenditure minimization, properties of expenditure function.

Unit II: Consumer Theory II

The Income and Substitution Effects: Demand function, changes in income, changes in a goods price- Direct and Indirect Approaches (Slutsky), the Individual's Demand Curve, Compensated (Hicksian) demand curves and functions, demand elasticity, Consumer Surplus, Demand relationships among goods, the 2-good case, substitutes and complements, Net (Hicksian) substitutes, and Complements, Substitutability with many goods.

Unit III: Production Theory and Costs

Production Functions: Marginal productivity, Production with One Variable Input (labour) and with Two-Variable Inputs, Isoquant Maps and the Rate of Technical Substitution, Returns to Scale, Elasticity of Substitution, Some Simple Production Functions: Linear, Fixed Proportions, CobbDouglas; Technical Progress.

Definition of Cost and its properties, Cost minimizing input choices (Optimization principles, Expansion Path), Cost Functions and Shift in Cost Curves, Long-Run versus Short-Run Cost Curves.

Unit IV: Profit Maximization

The Nature and Behavior of Firms, Marginal Revenue – Relationship between Average and marginal revenue, Short-Run Supply by a Price-Taking Firm, Profit Functions and its Properties, Profit maximization – General conditions, Input demands.

Text Book:

☐ C. Snyder and W. Nicholson (2012): Microeconomic Theory: Basic Principles and Extensions, 11th Edition, Cengage Learning, Delhi, India.

Reference Books:

☐ H. R. Varian (2010): Intermediate Microeconomics: A Modern Approach, 8th Edition, W.W. Norton and Company/Affiliated East-West Press (India). The workbook by Varian and Bergstrom may be used for problems.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	2	2	2	4	5	4	2	5
CO2	4	4	2	2	2	4	4	4	2	4
CO3	4	2	2	2	2	2	4	4	2	4
CO4	4	2	2	2	2	4	4	4	2	4
CO5	4	2	2	2	2	2	4	4	2	4

Core Course- C-VI: Macroeconomics I
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: This unit would help students in critically understanding various consumption and investment theories and their implication in economic policy making.

CO2: This unit familiarizes students with various theoretical approaches to money demand. It also conceptually delineates various methods use in the estimation of money supply.

CO3: This unit unravels major policy debates in macroeconomic policy making by providing both theoretical and conceptual understanding in determining the role of fiscal and monetary policies.

CO4: It acquaints students with one of the pressing macroeconomic policy issues of time, i.e., trade-off between unemployment and inflation targeting by providing critical understanding of the existing theoretical and empirical debates.

Syllabus

Unit I: Consumption and Investment

Consumption – Income Relationship, Propensities to Consume and the Fundamental Psychological Law of Consumption; Implications of Keynesian Consumption Function:

Factors Influencing Consumption Function; Measures to Raise Consumption Function; Absolute, Relative, Permanent and Life – Cycle Hypotheses

Autonomous and Induced Investment, Residential and Inventory Investment, Determinants of Business Fixed Investment, Decision to Invest and MEC, Accelerator and MEI, Theories of Investment.

Unit II: Demand for and Supply of Money

Demand for Money – Classical, Neoclassical and Keynesian Approaches, The Keynesian Liquidity Trap and its Implications, Supply of Money, The Theory of Money Supply Determination and Money Multiplier, Measures of Money Supply in India.

Unit III: Aggregate Demand and Aggregate Supply

Derivation of Aggregate Demand and Aggregate Supply Curves in the IS-LM Framework; Nature and Shape of IS and LM curves; Interaction of IS and LM curves and Determination of Employment, Output, Prices and Investment; Changes in IS and LM curves and their Implications for Equilibrium.

Unit IV: Inflation, Unemployment and Expectations, and Trade Cycles

Inflation – Unemployment Trade off and the Phillips Curve – Short run and Long run Analysis; Adaptive and Rational Expectations; The Policy Ineffectiveness Debate; Meaning and Characteristics of Trade Cycles; Hawtrey's Monetary Theory, Hayek's Over-investment Theory and Keynes' views on Trade Cycles.

Text Book:

☐ N. Gregory Mankiw (2010): *Macroeconomics*, 7th edition, Cengage Learning India Private Limited, New Delhi.

Reference Book:

☐ Richard T. Froyen (2005): *Macroeconomics*, 2nd Edition, Pearson Education Asia, NewDelhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	4	4	4	5	5	5	4	5
CO2	5	4	4	4	4	4	5	5	4	5
CO3	5	4	4	4	4	4	5	5	4	5
CO4	5	4	4	4	4	4	5	5	4	5

Core Course- C-VII: Statistical Methods for Economics
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: This course will help the students to understand the issues regarding data collection, processing organizing and presentation and the issues involved therein.

CO2: Students will understand the basic concepts of descriptive and inferential statistics.

CO3: It will help students to understand situations radically and solve them

CO4: Students will be able to get a complete idea of any economic theory or principle with its analytical framework.

CO5: Students will be able to enhance their ability to examine any existing fundamental theory through statistical methods.

Syllabus

Unit I: **Data Collection and Measures of Central Tendency and Dispersion**

Basic concepts: population and sample, parameter and statistics; Data Collection: primary and secondary data, methods of collection of primary data; Presentation of Data: frequency distribution; cumulative frequency; graphic and diagrammatic representation of data; Measures of Central Tendency: mean, median, mode, geometric mean, harmonic mean, their relative merits and demerits; Measures of Dispersion: absolute and relative - range, mean deviation, standard deviation, coefficient of variation, quartile deviation, their merits and demerits; Measures of skewness and kurtosis.

Unit II: Correlation and Regression Analysis

Correlation: scatter diagram, sample correlation coefficient - Karl Pearson's correlation coefficient and its properties, probable error of correlation coefficient, Spearman's rank correlation coefficient. Two variable linear regression analysis - estimation of regression lines (Least square method) and regression coefficients - their interpretation and properties, standard error of estimate.

Unit III: Time Series and Index Number

Time Series: definition and components, measurement of trend- free hand method, methods of semi-average, moving average and method of least squares (equations of first and second degree only), measurement of seasonal component; Index Numbers: Concept, price relative, quantity relative and value relative; Laspeyer's and Fisher's index, family budget method, problems in construction and limitations of index numbers, test for ideal index number.

Unit IV: Probability Theory and Sampling

Probability: Basic concepts, addition and multiplication rules, conditional probability; Meaning of Sampling, Types of Sampling: Probability Sampling versus Non-Probability

Text books:

☐ S. C. Gupta (2017): *Fundamentals of Statistics*, Himalaya Publishing House, Delhi

Reference Book:

☐ Murray R. Speigel (2017): *Theory & Problems of Statistics*, Schaum's publishing Series.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	2	2	2	2	2	5	5	5	4
CO2	4	4	4	2	4	2	5	5	5	4
CO3	4	4	4	4	4	4	4	4	5	5
CO4	5	4	2	4	2	4	4	5	5	4
CO5	4	2	2	2	4	4	5	5	5	4

Semester IV

Core Course- C-VIII: Microeconomics II
Course Outcomes (Cos):

After reading this paper, students should:

CO1: Be able to understand the principles of microeconomics, the decision making of firms and the functioning of the market.

CO2: Be able to understand basic microeconomic analysis to study different market structures.

CO3: Have knowledge of decision-making process of firms in different kinds of markets.

CO4: Be able to understand various game theoretic models on Oligopoly such as Cournot, Bertrand, Stackelberg, Cartel and Price Leadership.

CO5: Be able to understand the basic concepts of general equilibrium, efficiency and welfare.

Syllabus

Unit I: Firm Supply and Equilibrium

Market Environments; Pure competition; Supply decision of a competitive firm and Exceptions; Inverse Supply Function; Profits and Producer's Surplus; Long Run Supply Curve of a Firm; Long Run Average Costs; Short Run and Long Run Industry Supply; Industry Equilibrium in Short and Long Run; Meaning of Zero Profits; Economic Rent.

Unit II: General Equilibrium, Efficiency and Welfare

The Edge worth Box; Trade; Pareto Efficient Allocations; Existence of equilibrium and efficiency; The Welfare Theorems and their implications; The Firm; Production and the Welfare Theorems; Production possibilities, comparative advantage and Pareto efficiency.

Unit III: Market Imperfections: Monopoly and Oligopoly

Barriers to Entry, Profit Maximization and Output Choice, Monopoly and resource Allocation, Monopoly, Product Quality and Durability, Price Discrimination, Second Degree Price Discrimination through Price Schedules, Regulation of Monopoly, Dynamic Views of Monopoly. Monopolistic competition; Price output determination; excess capacity under monopolistic competition.

Unit IV: Game Theory

The Payoff Matrix of a Game; Nash Equilibrium; Mixed Strategies ;The Prisoner's Dilemma; Repeated Games; Enforcing a cartel; Sequential Games; A Game of entry deterrence.

Oligopoly – Choosing a strategy; Quantity and price leadership; Simultaneous Quantity Setting; Example of Cournot Equilibrium; Simultaneous Price Setting; Collusion.

Text Book:

- ☐ H. R. Varian (2010): Intermediate Microeconomics: A Modern Approach, 8th Edition, W.W. Norton and Company/Affiliated East-West Press (India). The workbook by Varian and Bergstrom may be used for problems.

Reference Book:

- ☐ C. Snyder and W. Nicholson (2012): Microeconomic Theory: Basic Principles and Extensions, 11th Edition, Cengage Learning, Delhi, India.

- ☐ Pindyck, Robert and Daniel Rubinfeld (2018): Microeconomics, 9th Edition, PearsonEducation Inc.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	2	4	2	2	4	4	4	2	5
CO2	4	4	4	2	2	4	5	4	2	5
CO3	5	4	4	2	2	4	2	4	2	5
CO4	4	4	4	2	2	4	4	4	2	5
CO5	4	2	4	2	2	4	5	5	2	5

Core Course- C-IX: Macroeconomics-II

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Provides a critical understanding of one of the most accepted economic growth models of our time – the Solow Model. It also extends the model by factoring in endogenous variables in explaining the ongoing growth trajectories across the world.

CO2: This unit familiarizes students with open economy macroeconomics and the policy debates therein. It critically deals with the various exchange rate regimes and the appropriateness of policy making in resolving the international balance of payment differences.

CO3: This unit exposes students with major theoretical contestation in macroeconomics. It helps students to develop critical insights into the Classical and Keynesian debates on employment and output determination.

CO4: Provides theoretical perspective into Monetarist School and New Classical School. It emphasises role of expectation in devising appropriate monetary policy frameworks for economic stabilisation.

Syllabus

Unit I: Modeling Economic Growth

Accumulation of Capital in the basic Solow Model; supply and demand for goods, growth in the capital stock and the steady state, Golden rule level of capital: Comparing steady states, transition to the golden rule steady state with too much and too little capital, Population Growth, Technological Progress- Solow version, Beyond Solow Model and Endogenous Growth.

Unit II: Open Economy and Macroeconomic Policy

Balance of payments- concept; meaning of equilibrium and disequilibrium in balance of payments; Determination of foreign exchange rate- the balance of payments theory; Fixed versus flexible exchange rates; Short-run open economy model- the basic Mundell-Fleming model; Macroeconomic Policies – Fiscal policy, Crowding –out and Crowding – in; Monetary policy and instruments, the Transmission Mechanism; Effectiveness of macroeconomic policies in open and closed economies.

Unit III: Classical and Keynesian Macroeconomics Thoughts

Keynes verses classics: Classical macroeconomics, Employment and output determination, Say's law, the quantity theory of money, Keynes's General theory: Keynes's main propositions; analysis of the labour market, Keynes's critique of Say's law and Quantity theory of money,

the orthodox Keynesian school, underemployment equilibrium in the Keynesian model, the Phillips curve and orthodox Keynesian school.

Unit IV: Monetarist and New Classical Macroeconomic Thoughts

The orthodox monetarist school, the Quantity Theory of Money approach, the expectations augmented Phillips curve analysis, the orthodox monetarist school and stabilization policy.

New Classical Economics: The influence of Robert e Lucas Jr, the structure of new classical models: the Rational Expectations hypothesis; and policy implications.

Text Book:

- ☐ N. Gregory Mankiw (2010): *Macroeconomics*, 7th edition, Cengage Learning India Private Limited, New Delhi

Reference Book:

- ☐ Brian Snowdon and Howard R Vane (2005): Modern Macroeconomics: Its Origins, Development and Current State, Edward Elgar

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	4	5	4	4	5	5	5	5
CO2	5	4	4	5	4	4	5	5	5	5
CO3	5	4	4	5	4	4	5	5	5	5
CO4	5	4	4	5	4	4	5	5	5	5

Note: Highly related=3: Moderate=2: Low=1

Core Course- C-X: Research Methodology
Course Outcomes (Cos):
CO1: This would elaborate the meaning, scope of research, how quality research can be carried out and the possible outcome of research.

CO2: This will help to find out what the research problem is, process to define a research problem and how the problem can be addressed in a better way.

CO3: This will help to define the techniques related to research and also explain the technical

difficulties that a researcher may face throughout the research period.

CO4: This would help to develop skills in qualitative and quantitative data analysis and presentation.

CO5: It would also develop advanced critical thinking skills and demonstrate enhanced writing skills.

Syllabus

Unit I: Basics of Research

Introduction to Research: Meaning, Objectives, Motivation, Types, Approaches, Significance, Research Process, Criteria of Good Research; Qualities of a Good Researcher, Research as a Career.

Unit II: Research Problem

Defining the Research Problem: What is a Research Problem? Selecting the Problem, Necessity of Defining the Problem, Technique Involved in Defining a Problem; Research Design: Meaning, Need, Features of a Good Design, Important Concepts Relating to Research Design, Different Research Designs, Basic Principles of Experimental Designs.

Unit III: Issues in Research

Measurement in Research, Measurement Scales, Sources of Error in Measurement, Tests of Sound Measurement, Techniques of Measurement Tools, Scaling and Important Scaling Technique Research Ethics: codes and ethics, permissions to research, responsibilities, confidentiality, feedback, participatory research; Research Proposal and literature review: research proposal, review of literature, levels of analysis, using the library and internet, abstracting, word processing, plagiarism, Concept of IPR.

Unit IV: Actions in Research

English in report writing: words, sentences, paragraph, writing style; The Report: improving quality, sections, drawing conclusions, evaluation checklists, persistence; Common Citation Styles

Text Book:

☐ Kothari, C. R. (2004): Research Methodology: Methods and Techniques, New Age International Private Limited Publishers, New Delhi.

Reference Books:

☐ Guthrie, G. (2010): Basic Research Methods, Sage Publications India Private Limited, New Delhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	5	5	5	2	4	5	4	5
CO2	5	5	5	5	5	5	5	5	4	5
CO3	5	4	5	5	5	2	5	4	5	4
CO4	4	5	5	4	4	4	5	5	5	5
CO5	2	4	5	4	5	4	5	4	4	4

Semester-V

Core Course- C-XI: Indian Economy I
Course Outcomes (Cos):

After reading this paper, students should have:

CO1: It will result in comprehensive understanding of Indian Economy. It will help in developing the conceptual framework of govt policies and programmes.

CO2: It will acquaint students with latest data and will enhance analytical skills.

CO3: The course will help in sharpening the analytical thinking of the student.

CO4: After studying the structure aspects of Indian Economy, students will be exposed to economic reforms in India and problems of Indian economy.

CO5: It will highlight an integrated approach to the functioning aspects of the Indian economy keeping in view the scope for alternative approaches.
Syllabus

Unit I: Basic Characteristics of Indian Economy as a Developing Economy

Indian Economy in the Pre-British Period; The Structure and Organization of Villages and Towns; Industries and Handicrafts in Pre-British India; Colonialism; Economic Consequences of British Rule; Decline of Handicrafts and Progressive Ruralization; The Land System and Commercialization of Agriculture; Industrial Transition; Colonial Exploitation and Impacts –

Underdevelopment; Colonization and Modernization; State Policies and Economic Underdevelopment; The Current State of Indian Economy

Unit II: Population and Human Development

Population Growth and Economic Development – size, growth and future of population; Causes of rapid population growth; Population and economic development; Population policy; Demographic issues– Sex and Age Composition of population; Demographic Dividend; Urbanization and Migration; Human Resource Development – Indicators and importance of Human Resource Development; Education policy; Health and nutrition.

Unit III: National Income in India – The Growth Story and Current Challenges

Trends in national and per capita income; Changes in sectoral composition of national income; Regional disparities in Growth and Income; Savings and Investment and Economic Growth – The Linkage; Poverty – Estimation and Trends, Poverty Alleviation Programs– MGNREGA, NRLM, SJSRY; Inequality –Measures and trends in India; Unemployment– Nature, Estimates, Trends, Causes and Employment Policy.

Unit IV: Economic Planning in India

Rationale, Features, Objectives, Strategies, Achievements and Assessment of Planning in India; Eleventh Five Year Plan– Objectives, Targets and Achievements; Twelfth Five Year Plan – Vision and Strategy; From Planning to NITI– Transforming India's Development Agenda.

Text Book:

☐ Misra, S. K. and Puri V. K. Indian Economy — Its Development Experience. Himalaya Publishing House, Mumbai

Reference Books:

☐ Dutt R. and Sundharam K. P. M. *Indian Economy*. S. Chand & Company Ltd., New Delhi.

☐ Indian Economy Datt and Sundharam, GauravDatt and AshwaniMahajan, S Chand Publications, 7th Revised Edition

☐ Indian Economy Since Independence, ed by Uma Kapila, Academic Foundation, Revised Nineteenth Edition 2008-09

☐ Government of India (Current Year): Economic Survey, Ministry of Finance, New Delhi Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	4	2	2	2	5	5	4	4
CO2	4	2	2	2	4	4	5	5	5	4
CO3	5	4	2	4	4	4	5	5	5	4
CO4	4	4	2	4	2	4	5	5	4	4
CO5	4	4	4	4	4	5	5	5	4	4

Core Course- C-XII: Development Economics-I
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: This unit aims to provide a holistic perspective on the question of ‗development' by contrasting it to the conventional growth centric economics. It also familiarises students with various measurements that are used in assessing development outcomes.

CO2: This unit informs students about historicity of development thinking. It helps to critically understand various theoretical advances – starting from the Classical to the Solow – in development economics and their strength in explaining current economic phenomenon.

CO3: Critically engages students to help comprehending major policy debates on the question of poverty and inequality. This unit also provides a detailed understanding about the role of agricultural and industrial sectors in economic development.

CO4: Helps students to appreciate the role of institutions, both formal and informal, in economic development. Critically, it delineates the role of culture, market and state in explaining economic disparities across the nations.

Syllabus

Unit I: Study of Economic Development

Development Economics as subject; economic growth and economic development; Characteristics of underdeveloped countries – vicious cycle of poverty and cumulative causation; obstacles to economic development; measures of economic development – national and per capita income, basic needs approach, capabilities approach, three core values of development, PQLI, HDI, HPI, MDPI, GDI; capital formation and economic development.

Unit II: Theories of Economic Growth and Development

Classical theory, Marxian theory; Schumpeterian theory; Rostow's stages of economic growth; Solow model and convergence with population growth and technical progress.

Unit III: Poverty, Inequality, Agriculture, Industry and Development

Measuring poverty: Head Count Ratio, Poverty Gap Ratio, Squared Poverty Ratio, FGT Ratio; Measuring Inequality – Lorenz curve and Kuznets' inverted U hypothesis; Growth, poverty and inequality; Policy options – some basic considerations.

Agriculture, Industry and Economic Development: Role of agriculture; Transforming traditional agriculture; Barriers to agricultural development; Role of industrialization; Interdependence between agriculture and industries – A model of complementarities between

agriculture and industry; terms of trade between agriculture and industry; functioning of markets in agrarian societies; interlinked agrarian markets.

Unit IV: Institutions and Economic Development:

Role of institutions in economic development; Characteristics of good institutions and quality of institutions; The pre-requisites of a sound institutional structure; Different measures of institutions – aggregate governance index, property rights and risk of expropriation; The role of democracy in economic development; Role of markets and market failure; Institutional and cultural requirements for operation of effective private markets; Market facilitating conditions; Limitations of markets in LDCs; Corruption and economic development – tackling the problem of corruption.

Text book:

☐ Todaro, Michael P and Stephen C Smith (2006): *Economic Development*, 8th Edition,Pearson

Reference Books:

☐ Debraj Ray (2009): *Development Economics,* Oxford University Press.

☐ Thirlwall, A P (2011): *Economics of Development*, 9th Edition, Palgrave Macmillan

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	5	5	5	5	5	5	4	5
CO2	5	4	5	5	5	5	5	5	4	5
CO3	5	4	5	5	5	5	5	5	4	5
CO4	5	4	5	5	5	5	5	5	4	5

DSE-I: Economic History of India (1857-1947)
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: Familiarises students with colonial history of India and how it shaped various economic indicators such as national income, population growth and occupational structure. This unit helps students in comprehend the colonial legacy of India.

CO2: This unit critically deals with the agricultural sector in colonial India. It provides nuanced understanding of prevailing agrarian structure in the country – land relation, agricultural markets and institutions. It also discusses the reasons behind low agricultural productivity in India.

CO3: Critically engages students with the de-industrialisation debate during the colonial rule in India. This unit provides students a comprehensive understanding about the evolution of new industrial structure, especially, during inter-war period; and how it shaped the labour relation in India.

CO4: Helps students to comprehend the political economy of imperialism and its impact on Indian economy at large. This unit discusses the role of imperialism on wealth, international trade, capital flows and fiscal policy in India.

Syllabus

Unit I: Introduction: Colonial India: Background and Introduction and Macro trends

Overview of colonial economy, National Income; population; occupational structure.

Unit II: Agriculture

Agrarian structure and land relations; agricultural markets and institutions – credit, commerce and technology; trends in performance and productivity; famines.

Unit III: Railways and Industry

Railways; the de-industrialization debate; evolution of entrepreneurial and industrial structure; nature of industrialization in the interwar period; constraints to industrial breakthrough; labor relations.

Unit IV: Economy and State in the Imperial Context

The imperial priorities and the Indian economy; drain of wealth; international trade, capital flows and the colonial economy – changes and continuities; government and fiscal policy.

Text Book:

☐ Tirthankar Roy, *The Economic History of India 1857-1947*, Oxford University Press, 3rd edition, 2011.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	5	5	5	5	5	5	4	5
CO2	5	4	5	5	5	5	5	5	4	5
CO3	5	4	5	5	5	5	5	5	4	5
CO4	5	4	5	5	5	5	5	5	4	5

Discipline Specific Elective-I: Public Economics

Course Outcomes (COs):

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

CO1: It provides a wider scope to students for studying the implications of macroeconomic policies on the Economy.

CO2: It will help to examine the rationale for government intervention in a market economy, the assessment of public policy, and the impact of government expenditures and taxation on the economy and the citizen.

CO3: It provides a framework about the role of Government sector in providing public goods for welfare.

CO4: It will create familiarity with the micro and macro aspects of public expenditure. An understanding of the mechanics of government budget. Familiarity with the different aspects of fiscal federalism, acquaintance with the technique of cost-benefit analysis for project appraisal, understanding of various aspects of fiscal policy and debt management.

CO5: 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.

Syllabus

Unit I: Introduction to Public Finance and Public Budgets

Public Finance: meaning and scope, distinction between public and private finance; public good verses private good; Principle of maximum social advantage; Market failure and role of government; Public Budget: kinds of budget, economic and functional classification of the budget; Balanced and unbalanced budget; Balanced budget multiplier; Budget as an instrument of economic policy.

Unit II: Public Expenditure

Meaning, classification, principles, cannons and effects, causes of growth of public expenditure, Wagner's law of increasing state activities, Peacock-Wiseman hypotheses.

Unit III: Public Revenue

Sources of Public Revenue; Taxation - meaning, cannons and classification of taxes, impact and incidence of taxes, division of tax burden, the benefit and ability to pay approaches, taxable capacity, effects of taxation, characteristics of a good tax system, major trends in tax revenue of central and state governments in India.

Unit IV: Public Debt

Sources, effects, debt burden – Classical/ Ricardian views, Keynesian and post-Keynesian views; shifting - intergenerational equity, methods of debt redemption, debt management, tax verses debt.

Text Books:

- J. Hindriks and G. Myles (2006): *Intermediate Public Economics*, MIT Press.

Reference Book:

- R. A. Musgrave and P. B. Musgave(1989): *Public Finance in Theory and Practices.* McGraw Hill

- Bhatia H L (2018): *Public Finance.* Vikas Publishing House.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	4	5	4	4	4	5	4	5
CO2	5	5	4	5	4	5	5	5	4	4
CO3	5	4	5	4	5	5	4	5	4	5
CO4	5	5	4	5	5	4	5	5	4	5
CO5	5	5	4	4	4	4	5	5	4	5

Note: Highly related=3: Moderate=2: Low=1

DSE-II: Introductory Econometrics
Course Outcomes (Cos):
After reading this paper, students should have:
CO1: This course introduces students to the econometric methods used to conduct empirical analysis in Economics.
CO2: Econometric methods will prove particularly useful for understanding the interrelationships in the economic variables.
CO3: Students will learn the use of econometrics with greater precision and establishing such relationships.

CO4: The course is designed to provide the students with the basic quantitative techniques needed to undertake applied research projects.
CO5: Students will learn to estimate linear models using ordinary least squares and make inferences about population parameters.
Syllabus

Unit I: Introduction

Definition, Nature and scope of econometrics; Theoretical Probability Distributions: Binomial, Poisson and Normal distributions: their properties

Theory of Estimation: Estimation of parameters; properties of estimators – small sample and asymptotic properties; point and interval estimation.

Unit II: Hypothesis Testing

Testing of hypotheses: defining statistical hypotheses; Simple and composite hypotheses; Null and alternative hypothesis; Type I and Type II errors, Critical region; Neyman-Pearson lemma; Power of a test; Test statistics: z, chi square, t and F.

Unit III: Linear Regression Analysis

Two variable linear regression model – Assumptions; Least square estimates, Variance and covariance between Least square estimates; BLUE properties; Standard errors of estimates; Co-efficient of determination; Inference in a two variable linear regression model; ANOVA; Forecasting. Introduction to multiple regression models.

Unit IV: Violation of Classical Assumptions

Heteroscedasticity, Multicollinearity and Auto-correlation: Meaning, consequences, tests and remedies.

Text Book:

☐ Gujarati, D & Sangeetha (2007); ―Basic Econometrics‖, McGraw Hill Book Co.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	2	2	4	4	5	5	5	5
CO2	4	2	2	2	4	4	5	5	5	5
CO3	4	2	2	4	4	4	5	5	5	5
CO4	4	2	2	2	4	4	5	5	5	5
CO5	4	2	4	4	4	4	5	5	5	5

Note: Highly related=3: Moderate=2: Low=1

DSE-II: Odisha Economy

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Increasing the ability of the students to understand the policies and issues of the Odisha Economy via establishing a linkage between theory and policy.

CO2: Improving the thinking-based abilities of the students on various socio-economic problems of the state and to carry out effective research.

CO3: Enabling the students to prepare for various competitive examinations based on the

information of the state economy.

CO4: Developing the understanding of the students about various concepts and dynamics of Odisha economy.

CO5: Enhancing the moral, social and ethical values of the students in regard to identifying socio-economic issues for future research.

Unit I: Odisha Economy before 1947

Orissa's Economy in the Nineteenth Century: Benevolence or Exploitation, Forces of Nature, Animal Power, The Company Steps in, Public Works and Public Health, Education, Disintegration of Village Economy, New Social Environment, Changing Position of Social Classes, The Moneylenders, The Borrowers, Money-flows from Village to Metropolis, Pauperization of Peasantry, The Wage Earners, Demographic Changes, Profiting from Rural Adversity; Diarchy in 1919 and Separation of Provincial Finances from Central Government in 1937; Emergence of Federal Finance (Ref.: Das 1976a and 1976b, GoO 2016).

Unit II: Macro Economy of Odisha

A macro glance of Odisha economy: aggregate income, broad sectoral decomposition, performance of districts, employment, child labor and bonded labor, employment programmes, consumption expenditure, cost of living; Odisha State public finances (Chapter 14 and 15 of Ref 1; & Chapter 2 and 9 of Ref 2).

Unit III: Agriculture, Industry, Infrastructure and Environment in Odisha

Agriculture: land ownership and land tenure, agricultural wages and rural unemployment, production and productivity of major crops, agricultural inputs, agricultural policy; Animal Husbandry; Fisheries (Chapter 1 to 3 of Ref 1; & Chapter 3 of Ref 2) Industry: Investment, industrial policy, and the growth of large industries, mining and quarrying; Construction; tertiary sector: tourism, transport and power; Water Resources, Forest Resources (Chapter 4 to 8 of Ref 1; & Chapter 4 & 5 of Ref 2).

Unit IV: Social Sector in Odisha

Poverty: income poverty and inequality; health sector: outcomes, infrastructure, finance, public health, NRHM; education: Literacy, Primary education, secondary education, higher education, SSA; human development (Chapter 9 to 13 of Ref 1; & Chapter 7 & 8 of Ref 2).

Text Book:

- Nayak, P., Panda, S. C., Pattanaik, P. K. (2016): The Economy of Odisha: A Profile, Oxford University Press, New Delhi.

Reference Book:

- GoO (Latest): Odisha Economic Survey, Planning and Convergence Department, Directorate of Economics and Statistics, Government of Odisha, Bhubaneswar.

- GoO (2004): *Human Development Report 2004 Orissa*, Planning and Coordination

Department, Government of Odisha, Bhubaneswar.

☐ GoO (2018): 80 Years Odisha Budget: Commemorative Volume, Department of Finance, Bhubaneswar.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	4	2	5	4	2	4	4	5
CO2	5	4	2	4	4	4	4	5	2	4
CO3	4	5	5	5	4	2	5	4	5	2
CO4	2	4	4	4	4	4	4	5	4	4
CO5	4	5	5	4	5	4	4	2	4	4

DSE-II: Money and Banking
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: Enhancing the ability of the students to establish the linkage between banking theory and practice.

CO2: Improving the analytical skill of the students relating to the functioning of the money and banking system.

CO3: Nurturing the research-oriented ability of the students relating to financial issues.

CO4: Improving the understanding of the students about various concepts and dynamics of banking system.

CO5: Enhancing the moral and ethical values of the students about baking structure and financial institutions.

Syllabus

Unit I: Money

Money: Meaning, functions and classification; Gresham's law; Monetary standards: Metallic and paper systems of note issue; Value of money: (Uses and limitations of index number); Construction of price index number – its limitations.

Unit II: Quantity theory of money

Quantity theory of money - Cash transaction approach, cash balance approach, Keynesian approach; Inflation: meaning, types, causes – demand pull and cost push, effects, measures to control inflation, Trade-off between inflation and unemployment; Stagflation and deflation: meaning; Phillip's curve.

Unit III: Banking

Banking: meaning and types; Commercial banks: evolution, functions, the process of credit creation and its limitations, liabilities and assets of banks; A critical appraisal of the progress of commercial banking in India after nationalization; Recent reforms in banking sector in India.

Unit IV: Central Bank

Central Bank: Functions, Quantitative and qualitative methods of credit control - bank rate policy, open market operations, variable reserve ratio and selective methods; Relative efficacy of quantitative and qualitative methods of credit control.

Reserve Bank of India: Role and functions; Repo rate and reverse repo rate; Components of money supply in India; Objectives and limitations of monetary policy with special reference to India

Text Book:

☐ Paul R.R. (2017) Money Banking and Public Finance, Kalyani Publishers

Reference Book:

☐ Reserve Bank of India – The Reserve Bank of India, functions and working, Bombay, 1983.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	5	4	5	4	4	5	4	4	4
CO2	4	4	5	4	5	2	4	5	5	4
CO3	5	4	2	5	4	5	2	4	4	5
CO4	2	5	4	4	4	4	5	4	5	2
CO5	4	2	4	5	5	4	4	2	4	4

Semester VI

Core Course- C-XIII: Indian Economy II
Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Student will be able to understand the relevance of agriculture, industry and service sector in shaping Indian economy.
CO2: This paper helps students to get knowledge about the factors which help in better performance of agriculture, industry and service sector; and the policies made for these three sectors.
CO3: Students will learn about the role, composition and direction of foreign trade, Balance of Payments (BOPs) and Trade policies in India.
CO4: This course is designed to provide the knowledge about the role of environment and climate change on Indian economy and the policies for the improvement of environment in India.
CO5: Finally, it facilitates students to learn the development pattern adopted in India and evaluate its impact on economic development in India.

Syllabus

Unit I: Agricultural Development in India

Indian Agriculture: nature, importance, trends in agricultural production and productivity, factors determining production, land reforms, new agricultural strategies and green revolution,

rural credit; Agricultural marketing and warehousing.

Unit II: Industrial Development in India

Trends in industrial output and productivities; Industrial Policies of 1948, 1956, 1977 and 1991; Industrial Licensing Policies – MRTP Act, FERA and FEMA; Growth and problems of SSIs, Industrial sickness; Industrial finance; Industrial labour.

Unit III: Tertiary Sector, HRD and the External Sector

Tertiary Sector: growth and contribution of service sector to GDP of India, share of services in employment; Human development – concept, evolution, measurement; HRD: indication, importance, education in India, Indian educational policy; Health and Nutrition.

Foreign Trade: role, composition and direction of India's foreign trade, trends of export and import in India, export promotion verses import substitution; Balance of Payments of India; India's Trade Policies; Foreign Capital – FDI, Aid and MNCs.

Unit IV: Indian Economy and Environment

Environmental Policies in India: The Environment (Protection) Act 1986, The Environment (Protection) Rules 1986, The National Forest Policy 1988, Policy statement for Abatement of Pollution 1992, National Conservation Strategy and Policy Statement on Environment and Development 1992, The National Environment Appellate Authority Act 1997, National Environmental Policy 2006; Global deal with Climate Change: Introduction, Intergovernmental Panel for Climate Change (IPCC), Impact of Climate Change on India, Global Response on Climate Change, Possible Role of India.

Text Book:

☐ Misra, S. K. and Puri V. K. Indian Economy — Its Development Experience. Himalaya Publishing House, Mumbai

Reference Books:

☐ Dutt R. and Sundharam K. P. M. *Indian Economy*. S. Chand & Company Ltd., New Delhi.

☐ Indian Economy Datt and Sundharam, GauravDatt and AshwaniMahajan, S Chand Publications, 7th Revised Edition

☐ Indian Economy Since Independence, ed by Uma Kapila, Academic Foundation, Revised Nineteenth Edition 2008-09

☐ Government of India (Current Year): Economic Survey, Ministry of Finance, New Delhi

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	4	5	5	4	4	5	2	4
CO2	4	4	4	4	2	4	4	5	2	4
CO3	4	4	4	4	2	2	4	5	2	4
CO4	5	4	4	4	5	5	4	5	5	5
CO5	4	4	4	5	4	4	4	5	4	5

Core Course- C-XIV: Development Economics-II
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: Familiarises students with various concepts used in demography. It critically deliberates the issues surrounding population, migration and development.

CO2: This unit critically deals with the various reasons behind international dualism in economic development. It evaluates the role of international exchanges on unequal development across centre and periphery.

CO3: Critically engages students with the basic issues of environment and economic development. It also helps comprehend the critical role of sustainable development in enabling overall progress human civilisation.

CO4: Helps students to comprehend the role of international trade in economic development. It provides critical insights into various trade policy debates. Moreover, it also sheds light upon the unabetted role of financial capital in determining global economic development.

Syllabus

Unit I: Population and Development

Demographic concepts: birth and death rates, age structure, fertility and its determinants, the Malthusian population trap and the microeconomic household theory of fertility; costs and benefits of population growth and the model of low level equilibrium trap; rural-urban migration – the Harris Todaro migration model and policy implications.

Unit II: Dualism and Economic Development

Dualism – geographic, social and technological; the theory of cumulative causation (Myrdal); the regional inequalities in the context of economic development; the inverted U relationship; international inequality and the centre periphery thesis; dependency, exploitation and unequal exchange; the dualistic development thesis and its implications.

Unit III: Environment and Development

Basic issues of environment and development – Development and environment inter-linkage; Poverty, environmental degradation and externalities; common property resources, renewable and non-renewable resources; concept of sustainable development; basics of climate change.

Unit IV: International Trade and Economic Development and Financing Economic Development

Trade and economic development; export led growth; terms of trade and economic growth – the Prebisch Singer Hypothesis; trade strategies for development – import substitution vs. export promotion; international commodity agreements; trade vs aid.

Saving, capital formation and economic development; financial sector and economic development; taxation, public borrowing and economic development; inflation, foreign finance, investment and foreign aid – controversies and opportunities.

Text Book:

☐ Todaro, Michael P and Stephen C Smith (2006): *Economic Development*, 8th Edition,Pearson

Reference Book:

☐ Thirlwall, A P (2011): *Economics of Development*, 9th Edition, Palgrave Macmillan.Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	5	5	5	5	5	5	4	5
CO2	5	4	5	5	5	5	5	5	4	5
CO3	5	4	5	5	5	5	5	5	4	5
CO4	5	4	5	5	5	5	5	5	4	5

DSE III: Environmental Economics

Course Outcomes (Cos):

CO1: It would help to know the relevance of environmental economics for a developing nation, contemporary issues related to environment, and different environmental laws and protocols.

CO2: It will explain how externalities, public goods etc. can cause a problem to the environment and how the society can tackle the major issues through different theoretical approaches.

CO3: It would also help to assess different scientific methods used to measure the environmental damages.

CO4: This will help the student to bring a logical views of command and market based economy.

CO5: It will help to examine issues in the contemporary environmental discourse from an economists' point of view.

Syllabus

Unit I: Economy and Environment

Nature and Scope of Environmental Economics- Environment and Economy interaction; Environment as a public good- Serious environmental problems of Developing Countries – Air pollution, water pollution and deforestation.

Global environmental problems, trade and environment, International Cooperation for Environmental Protections, Montreal and other protocols.

Unit II: The Economics of Pollution and Climate change

Pollution as externality, The market Approach to optimal pollution, Property rights and market bargain theorems, Coase theorem; Pigouvian Taxation, Subsidies and optimal pollution; Climate change – concept, causes, effects and management.

Unit III: Valuation of Environmental Damage

Methods and difficulties of environmental valuation, Economic value, Use value, Option value, Existence value; Direct and Indirect Valuation of Environmental Goods: The hedonic price approach, Contingent valuation, Travel cost approach.

Unit IV: Natural Resources and Sustainable Development

Natural resources- Renewable and exhaustible; Tragedy of commons, People's Participation in the management of common property resources; Sustainable Development Concepts, Sustainability rules, Indicators of sustainability, Solow/Hartwick, Natural capital stock, Safe Minimum Standard.

Text Book:

☐ Bhattacharya, R. N. (2002): Environmental Economics: An Indian Perspectives, OUP, New Delhi

Reference Book:

☐ Kolstad, C.D (1999); Environmental Economics Oxford University Press, New Delhi

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	5	4	5	4	5	5	4	4	5
CO2	5	5	4	5	5	5	5	5	4	5
CO3	5	5	5	4	4	5	5	5	5	4
CO4	5	5	4	5	5	5	4	5	5	5
CO5	5	5	5	5	4	5	4	5	4	5

DSE-IV: History of Economic Thought

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Familiarises students with the antecedent of economic thoughts in the world – beginning from the Mercantilism to Ricardian Theory. This unit helps students understand the contribution of Classical Political Economy to the development of economic theory.

CO2: This unit critically exposes students to the major debates between Classical political economist and Marx's analysis of economic system. It provides an insight into Malthusian population theory, Marxian political economy and Mill's utilitarian approach to economic analysis.

CO3: Critically engages students with the major economic contribution of Marginalist school

– starting from Jevons to Marshal. Moreover, students will be acquainted with the major theoretical differences between Keynesian Economics and Neo-Classical Economics on determination on income, employment and interest rate in the economic system.

CO4: The last unit helps students acknowledge the major contribution of Indian economic thinkers to the economics science. The relevance of Kautilya's Arthasashtra is discussed along the modern economic thinkers such as Naroji and Gandhi. Moreover, it also helps students to critically compare Indian economic thoughts with the western economic thought.

Syllabus

UNIT I: Introduction and Early Economic Thought

Mercantilism-main characteristics, Thomas Mur's views; Physiocracy- main features, Tableau Economique, taxation; Early Classicism: Adam Smith- Theory of Value, Division of labour, capital accumulation, distribution, views on trade and economic progress; David Ricardo-theory of value, theory of rent, distribution, ideas on international trade and development.

UNIT II: Classicism Vs Marxism

Thomas Malthus- population theory, glut theory; Karl Marx-dynamic of social change, theory of value, surplus value, theory of profit, crisis of capitalism, Johns Stuart Mill- ideas on value, distribution, views as a synthesizer.

UNIT III: The Marginalists' Revolution

Economic ideas of Jevons, Walras and Menger, Bohm-Bowerk, Wicksell ; Marshall – Role of time element in price determination, ideas on consumer surplus, Marshal as a synthesizer.

UNIT IV: Indian Economic Thought

Main themes of Kautilya's Arthasashtra; Modern Economic Ideas: Dada Bhai Naoroji, M.K. Gandhi, village swaraj, non-violence, machines and labour, cottage industries; Comparison of Indian Economic thought with western Economic thought.

Text Book

☐ Gide, Charles and Rist, Charles (1973): A History of Economic Doctrines, Oxford University Press.

☐ Dasgupta, A K (1986): Epochs of Economic Theory, Oxford University Press, New Delhi.

Reference Book:

☐ O'Brien, D P (1975): Classical Economists, Oxford, Clarendon Press.

☐ Ekelund, Robert B. and Robert F. Hebert (1990): A History of Economic Theory and Method, third edition, New York: McGraw Hill.

☐ Henry W. Spiegel (1991): The Growth of Economic Thought, 3rd ed. Durham: Duke University Press.

☐ Tom Bottomore (1980): Dictionary of Marxist Thought, Basic Blackwell Publishers.

☐ Roll, Eric, History of Economic Thought, Faber and Faber Ltd.

☐ L N Rangarajan (1992): Kautilya: The Arthasastra, edited, rearranged, translated and introduced; Penguine books, New Delhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	5	5	5	5	5	5	4	5
CO2	5	4	5	5	5	5	5	5	4	5
CO3	5	4	5	5	5	5	5	5	4	5
CO4	5	4	5	5	5	5	5	5	4	5

Note: Highly related=3: Moderate=2: Low=1

DSE IV: International Economics
Course Outcomes (Cos):
CO1: This will help to analyse the importance of international trade for an economy by illustrating different trade theories.

CO2: This will help to analyse the economic relationships, issues, opportunities among different nations.

CO3: It would help to enlarge the understanding of current trade policies of different international institutions/organisations and how they help to facilitate the objective of globalisation.

CO4: This would help to know the meaning, construction of indices through which student can be able to evaluate financial position of different countries.

CO5: This help students to enlarge the idea of various mechanics/approaches which would help to correct the poor financial position of a nation globally.

Syllabus

UNIT I: Importance of Trade and Trade Theories

Importance of the study of International Economics; Inter-regional and international trade; Theories of Trade-absolute advantage (Adam Smith), comparative advantage (David Ricardo) and opportunity cost (Haberler); Heckscher-Ohlin theory of trade— its main features, assumptions and limitations (Leontief Paradox) Factor Price Equalization theorem.

UNIT II: Trade Policy and International Economic Institutions

Concepts of terms of trade and their importance; Doctrine of reciprocal demand – Offer curve technique; Gains from trade ;Trade as an Engine of Growth and Concept of immiserizing growth, Tariffs and quotas – their impact in partial equilibrium analysis; General Equilibrium analysis of tariff and the concept of optimum tariff, Functions of IMF (Conditional Clause), Role of IMF in international liquidity, Reforms for the emergence of international monetary system; World Bank and WTO; Their achievements and failures; Their Role from the point of view of India.

UNIT III: Exchange Rate

Concept and Types of Exchange Rate (bilateral vs. trade-weighted exchange rate, cross exchange rate, spot, forward, futures), Demand for and Supply of foreign exchange, Exchange Rate Determination: Mint Parity Theory, Purchasing-Power Parity Theory, Fixed versus Flexible exchange rate.

UNIT IV: Balance of Trade and Payments

Concepts and components of balance of trade and balance of payments; Disequilibrium in balance of payments; Various measures to correct deficit in BOPs (Expenditure switching and expenditure reducing policies, Direct control), Depreciation Vs. Devaluation; Elasticity approach to devaluation, foreign trade multiplier- Concept and implications.

Text Book:

☐   Mannur H. G (Recent Edition) *International Economics*, Vikash Publishing

Reference Books:

☐   Salvatore Dominick, *International Economics*, Wiley India.

☐   Sodersten Bo and Reed J, *International Economics*, McMillan Publisher

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	4	5	5	4	4	5	4	4
CO2	5	5	4	5	5	5	4	4	4	5
CO3	4	5	5	5	4	4	4	5	5	4
CO4	4	4	5	4	4	2	5	5	4	4
CO5	4	5	5	4	4	5	5	5	5	4

DSE-IV: Agricultural Economics

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Increasing the ability of the students to understand the importance of agricultural economics via establish a linkage between theory, policy and practice.

CO2: Developing the analytical thinking of the students on various issues and policy of agricultural economics.

CO3: Prepare students for pursuing research and innovation in various contemporary issues of agricultural economics at national and international level.

CO4: Improving the understanding of the students with ability to think rationally, analyze situations and solve problems adequately.

CO5: Enhancing the moral, social and ethical values of the students in regard to identifying socio-economic issues for future research on agricultural economics.

Syllabus

UNIT I: Agriculture and Economic Growth

Role of Agriculture in Economic Development, sectoral changes and agriculture, agriculture in rural development, farm and non-farm employment issues, inter-linkages between agriculture and industry; empirical evidence of inter-dependence between agriculture and industry; Schultz's hypothesis on traditional agriculture – its criticisms; Mechanization of Indian Agriculture; Case for and against farm mechanization; Green revolution and trends of mechanization in India.

UNIT II: Agricultural Price and Marketing

Agricultural price policy for a developing economy – objectives and effectiveness of agricultural price policy, elements of agricultural price policy, features of an ideal agricultural price policy, agricultural price policy in India and public distribution system

Agricultural marketing – need and criteria for assessing efficiency, agricultural marketing system in India, development of a national agricultural marketing platform.

UNIT III: Risk and Uncertainty in Agriculture

Difference between risk and uncertainty, types of uncertainty in agriculture, measures for mitigating risk and uncertainty in agriculture, new agricultural insurance scheme of India Rural credit in India, importance and estimates, agencies for rural credit, review of progress of institutional finance in rural India since independence.

UNIT IV: Agriculture in India

Agriculture in Indian Planning, Globalization and Indian agriculture, Case for and against privatization of agriculture, WTO and India's trade in agricultural commodities.

Text Book

  Sony, R. N. (2006), Leading Issues in Agricultural Economics, Vishal Publishing, Jalandhar.

Reference Book:

  Sadhu, A N and A Singh (2008), Fundamentals of Agricultural Economics, Himalaya Publishing House, Mumbai.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	5	4	2	5	4	2	4	4	5
CO2	5	4	4	4	4	2	4	4	5	4
CO3	4	5	4	5	5	5	5	4	5	2
CO4	5	4	4	2	4	4	4	5	4	5
CO5	4	5	5	5	5	4	4	2	4	4

DSE-IV: Project/Dissertation
Course Outcomes (COs):

After reading this paper, students should:

CO1: Have knowledge and skills to plan, and engage in, an independent and sustained critical investigation and evaluation of a chosen research topic relevant to economy, environment and society.

CO2: Have knowledge and skills to systematically identify relevant theory and concepts, relate these to appropriate methodologies and evidence, apply appropriate techniques and draw appropriate conclusions.

CO3: Have knowledge and skills to appropriately apply qualitative and/or quantitative evaluation processes to original data.

CO4: Have knowledge and skills to understand and apply ethical standards of conduct in the collection and evaluation of data and other resources.

CO5: Have knowledge and skills to communicate research concepts and contexts clearly and effectively both in writing and orally.

The project is intended to establish the connection between Economics as confined to the text books and class rooms and Economics at play in the ground. It is expected to give an empirical content to the subject. Economics is defined as the study of mankind in the ordinary business of life. It studies individual as well as group behavior.

Project work at the undergraduate level is an in-depth study on a topic chosen by the student. The objective of the project work for the students at undergraduate level is to expose students to the social and real-world contexts in which the subjects taught in the classroom have applications. Therefore, the topic must be related to the field of study the student is enrolled. It is undertaken with the guidance of a faculty supervisor, and involves a prolonged period of investigation and writing. The supervisor is supposed to help the student and mentor him/her throughout, from selection of the topic to submission of the project report.

The project output will be a project report written on the topic, chosen by the student and approved by the guide, in about 10000 words.

The process of project preparation typically comprises of an investigation of a particular topic, based on the application of philosophical and theoretical knowledge available in the already existing scientific literature and other published sources of information. The student may use already available data (texts, documents, artworks or existing data sets) or she may go for collection of data from the field. The final report should ideally have the following sections.

(1) Abstract (in about 500 words) containing a summary of the entire report.

(2) Introduction of the topic, arguments for choosing such a topic and the key investigation propositions.

(3) A review of the existing knowledge on the topic

(4) Information on the data and data treatment tools used in the study

(5) An analysis of data and findings

(6) Conclusions

(7) References

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	5	5	4	5	5	2	4	5
CO2	5	4	5	4	5	2	4	4	2	5
CO3	5	5	5	2	5	4	5	5	4	5
CO4	5	2	4	2	4	5	5	5	5	5
CO5	5	2	4	2	4	5	5	5	5	5

AECC – I: Environmental studies and disaster management
COURSE OUTCOME (COs)
After completion of the course the students shall be able to:

1. Students understand about problems of environmental pollution and Impact of pollution on human and ecosystem and control measures.

2. Students will learn about increase in population growth and understand the issues of use of resources in proper manner leading to sustainable development.

3. Learn about causes and impacts of Disasters and Case studies of National and Global disasters and risk reduction approaches of Disasters with safety issues in mitigating Industrial disasters.

Basic idea about the mode of transmission and course of some communicable and non-communicable diseases and knowledge on the Importance and methods of prevention of epidemics and pandemics

Unit-I: Environment
The Environment: The Atmosphere, Lithosphere, Hydrosphere, Biosphere (01 period)

Ecosystem: Energy flow in the ecosystem (01 period)

Biogeochemical Cycle: Water Cycle, Carbon Cycle, Nitrogen Cycle (02 periods)

Pollution: Water Pollution, Air Pollution, Soil Pollution, Radiation Pollution, Industrial Pollution, Light Pollution, Sound Pollution (05 periods)
Environmental Laws (Water Act 1974, Air Act 1981, The Wildlife Protection Act 1972, The Environment Protection Act 1986), The Forest Conservation Act 1980 (04 periods)

Unit-Il: Climate Change & Sustainable Development

Population Ecology: Individuals, Species, Population, Community (01 period)
Human Population Growth, Population Control Methods (01 period)
Urbanization and its effect on society (01 period)
Climate Change: Causes, effect, Global Warming, Carbon footprint and environmental protection (05 periods)
Steps taken towards sustainable development: Ban of single-use plastics, Automobile Scrapping Policy, Promotion of Electrical Vehicles (03 periods)
Brief idea on Sustainable Development Goals (SDGs), Agenda 21 of Rio Earth Summit (02 periods)

Unit-Ill: Disaster Management

Disaster Management: Types of disasters (Natural and Man-made) and their causes and effect) (02 periods)
Vulnerability Assessment and Risk Analysis: Vulnerability to various disasters (Flood, Cyclone, Earthquake, Heat waves and Lightning) (02 periods)

Institutional Framework: Institutional arrangements for disaster management (National Disaster Management Authority (NDMA), State Disaster Management Authority (SDMA), District Disaster Management Authority (DDMA), National Disaster Response Force (NDRF) and Odisha Disaster Rapid Action Force (ODRAF) (02 periods)

Preparedness Measures: Disaster Management Cycle, Early Warning System, Pre-Disaster and Post-Disaster Preparedness, Strengthening of SDMA and DDMA, Community Preparedness, Stakeholder participation, Corporate Social Responsibility (CSR) (05 periods)

Survival Skills: Survival skills adopted during and after disaster (Flood,

Unit-IV: Public Health Management

Brief idea on Epidemics and Pandemics (01 period)

Non-communicable diseases with special reference to Cardiovascular diseases, Cancer, Diabetes, Hypertension and Obesity and their prevention (02 periods) Communicable diseases with special reference to Covid-19, Flu, Hepatitis, AIDS and Tuberculosis and their transmission (02 periods)

Dynamics of Disease Transmission: Mode of transmission (Direct/lndirect), Events after infection: Immunity (Active vs. Passive, Innate vs. Acquired, Herd Immunity), Incubation Period (02 periods) **Prevention of Epidemics/Pandemics Diseases:** Preventing Measures (Quarantine, Sanitization, Personal Protective measures such as Hand washing and use of protective devices, Vaccination); Control Measures (Surveillance, Isolation, Contact Tracing) (03 Periods)

Life Style management (Diet, Physical Exercise, Yoga and sleeping habit) (02 periods)

Role of Different Sectors in Managing Health Disaster: Role of Government (Centre and State), Community, Civil Society, Student mass, NGOs (01 period)

Books Recommended:

1. Asthana DK and Asthana M: A Text Book of Environmental Studies, S. Chand, New Delhi

2. Bharucha E: A Text Book of Environmental Studies, New Delhi:UGC

3. Dash MC and Mishra PC: Man and Environment, McMillan, London

4. Disaster Management and Mitigation Plan,2013 of Dept. of Health & Family Welfare, Govt. of Odisha*

5. Mishra DD: Fundamental Concepts in Environmental Studies, S. Chand, New Delhi

6. National Policy on Disaster Management,2009*

7. National Disaster Management Plan,2019*

8. Odum EP: Fundamentals of Ecology, Natraj Publications

9. State Disaster Management Plan, 2019 of Government of Odisha* Standard Operating Procedure (SOP) issued by Govt. of India and Govt. Of Odisha on Public Health Managements in the websites: www.mohfw.gov.in and health.odisha.gov.in*

10. The Disaster Management Act, 2005 of Government of India* [Note: Star (*) marked References, published by the State as well as Central Government are available in the open sources]

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	5	5	4	5	5	2	4	5
CO2	5	4	5	4	5	2	4	4	2	5
CO3	5	5	5	2	5	4	5	5	4	5
CO4	5	2	4	2	4	5	5	5	5	5
CO5	5	5	5	5	4	5	5	2	4	5

Ability Enhancement Compulsory Course (AECC)-II: ଯୋଗାଯୋଗମୂଳକ ମାତୃଭାଷା – ଓଡ଼ିଆ

Course Outcomes:

After reading this paper the students will be able to;

CO1: Students of all departments of the University can easily present their theoretical knowledge in Odia by studying Odia Grammar and Communication skills in the course AECC-II

CO2: Students of Science, Social Science and Humanities can fluently discuss their discipline specific learnings and ideas, research findings in their mother tongue (ODIA).

CO3: Though we receive higher education in various subjects through various medium of instruction, it is always more convenient to express oneself in one's mother tongue ODIA. It is an enriching experience for both the knowledge giver and the receiver.

CO4: Odia language is essential for Professionals like a doctor, scientist or educator to become intelligible as well as amiable for others.

Syllabus

ପାଠ୍ୟ–୧ | **Course – 1** : ଯୋଗାଯୋଗ ଅନୁବିଧୁ, ରୀତି ଓ ମାଧମ

୧ମ ଏକକ : ଯୋଗାଯୋଗର ପରିଭାଷା, ଅନୁବିଧା, ପରିସର ଓ ପ୍ରକାରଭେଦ

୨ୟ ଏକକ : ସାକ୍ଷାତକାର, ଭାଷଣ କଳା

୩ୟ ଏକକ : ସମ୍ବାଦର ପରିଭାଷା, ପରିସର ଓ ସମ୍ବାଦ ପ୍ରସ୍ତୁତି

୪ର୍ଥ ଏକକ : ଓଡ଼ିଆ ଭାଷାର ବର୍ଣ୍ଣମାଳା, ବର୍ଣ୍ଣାଶୁଦ୍ଧିର ନିରାକରଣ । (ବନାନ ତ୍ରୁଟି - ସାଦୃଶ୍ୟଜନିତ ଅଶୁଦ୍ଧି, ଲିଙ୍ଗଗତ ଅଶୁଦ୍ଧି, ସନ୍ଧିଗତ ଅଶୁଦ୍ଧି, ସମାସଗତ ଅଶୁଦ୍ଧି, ବଚନ ଓ ବିଭକ୍ତିଗତ ଅଶୁଦ୍ଧି, ବାକ୍ୟ ବିଧୁଜନିତ ଅଶୁଦ୍ଧି, ସମାର୍ଥବୋଧକ ଶବ୍ଦାଶୁଦ୍ଧି, ପ୍ରତ୍ୟୟ ଜନିତ ଅଶୁଦ୍ଧି, ଶବ୍ଦ ସଂଯୋଗାମୂକ ଓ ସ୍ୱରସଙ୍ଗିତ ଅଶୁଦ୍ଧି

ସହାୟକ ଗ୍ରନ୍ଥସୂଚୀ (ପାଠ୍ୟ-୧ | Course – 1)

୧. ଯୋଗାଯୋଗ ମୂଳକ ମାତୃଭାଷା (ଓଡ଼ିଆ) ସାମଲ ବିରଞ୍ଚି ନାରାୟଣ, ସତ୍ୟନାରାୟଣ ବ୍ଲକ ଷ୍ଟୋର,କଟକ ।

୨. ସଂଯୋଗ ଅନୁବିଧି, ସନ୍ତୋଷ କୁମାର ତ୍ରିପାଠୀ, ନାଳନ୍ଦା, କଟକ

୩. ଭାଷଣ କଳା ଓ ଅନ୍ୟାନ୍ୟ ପ୍ରସଙ୍ଗ - କୃଷ୍ଣଚନ୍ଦ୍ର ପ୍ରଧାନ, ସତ୍ୟନାରାୟଣ ବୁକ୍ ଷ୍ଟୋର,କଟକ

୪. ପ୍ରାୟୋଗିକ ଓଡ଼ିଆ ଭାଷା – ଓଡ଼ିଶା ରାଜ୍ୟପାଠ୍ୟ ପୁସ୍ତକ ପ୍ରଣୟନ ଓ ପ୍ରକାଶନ ସଂସ୍ଥା, ଭୁବନେଶ୍ୱର ସଂସ୍ଥା, ଭୁବନେଶ୍ୱର

୧. ନିର୍ଭୁଲ ଲେଖାର ମୂଳସୂତ୍ର, ନୀଳାଦ୍ରିଭୂଷଣ ହରିଚନ୍ଦନ, ପି.ସି.ଥାର ପବ୍ଲିକେସନ, ଭୁବନେଶ୍ୱର

୨. ସର୍ବସାର ବ୍ୟାକରଣ - ନାରାୟଣ ମହାପାତ୍ର ଓ ଶ୍ରୀଧର ଦାସ, ନିମ୍ନ ଷ୍ଟୁଡେଣ୍ଟସ୍ ଷ୍ଟୋର, କଟକ

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	5	5	4	5	5	2	4	5
CO2	5	4	5	4	5	2	4	4	2	5
CO3	5	5	5	2	5	4	5	5	4	5
CO4	5	2	4	2	4	5	5	5	5	5

Ability Enhancement Compulsory Course (AECC) II: MIL – Alternative English
Course Outcomes

After completion of the course the students shall be able to:

CO 1: demonstrate high-level proficiency in writing and speaking English

CO 2: employ effectively the language of their discipline

CO 3: develop skills in organizing and expressing ideas and viewpoints with clarity and coherence in writing and speech

CO 4: formulate and defend original arguments

CO 5: enumerate skills in narration, description, and argumentation

CO 6: ascertain insight into different cultures

CO7: gain good knowledge that includes understanding recent developments in   language and literature

CO 8:   to develop an acumen for a better understanding of the diversity of human experiences

CO 9: acquire an openness to new ideas, perspectives, and ways of thinking

CO 10: enhance literary and critical thinking

Syllabus

Introduction: The paper is focused upon developing one fundamental skills of Language learning; reading which needs a thorough rethink and revision. In order to build a strong base

for acquisition of the communication skills, suitable reading content is selected from diverse areas in prose form. This would boost the learner's competence in expressive and comprehension skills. The well researched language exercises in the form of usage, vocabulary and grammar is the other area that should attract the teacher and learner to work out for giving decent shape to the mastery of English language.

UNIT l: Short Story

1. Jim Corbett-The Fight between Leopards
2. Dash Benhur- The Bicycle
3. Dinanath Pathy- George V High School
4. Alexander Baron- The Man who knew too much
5. Will f Jenkins- Uneasy Homecoming

UNIT 2: Prose

1. Mahatma Gandhi- The way to Equal Distribution
2. S Radhakrishnan- A Call to Youth
3. C V Raman-Water- The Elixir of Life
4. Harold Nicolson- An Educated Person
5. Claire Needell Hollander- No Learning without Feeling

UNIT 3:

1. Comprehension of a passage and answering the questions

UNIT 4:

1. Language exercises-test of vocabulary, usage and grammar

Text Books

All Stories and Prose pieces

Reference Books

1. The JJ'idening Arc: A Selection of Prose and Stories, Ed. A R Parhi, S Decpika, P Jani, Kitab Bhavan, Bhubaneswar.
2. A Communicative Grammar of English, Geoffrey Leech.
3. A University Grammar of English. Randolph Quirk and Sidney Greenbaum
4. Developing Reading Skills. F. Grellct. Cambridge: Cambridge University Press, 1981. UG Honours/Pass Syllabus in English

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	5	4	4	4	2	2	2	2	4
CO2	4	5	4	4	4	2	2	2	2	4
CO3	4	5	4	4	4	2	2	2	2	4
CO4	4	5	4	4	4	2	2	2	2	4
CO5	4	5	4	4	4	2	2	2	2	4
CO6	4	5	4	4	4	2	2	2	2	4
CO7	4	5	4	4	4	2	2	2	2	4
CO8	4	5	4	4	4	2	2	2	2	4
CO9	4	5	4	4	4	2	2	2	2	4
CO10	4	5	4	4	4	2	2	2	2	4

Ability Enhancement Compulsory Course (AECC) II: MIL – Hindi
Course Outcomes:
After reading this paper the students will be able to;

CO1: Students of all departments of the University can easily present their theoretical knowledge in Hindi by studying Hindi Grammar and Communication skills in the course AECC-II.

CO2: Students of Science, Social Science and Humanities can fluently discuss their discipline specific learnings and ideas, research findings in Hindi.

CO3: Though we receive higher education in various subjects through various medium of instruction, it is always more convenient to express oneself in national language Hindi. It is an enriching experience for both the knowledge giver and the receiver.

CO4: Hindi language is essential for Professionals like a doctor, scientist or educator to become intelligible as well as amiable for others.

Syllabus

UNIT-1
कव

1. कबीर – साखी - 1 से 10
2. तुलसी - विनयपत्रिका - पद 1 और 2
3. प्रसाद - मधुमय देश

4. निराला – भिक्षुक
5. अज्ञेय - हिरोशिमा

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UNIT-II

गद

</div>

1. रामचन्द्र शुक्ल- उत्साह
2. हजारी प्रसाद द्विवेदी- कुटन
3. (हरिशंकर परसाई -सदाचार का ताबीज

<div align="center">

UNIT-III

शब्द ज्ञान

</div>

1. शब्द शुद्धि
2. वाक्य शुद्धि
3. पर्यायवाची शब्द
4. विलोम शब्द

<div align="center">

Mapping of Course Outcomes with the Program Outcomes

</div>

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	5	5	4	5	5	2	4	5
CO2	5	4	5	4	5	2	4	4	2	5
CO3	5	5	5	2	5	4	5	5	4	5
CO4	5	2	4	2	4	5	5	5	5	5

Skill Enhancement Course (SEC-I): Communicative English
Course Outcomes:
After completion of the course the students shall be able to:

CO 1: enhance their ability to build and enrich their communication skills

CO 2: be able to build up the four primary skills in students in the academic as well as in the wider domains of use like public offices.

CO 3: acquire analytical and comprehension reading skills

CO 4: identify basic principles of communication

CO 5: build speaking and listening skills

CO 6: learn beyond the conventional syllabus and be prepared to meet challenges while seeking a job

CO 7 be able to synthesize knowledge and use it creatively to better understand and improvise themselves

CO 8: be able to communicate effectively through written reports, presentations, and discussions

CO 9: develop a neutral accent and improve general standard of pronunciation

CO 10: speak globally intelligible English

Syllabus

Introduction: This paper intends to build up the four primary skills in students in the academic as well as in the wider domains of use like public offices. The books recommended only provide guidelines for what to teach, and the list is in no way exhaustive. Teachers must be free and resourceful enough to collect teaching materials on their own, and even use newspaper clippings as teaching materials.

This is an activity-based, goal-oriented, functional course in English Communication, which aims to make the students able and efficient communicators by helping them to be self-reflexive about English. This course has a pre-defined context of being supportive and complementary to the core courses in various disciplines. Therefore, unlike most other courses in English Communication on offer, it does not seek to build facile fluency that passes off as communicative competence. Rather, it intends to equip the students with the relevant skills of presentation and expression needed in the academic as well as in the professional domains of communicative use. While reading skills exercises are meant to promote the acquisition of analytical and comprehension skills, writing skills exercises are centered on sentence construction, paragraph development and précis writing. Teachers must be free and flexible enough in relation to teaching materials, using newspaper clippings, non-conventional and multimedia resources in the classroom. There is ample scope to build the speaking and listening skills of students in the way the course is planned with an emphasis on interactive learning and articulation.

UNIT 1: Introduction
1. What is communication?
2. Types of communication (Horizontal, Vertical, Interpersonal, Grapevine),
3. Uses of Communication, Inter-cultural communication, Communication today
4. Distinct features of Indenisation, alternative texts of language learning, global English and English in the print and electronic media in India.

UNIT 2: The Four Skills and Prospect of new material in language learning

1. listening-Passive and active, Speaking effective, intelligibility and clarity.
2. Methods and techniques of reading such as skinning, scanning and searching for information, reading to understand the literal, metaphorical and suggested meaning.
3. Identifying the tone (adlniring, accusatory, Ironical, sympathetic, evasive, indecisive. ajnbiguous, neutral etc.) of the writer and view-points.
4. Cohesive and Coherent writing.

UNIT 3: Grammatical and Composition Skills

1. Doing exercises like filling in the blanks, correcting errors, choosing correct forms out of alternative choices, joining clauses, rewriting sentences as directed, and replacing indicated sections with single words / opposites / synonyms, choosing to use correct punctuation marks, getting to understand and use formal and informal styles, learning to understand the usages of officialise, sexism, racism, jargon.
2. Learning to understand information structure of the sentence such as topic-focus relationship; strategies of schematization, postponement, emphasis, structural compression (deletion of redundant parts, nominalization, cleft and pseudo-cleft sentences, elliptical structures etc.), Logical Connectors between sentences, Methods of developing a paragraph, structure of an essay and methods of developing an essay

UNIT 4: Exercises in Written Communication

1. Precise writing
2. Note taking skills
3. Writing reports
4. Guidelines and essentials of official correspondence for making enquiries, complaints and replies.
5. Making representations; writing letters of application for jobs; writing CV, writing letters to the editor and social appeals in the form of letters/pamphlets.

Reference Books:

1. Ways of Reading: Advanced reading Skills for Students of English Literature. Martin Montgomery et al. London: Routledge, 2007.
2. Applying (communication Theory)' /0r Professional Life: A Practical Introduction. Dainton and Zelley, http://tsime.uz.ac.zw/claroline/backends/download.php?url—
3. Literature and the art of Communication, Cambridge University Press.
4. Orient Black Swan (writing and granular exercises at the end of lessons are recommended) From Remapping An AnthologyU0r Degree Classes.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	3	2	2	2	1	1	1	1	2
CO2	4	3	2	2	2	1	1	1	1	2
CO3	4	3	2	2	2	1	1	1	1	2
CO4	4	3	2	2	2	1	1	1	1	2
CO5	4	3	2	2	2	1	1	1	1	2
CO6	4	3	2	2	2	1	1	1	1	2
CO7	4	3	2	2	2	1	1	1	1	2
CO8	4	3	2	2	2	1	1	1	1	2
CO9	4	3	2	2	2	1	1	1	1	2
CO10	4	3	2	2	2	1	1	1	1	2

Skill Enhancement Course (SEC-I): Quantitative Aptitude, Data Interpretation & Logical Reasoning

Course Outcomes:

I. Quantitative Aptitude & Data Interpretation

After completion of the course the students shall be able to:

a) Use their logical thinking and analytical abilities to solve Quantitative aptitude questions from company specific and other competitive tests.
b) Solve questions related to Time and distance and time and work etc. from company specific and other competitive tests.
c) Understandand solve puzzle related questions from specific and other competitive tests.
d) Solve questions related to permutation & combinations and probabilities from company specific and other competitive tests.

II. Logical Reasoning

After completion of the course the students shall be able to:

a) Detect errors of grammar and usage in a given sentence/text and rectify them by making appropriate changes.
b) Solve questions based on critical reasoning.
c) Analyze reading passages and quickly find out the correct responses to questions asked by using reading skills like skimming, scanning, reading between the lines, etc.
d) To use idiomatic expressions in writing and speaking and to solve questions based on them.

Syllabus

I. Quantitative Aptitude & Data Interpretation

Unit – 1: Whole numbers, Integers, Rational and irrational numbers, Fractions, Square roots and Cube roots, Surds and Indices, Problems on Numbers, Divisibility, Steps of Long Division Method for Finding Square Roots.

Unit -2: Basic concepts, Different formulae of Percentage, Profit and Loss, Discount, Simple interest, Ratio and Proportion, Mixture.

Unit- 3: Time and Work, Pipes and Cisterns, Basic concepts of Time, Distance and Speed; relationship among them.

Unit – 4: Concept of Angles, Different Polygons like triangles, rectangle, square, right-angled triangle, Pythagorean Theorem, Perimeter and Area of Triangles, Rectangles, Circles.

Unit – 5: Raw and Grouped Data, Bar Graphs, Pie charts, Mean, Median and Mode, Events and Sample Space, Probability.

II. Logical reasoning

Unit - 1: Analogy basing on kinds of relationships, Simple Analogy; Pattern and Series of Numbers, Letters, Figures. Coding-Decoding of Numbers, Letters, Symbols (Figures), Blood relations.

Unit – 2: Logical Statements – Two premise argument, More than two premise argument using connectives.

Unit -3: Venn Diagrams, Mirror Images, Problems on Cubes and Dices.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	2	2	2	2	2	5	2	4	4
CO2	4	2	2	2	2	2	5	2	4	4
CO3	4	2	2	2	2	2	5	2	4	4
CO4	4	2	2	2	2	2	5	2	4	4
CO5	4	2	2	2	2	2	5	2	4	4
CO6	4	2	2	2	2	2	5	2	4	4
CO7	4	2	2	2	2	2	5	2	4	4
CO8	4	2	2	2	2	2	5	2	4	4

ETHICS AND VALUES

Course Outcomes:

After completing the course students will be able to:

1. Have changes in their perceptions and practices towards women

2. Develop proper attitude towards women and value their work and contribution

3. Come forward to challenge the unethical treatments against women

4. End gender-based hierarchy and hegemony, remove the feeling that women are counter to men and bring about a complementarity among the hitherto existing gender binary

5. Be pioneer in creating a gender equal society where the well-being, happiness and security of the women will be well protected & contributing towards a better and happier society.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	4	4	2	4	2	2	2	2	4
CO2	5	4	4	5	5	2	2	2	2	4
CO3	4	2	5	5	5	2	2	2	2	4
CO4	4	2	5	5	5	2	2	2	2	4
CO5	4	2	5	5	5	2	2	2	2	4

Generic Elective Paper III

INTRODUCTORY MICROECONOMICS

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: This will help to explain what economics is, why it is important, how economists use economic models. Also after studying the paper they are able to understand how production and consumption decisions are taken.

CO2: It will help in understanding the behaviour of individuals and small organizations in making decisions on the allocation of limited resources.

CO3: It will result in equipping the students in a rigorous and comprehensive manner with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm in modern non-profit maximizing framework.

CO4: It will helps to understand the different input market structure, the determinants of labour and capital, and equilibrium in input market. Also helps to understand the nature of different market structure. It uses the concepts of consumer, producer and total surplus to explain why markets typically lead to efficient outcomes.

CO5: It will result in understanding the micro and macro theories of distribution, welfare economics, general equilibrium in closed and open systems and analysis of economic behaviour under uncertainty.

Syllabus

Introduction:
This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyze real-life situation.

Unit I: Exploring the Subject Matter of Economics, Markets and Welfare
The Ten Principles of Economics: How people make decisions; Working of the economy as a whole; Thinking Like an Economist: The economist as Scientist – The scientific method: Observation, Theory and more observation; Role of assumptions; Economic Models; Why economists disagree; Graphs in Economics.

The market forces; Markets and competition; The demand and supply curves – Market vs. individual curves, Shifts in demand and supply curves; Market equilibrium and changes there in; Price elasticity of demand – determinants and computation; Income and cross elasticity of demand; The price elasticity of supply – determinants and Computation; Consumer and Producer Surplus.

Unit II: Theory of Consumer Choice

The Budget Constraint; Preferences – representing preferences with indifference curves; Properties of indifference curves; Two extreme examples of indifference curves; Optimization – Equilibrium; Change in equilibrium due to changes in income, changes in price; Income and substitution effect; Derivation of demand curve; Three applications – Demand for Giffen goods, Wages and Labour Supply, Interest rate and Household saving.

Unit III: The Firm and Market Structures

Cost concepts; Production and costs; The various measures of cost – Fixed and variable cost, average and marginal cost; Cost curves and their shapes; Costs in the short run and in the long run; Economies and diseconomies of scale. Firms in competitive markets – What is a competitive market; Profit maximization and the competitive firm's supply curve; The marginal cost curve and the firm's supply decision; Firm's short-run decision to shut down; Firm's long-run decision to exit or enter a market; The supply curve in a competitive market – short run and long run.

Unit IV: The Input Markets

The demand for labour – The production function and the marginal product of labour; Value of the marginal product of labour and demand for labour; Shifts in labour demand curve; The supply of labour – the trade-off between work and leisure; Shifts in the labour supply curve; Equilibrium in the labour market; Other factors of production: Land and capital; Linkages among factors of production.

Text Book:
- Principles of Economics, Gregory N Mankiw, 6e Cengage Learning India Private Limited, New Delhi.

Reference Book:
- Karl E. Case and Ray C. Fair (2007): *Principles of Economics*, 8th Edition, Pearson Education Inc.
- Pindyck, Robert and Daniel Rubinfeld (2018): Microeconomics, 9th Edition, Pearson Education Inc.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	2	2	3	3	2	3
CO2	3	2	3	2	3	3	2	3	2	3
CO3	3	2	3	3	3	3	2	2	2	3
CO4	3	2	2	2	1	1	3	2	2	3
CO5	3	3	2	3	3	3	3	2	2	3

Note: Highly related=3: Moderate=2: Low=1

INTRODUCTORY MACROECONOMICS

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Develop an understanding of the interrelationships among the various macroeconomic variables and the way they impact upon the working of the economy as a whole, thereby determining the course of the economy.

CO2: Explain the concepts of Macroeconomics and its interrelations with Microeconomics.

CO3: Associate the current economic phenomenon with existing theory and put their views on contemporary economic issues.

CO4: Apply the principle of Macroeconomics in explaining the behaviour of Macroeconomic variables at national as well as global level.

CO5: Student would be able discuss scope and importance of Macroeconomics, Circular flow of aggregate income and expenditure, the measurement of national product, Short run economic fluctuations and The Keynesian Principle of Effective Demand.

Syllabus

Introduction:
This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP, money, inflation, and the balance of payments.

Unit I: Basic Concepts in Macroeconomics
Macro vs. Micro Economics; Limitations of Macroeconomics ; Stock and Flow variables, Equilibrium and Disequilibrium, Partial and General Equilibrium Statics – Comparative Statics and Dynamics ; National Income Concepts – GDP, GNP, NDP and NNP at market price, factor cost, real and nominal; Disposable personal Income.

Unit II: Measurement of Macroeconomic Variables
Output, Income and Expenditure Approaches ; Difficulties of Estimating National Income; National Income Identities in a simple 2- sector economy and with government and foreign trade sectors; Circular Flows of Income in 2, 3 and 4-sector; economies; National Income and Economic Welfare; Green Accounting.

Unit III: Money and Changes in its Value
Evolution and Functions of Money, Quantity Theory of Money – Cash Transactions, Cash Balances and Keynesian Approaches, Value of Money and Index Number of Prices. Inflation – Meaning,

Causes, and Anti-Inflationary Measures; Classical, Keynesian, Monetarist and Modern Theories of Inflation, Inflationary Gap, Deflation- Meaning, Causes, and Anti-Deflationary Measurers, Depression and Stagflation; Inflation vs. Deflation.

Unit IV: Determination of National Income

The Classical Approach - Say's Law, Theory of Determination of Income and Employment with and without saving and Investment; Basics of Aggregate Demand and Aggregate Supply and Consumption- Saving – Investment Functions, The Keynesian Approach – Basics of Aggregate Demand and Aggregate Supply and Consumption, Saving, Investment Functions; The Principle of Effective Demand; Income Determination in a Simple 2-Sector Model; Changes in Aggregate Demand and Income- The Simple Investment Multiplier.

Text Book:

· N. Gregory Mankiw (2010):*Macroeconomics*, 7th edition, Cengage Learning India Private Limited, New Delhi

Reference Book:

· Richard T. Froyen (2005): *Macroeconomics*, 2nd Edition, Pearson Education Asia, New Delhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	3	2	2	2	3	3	2	3
CO2	3	3	2	2	2	3	2	2	1	2
CO3	3	2	2	3	3	3	2	3	3	3
CO4	2	2	3	3	2	2	2	3	2	3
CO5	3	3	3	2	2	2	3	3	2	3

Note: Highly related=3: Moderate=2: Low=1

Semester	Course	Course Name	Credits	Total marks
I	DSC-I	Principles of Microeconomics I	06	100
II	DSC-II	Principles of Microeconomics II	06	100
III	DSC-III	Principles of Macroeconomics I	06	100
IV	DSC-IV	Principles of Macroeconomics II	06	100
V	DSE-I	1. Economic Development and Policy in India 2. Economic History of India 1857-1947	06	100
VI	DSE-II	1. Odisha Economy 2. Money and Banking	06	100
			36	**600**

ECONOMICS Papers for PASS students

Discipline Specific Core – 4 papers
Discipline Specific Elective – 2 papers

Marks per paper – Mid-term: 20 marks, End term: 80 marks, Total– 100 marks
Credit per paper– 6
Teaching hours per paper– 50 hours + 10 hours tutorial

Discipline Specific Core Paper I

PRINCIPLES OF MICROECONOMICS- I

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: This will help to explain what economics is, why it is important, how economists use economic models. Also after studying the paper they are able to understand how production and consumption decisions are taken.

CO2: It will help in understanding the behaviour of individuals and small organizations in making decisions on the allocation of limited resources.

CO3: It will result in equipping the students in a rigorous and comprehensive manner with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm in modern non-profit maximizing framework.

CO4: It will helps to understand the different input market structure, the determinants of labour and capital, and equilibrium in input market. Also helps to understand the nature of different market structure. It uses the concepts of consumer, producer and total surplus to explain why markets typically lead to efficient outcomes.

CO5: It will result in understanding the micro and macro theories of distribution, welfare economics, general equilibrium in closed and open systems and analysis of economic behaviour under uncertainty.

Syllabus

Introduction:
This course is designed to expose the students to the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyze real-life situations.

Unit I: Exploring the subject matter of Economics, Markets and Welfare
The Ten Principles of Economics: How people make decisions; Working of the economy as a whole; Thinking Like an Economist: The economist as Scientist – The scientific method: Observation, Theory and more observation; Role of assumptions; Economic Models; Why economists disagree; Graphs in Economics.

The market forces; Markets and competition; The demand and supply curves – Market vs individual curves, Shifts in demand and supply curves; Market equilibrium and changes there in; Price elasticity of demand – determinants and computation; Income and cross elasticity of demand; The price elasticity of supply – determinants and Computation; Consumer and Producer Surplus.

Unit II: Theory of Consumer Choice
The Budget Constraint; Preferences – representing preferences with indifference curves; Properties of indifference curves; Two extreme examples of indifference curves; Optimization – Equilibrium; Change in equilibrium due to changes in income, changes in price; Income and substitution effect; Derivation of demand curve; Three applications – Demand for Giffen goods, wages and labour supply, Interest rate and household saving.

Unit III: The Firm and Market Structures
Cost concepts; Production and costs; The various measures of cost – Fixed and variable cost, average and marginal cost; Cost curves and their shapes; Costs in the short run and in the long run; Economies and diseconomies of scale. Firms in competitive markets – What is a competitive market; Profit maximization and the competitive firm's supply curve; The marginal cost curve and

66

the firm's supply decision; Firm's short-run decision to shut down; Firm's long-run decision to exit or enter a market; The supply curve in a competitive market – short run and long run.

Unit IV: The Input Markets

The demand for labour – The production function and the marginal product of labour; Value of the marginal product of labour and demand for labour; Shifts in labour demand curve; The supply of labour – the trade-off between work and leisure; Shifts in the labour supply curve; Equilibrium in the labour market; Other factors of production: Land and capital; Linkages among factors of production.

Text Book:
- Principles of Economics, Gregory N Mankiw, 6e Cengage Learning India Private Limited, New Delhi

Reference Book:
- Karl E. Case and Ray C. Fair (2007): *Principles of Economics*, 8th Edition, Pearson Education Inc.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	2	2	2	3	3	2	3
CO2	3	2	3	2	3	3	2	3	2	3
CO3	3	2	3	3	3	3	2	2	2	3
CO4	3	2	2	2	1	1	3	2	2	3
CO5	3	3	2	3	3	3	3	2	2	3

Note: Highly related=3: Moderate=2: Low=1

Discipline Specific Core Paper II

PRINCIPLES OF MICROECONOMICS II

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Ability to read and work with graphs.

CO2: Knowledge on workings of the market economy.

CO3: Basic understanding of individual consumer agents and their decision making behaviour.

CO4: Basic understanding of producer behaviour, cost concepts, and optimum output.

CO5: Basic ideas and tools of microeconomics which will be used throughout the other courses of the degree programme.

Syllabus

Introduction:

The course is designed to provide a sound training in microeconomic theory to formally analyze the behavior of individual agents. Since students are already familiar with the quantitative techniques in the previous semesters, mathematical tools are used to facilitate understanding of the basic concepts; this course looks at the behavior of the consumer and the producer and also covers the behavior of a competitive firm.

Unit I: Consumer Theory I

Preferences and Utility, Axioms of Rational Choice, Utility, Trades and Substitutions, Indifference curves; Mathematics of Indifference curves, Utility functions for specific preferences, the many good case; Utility Maximization and choice: the 2-good case (graphical analysis), the n-good case, Indirect utility function, the Lump sum principle, Expenditure minimization, properties of expenditure function.

Unit II: Consumer Theory II

The income and substitution effects: Demand function, changes in income, changes in a goods price- Direct and Indirect Approaches (Slutsky), the Individual's Demand Curve, Compensated (Hicksian) demand curves and functions, demand elasticity, Consumer Surplus, Demand relationships among goods, the 2-good case, substitutes and complements, Net (Hicksian) substitutes, and Complements, Substitutability with many goods.

Unit III: Production Theory and Costs

Production Functions: Marginal productivity, Production with One Variable Input (labour) and with Two-Variable Inputs, Isoquant Maps and the Rate of Technical Substitution, Returns to Scale, Elasticity of Substitution, Some Simple Production Functions: Linear, Fixed Proportions, Cobb-Duglas; Technical Progress.

Definition of Cost and its properties, Cost minimizing input choices (Optimisation principles, expansion path), Cost Functions and Shift in Cost Curves, Long-Run versus Short-Run Cost Curves.

Unit IV: Profit Maximization

The Nature and Behavior of Firms, Marginal Revenue – Relationship between Average and marginal revenue, Short-Run Supply by a Price-Taking Firm, Profit Functions and its Properties, Profit maximization – General conditions, Input demands.

Text Book:
- C. Snyder and W. Nicholson (2012): Microeconomic Theory: Basic Principles and Extensions, 11th Edition, Cengage Learning, Delhi, India.

Reference Books:
- H. R. Varian (2010): Intermediate Microeconomics: A Modern Approach, 8th Edition, W.W. Norton and Company/Affiliated East-West Press (India). The workbook by Varian and Bergstrom may be used for problems.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	1	1	1	2	3	2	1	3
CO2	2	2	1	1	1	2	2	2	1	2
CO3	2	1	1	1	1	1	2	2	1	2
CO4	2	1	1	1	1	2	2	2	1	2
CO5	2	1	1	1	1	1	2	2	1	2

Note: Highly related=3: Moderate=2: Low=1

Discipline Specific Core Paper III

PRINCIPLES OF MACROECONOMICS I

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Develop an understanding of the interrelationships among the various macroeconomic variables and the way they impact upon the working of the economy as a whole, thereby determining the course of the economy.

CO2: Explain the concepts of Macroeconomics and its interrelations with Microeconomics.

CO3: Associate the current economic phenomenon with existing theory and put their views on contemporary economic issues.

CO4: Apply the principle of Macroeconomics in explaining the behaviour of Macroeconomic variables at national as well as global level.

CO5: Student would be able discuss scope and importance of Macroeconomics, Circular flow of aggregate income and expenditure, the measurement of national product, Short run economic fluctuations and The Keynesian Principle of Effective Demand.

Syllabus

Introduction:
This course aims to introduce the students to the basic concepts of Macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP, money, inflation, and the balance of payments.

Unit I: Basic Concepts in Macroeconomics
Macro vs. Micro Economics; Limitations of Macroeconomics ; Stock and Flow variables, Equilibrium and Disequilibrium, Partial and General Equilibrium Statics – Comparative Statics and Dynamics ; National Income Concepts – GDP, GNP, NDP and NNP at market price, factor

cost, real and nominal; Disposable personal Income.

Unit IV: Determination of National Income

The Classical Approach - Say's Law, Theory of Determination of Income and Employment with and without saving and Investment; Basics of Aggregate Demand and Aggregate Supply and Consumption- Saving – Investment Functions, The Keynesian Approach – Basics of Aggregate Demand and Aggregate Supply and Consumption, Saving, Investment Functions; The Principle of Effective Demand; Income Determination in a Simple 2-Sector Model; Changes in Aggregate Demand and Income- The Simple Investment Multiplier.

Text Book:

N. Gregory Mankiw (2010):*Macroeconomics*, 7th edition, Cengage Learning India Private Limited, New Delhi

Reference Book:

Richard T. Froyen (2005): *Macroeconomics*, 2nd Edition, Pearson Education Asia, New Delhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	3	2	2	2	3	3	2	3
CO2	3	3	2	2	2	3	2	2	1	2
CO3	3	2	2	3	3	3	2	3	3	3
CO4	2	2	3	3	2	2	2	3	2	3
CO5	3	3	3	2	2	2	3	3	2	3

Note: Highly related=3: Moderate=2: Low=1

Discipline Specific Core Paper IV

PRINCIPLES OF MACROECONOMICS II

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: This unit would help students in critically understanding various consumption and investment theories and their implication in economic policy making.

CO2: This unit familiarizes students with various theoretical approaches to money demand. It also conceptually delineates various methods use in the estimation of money supply.

CO3: This unit unravels major policy debates in macroeconomic policy making by providing both theoretical and conceptual understanding in determining the role of fiscal and monetary policies.

CO4: It acquaints students with one of the pressing macroeconomic policy issues of time, i.e., trade-off between unemployment and inflation targeting by providing critical understanding of the existing theoretical and empirical debates.

Syllabus

Introduction:
This course introduces the students to formal modeling of a macro-economy in terms of analytical tools. It discusses various alternative theories of output and employment determination in a closed economy in the short run as well as medium run, and the role of policy in this context. It also introduces the students to various theoretical issues related to an open economy.

Unit I: Consumption and Investment
Consumption – Income Relationship, Propensities to Consume and the Fundamental Psychological Law of Consumption; Implications of Keynesian Consumption Function; Factors Influencing Consumption Function; Measures to Raise Consumption Function; Absolute, Relative, Permanent and Life – Cycle Hypotheses
Autonomous and Induced Investment, Residential and Inventory Investment, Determinants of Business Fixed Investment, Decision to Invest and MEC, Accelerator and MEI, Theories of Investment.

Unit II: Demand for and Supply of Money
Demand for Money – Classical, Neoclassical and Keynesian Approaches, The Keynesian Liquidity Trap and its Implications, Supply of Money – Classical and Keynesian Approaches, The Theory of Money Supply Determination and Money Multiplier, Measures of Money Supply in India.

Unit III: Aggregate Demand and Aggregate Supply
Derivation of Aggregate Demand and Aggregate Supply Curves in the IS-LM Framework; Nature and Shape of IS and LM curves; Interaction of IS and LM curves and Determination of Employment, Output, Prices and Investment; Changes in IS and LM curves and their Implications for Equilibrium.

Unit IV: Inflation, Unemployment and Expectations, and Trade Cycles

Inflation – Unemployment Trade off and the Phillips Curve – Short run and Long run Analysis; Adaptive and Rational Expectations; The Policy Ineffectiveness Debate; Meaning and Characteristics of Trade Cycles; Hawtrey's Monetary Theory, Hayek's Over-investment Theory and Keynes' views on Trade Cycles.

Text Book:
· N. Gregory Mankiw (2010): *Macroeconomics*, 7th edition, Cengage Learning India Private Limited, New Delhi

Reference Book:
· Richard T. Froyen (2005): *Macroeconomics*, 2nd Edition, Pearson Education Asia, New Delhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	2	2	3	3	3	2	3
CO2	3	2	2	2	2	2	3	3	2	3
CO3	3	2	2	2	2	2	3	3	2	3
CO4	3	2	2	2	2	2	3	3	2	3

Note: Highly related=3: Moderate=2: Low=1

Discipline Specific Elective Paper I
DSE Group I
(A student has to choose any one from group I under DSE-1)

1. ECONOMIC DEVELOPMENT AND POLICY IN INDIA

Course Outcomes (Cos):

After reading this paper, students should:

CO1: Have insights into India's economic development since colonial period, The era of planning under different regimes – achievements and failures, critical understanding of economic reforms, the resultant structural changes and regional variations.
CO2: Be aware about India's demographic issues, education and health.
CO3: Be equipped with knowledge on trends in GDP, per capita GDP, poverty and inequality and their impact on growth and unemployment, Policy perspectives in growth and distribution**.**
CO4: Be able to study the changes in sector composition of economic growth since independence.
CO5: Be able to understand and analyse economic reforms in India.

Syllabus

Introduction: This paper introduces the students to the essentials of Indian economy with an intention of understanding the basic feature of the Indian economy and its planning process. It also aids in developing an insight into the agricultural and industrial development of India. The students will understand the problems and policies relating to the agricultural and industrial sectors of India and current challenges of Indian economy.

Unit I: Introduction to Indian Economy and Current Challenges

Colonialism & British Rule: Exploitation and under-development in India; Basic features of India Economy; Indian Economy as a developing economy; Demographic trends in India - Size and growth of population, Occupational structure, Sex composition, Age structure and demographic dividend; Causes of population growth and population policy; The problem of unemployment and recent policies for employment generation; the problem of inequality in income distribution and its causes, Policies to address inequality.

Unit II: Indian Agriculture

Role of agriculture in Indian Economy; Cause of low productivity, Green Revolution and Land Reforms, Agricultural Finance-Sources and Problems; Agricultural Marketing in India

Unit III: Industrial Development in India

Role of Industrialization in Indian Economy; Small Scale & Cottage Industries: Meaning, Role, Problems and Remedies; Industrial Policies of 1948,1956,1977 and1991; Problems of Industrial Development in India; Industrial Sickness.

Unit IV: Service Sector in India

Growth & Contribution to GDP; Composition and relative importance of service sector; Factors determining growth of the sector; ICT and IT – Spread and Policy; Sustainability of services led growth.

Text Book:
- Misra, S. K. and Puri V. K. Indian Economy — Its Development Experience. Himalaya Publishing House, Mumbai

Reference Book
- Dutt R. and Sundharam K. P. M. *Indian Economy*. S. Chand & Company Ltd., New Delhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	3	1	1	2	1	2	1	2
CO2	3	1	3	2	1	1	1	3	1	2
CO3	3	1	3	3	1	2	1	2	1	1
CO4	3	1	3	1	1	1	1	3	1	1
CO5	3	1	3	2	1	2	1	2	1	2

Note: Highly related=3: Moderate=2: Low=1

Discipline Specific Elective Paper I

2.   **ECONOMIC HISTORY OF INDIA 1857-1947**

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Familiarises students with colonial history of India and how it shaped various economic indicators such as national income, population growth and occupational structure. This unit helps students in comprehend the colonial legacy of India.

CO2: This unit critically deals with the agricultural sector in colonial India. It provides nuanced understanding of prevailing agrarian structure in the country – land relation, agricultural markets and institutions. It also discusses the reasons behind low agricultural productivity in India.

CO3: Critically engages students with the de-industrialisation debate during the colonial rule in India. This unit provides students a comprehensive understanding about the evolution of new industrial structure, especially, during inter-war period; and how it shaped the labour relation in India.

CO4: Helps students to comprehend the political economy of imperialism and its impact on Indian economy at large. This unit discusses the role of imperialism on wealth, international trade, capital flows and fiscal policy in India.

Syllabus

Introduction:
This course analyses key aspects of Indian economic development during the second half of British colonial rule. In doing so, it investigates the place of the Indian economy in the wider colonial context, and the mechanisms that linked economic development in India to the compulsions of colonial rule. This course links directly to the course on India's economic development after independence in 1947.

Unit I: Colonial India: Background and Introduction
Overview of colonial economy, Macro trends in national Income; population; occupational structure.

Unit II: Agriculture
Agrarian structure and land relations; agricultural markets and institutions – credit, commerce and technology; trends in performance and productivity; famines.

Unit III: Railways and Industry
Railways; the de-industrialization debate; evolution of entrepreneurial and industrial structure; nature of industrialization in the interwar period; constraints to industrial breakthrough; labor relations.

Unit IV: Economy and State in the Imperial Context
The imperial priorities and the Indian economy; drain of wealth; international trade, capital flows and the colonial economy – changes and continuities; government and fiscal policy.

Text Book:
· Tirthankar Roy, *The Economic History of India 1857-1947*, Oxford University Press, 3rd edition, 2011.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	3	3	3	3	3	3	2	3
CO2	3	2	3	3	3	3	3	3	2	3
CO3	3	2	3	3	3	3	3	3	2	3
CO4	3	2	3	3	3	3	3	3	2	3

Note: Highly related=3: Moderate=2: Low=1

Discipline Specific Elective Paper II
DSE Group II
(A student has to choose any one from group II under DSE - 2)

1.   ODISHA ECONOMY

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Increasing the ability of the students to understand the policies and issues of the Odisha Economy via establishing a linkage between theory and policy.

CO2: Improving the thinking-based abilities of the students on various socio-economic problems of the state and to carry out effective research.

CO3: Enabling the students to prepare for various competitive examinations based on the information of the state economy.

CO4: Developing the understanding of the students about various concepts and dynamics of Odisha economy.

CO5: Enhancing the moral, social and ethical values of the students in regard to identifying socio-economic issues for future research.

Syllabus

Introduction
Using appropriate analytical frameworks, this course reviews major trends in economic indicators and policy debates in Odisha in pre- and post-Independence period, with particular emphasis on paradigm shifts and turning points. Given the rapid changes taking place in Odisha, the reading list will have to be updated annually.

Unit I: Odisha Economy before 1947
Orissa's Economy in the Nineteenth Century: Benevolence or Exploitation, Forces of Nature, Animal Power, The Company Steps in, Public Works and Public Health, Education, Disintegration of Village Economy, New Social Environment, Changing Position of Social Classes, The Moneylenders, The Borrowers, Money-flows from Village to Metropolis, Pauperization of

Peasantry, The Wage Earners, Demographic Changes, Profiting from Rural Adversity; Diarchy in 1919 and Separation of Provincial Finances from Central Government in 1937; Emergence of Federal Finance (Ref.: Das 1976a and 1976b, GoO 2016).

Unit II: Macro Economy of Odisha

A macro glance of Odisha economy: aggregate income, broad sectoral decomposition, performance of districts, employment, child labour and bonded labour, employment programmes, consumption expenditure, cost of living; Odisha State public finances (Chapter 14 and 15 of Ref 1; & Chapter 2 and 9 of Ref 2).

Unit III: Agriculture, Industry, Infrastructure and Environment in Odisha

Agriculture: land ownership and land tenure, agricultural wages and rural unemployment, production and productivity of major crops, agricultural inputs, agricultural policy; Animal Husbandry; Fisheries (Chapter 1 to 3 of Ref 1; & Chapter 3 of Ref 2)

Industry: Investment, industrial policy, and the growth of large industries, mining and quarrying; Construction; tertiary sector: tourism, transport and power; Water Resources, Forest Resources (Chapter 4 to 8 of Ref 1; & Chapter 4 & 5 of Ref 2).

Unit IV: Social Sector in Odisha

Poverty: income poverty and inequality; health sector: outcomes, infrastructure, finance, public health, NRHM; education: Literacy, Primary education, secondary education, higher education, SSA; human development (Chapter 9 to 13 of Ref 1; & Chapter 7 & 8 of Ref 2)

Text Book:

- Nayak, P., Panda, S. C., Pattanaik, P. K. (2016): The Economy of Odisha: A Profile, Oxford University Press, New Delhi

Reference Book:

1. GoO (Latest): Odisha Economic Survey, Planning and Convergence Department, Directorate of Economics and Statistics, Government of Odisha, Bhubaneswar
2. GoO (2004): *Human Development Report 2004 Orissa*, Planning and Coordination Department, Government of Odisha, Bhubaneswar
3. GoO (2018): 80 Years Odisha Budget: Commemorative Volume, Department of Finance, Bhubaneswar

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	2	1	3	2	1	2	2	3
CO2	3	2	1	2	2	2	2	3	1	2
CO3	2	3	3	3	2	1	3	2	3	1
CO4	1	2	2	2	2	2	2	3	2	2
CO5	2	3	3	2	3	2	2	1	2	2

Note: Highly related=3: Moderate=2: Low=1

2. MONEY AND BANKING

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Enhancing the ability of the students to establish the linkage between banking theory and practice.

CO2: Improving the analytical skill of the students relating to the functioning of the money and banking system.

CO3: Nurturing the research-oriented ability of the students relating to financial issues.

CO4: Improving the understanding of the students about various concepts and dynamics of banking system.

CO5: Enhancing the moral and ethical values of the students about baking structure and financial institutions.

Syllabus

Introduction: This paper intends to explain the ideas and institutions concerning money and banking. It will help the students to understand the meaning, functions and theories of money the working of different types of banks in an economy.

Unit I: Money
Money: Meaning, functions and classification; Gresham's law; Monetary standards: Metallic and paper systems of note issue; Value of money: (Uses and limitations of index number); Construction of price index number – its limitations.

Unit II: Quantity theory of money
Quantity theory of money - Cash transaction approach, cash balance approach, Keynesian approach; Inflation: meaning, types, causes – demand pull and cost push, effects, measures to control inflation, Trade-off between inflation and unemployment; Stagflation and deflation: meaning; Phillip's curve.

Unit III: Banking
Banking: meaning and types; Commercial banks: evolution, functions, the process of credit creation and its limitations, liabilities and assets of banks; A critical appraisal of the progress of commercial banking in India after nationalization; Recent reforms in banking sector in India.

Unit IV: Central Bank
Central Bank: Functions, Quantitative and qualitative methods of credit control - bank rate policy, open market operations, variable reserve ratio and selective methods; Relative efficacy of quantitative and qualitative methods of credit control.

Reserve Bank of India: Role and functions; Repo rate and reverse repo rate; Components of money supply in India; Objectives and limitations of monetary policy with special reference to India

Text Book:
·   Paul R.R. (2017) Money Banking and Public Finance, Kalyani Publishers

Reference Book:
·   Reserve Bank of India – The Reserve Bank of India, functions and working, Bombay, 1983.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	2	3	2	2	3	2	2	2
CO2	2	2	3	2	3	1	2	3	3	2
CO3	3	2	1	3	2	3	1	2	2	3
CO4	1	3	2	2	2	2	3	2	3	1
CO5	2	1	2	3	3	2	2	1	2	2

Note: Highly related=3: Moderate=2: Low=1

Optional for SECC II paper

Total Marks- 100

Skill Enhancement Courses (SECC II Option-I)

DATA ANALYSIS AND COMPUTER APPLICATION

Course Outcomes (COs):

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

CO1: Demonstrate basic understanding of computer applications with reference to MS Windows, MS excel and MS PowerPoint.
CO2: Generate spreadsheets, charts and presentations. (Creating)
CO3: Design personal, academic and business documents using MS Office. (Creating)
CO4: Prepare and demonstrate data analysis using spreadsheets and prepare attractive presentations.
CO5: Model the modes of development of self-learning materials and prepare different types of instructional material. (Applying)

Introduction:

The purpose of this course is to introduce basic computer skills to students at UG level in non-technical subjects. After completion of this course, the students are expected to acquire some basic knowledge about computers and to develop some basic skills in using computers for data storage, compilation, analysis and presentation.

Unit I: Introduction to Computers and Networks

Introduction to computer- Components of Computer System, concepts of Hardware and Software, Classifications of computers; Concepts of data processing, Basic data types, Storage of data/Information as files, operating system and The User Interface (windows, Linux), Windows Setting- Control Panels, Accessories (windows) Basic of Computer networks- LAN and WAN, Internet, Service on Internet; WWW and Web Browsers, Web Browsing software, Surfing the Internet, Chatting on Internet, Email-Basic of electronic mail, Using Emails, Document handling in Email.

Unit II: Basic Word Processing

Introduction to Word Processing, Opening Word Processing Package, Opening and closing documents, Using a Document/Help Wizard, Text Creation and Manipulation, Formatting the Text, Handling Multiple Documents, Table Manipulation, Printing, saving documents in different formats.

Unit III: Spreadsheets and Basic Data Analysis

Spread Sheet, Elements of Electronics Spread Sheet, Application/usage of Electronic Spread Sheet, Manipulation of cells, Formulas and functions; Spread sheets for Small accountings- maintaining invoices/budgets, basic practical data analysis works (Maintaining daily and monthly sales reports).

Unit IV: Basic Presentations

Basics- Difference between presentation and document, Using Power Point, Creation of

Text Book:
- C.S. French "Data Processing and Information Technology", BPB Publications 1998

Reference Books:
- P.K Sinha, Computer Fundamentals, BPB Publications, 1992

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	3	2	3	2	2	3	2	2	2
CO2	2	2	3	2	3	1	2	3	3	2
CO3	3	2	1	3	2	3	1	2	2	3
CO4	1	3	2	2	2	2	3	2	3	1
CO5	2	1	2	3	3	2	2	1	2	2

Note: Highly related=3: Moderate=2: Low=1

Skill Enhancement Courses (SECC II)

FINANCIAL ECONOMICS

Course Outcomes (COs):

After reading this paper, students should have:

CO1: Developing the skill based thinking analytics and bridging the gap between theory and practice.

CO2: Introducing the students about various banking and finance related research issues and problems.

CO3: Enhancing the understanding of the students about various financial institutions, instruments and markets.

CO4: Understanding about the distinctive role of banking and non-banking financial institutions.

CO5: Developing the moral, ethical and social values on issues relating to banking and financial structure of the economy.

SYLLABUS:

Introduction:
This course intends to explain the ideas on financial system in India. It will help the students to enhance their knowledge on concepts like financial institutions, instruments and markets, their functioning and usage in real world.

Unit I: Financial System

The structure of the financial system- Functions of the financial sector-Indicators of financial development; Financial System and Economic Development; financial inclusion: concept and its evolution; policy initiatives on financial inclusion.

Unit II: Interest Rate Policy

Theories of interest rate determination-Level of interest rates-Long period and short period rates-Administered interest rates; Deregulation of interest rates; financial sector reforms in India.

Unit III: Money and Capital Market

Money Market: features; objectives; and importance of money market; composition of money market; money market institutions and instruments; features and problems of Indian money market. Capital market: composition; Primary and secondary market for securities. Functions of new issue and secondary market; organizations of stock exchanges in India; defects in Indian stock exchange; SEBI; its objectives and functions.

Unit IV: Non-Banking Financial Companies

Non-Banking Financial Companies: Hire purchase Companies-Venture Capital Companies. Insurance Sector: objectives, functions, life insurance and general insurance; IRDA and its role and functions in financial markets.

Text Book:
· L.M.Bhole: Financial institutions and Market, Tata McGraw hill, New Delhi.

Reference Books:
· Gorden & Natrajan: Financial Market and institutions, Himalaya Publishing house.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	3	3	2	2	1	2	3	3
CO2	2	1	2	2	3	3	2	3	2	2
CO3	2	3	1	3	2	1	3	1	2	1
CO4	3	2	3	2	1	2	2	2	2	3
CO5	1	2	2	2	2	3	3	3	3	2

Note: Highly matching=3: Moderate=2: Low=1

DEPARTMENT OF ECONOMICS

SYLLABUS OF PG PROGRAMME (M.A.)

RAMA DEVI WOMEN'S UNIVERSITY

Vidya Vihar, Bhubaneswar-751022, Odisha

Website: https://rdwu.ac.in

SKILLS	
EMPLOYABILITY	
ENTERPRENURESHIP	

Department of Economics

Syllabus for P.G. in Economics

Rama Devi Women's University
VIDYA VIHAR, BHUBANESWAR-751022

STRUCTURE OF POST GRADUATE SYLLABUS IN ECONOMICS

SEMESTER-I

Sl No.	Nature of Course	Course Code	Paper Title	Units	Credits	Marks		
						Mid-Sem	End-Sem	Total
1	Hard Core	HC-101	Micro Economics-I	5	5	30	70	100
2	Hard Core	HC-102	Macro Economics-I	5	5	30	70	100
3	Hard Core	HC-103	Statistical Methods in Economics	5	5	30	70	100
4	Hard Core	HC-104	Financial Institutions& Markets	5	5	30	70	100
5	Allied core	AC-101	Computer application course by E-learning center	3	3	Mid-sem 10 + Practical 10 = 20	30	50
	Total				23	135	315	450

SEMESTER-II

Sl No.	Nature of Course	Course Code	Paper Title	Units	Credits	Marks		
						Mid-Sem	End-Sem	Total
6	Hard Core	HC-201	Micro Economics-II	5	5	30	70	100
7	Hard Core	HC-202	Macro Economics-II	5	5	30	70	100
8	Hard Core	HC-203	Mathematical Methods in Economics	5	5	30	70	100
9	Hard Core	HC-204	Agricultural Economics	5	5	30	70	100
10	Core Elective	CE-201	Basic Econometrics Or Banking Theory and Practice	5	5	30	70	100
11	Open Elective	OE-201	Odisha Economic Problems & Policies	3	4	-	50	50
	Total				29	150	400	550

SEMESTER-III

Sl No.	Nature of Course	Course Code	Paper Title	Units	Credits	Mid-Sem	End-Sem	Total
12	Hard Core	HC-301	Research Methodology	5	5	30	70	100
13	Hard Core	HC-302	International Economics	5	5	30	70	100
14	Hard Core	HC-303	Public Finance Theory & Practice	5	5	30	70	100
15	Core Elective	CE-301	Mathematical Economics Or Indian Economic Problems & Policies	5	5	30	70	100
16	Core Elective	CE-302	Advanced Econometrics Or Economics of Gender Or Industrial Economics	5	5	30	70	100
17	Field Internship	OE-201	Field Internship	-	3	-	50	50
	Total				28	150	400	550

SEMESTER-IV

Sl No.	Nature of Course	Course Code	Paper Title	Units	Credits	Mid-Sem	End-Sem	Total
18	Hard Core	HC-401	Development Economics	5	5	30	70	100
19	Hard Core	HC-402	Economics of Environment	5	5	30	70	100
20	Hard Core	HC-403	Dissertation	-	5	-	100	100
21	Core Elective	CE-401	International Finance Or Economics of Social Sector	5	5	30	70	100
22	Allied Core	AE-401	Theory "Women and Society"	3	3	15	35	50
	Total				23	105	345	450

18/5/22

18/5/22

Katuwik 18-05-22

Kalpana Sahoo 18/05/2022

18.05.22

18.5-2022

3

P.G. Economics Program

Rama Devi Women's University

Program Outcomes (POs):

PO1: Prepare students to develop critical thinking to carry out investigation about various socio-economic issues objectively while bridging the gap between theory and practice.

PO2: Equip the student with skills to analyze problems, formulate a hypothesis, evaluate and validate results and draw reasonable conclusions thereof.

PO3: Prepare students for pursuing research and innovation at national and international level.

PO4: Prepare students to develop own thinking /opinion regarding current national or international policies and issues.

PO5: Equip students with entrepreneurial capabilities.

PO6: Enhancing students" employability through research and industry-oriented teaching and practical exposure.

PO7: Enabling students with abilities to qualify various competitive examinations and national level fellowships such as NET/JRF.

PO8: Imparting hands-on training in statistical software packages used in the field of research and industry such as Excel, EViews, STATA, R, etc. in order to enhance computational ability of students.

PO9: Equip students with ethical, moral, and social values.

PO10: Create awareness to become a rational and an enlightened citizen so that they can take the responsibility to spread the governments" initiatives/schemes to the rural areas for the upliftment of the poor or vulnerable section of the society for inclusive growth.

Program Specific Outcomes (PSOs):

PSO1: Understanding the basic assumptions in various economic theories and enhance capabilities of developing ideas based on them.

PSO2: Prepare and motivate students for research studies in Economics especially by developing questionnaire, collecting primary data through field surveys.

PSO3: Provide knowledge of a wide range of econometric techniques using excel or other statistical software.

PSO4: Motivate students to extract or utilize different websites for secondary data collection, generating concepts for various facets of economic studies and gather latest information provided by various Universities, UGC, or ICSSR.

PSO5: Motivate students in preparing for various competitive examinations, NET, SET, Indian Economic Service etc., by developing or gaining value addition day by day by giving assignments, by following a routine or developing discipline / concentration etc.

Core Course: HC-101: Micro Economics I
Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Developing the analytical skill and ability of the students and bridging the gap between theory and practice.

CO2: Preparing the students in Research and Innovation.

CO3: Encouraging Analytical thinking and entrepreneurial capabilities.

CO4: Enhancing the ability to qualify national level examinations with hands on training in statistical packages.

CO5: Developing the moral, ethical and social values on various issues.

SYLLABUS:

MODULE-I: Theory of Consumer's Behaviour and Demand Analysis-I

The Cardinal Utility and Indifference Curve Analysis of Demand; Slutsky''s Theorem-Substitution and Income effect; Demand for Complementary and Substitutes Goods-Ordinary and Compensated Demand Functions,
Revealed Preference Hypothesis: Strong Axiom and Weak Axiom;
Consumer Surplus – Concept, Measurement and Economic Applications.

MODULE-II: Theory of Consumer's Behavior and Demand Analysis-II

Modern Utility Analysis; The Bernoulli Hypothesis, The Friedman''s Savage Hypothesis.
Consumer behavior under risk and uncertainity- The Neumann Morgenstern Theorem,
Asymmetric Information and Market Failure, Market for Lemons, Adverse Selection, Moral Hazards.

MODULE-III: Theory of Production

Isoquants: Concept, Derivation, Properties of an Isoquant, Isocost line and its derivation, Producer''s equilibrium.
Returns to a Variable Factor (Short run production function) and Two Variable Factors (Long run production function).

Linear Homogeneous Production Function, C-D and CES; Technical Progress and Production Function.

MODULE-IV: Theory of Costs and Revenue

Cost Theories: Concept and types, U-Shaped SAC and LAC Curves, L-Shaped LAC Curve, The Learning Curve
Algebraic Forms of Cost Functions-Cubic, Quadratic, Linear Cost Functions; Derivation of Cost Functions from Production Functions.
Revenue: Derivation of AR and MR from TR; Price Elasticity, AR, MR, TR and Demand.

MODULE-V: Price and Output Determination under Perfect Competition and Monopoly
Market Structure: Perfect Competition– Characteristics, perfect competition vs pure competition, Short run and Long run equilibrium of the Firm and Industry.
Monopoly – Concept and Features, Short run and Long run Equilibrium, Price Discrimination and Dumping, Comparison between Perfect Competition and Monopoly.
Bilateral Monopoly- Concept, Equilibrium under bilateral monopoly, a critical assessment.

READING LIST

1. Bilas, R. A(1971) : Micro – Economic Theory (2nd edn), Mc Graw Hil, New York.

2. Boulding , K.E, & SPIVEY, W. A(1960): Linear Programming and the Theory of the Firm, Macmillan, New York.

3. Jehle Reny, Advanced Microeconomic Theory, Pearson Publication, India.

4. Koutsoyiannis, A. (1979); Modern Microeconomics, (2nd Edn), Macmillan Press, London.

5. Pindyek, R and D. Rubinfield (2009); Microeconomics, (7th Edn), Pearson Publications, New Delhi.

6. Nicholson W., Christopher M. Snyder, Microeconomic Theory: Basic Principles and Extensions, Cengage Learning, India.

7. Gravelle H. & Rees R. (2004), Micro Economics (3rd Edition), Pearson Publication, India.

8. Varian H R., Intermediate Microeconomics- A modern approach (8th Edition), ww Norton & company, NewYork

9. Varian H R., Microeconomic Analysis (3rd Edition), ww Norton & company, NewYork.

10. Henderson J.M. and Quandt R. E., (2006) Micro Economic Theory – A Mathematical Approach (6th Edition), Tata McGrawhill Publication, India

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	4	5	2	2	4	4	5	5	4
CO2	4	5	5	4	2	2	4	4	5	4
CO3	2	5	4	4	5	4	2	4	5	4
CO4	4	4	5	2	4	5	2	4	4	2
CO5	4	2	4	5	4	2	4	5	2	4

Core Course-HC-102: Macro Economics I
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: Familiarises students with the circular flows of income in an economy. The unit provides a nuance understanding of economic measurements that are used in national income accounting. Further, it also helps students understand frontier practices in BOP accounting, green accounting.

CO2: This unit exposes students with major theoretical contestation in macroeconomics. It helps students to develop critical insights into the Classical and Keynesian debates on employment and output determination

CO3: Provides a critical understanding on various consumption thesis – from Keynesian to New-Classical theory; what are the major determinants of household‟s consumption function and how it influences the policy arena.

CO4: This unit exposes students to critically understand major thinking on investment decision making. It helps analyses various motives behind business investments and how these motives influence the macroeconomic policy making.

CO5: Provides theoretical perspective on money market. It critically discusses various theoretical approaches to money – from Classical to New Keynesian and Post-Keynesian. It emphasises the role of expectation in devising appropriate monetary policy frameworks for economic stabilisation.
SYLLABUS:

MODULE-1: National Income and Accounting

Circular flow of income two, three and four sector economy, National product and national welfare, different forms of national income accounting; methods of measurement and problems

Social accounting: Meaning, importance and features. Input-output Accounting and balance of payment accounting, flow of funds accounting, Matrix approach to social accounting

Green accounting; meaning and needs, SNA and SEEA Methods and problems.

MODULE-2: Theory of Employment and Income Determination: Classical and Keynes

Classical theory- Assumptions, Full employment Equilibrium model, Say''s law, Determination of employment and output, Say''s law without saving and investment, Keynes'' criticism of classical theory.

Keynes'' theory– Assumptions, under employment equilibrium model, Theory of income determination in simple two sector economy model.

Aggregate spending and aggregate spending function, Concept of multiplier, Shift in aggregate spending function, multiplier and determination of equilibrium.

MODULE-3: Consumption function and Theories

An overview on Keynesian Consumption function, Keynes'' psychological law of consumption, short run and long run consumption function, Inter temporal choice model –effects of change in income, ROI and borrowing on consumption.

Income consumption relationship- Absolute Income Hypothesis, Relative Income Hypothesis, Permanent Income Hypothesis and Life Cycle Hypothesis.

Consumer behaviour: A macro analysis, Cyclical and secular consumption-income relationship- A critical analysis.

MODULE-4: Investment Function.

Meaning, Investment function, Shift in investment function, Concept of MEC and MEI, short run and long run.

Profit theory of investment, Accelerator- Concept of acceleration, Simple and flexible accelerator theories.

Theories on determinants of Business Fixed investment, residential and Inventory investment, An analysis of policy measures and investment.

MODULE-5: Demand for and Supply of Money

Post-Keynesian approaches to demand for money- - Patinkin and the Real Balance Effect , Approaches of Baumol , Tobin, Friedman and the modern quantity theory, Crisis in Keynesian economics and the revival of monetarism .

Supply of money- Mechanistic and behavior model of money supply, High powered money and money multiplier, Components of money supply, Control of Money supply.

Demand for and supply of money and ROI.

READING LIST

1. Mankiw N G (2006), Macro Economics, McMillan Learning Publication.

2. Levacic R. and Rebmann A.(1982), "Macroeconomics", McMillan

3. Dornbusch R., Fischer S., Startz R. (1994) "Macroeconomics",12th Edition McGrawhill Publication.

4. Froyen, R. T (10th Edition), "Macroeconomics", 2003, Pearson Publication, India.

5. Dillard D., The Economics of J. M. Keynes, Crosby Lockwood & Son Ltd, London.

6. Levacic R. and Rebmann A. (2nd Edition) Macro Economics: An Introduction to Keynesian –Neo-Classical Controversy, Palgrave MacMillan

7. Kurihara, K.K. (2013), Monetary theory & Public Policy, Routledge.

8. Rana K.C. and Verma K.N. (2006), "Macro Economic Analysis", Vishal Publishing Co.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	4	5	2	2	5	2	5	5
CO2	5	4	4	5	2	2	5	2	5	5
CO3	5	4	4	5	2	2	5	2	5	5
CO4	5	4	4	5	2	2	5	2	5	5
CO5	5	4	4	5	2	2	5	2	5	5

Core Course: HC-103: Statistical Method for Economics
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: This course will help the students to understand the issues regarding data collection, processing organizing and presentation and the issues involved therein.

CO2: Students will able to understand the basic concepts of descriptive and inferential statistics.

CO3: Students will able to enhance their ability to examine any existing fundamental theory through statistical methods.

CO4: Students will able to get a complete idea of any economic theory or principle with its analytical framework.

CO5: It will help students understand situations radically and solve them

SYLLABUS:

MODULE-I:- Univariate Distribution

Measures of Central Tendency- Mean, Median, Mode, Harmonic Mean, Geometric Mean,

Measures of Dispersion- Range, Mean deviation, Standard Deviation, Quartile Deviation, , Coefficient of Variation, Lorenz Curve, Gini-Coefficient

Skewness, Moment and Kurtosis

MODULE -II:- Bivariate Distribution

Correlation Coefficient and its properties, Karl Pearson"s and Spearman"s Rank Correlation Coefficient.

Linear Regression Analysis- lines of regression and regression equations, concept of Ordinary Least Squares, Standard error of estimate, Correlation vs Regression analysis.

Methods of estimation of non-linear regression equations: parabolic, exponential, geometric, modified exponential, logistic relationships.

MODULE-III:- Probability Theory

Elements of Probability Theory; Classical and Empirical Probability, Axiomatic Probability, Laws of Addition and Multiplication, Conditional Probability and Concept of independence and Interdependence, Bayes Theorem.

Random variable and Mathematical Expectation- Concept and Theorem, Variance of a random variable.

Sampling and Sampling distribution- Concept, Types of Sampling- Probability Sampling and Non-Probability Sampling methods.

MODULE-IV:- Theoretical Probability Distribution

Normal Probability Distributions- Properties, Area under a normal curve, Standard normal variate and its applications.

Binomial Probability Distributions - Concept, Properties, Constants of Binomial distribution and applications.

Poisson distribution - Concept, Properties, Constants of Poisson distribution, a limiting case of Binomial distribution.

MODULE-V Estimation and Hypothesis Testing

Concept of an estimator, desirable properties of an estimators; Interval estimation: Statistical hypothesis- Null and Alternative , Confidence intervals and Level of Significance, Type I and Type II errors

Hypothesis testing based on t, Z- Concept, Properties, application with numerical examples

Hypothesis testing based on Chi-square and F distribution- Concept, Properties, application with numerical examples

READING LIST

1. Gupta, S.C. (1993), "Fundamental Methods Of Applied Statistics" , S Chand & Sons.

2. Monga, G.S (1972), "Mathematical and Statistics for Economists, Vikash Publishing House, New Delhi.

3. Speigel, M. R (1992), "Theory and Problems of Statistics" McGraw Hill Book Co.

4. W. Allen Webster (1997), Applied Statistics for Business & Economics, 3rd edition, McGraw – Hill Publications.

5. **Karmel, P. H.** & **Polasek, M. (1978),** Applied Statistics for Economists, 4th edition, Pitman international text.

6. Gupta S.C. & Kapoor V.K. (2002), Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	4	5	4	5	5	5	5	2	2
CO2	2	4	5	4	5	5	5	5	2	2
CO3	4	5	5	4	5	5	5	5	2	2
CO4	5	5	5	4	4	5	5	5	2	4
CO5	4	4	2	4	4	4	4	4	4	5

Core Course-HC-104: Financial Institutions and Markets
Course Outcomes (COs):
After reading this paper, students should have:

CO1: Developing the skill based thinking analytics and bridging the gap between theory and practice.

CO2: Preparing the students about various banking and finance related research issues and problems.

CO3: Enhancing the understanding of the students about various financial issues, policies, institutions and markets.

CO4: Encouraging the students to identify finance based research and innovation issues.

CO5: Developing the moral, ethical and social values on issues relating to banking and financial structure of the economy.

SYLLABUS:

MODULE-I:- Financial Sector and Economic Development

Financial System-Concept, Importance and Major Functions of the Financial System. Relationship between financial development and economic development.

Structure of the Financial System- Financial Institutions, Financial Markets, Financial Instruments and Services.

Indicators of Financial Development, Equilibrium in Financial Market-Determinants of Supply and Demand for Funds.

MODULE-II:- Theories of Financial Sector Development

Financial System and Economic Development. Theories of Effects of Financial System on Saving and Investment- Prior Saving Theory, Financial Regulation Theory and Financial Liberalization Theory.

Theories of the Level of Interest Rate Determination- Classical Theory, Loanable Fund Theory and Keynesian Theory. Interlinkage between Interest Rate and Price Level.

Interest Rate System in India- System of Administered interest rate regime: Reasons and Effects of Regulation, Deregulation of Interest Rate and its Implications. Appropriate Interest rate policy.

MODULE-III:- RBI and Monetary Policy

Reserve Bank of India- Organization and Management. Role and Functions of RBI. Autonomy of the RBI- Advantages and Limitations.

Monetary policy of the RBI- The aims and objectives of Monetary Policy in developed and developing countries, Instruments of Monetary Policy.

Role of Commercial Bank in Money Market- Major services provided by Commercial Bank, Development Bank- Role and Function.

MODULE-IV:- SEBI and Insurance Sector in India

Securities and Exchange Board of India (SEBI) -Genesis, Organisation, Objectives and Regulatory approach and Major Functions of SEBI.

Insurance Companies- Meaning, Types of Insurance and Principles of Insurance. IRDA-Objectives, its role and functions in financial market.

Pension Fund and Regulatory Development Authority (PFRDA)- Structure and Functions. National Pension Scheme (NPS).

MODULE-V:-Non-banking Financial Companies (NBFCs)

Non-banking Financial Companies (NBFCs)- Nature of NBFC and how it is different from the Bank. Types and Importance of NBFCs.

Loan Companies, Investment Companies, Lease Finance- types of lease and growth of lease industry.

Non-Bank Statutory Financial Organizations (NBFOs)- Nature and Functions of NBFOs, Major NBFOs operating in India: EXIM Bank, NABARD, Industrial Financial Corporation in India (IFCI).

READING LIST

1. Bhole, L M and Mahakud, J. (6th Edition)- Financial Institutions and Markets – Structure, Growth and Innovations. McGraw Hill Education (India) Pvt Limited.

2. Bhole L M (2009), Financial Institutions and Markets, Tata McGraw Hill, New Delhi.

3. Khan, M Y (2013), Indian Financial System. Tata McGraw Hill, New Delhi.

4. Gorden E. and Natarajan K. (2018), Financial Market and Institutions, Himalaya Publishing House.

5. Gupta S B (2021) - **Monetary Economics**: Institutions, Theory & Policy, Sultan Chand & Sons, New Delhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	5	5	4	4	2	4	5	5
CO2	4	2	4	4	5	5	4	5	4	4
CO3	4	5	2	5	4	2	5	2	4	2
CO4	5	4	5	4	2	4	4	4	4	5
CO5	2	4	4	4	4	5	5	5	5	4

Course Code: **AC-101: COMPUTER APPLICATIONS IN TEACHING LEARNING**

Course Outcomes (COs):

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

CO1: Learn basis of Basics of MS Windows. (Remembering)
CO2: Demonstrate basic understanding of computer applications with reference to MS Windows, MS excel and MS PowerPoint. (Applying)
CO3: Generate spreadsheets, charts and presentations. (Creating)
CO4: Design personal, academic and business documents using MS Office. (Creating)
CO5: Model the modes of development of self-learning materials and prepare different types of instructional material. (Applying)
CO6: Explain different OERs, MOOCs available for effective learning. (Understanding)
CO7: Develop learners" e-portfolios. (Creating)
CO8: Classify various e-resources for effective learning. (Analyzing)
CO9: Describe the concept of artificial intelligence and its applications in teaching learning. (Understanding)
CO10: determine similarity index of the various documents like dissertations, theses etc through plagiarism testing software. (Evaluating)

(Compulsory Course for All PG students)

Credits: 03	Marks: 50	Mid-Sem 10 + Pract. 10 = 20 marks	End Sem: 30 Marks	Total Hours: 45

COURSE CONTENTS

Unit-I: Basics of Computer Applications (CO1, CO2, CO3, and CO4)   15 Hours

- Basics of MS Windows: Desktop, Recycle bin, My Computer, Documents, Pictures, Music, Videos, Task Bar and Control Panel. MS-Word and its features: Creating, Editing, Formatting and Printing of Documents, Inserting, Word Art, Page Numbers, Mail Merge.

- MS-Excel and its features: Creating a new worksheet, selecting cells, Entering and editing Text, Numbers, Inserting Rows/Columns, changing widths and heights of ros and columns, Formulae, referencing cells, changing of font sizes and colors.

- MS-PowerPoint and its features: Creating, Inserting and Deleting Slides of a Presentation. Adding Pictures, Inserting Objects, Audio, Video, Custom Animation and Hyperlinking of documets.

Unit-II: E-learning and its applications (CO5, CO2, CO3)
15 Hours

- Concept of e-learning, Approaches to e-learning: Offline, Online, Synchronous, Asynchronous, Blended learning and Mobile Learning. Security concerns related to interactive contents: Viewing, disabling and managing interactive content; securing the computer from viruses and other internet attacks.

- Creating and Sharing: (i) G-Suite: Gmail, Drive, Calendar, Meet, Chat, Doc, Sheet, Slides (ii) Surveying: SurveyMonkey, Google Forms, online spreadsheets (iii) Google Classroom: conducting classes, assessment and evaluation.

- Development of Self-Learning Materials (SLM) and e-content: Concept and its purposes, Conventional Teaching versus SLMs & e-content, Types of SLMs and e-content, Process of Developing SLMs and e-content, Content Organization, Integrating video and audio into SLMs.

Unit-III: Trends in Teaching Learning Practices (CO6, CO7, CO8, CO9, CO10)   15 Hours

- Open Education Resources: Creative Common, Massive Open Online Courses; creating learners‟ E-portfolios; Accessing Online Repositories, Online Libraries and E-Resources.

- Artificial Intelligence: Concept and its applications in teaching learning practices. Introduction to SPSS and R, Latex.

- Plagiarism: Regulations, similarity index of the various documents like dissertations, theses etc. through plagiarism testing software (Mendeley, Zotero).

Modes of Course Transaction: Workshop, Learning at ICT-Lab, Seminar, Team Teaching, Tutoring, Peer Group Discussion, Mobile Teaching, Self-learning, Collaborative learning, Cooperative learning, Flipped Learning etc.

Book and Materials Recommended *(Any other Books and Materials may be followed)*

Creating learning materials for open and distance learning: A Handbook for Authors and Instructional Designers (2005). Commonwealth of Learning. Vancouver: Canada

Excel 2020 in easy steps-Michael Price – TMH publications

Foundations of Self-Learning Materials. http://wikieducator.org/Session_3.

Garrison, D.R. and Anderson, T. (2003). e-learning in the 21st century: a framework for research and practice. London: Routledge.

Haas, K.B. and Packer, H.Q. (1990): Preparation and use of audio-visual aids, 3rd Edition, Prentice Hall, Inc.

Jayaram, K and Dorababu, K.K. (2015). Self learning materials in distance education system. International Journal of Current Research. Vol. 7, Issue, 10, pp.21929-21934.

Minnick, D.R. (1989). A guide to creating Self Learning Materials. International Rice Research Institute Los Baños, Laguna, Philippines.

MS Office 2007 in a Nutshell –Sanjay Saxena – Vikas Publishing House.

Murthy, CRK and Santosh Panda (2002). Report of the workshop on strategies for revision of self-learning materials, IGNOU, New Delhi. (Unpublished).

Oreyet.al. (2009). Educational media and technology. New York: Springer Science Business Media.

Rana, S. (1994): Open Learning in India, Commonwealth Publishers, New Delhi.

Roblyer, M.D. (2008). Integrating educational technology into teaching. New Delhi: Pearson.

Rowntree, Derek (1986). Teaching through self-instruction, Kogan Page, London/Nichola Pub. Comp. New York.

Senapaty, H.K. (2009). ICT integrated learning materials on basic school subjects from constructivist perspectives. Bhubaneswar: Regional Institute of Education, NCERT.

UNESCO (2005). How ICT can create new, open learning environments: Information and communication technologies in schools: A handbook for teachers. Paris: UNESCO.

UNESCO (2008). Capacity building for ICT integration in education. Retrieved from http://portal.unesco.

UNESCO (2008). ICT Competency standards for teachers: Policy Framework. Retrieved from http://portal.unesco.

Working in Microsoft Office – Ron Mansfield - TMH.

Mapping of Course Outcomes (COs) with Programme Outcomes (Pos)

COs	POs									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	4	4	2	2	5	2	2	2	4
CO2	2	4	4	2	2	5	2	4	2	4
CO3	2	4	4	2	2	5	2	4	2	4
CO4	2	4	4	2	2	5	2	4	2	4
CO5	2	4	4	2	2	5	2	4	2	4
CO6	2	4	4	2	2	5	2	4	2	4
CO7	2	4	4	2	2	5	2	4	2	4
CO8	2	4	4	2	2	5	2	4	2	4
CO9	2	4	4	2	2	5	2	4	2	4
CO10	2	4	4	2	2	5	2	4	2	4

SEMESTER 2

Core Course- HC-201: Micro Economics II

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Developing the analytical and applied skill of the students.

CO2: To bridge the gap and establish linkage between micro theory policy and practice.

CO3: Preparing the students in identifying research and innovation issues relating to micro theory and policy.

CO4: Enhancing the fundamental understanding of the students to qualify national level examinations.

CO5: Developing the moral, ethical and social values on contemporary issues & policies.

SYLLABUS:

MODULE-I-Monopolistic Competition

Monopolistic competition: Assumptions, Cost, revenue and product differentiation, Concept of industry and group.

Chamberlin's approach to ideal output and excess capacity, equilibrium of a firm under monopolistic competition with product differentiation and selling cost.

Group equilibrium under free entry and price competition, a critical analysis.

MODULE-II-Oligopoly

Non-collusive oligopoly: Characteristics, Homogeneous product- Cournot model, Bertrand model, Stackelberg's model
Non-homogeneous product- Concept of Kinked demand curve and Sweezy model, a critical analysis.

Collusive Oligopoly- Characteristics, equilibrium under Cartels and Price leadership,

MODULE-III- General Equilibrium

Concept of partial and general equilibrium, the Walrasian system.

Existence, uniqueness and stability of equilibrium, a graphical exposition to the path of general equilibrium.

Equilibrium of production, consumption and simultaneous equilibrium of production and consumption.

MODULE-IV- Welfare Economics I

Criteria of social welfare and the concept of value judgement, Pigou's Approach to Welfare Economics.

Pareto's Optimality Conditions- Efficiency in consumption, production and distribution.

Concept of social welfare function- its properties, Bergson- Samuelson social welfare function and determination of the "point of bliss".

MODULE-V- Welfare Economics II

Compensation Principle- Hicks, Kaldor, Scitovsky and Little.

Inability to obtain optimum welfare- Market imperfections, decreasing cost , information asymmetry and externality.

Theory of second best, Arrow's impossibility theorem, contemporary relevance and critical appraisal.

READING LIST

1. Bilas, R. A (1971) : Micro – Economic Theory (2nd edn), Mc Graw Hill, New York.

2. Boulding , K.E, & SPIVEY, W. A(1960): Linear Programming and the Theory of the Firm, Macmillan. New York .

3. Salvatore (5th edition), Principles of Microeconomics, , Oxford Publications

4. Reny J., Advanced Microeconomic Theory, Pearson India.

5. Koutsoyiannis, A. (1979); Modern Microeconomics, (2ndEdn) ,Macmillan Press, London.

6. Pindyek, R and D. Rubinfield (2009); Microeconomics, (7thEdn), Pearson Publications, New Delhi.

7. Nicholson W., Christopher M. Snyder, Microeconomic Theory: Basic Principles and Extensions, Cengage Learning, India.

8. Gravelle H. & Rees R. (2004), Micro Economics (3rd Edition), Pearson Publication, India.

9. Varian H R., Intermediate Microeconomics- A modern approach (8th Edition), ww Norton & company, NewYork

10. Varian H R., Microeconomic Analysis (3rd Edition), ww Norton & company, NewYork

11. Henderson J.M. and Quandt R. E., (2006) Micro Economic Theory – A Mathematical Approach (6th Edition), Tata McGrawhill Publication, India .

12. IMD Little, A Critique of Welfare Economics, Oxford Publication

13. K.V. Kundu, Theory of Welfare Economics.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	5	2	2	4	4	5	5	4
CO2	4	4	5	4	4	2	4	4	5	5
CO3	2	5	4	4	5	4	5	4	5	4
CO4	4	4	5	2	4	5	2	4	4	2
CO5	4	2	4	5	4	2	4	5	2	4

Core Course- HC-202: Macro Economics II
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: Students are familiarised with various theoretical approaches to money supply. It further acquaints various measurement that are used in the analysis of money market. Students are also exposed to various methods deployed by the RBI for stabilisation policy.

CO2: This unit helps to understand Neo-Classical & Keynesian views of interest rate determination by using IS-LM model. Further, it also critically helps in analysing the efficacy of monetary and fiscal policies under various circumstances.

CO3: It acquaints students with one of the pressing macroeconomic policy issues of our time, i.e., trade-off between unemployment and inflation targeting by providing critical understanding of the existing theoretical and empirical debates.

CO4: Provides various theoretical perspective to understand economic fluctuation and reason thereto. This unit critically discusses different theoretical arguments on Business Cycle.

CO5: Acquaints students with new theoretical developments in macroeconomic policy making, especially, by emphasising on the role of expectation. Further, it also stresses the role of expectation in macroeconomic policy making.

SYLLABUS:

MODULE- I- Neo-classical, Keynes and ISLM approach

Neo- classical & Keynesian views of interest, The IS-LM model, Extension of IS-LM model, Shift in ISLM and ISLM with Govt. sector.
Relative effectiveness of monetary and fiscal policies, Extension of ISLM model with labour market and flexible prices.
Keynes" and Pigou"s effects, crowding out hypothesis.

MODULE-II- Inflation and Unemployment

Classical, Keynesian and monetarist approach to inflation. Structuralist approach of inflation.
Philips curve analysis- short run and long-run Philips curve.
Natural rate of unemployment hypothesis- Samuelson and Solow

Non-accelerating inflation rate of unemployment (NAIRU), Modified Phillip"s curve- Tobin, Adaptive expectation and Rational expectation hypothesis, Policies to control inflation.

MODULE- III- Theories of Business cycle.

Meaning and Characteristics of Business cycle, Major and Minor Business Cycles, Phases of Business Cycle.
Theories of business cycle-Schumpeter (innovation) theory, Kaldor, Samuelson,
Hicks and Goodwin"s model of trade cycle, Control of business cycle.

MODULE-IV- Macro Economics in an Open Economy

Mundell- Fleming Model- asset market, expectations and exchange rates.

The new classical critique of micro foundations, the new classical approach, policy implications and empirical evidences.

MODULE-V- General Equilibrium and Supply side Economics

Approaches to General equilibrium, features of General Equilibrium model, Merits and demerits of macro General Equilibrium model.
Supply side economics- Essentials of Supply side economics, the Laffer curve analysis, Policy recommendations of Supply side economics
The new Keynesian approaches and objections to supply side economics.

READING LIST

1. Mankiw N G (2006), Macro Economics, McMillan Learning Publication.

2. Levacic R. and Rebmann A. (1982), "Macroeconomics", McMillan

3. Dornbusch R., Fischer S., Startz R. (1994) "Macroeconomics",12th Edition McGrawhill Publication.

4. Froyen, R. T (10th Edition), "Macroeconomics", 2003, Pearson Publication, India.

5. Dillard D., The Economics of J. M. Keynes, Crosby Lockwood & Son Ltd, London.

6. Levacic R. and Rebmann A. (2nd Edition) Macro Economics: An Introduction to Keynesian –Neo-Classical Controversy, Palgrave MacMillan

7. Kurihara, K.K. (2013), Monetary theory & Public Policy, Routledge.

8. Rana K.C. and Verma K.N. (2006), "Macro Economic Analysis", Vishal Publishing Co.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	4	5	4	4	5	2	4	5
CO2	5	4	4	5	4	4	5	2	4	5
CO3	5	4	4	5	4	4	5	2	4	5
CO4	5	4	4	5	4	4	5	2	4	5
CO5	5	4	4	5	4	4	5	2	4	5

Core Course- HC-203: Mathematical Methods in Economics
Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Students learn the use of mathematical methods in economics.

CO2: It helps students to model economic questions in mathematical framework.

CO3: Students will be able to master the essential concept and techniques of optimisation, linear programming and its application in economic problems.

CO4: Students also familiar with the concept and techniques of input output model and game theory.

CO5: Students understand the essential mathematical assumptions made in economic modelling.

SYLLABUS:

MODULE-I: - Function and Differentiation

Function- Concept and types, properties and graphical representations.

Rules of differentiation, higher order derivatives, relative extrema, inflection points, increasing and decreasing functions.
Partial and total derivative, total differentiation, differentiation of implicit function, economic applications.

MODULE- II:- Classical Optimization

Concavity and Convexity of a function, unconstrained optimization (two variable case), Hessian determinant (for more than two variable case), Jacobian and functional dependence. Constrained Optimization- Bordered Hessian determinant, Langrangian Multiplier method. Indefinite Integration: Concept and rules, Definite Integration: Concept and properties, economic applications.

MODULE-III: - Linear Programming (LPP)

Introduction- the general LPP, Slack and surplus variables, basic and feasible solutions. Solution of LPP- graphical method (both maximization and minimization)

Concept of Primal and dual, Duality theorem, economic interpretation of duality, limitations of LPP.

MODULE-IV: - Input-Output Model (I-O model)

Introduction, assumptions, transaction matrix and technological coefficient matrix. Closed and open I-O models with technological coefficients matrix Static and dynamic I-O model, Hawkin- Simons Condition and the viability of the system,

limitations of the I-O model.

MODULE-V: - Game theory

Basic concepts and types of game, rules of the game, maximin and minimax principle, saddle point solution.
Simple and mixed strategies, solution of game with mixed strategies, dominance property, graphical solution of m*2, 2*n and m*n games.
Concept of Nash equilibrium and prisonner"s dilemma, Co-operative vs non-cooperative game, LPP and game theory.

READING LIST

1. Dowling, E.T. (2011), Introduction to Mathematical Economics, Schaum"s Outlines, McGraw Hill Publication, India.
2. Sydsaeter K. and Hammond P., (1995) Mathematics for Economic Analysis, Pearson Publication, India.
3. Renshaw, J., (2016) Maths for Economics, 4th edition, Oxford Publishing House.
4. Baldani, J. (2005) Mathematical Economics, 2nd Edition, Thomson/South-Western
5. Allen R G D (2006), "Mathematical Analysis for Economists" Macmillan And Company Limited
6. Chiang A C (2017), "Fundamental Methods of Mathematical Economics", 4th edition, McGraw Hill Education.
7. Mehta and Madnani (2013), Mathematics for Economists, Sultan Chand & Sons
8. Swarup K., Gupta P K. and Manmohan (2010), Operation Research, Sultan Chand & Sons, New Delhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	5	4	5	5	5	5	4	5
CO2	5	5	5	5	5	5	5	5	4	5
CO3	5	5	5	4	5	5	5	5	2	5
CO4	5	5	5	4	5	5	5	5	2	5
CO5	5	5	5	5	5	5	5	5	4	5

Core Course- HC-204: Agricultural Economics

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Developing the ability of the students to understand the importance of agricultural economics via establish a linkage between theory, policy and practice.

CO2: Improving the analytical thinking-based abilities of the students on various issues and policy of agricultural economics.

CO3: Prepare students for pursuing research and innovation in various contemporary issues of agricultural economics at national and international level.

CO4: Improving the understanding of the students with ability to think rationally, analyze situations and solve problems adequately.

CO5: Enhancing the moral, social and ethical values of the students in regard to identifying socio-economic issues for future research on agricultural economics.

SYLLABUS:

Module-I Agriculture and Economic Development

Agriculture and Economic Development: Nature, scope and significance of Agricultural economics; Role of Agriculture in economic development;

Agriculture and its peculiarities, Interlinkage between Agriculture and Industry

Reforms in Agricultural sector: Land Reform Measures: Achievements and failures, Green Revolution and Need for second Green Revolution

Module-II Theories of Agricultural development

Theories of Agricultural development -Schultz‟s hypothesis on traditional agriculture- its criticisms, Von Thunen‟s Location Theory of Agriculture

Traditional Agriculture and its modernization: Approaches of Mellor and Boserup,

Lewis model on unlimited supply of labour, Fei & Ranis Model on Importance of agriculture on Industrial growth

Module-III Agricultural production:

Production function analysis in agriculture- short run and long run Iso-quant and Iso cost Approach; C-D production function

Cost Functions and cost curves in agricultural production decisions

Supply Response in agriculture; Farm size and productivity. Mechanization of Indian Agriculture; Case for and against farm mechanization

Module-IV Agricultural Price policy, Marketing and Credit:

Agricultural Price policy, Marketing and Credit: Feature, Objective and Effectiveness of the

Agricultural Price Policy in a developing economy; Price instability- Concept and Cob-Web Model.

Agricultural marketing in India; measure to improve the marketing efficiency; Regulated market; Marketable and Marketed surplus.

Rural credit market in India; Institutional vs non institutional, source of credit; Role of NABARD for agricultural development.

Module-V Globalisation and Indian Agriculture

Globalization and Indian Agriculture, Case for and against privatization of Agriculture. Liberalization of trade and its impacts; WTO and Indian Agriculture. International trade and Indian Agriculture- An Overview during post-globalisation, FDI and Role of MNCs

READING LIST:

1. Soni R.N. (2013), Leading Issues in Agricultural Economics, Vishal Publishing,

2. Heady, E.O (1952) Economics of Agricultural Production and Resource Use, Prentice-Hall, New York.

3. Cohen, R. L. (2006), The Economics of Agriculture, Obscure Press.

4. Sadhu A.& Singh, A. N. (1999), Fundamentals of Agricultural Economics, Himalaya Publishing house.

5. Bhaduri. A. (1984). The Economic Structure of Backward Agriculture, Macmillan,Delhi.

6. Saini, G. R. (1979), Farm Size, Resource Use Efficiency and Income Distribution, Allied Publishers, NewDelhi.

7. Ray D. (1998), Development Economics, Princeton University Press.

8. Memoria C.B. & Tripathi B.B. (2013) Agricultural Problems of India Kitab Mahal Publisher.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	4	2	5	4	2	4	4	5
CO2	5	4	2	4	4	2	4	5	2	4
CO3	4	5	5	2	2	5	2	4	5	2
CO4	5	4	4	4	4	4	4	5	4	5
CO5	4	5	5	5	5	4	4	2	4	4

Core Elective- CE-201: Basic Econometrics
Course Outcomes (Cos):

After reading this paper, students should:

CO1: Understand the stochastic relation, randomness in empirical models and various types of data.

CO2: Enhance knowledge on Classical Linear Regression Model, assumptions, and its properties.

CO3: Be able to estimate economic relations and draw inferences from them.

CO4: Have knowledge on problems in estimation such as multicollinearity, heteroscedasticity and autocorrelation and its remedial measures.

CO5: Be able to predict future values based on historical data and derive policy recommendations.

SYLLABUS:

MODULE-I:- Meaning and scope of econometrics; two variable linear regression model-Its assumptions, estimation of parameters

Properties of estimators, Gauss Markov Theorem, coefficient of determination
Analysis of variance of two variable LRM, Prediction in two-variable model.
MODULE-II:- K-Variable LRM: Assumptions, estimation of parameters.
Properties of estimators, Gauss Markov Theorem; Testing of significance of single co-efficient and subset of coefficients.

ANOVA; Adjusted coefficient of determination, prediction in K-variable model.
MODULE-III:- Multicollinearity-Nature and detection Consequences & remedy.
Specification Errors and measurement errors.
MODULE-IV:- Heteroscedasticity- Consequences, detection and remedy
Generalized Least squares and Weighted Least Square estimation.
Auto-correlation: Detection, consequences and remedy.

MODULE-V:- Dummy independent variable models: meaning, shift of the function, change in slope, seasonal analysis, dummy variable trap.

Testing the structural stability of regression models, measuring structural transformation.
Chow test, Interaction effects, piecewise linear regression, ANOVA vs ANCOVA
READING LIST
1. Johnston (1991), "Economic Methods", McGraw Hill Book Co.

2. Kmenta J. (1997), Elements of Econometrics (Reprint) University of Michigan Press, McMillan Publication

3. Wooldridge, j. (2019), Introductory Econometrics-A Modern Approach, South-Western College Publishing.

4. Koutsoyiannis, A (1992), " Introduction to Econometrics", University Press.

5. Greene, W.H. (2020), Econometric Analysis, 6th edition, Pearson Publication.

6. Gujrati D.N. (1995), Basic Econometrics (2nd edition), McGraw hill, New Delhi

7. Maddala G.S. (1993) Econometric Methods and Application, Aldershot

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	4	5	2	2	4	4	5	2	2
CO2	2	5	5	2	4	4	5	5	2	2
CO3	5	5	5	2	2	4	4	5	2	2
CO4	5	5	5	2	2	4	5	5	2	2
CO5	5	5	5	2	5	4	5	5	2	2

Core Elective-CE-201: Banking Theory & Practice
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: Enhancing the ability of the students to establish the linkage between banking theory and practice.

CO2: Improving the analytical skill of the students relating to the functioning of the banking system.

CO3: Nurturing the research-oriented ability of the students relating to financial issues.

CO4: Improving the understanding of the students about various concepts and dynamics of banking system.

CO5: Enhancing the moral and ethical values of the students about baking structure and financial institutions.

SYLLABUS:

MODULE-I: - Origin of Banking Sector

Introduction to Banking-Definition of banking, Origin & growth of Banking Sector in India
Kind of Banking, Unit vs. Branch Banking, Banking regulation Act 1949
E-banking system, ATM Cards, Debit Cards, Personal Identification Number.

MODULE-II: Reserve Bank of India and Monetary Policy

RBI- Evolution & Definition of Reserve Bank of India, Organisation and management.
RBI- Role and Functions of Reserve Bank of India.
Monetary Policy- Meaning, Objectives and instruments of Monetary Policy in India.

MODULE-III: Commercial Banks

Commercial Banks- Meaning, Objectives and evolution of Commercial banks.
Types of Commercial Banks and Functions-Accepting deposits lending of funds.
 Multiple credit creation by Commercial Banks and balance sheet analysis of Commercial Banks.

MODULE IV: **Customer Base-Services Provided by Banks**

Customer relationship management in Banks-meaning, objectives, and Importance in banking sector.

Strategies for expanding customer base-services to different categories of customers-retail, corporate, international and rural.

Banking Ombudsman Scheme-KYC norms, customer retention, handling customer grievances.

MODULE-V: **Negotiable instruments and Principles of lending**

Negotiable instruments-Meaning, Characteristics and use of Negotiable instruments.
Types of negotiable instruments- Promissory Notes, Bills of Exchange, Cheque, and Draft
Principles of lending-Types of borrowings-precautions to be taken by a banker while advancing loans against Real Estate-Insurance policies.

READING LIST

1. Sundaram and Varshney, (2003), "Banking Theory, Law & Practice" Sultan Chand Company, New Delhi.

2. Gorden E. and Natarajan K. (2016) "Banking Theory, Law & Practice" Himalaya Publishing House, New Delhi.

3. Sekhar, K.C., (2005), Banking Theory and Practice, Vikas Publishing House, New Delhi.

4. Handbook of Statistics on Indian Economy (2021), Annual publication of RBI.

5. Maheswari, S.N. (2014), Banking Law, Theory &Practice- Kalyani Publication.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	4	5	2	4	4	5	5	2	4
CO2	2	4	4	4	5	4	4	4	4	5
CO3	5	5	5	5	2	4	2	5	5	4
CO4	4	2	4	4	4	5	4	4	4	5
CO5	5	4	2	5	5	2	5	4	4	2

Open Elective- OE-201: Odisha Economic Problems & Policies
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: Developing the ability of the students to understand the policies and issues of the Odisha Economy and thereby to establish a linkage between theory, policy and practice.

CO2: Improving the thinking-based abilities of the students on various socio-economic problems of the state and to carry out effective research.

CO3: Enabling the students to prepare for various competitive examinations based on the information of the state economy.

CO4: Improving the understanding of the students about various concepts and dynamics of Odisha economy.

CO5: Enhancing the moral, social and ethical values of the students in regard to identifying socio-economic issues for future research.

SYLLABUS:

MODULE-I:- Basic Characteristics and Demographic Indicators of Odisha Economy

Basic characteristics of the economy of Odisha, Major problems in Economic Development of Odisha.

Demographic features of Odisha population-Birth rate, death rate, density of population, sex ratio, literacy rate, rural-urban composition, life expectancy and demographic dividend.

Population Explosion- Meaning, causes of rapid growth of population, adverse impact on Odisha economy, Population Policy.

MODULE-II:- Agricultural Development in Odisha

Agriculture in Odisha- Concept, importance of agriculture in Odisha, Causes of low Productivity in Odisha.

Reforms in Agricultural Sector: Land Reforms- Meaning and Objectives, Measures of Land Reforms in Odisha; Green Revolution- Meaning, Objectives, Positive impact and its limitation.

Agricultural credit-Institutional and non-institutional sources, System of Agricultural Marketing.

MODULE-III:- Industrial Development in Odisha

Industrial sector- Importance of Industrialization in Economics Growth.

Types of Industries- Large scale and small scale, growth of large-scale industries and their problems; growth of small-scale industries and their problems.

Industrial policies- Meaning and Objectives. Industrial Policy 1991, Odisha Industrial Policy Resolution.

READING LIST:

1. Odisha Economic Survey 2020-21.

2. Odisha Reference Year Book 2015, BK Publications.

3. Patnaik N.R. (1997), Economic History of Odisha, Indus Publications.

4. Nayak, P. Panda, S. & Patnaik P. (2016), The Economy of Odisha- A Profile, Oxford University Press.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	5	4	2	5	4	2	4	4	5
CO2	2	4	2	4	4	2	4	5	2	4
CO3	4	2	5	5	2	5	5	4	5	2
CO4	2	4	4	4	4	4	4	5	4	5
CO5	4	5	5	5	5	4	4	2	4	4

PG Semester III
Core Course- HC-301: Research Methodology
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: Increasing the ability of the students to identify socio-economic issues for research.

CO2: Improving the knowledge and understanding about various research skills, techniques and methods.

CO3: Encouraging students for hands on practices in statistical packages like STATA, E-Views, SPSS, Excel and R etc.

CO4: Developing the ability of the students for data collection, entry, analysis and interpretation.

CO5: Enhancing the capability of the students to carryout innovative research based on socio-psychological and moral values.

SYLLABUS:

MODULE-I:- Introduction to scientific social research– meaning, scope, importance, significance, types, objective, nature and motivation.

Research design- meaning and need for research design, Features of good research design, concepts relating to research design, limitations in designing research.

Social Science Research- scope and importance, steps in social science research.

MODULE-II:- Collection of data–primary and secondary data –Methods of collecting primary data –Interviews, questionnaire, observation , schedule, Secondary data –sources, limitations of secondary data.

Sampling and sample design. Basic features in sampling, Types of sampling, Ideal sampling, main steps in sampling.

Sampling and non-sampling errors, Case study method.

MODULE -III: Scaling of Data – Classification, Tabulation, Graph & Diagrams.
Statistical methods – Averages, Standard Deviation.
Covariance & Correlation, Analysis of Variance (ANOVA).

MODULE-IV:- Hypothesis- meaning, definition, sources of hypothesis, qualities of workable hypothesis, importance of hypothesis, problems in formulating hypothesis.

Basic concepts of testing hypothesis- null and alternative hypothesis, level of significance, tests of hypothesis, type I and type II error, one- tailed and two- tailed tests.

Hypothesis testing process- Z, Chi- square-test, t-test, F-test.

MODULE-V:- Academic writing skill: writing a research report, requirements, significance of report writing, types of report.

Outline of a research report, guidelines for effective report writing, mechanics of report writing.

Writing of bibliography & references, appendix, review of literature, various methods of presentation of research reports.

READING LIST

1. Kothari C. R (1990)–Research Methodology, Methods & Techniques, Wiley Easter Limited , New Delhi

2. Sadhu & Singh (2021), Research Methodology in Social Sciences, Himalaya Publishing House, New Delhi.

3. Thakur D. (1993), Research Methodology in Social Sciences, Deep & Deep Publication.

4. Kumar, R. (2011) Research Methodology: A Step-by-Step Guide for Beginners. 3rd Edition. Sage, New Delhi

5. Gupta S.P (2014), Statistical Methods, Sultan Chand & Sons.

6. Kothari C. R & Garg G. (2019)–Research Methodology: Methods & Techniques, New Age International Publishers, New Delhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	2	2	4	4	5	5	4	4
CO2	4	5	2	4	2	4	5	4	2	4
CO3	2	4	4	5	4	4	2	4	4	2
CO4	4	2	4	2	5	4	4	2	2	4
CO5	4	2	4	4	4	2	4	2	4	2

Core Course- HC-302: International Economics
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: Students are familiarised with various theoretical approaches to international trade. Critically discusses the pure trade theories – beginning from the classical political economy to the modern neo-classical theory – under various circumstances.

CO2: This unit raises some important political question on the efficacy of international trade when it comes to sharing gains between developed and developing countries out of the trade. It exposes students about the merits and shortcomings of various trade policies that are being increasingly advocated by the policy makers to improve the terms of trade.

CO3: It acquaints students with the received theories on trade intervention and its economic effects on national income, output, employment and income distribution. The students are also critically informed about the political economy of the trade barrier and its possible welfare implication for the nation state.

CO4: Provides critical insights into the various nuances of balance of payments, including the

reasons behind its disequilibrium. The role of different exchange rate regime leads to different kind of adjustment in the BOP. Further, it also critically discusses the role of different policies used in the deficit correction.

CO5: Students are acquainted with various available policy measures that are being used for achieving internal and external equilibrium, simultaneous under alternative exchange rate regimes. It further helps students critically understand the role of different exchange rate regime in shaping the economic fortune of developing countries.

SYLLABUS:

MODULE-1:- Pure theories of International Trade

Introduction to the International Economics, International Trade-Concept, Rationale of International Trade, Interregional Trade Vs International Trade.
Classical theory of International Trade- Trade Theories based on Absolute Advantage, Comparative Advantage and Opportunity Cost.
Modern Theory of International Trade- Heckscher-Ohlin Theory of Trade, Stolper-Samuelson Theory.

MODULE-2:- Gains from Trade and New Theories of International Trade

Terms of Trade- Concepts, Importance of Terms of Trade, Types of Terms of Trade (ToT)- Net Barter ToT, Gross barter ToT, Income ToT, Single ToT, Double ToT, Real Cost ToT and Utility ToT.
Gains from Trade- Concept, Factors affecting Gains from Trade, Trade Theories- Classical Theory (J.S. Mill) and Modern Theory (Samuelson and Harberler), Trade as an engine of economic growth.
New Theories of International Trade- Kravis Theory of Availability, Linder‟s theory, Vernon‟s Product Cycle Theory.

MODULE-3:-The Theory of Interventions

Tariffs- Concept and Objective, Types of Tariffs, Tariffs analysis in Partial and General Equilibrium Framework, Optimum Tariff-their measurement, impact and welfare implications.
Non-tariff trade barriers: Import Quotas-Concept and Objective, Types of Quotas, effects of Quota, Comparison between Tariff and Quota.
Other Non-tariff trade barriers- Custom Union, Dumping, Export Subsidies, Economic integration, Tariff vs. Non-tariff barriers.

MODULE-4:-Balance of Payments

Balance of Payments: Meaning, significance, features and components of balance of payments, Difference between Balance of Trade and Balance of Payments.
Equilibrium in the balance of payments, Disequilibrium in the balance of payments- Types and Causes; Impact of adverse Balance of payment on Economy.
Adjustment Mechanism of disequilibrium in the balance of payments- the process of automatic adjustment; Expenditure–reducing and expenditure- switching policies and direct controls for adjustment.

MODULE -5:-**Theories on Exchange rates Determination**

Exchange Rate- Meaning and its determinants, Types Exchange Rate-Fixed Exchange Rate (Argument for and against) and Flexible Exchange Rate (Argument for and against).
Theories of Exchange rate Determination- Mint Par Theory, Purchasing Power Parity Theory and Balance of Payment Theory.
Foreign Trade Multiplier with and without foreign repercussions and determination of national income and output.

READING LIST

1. Salvatore, D. (1997). International Economics, Prentice Hall.

2. Sodersten, B O (1991). International Economics, The Macmillan Press.

3. Roy, P.N. (1986). International Trade: Theory and Practice, Wiley Eastern.

4. Chacholiades, M. (1990), The Pure Theory of International Trade, McGraw Hill.

5. Krugman P. R., Obstfeld M and Melitz (2015). International Economics, Pearson Education

6. Batra, Raveendra N. (1975), The Pure Theory of International Trade under Uncertainty, The Macmillan Press.

7. Bhagwati, J. (Ed.) (1981), International Trade: Selected Readings, Cambridge University Press.

8. Dana, M.S. (2000), International Economics: Study, Guide and Work Book, Routledge Publishers.

9. Dunn, R.M. and J.H.Mutti (2000), International Economics, Routledge Publishers, London.

10. Sodersten B O, & Reed G. (1994), International Economics, 3rd edition, International Edition.

11. Dwivedi D. N. (2018) , International Economics Theory and Practice, Vikas Publishing House.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	4	5	4	4	5	2	4	5
CO2	5	4	4	5	4	4	5	2	4	5
CO3	5	4	4	5	4	4	5	2	4	5
CO4	5	4	4	5	4	4	5	2	4	5
CO5	5	4	4	5	4	4	5	2	4	5

Core Course: HC-303: Public Finance Theory and Practice
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: Enhancing the ability of the students to establish the linkage between theory and practice.

CO2: Improving the analysing and innovative skill of the students.

CO3: Raising the research-oriented ability of the students to public policy issues.

CO4: Enhancing the moral, social and ethical values of the students about public policies and public institutions.

CO5: Improving the understanding of the students about various concepts and dynamics of public finance issues.

SYLLABUS:

MODULE-I:- Role of Government

The role of Govt. in a changing perspective, provision of Private Goods, Pubic Goods, Merit Goods and Mixed Goods.

Market failure- Free rider problem, imperfections, decreasing production cost and externalities. Pigouvian taxation, Coase theorem and its critical appraisal.

MODULE-II PRINCIPLES OF TAXATION

Benefit principle, Bowen & Lindahl''s model, principle of equity, Ability to pay principle, excess burden doctrine

Principle of fiscal neutrality, administrative efficiency, application of taxation principles in developing countries

Taxable capacity-meaning, types & measurement; impact& incidence of tax, shifting of tax incidence under different market conditions.

MODULE-III PUBLIC EXPENDITURE

Wagner''s law of increasing state activities, peacock-Wiseman hypothesis, Coli- Clark''s critical limit hypothesis.

Public sector pricing policy-average cost & marginal cost, criteria for public investment-social cost benefit analysis.

Effects of public expenditure on production, distribution & other economic activities.

MODULE-IV PUBLIC DEBT& BUDGET

Sources of public debt, effects of public debt, tax vs. debt

Burden of public debt, shifting of debt burden, debt redemption & management, intergeneration equity.

Budget-Balanced vs. unbalanced budget deficits & their limitation, budget as an instrument of economic policy, zero based budgeting, PPBS.

MODULE-V Fiscal federalism

Principles of federal finance, fiscal federalism in India
Centre-state financial relation, financial autonomy of states.
Shrinking size of development finance through budgets, an assessment.

READING LIST

1. Musgrave R.A & Musgrave P (1976), Public Finance Theory& Practice, McGraw Hill.

2. Mishra B. Economics of Public Finance

3. Herber B.P. (1979), Modern Public Finance, Homewood Publishing House.

4. R.K. Lekhi (2015), Public Economics, Kalyani Publishers.

5. Ganguly S. (1964), Public Finance –A Normative Approach, Naba Bharat Publication, India.

6. Due J. F & Friedlander, (1977), Government Finance: Economics of the Public Sector, The Irwin Series Publication, 6th Edition.

7. Jha R. (1997) Modern Public Finance, Routledge Publication, London.

8. Radhakrishnan N. (2019) Public Finance Theory & Practice, Vindra Publication

9. R.A. Musgrave (1975) Public Finance Theory& Practice, McGraw Hill.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	4	2	4	2	4	2	4	5
CO2	4	5	2	4	4	2	4	5	5	4
CO3	2	2	5	4	2	5	4	4	2	4
CO4	4	4	2	5	5	2	5	2	4	5
CO5	2	4	4	2	4	4	4	4	5	4

Core Elective-CE-301: Mathematical Economics
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: Enhancing the skill and ability of the students to make an objective analysis of economic concept and issues.

CO2: Developing the idea and understanding of the students about mathematical tools and techniques.

CO3: Enabling the students to do mathematical applications in economic issues of research.

CO4: Preparing the students for national level competitive examinations.

CO5: Developing the base of making analytical and applied understanding of various concepts and aspects in economics.

SYLLABUS:

MODULE-I:- Consumer Behaviour Theory- Utility Function-Direct and Indirect, Slutsky equation, Ordinary and Compensated Demand Functions, Income, Substitution and Price effects.
Separable and additive utility functions, homogeneous & homothetic utility functions.
Concept of Elasticities- generalisation to n variable case, linear expenditure systems.

MODULE-II:- Production function- CES & VES production functions and their properties.
Derivation of short run & long run cost function, constrained optimization of a produce, input demand function.
Technical progress through production function, empirical uses of production function.

MODULE-III:- Single Market Equilibrium- Marshallian and Walrasian equilibrium conditions, existence, Stability and Uniqueness of equilibrium.
Static and dynamic stability, continuous and lagged adjustments.
Dynamic equilibrium with lagged adjustments.

MODULE-IV:- Multi Market equilibrium- Two -commodity exchange and Edgeworth box.
Multi Market equilibrium- Production and exchange.
Existence, stability and uniqueness of equilibrium in multi- market analysis.

MODULE-V:- Linear Programming; Primal & Dual problems, Simplex method and Revised Simplex Method.
Dynamic programming, transportation problem.

Non-linear programming- graphical method, Kuhn-Tucker conditions in non-negative constraints.

READING LIST

1. Allen R G D (1968), "Mathematical Analysis for Economists", McGraw Hill Publication, New York.
2. Chiang A. C. & Wainwright K. (2005), "Fundamental Methods of Mathematical Economics", 4th Edition, McGraw Hill Publication.
3. Silberberg. E & Suen W. (2000), The Structure of Economics: A Mathematical Analysis, 3rd edition, Irwin McGraw Hill Publication, New York.
4. Henderson J.M. and Quandt R. E., (2006) Micro Economic Theory – A Mathematical Approach (6th Edition), Tata McGraw hill Publication, India.
5. Yamane T. (2012) Mathematics for Economists: An Elementary Survey, Literary Licensing.
6. Madnani G.M.K. & Mehta B.C. (2008), Mathematics for Economists, Sultan Chand & Sons

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	4	2	4	2	4	2	4	5
CO2	4	5	2	4	4	2	4	5	5	4
CO3	2	2	5	4	2	5	4	4	2	4
CO4	4	4	2	5	5	2	5	2	4	5
CO5	2	4	4	2	4	4	4	4	5	4

Core Elective-CE-301: Indian Economic Problems and Policies

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Develop critical thinking among students regarding various economic issues of India.

CO2: Improving the analytical and communicative skill of the students via establishing the interlinkage between theory and practice.

CO3: Nurturing the research-oriented ability of the students relating to various contemporary issues Indian economy.

CO4: Encouraging students with the opportunity to focus on applied and policy issues in Indian Economy.

CO5: Enhancing the moral and ethical values of the students with ability to think rationally, analyze situations and solve problems adequately.

SYLLABUS:

MODULE-I Economic Growth and Development

Economic growth and Development- Meaning, Factors affecting economic development in India

Poverty- Meaning, Types, Causes, Adverse Impact of Poverty and Various poverty alleviation programs in India.

Unemployment-Meaning, Types, Causes, Adverse Impact of unemployment and various employment generation programs in India.

MODULE-II Demographic features of Indian Population

Broad Demographic indicators of Indian population- Birth Rate, Death Rate, Demographic Dividend, Literacy Rate, Sex Ratio, Life Expectancy and Density of Population.

Demographic Features of Indian Population, Theory of Demographic transition and its applicability in Indian context,

Population Explosion- Meaning, Causes, adverse impact and Suggestions to control.

MODULE-III Agricultural Development in India

Indian Agriculture- Concept, Importance of Agriculture, Causes of low agricultural productivity in India.

Land Reforms- Meaning and Objectives, Measures of Land Reforms- Abolition of Intermediaries, Tenancy Reform, Ceiling on Land Holdings, Consolidation of land holdings, Co-operative Society.

Green Revolution- Meaning, Objectives, Positive impact and its limitation.

MODULE-IV Industrial Development in India

Industrial sector- Importance of Industrialization in Economic Growth, Interlinkage between Agriculture and Industry.

Industrial policies- Meaning and Objectives. Various Industrial Policies- 1948, 1956, 1977 and 1991.

Types of Industries- Large Scale and Small Scale, Problems of Small-Scale Industries, Industrial Finance.

MODULE-V Economic Planning and External Sector Reforms

Planning in India- Objectives of planning, Achievements and Failures, NITI Aayog.

Economic Reforms- Rationale for reforms. New Economic Policy 1991- Liberalization, Privatization and Globalization.

Foreign Capital- Need and Importance of Foreign Capital, Types-Foreign Aid and Foreign Direct Investment (FDI).

READING LIST

1. Misra S.K. & Puri V.K. (2020). Indian Economy. Himalaya Publishing House.
2. Datta & Sundharam (2020). Indian Economy (73rd Edition). S. Chand Publishing House.
3. Dhar P.K. (2004) Indian Economy, Kalyani Publishers.
4. Dhingra I. C. (2018) Indian Economy, Environment & Policy, Sultan Chand & Sons.
5. Jalan B. (2000), The Indian Economy, Penguin Books Ltd.
6. Kapila U. (2005), Understanding the problems of Indian Economy, 6th edition, Academic Foundation.
7. Rangarajan C. (2000), Perspectives on Indian economy, USB Publishers Distributors Ltd.
8. Dalt, R (Ed) (2001) Second generation economic reforms in India, Deep & deep publication, New Delhi.
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10. Panagariya, Arvind (2008): India: the Emerging Giant, Oxford University Press, New York.
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Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	5	2	4	4	5	5	2	4
CO2	5	4	4	4	5	4	4	4	4	2
CO3	5	5	2	5	2	4	2	5	5	4
CO4	4	5	4	4	4	2	4	4	4	5
CO5	5	4	2	5	5	2	5	4	4	2

Core Elective- CE-302: Advanced Econometrics
Course Outcomes (Cos):
After reading this paper, students should:

CO1: Be able to develop analytical skills to design and evaluate critically any econometrics research projects.

CO2: Be able to develop technical skills which would enable them to understand and apply

highly sophisticated econometric tools.

CO3: Have enhanced ability in computer programming skills in order to be able to implement their technical knowledge in practice.

CO4: Be able to explain core concepts and techniques in dummy dependent variable models, causality and cointegration approaches, simultaneous equation models, principal component analysis, and time-series econometrics

CO5: Have capacity to conduct research with secondary data using econometric and statistical software and critically evaluate the research output and make conclusions thereof.

SYLLABUS:

Module I

Dummy dependent variable models: Estimation using LPM, Logit.
Probit and Tobit models
Multivariate normal Probability distribution – its properties; Hotelling T distribution.

Module II Autoregressive and distributed lag models – Koyck‟s model, Partial Adjustment model.

Adaptive expectation model; Instrumental Variables.

Almon‟s approach to distributed lag models; Causality test – Granger test, Sim test.

Module III Simultaneous equations models – Introduction and examples; the simultaneous equation bias and inconsistency of OLS estimators.

The Identification problem – Rules of identification – Order and rank conditions.

Methods of estimation of Simultaneous equation model – Recursive method, ILS,2SLS.
System method of estimation of Simultaneous equation models – 3SLS.

Module IV Discriminant Analysis, Principal Component Analysis.
Factor Analysis, Cluster analysis
Panel data techniques – Fixed effect model, Random effect model, Random Coefficient model.

Module V Time Series Econometrics – Stationarity, Tests of Stationarity, Unit root, Spurious regression and co-integration.

 Dickey Fuller test, Augmented Dickey-Fuller test, Engle – Granger test, Random walk model.

Forecasting with ARIMA model, Box- Jenkins methodology, Vector auto regression, Problems with VAR modelling – Applications.

READING LIST:

1. Johnston (1991), "Economic methods", McGraw Hill Book Co.

2. Kmenta J. (1997), Elements of Econometrics (Reprint) (1986), University of Michigan Press, McMillan Publication

3. Wooldridge, J. (2019), Introductory Econometrics- A Modern Approach, South-Western College Publishing.

4. Koutsoyiannis, A (1992), "Introduction to Econometrics", University Press.

5. Gujrati D.N. (1995), Basic Econometrics (2nd edition), Mc Grawhill, New Delhi

6. Maddala G.S.(Ed) (1993) Econometric Methods and Application (2vols) Aldershot

7. Greene, W.H. (2020), Econometric Analysis, 6th edition, Pearson Publication.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	4	5	2	2	4	4	5	2	2
CO2	2	5	5	2	4	4	5	5	2	2
CO3	5	5	5	2	2	4	4	5	2	2
CO4	5	5	5	2	2	4	5	5	2	2
CO5	5	5	5	2	5	4	5	5	2	2

Note: Highly matching=3: Moderate=2: Low=1

Core Elective- CE-302: Economics of Gender
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: This course helps students to get basic understanding of the gender and its relations with economic discipline.
CO2: It helps to improve student"s knowledge about policy and practical development of gender economics field.
CO3: It helps students to get aware about gender equality in education, health and income and the need for women empowerment.

CO4: Students get knowledge about role of gender in gender budgeting and sustainable economic development.

CO5: It gives knowledge to students to critically examine and assess economic theories and policies from gender perspective.

SYLLABUS:

Module-I Gender and Development:

Concept and characteristics-patriarchy, caste and Kinship, impact on gender development

Gender in mainstream economics -WAD, WID, GAD; Approaches to women empowerment; Gender needs and strategies-Approach of GDI and GEM.

Module-II Demography, property rights and Gender Issues in Agriculture:

Demographic components-Age structure, sex ratio, mortality and fertility rate.
Land and property rights of women; land reforms and concurrent provisions.

Feminization of agriculture, key gender issues influencing trends and practices of agricultural activities, livelihood opportunities and challenges in agriculture

Module-III Women and Employment:

Participation of women in agricultural and non-agricultural activities; productive and unproductive, paid and unpaid.

Supply and demand for female labour in formal and informal sector; wage differential and wage discrimination-causes and implication.

Work participation of women in developing countries with special reference to India.

Module-IV Women and socio-economic status:

Inclusive growth and economic development of women; Gender inequalities in income

Access to Education & Health; Issues and challenges, ownership and access to technology and other financial services

Women empowerment: Role of Micro finance &SHGs; opportunities and challenges Migration and its impact on women.

Module-V Environment and women:

WED and eco feminism; climate change and women; Women and sustainable Economic development.

Climate risk and women; gender dimensions of management of natural resources

Gender budgeting; Concept and approach, An assessment of Gender Budgeting with reference to India.

READING LIST:

1. Boserup, E(1970):Women"s role in Economic Development, George Allen and Unwin, London.
2. Seth, M. (2000): Women and Development: The Indian Experience, Sage Publications, New Delhi.
3. Jhabwala, R. and R. K. Subramanya (Eds) (2000): The Unorganized Sector: Work Security and Social protection, Sage Publications, New Delhi.
4. Venkateshwara, S. (1995): Environment, Development and Gender Gap, Sage Publications, New Delhi.
5. Mies, M. (1998): Patriarchy and Accumulation on a World Scale: Women in the International Division of labour, Zed Book, London.
6. Agarwal, B. (1994): A Field of One"s Own: Gender and land right South Asia, Cambridge University Press.
7. ILO(1998):Women"s Participation in the Economic Activity of Asian Countries,Geneva.
8. Ahmed. I. (Ed.) (1985): Technology and Rural Women: Conceptual and Empirical Issues, George Allen and Unwin, London.
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10. Chopra, Kanchan (2001): Women and Migration, Sage Publications, New Delhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	5	4	2	2	4	2	4	5
CO2	4	4	5	4	2	2	4	2	4	5
CO3	5	4	4	4	2	2	4	2	4	5
CO4	5	5	4	4	2	2	4	2	4	5
CO5	5	5	4	5	2	2	4	2	4	5

Core Elective- CE-302: Industrial Economics
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: It helps students to get basic idea about the performance of industrial sector in post liberalisation.
CO2: It helps the students to understand the organizational form i.e., individual ownership, partnership and joint stock companies of industrial sector.

CO3: Students learn industrial sector growth and productivity; and how it helps in long run economic phenomena like economic growth and national productivity

CO4: Finally, it helps students to understand the need of industrial finance and the obstacles of financing industrial sector.

CO5: At the end, it provides the knowledge about the role of World Trade Organisation in Indian industries.

SYLLABUS:

MODULE I: Liberalisation and Industrial Sector

Liberalisation of the Economy- Need, objectives, advantages and limitations.

Liberalisation and its impact on the Industrial sector, increased opportunities for foreign investment, Trade and Exchange rate policy.

Industrial liberalisation- Concept, Current scenario on the performance of the Indian Industries.

MODULE II: Organisational Form and Industrial Sector

Organisational form- Individual ownership, partnership, joint stock companies.
Public sector enterprises-Importance, Need and objectives.
Privatisation of Public sector undertakings in India since Economic reforms.

MODULE III: Industrial Sector and its Growth & Productivity

Industrial productivity- Meaning, productivity movement in India, Factors affecting industrial productivity, Challenges of increasing productivity.

Efficiency and Productivity- Total factor productivity growth in Indian industries.
National productivity council- Objectives, Importance and features.

MODULE IV: Financing of Industrial Sector

Need for Industrial finance, Obstacles of financing industries in India.
Institutional sources of finance- IFCI, IDBI & ICICI
FDI- need, importance, merits and demerits.

MODULE V: WTO and Industrial Sector

WTO & response of Indian Industrial sector, Impact of WTO on Indian Industrial sector.
India‟s commitments to WTO, Performance of the sector in QR free regime [2001-03].
Non-Tariff and other barriers to protect the domestic industries.

READING LIST:

1. Mahajan D. (2006). Economic Reforms and Indian Industrial Sector al Crossroads. Shree Niwas Publications, Jaipur, India.

2. Sen K. K. (1999). Rural Industrialisation in India. Sultan Chand & Sons. New Delhi, India.

3. Aliber R. Z. (1993). The Multinational Paradigm. Mit press, London.

4. Bhattacharya B. (1999). WTO and Indian Industry: Response, Impact and Strategy, MEDC Monthly Economic Digest, special Number, January, Mumbai.

5. Goldar B. N. (1986). Productivity Growth in Indian Industry Allied publishers, Delhi.

6. Govt. of India (2001). Annual report 2000-01, Department of Disinvestment, New Delhi.

7. Bimal J. (1996). India's Economic policy. New Delhi.

8. Planning Commission (2003). Report on Labour & Employment. Govt. of India, Delhi.

9. Reserve Bank of India (2020). Annual Report 2020-21.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	5	5	5	4	4	5	4	2	4
CO2	4	4	4	4	4	5	5	4	2	4
CO3	4	4	4	5	4	5	5	4	2	5
CO4	4	4	4	5	4	4	5	4	2	5
CO5	4	4	5	5	4	4	5	4	2	5

Open Elective- OE-201: Field Internship
Course Outcomes (COs):
After reading this paper, students should:

CO1: Have capacity to explore career opportunities prior to completion of graduation.

CO2: Have hands on experience on the nexus between theory and practice. Also, assess interests and abilities in their field of study.

CO3: Develop work habits and attitudes necessary for professional excellence and build a record of work experience.

CO4: Develop communication, interpersonal and other critical skills to prepare for the job interview process.

CO5: Acquire employment contacts leading directly to a full-time job following graduation from college.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	2	4	2	5	5	2	2	2	4
CO2	5	4	5	4	5	5	2	2	2	4
CO3	4	4	4	2	5	5	2	2	2	4
CO4	4	2	4	5	5	5	2	2	2	4
CO5	2	2	2	2	5	5	2	2	2	4

Note: Highly matching=3: Moderate=2: Low=1

SEMESTER IV

Core Course- HC-401: Development Economics
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: This unit aims to provide a holistic perspective on the question of „development" by contrasting it to the conventional growth centric economics. It also familiarises students with various measurements that are used in assessing development outcomes by the international agencies.

CO2: This unit informs students about historicity of development thinking – starting from the classical theory to the modern understanding of development. Moreover, it help students to develop critical understanding on the way development is understood in the modern time.

CO3: This unit informs students about different growth models that are being propagated over the time. It helps to critically understand various theoretical advances – starting from the Harrod-Domar Exogenous growth model to the Romer"s Endogenous growth model – in growth economics and their strength in explaining current economic growth across the world.

CO4: This unit furthers the arguments placed in the previous unit by taking into account the most recent developments in the growth theories. It helps students critically understand the role of human capital and technology for the sustainable economic growth.

CO5: Acquaints students with new conceptual development in the measurement of economic growth. It provides an insight into the role of capital, human resources, natural resources and technological innovation in economic development. Further, the role of state is crically assessed.

SYLLABUS:

READING LIST

1. Barro R. J. and Xavier Sala-i-Matin (1992), Economic Growth, 2nd edition, the MIT Press.

2. Thirwal, A.P.(2007), Growth and Development, Palgrave Macmillan.

3. Todaro, M.P & Smith, S.C. (2015), Economic Development, 12th edition, Pearson Publication.

4. Taneja M.L. & Meir R. M., Economics of Development & Planning, Vishal Publishing Co.

5. Todaro, M P. (2017), Economic Development. Pearson Publication, India

6. Johns, C. I. (2013), Introduction to Economic Growth, W.W Norton

7. Meier, G.M & Baldwin, R.E. (1976), Development: Theory, History, Policy, R.E.Krieger Publishing Company.

8. Lekhi, R.K. & Singh, J. (2018), The economics of Development & Planning, Kalyani Publisher

9. H.G. Jones (1976), An Introduction to Modern theories of Economic Growth, McGrawhill Publication, NewYork

10. Higgins B. (1968), Economic Development, W.W Norton & Co.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	4	5	4	4	5	2	4	5
CO2	5	4	4	5	4	4	5	2	4	5
CO3	5	4	4	5	4	4	5	2	4	5
CO4	5	4	4	5	4	4	5	2	4	5
CO5	5	4	4	5	4	4	5	2	4	5

Note: Highly matching=3: Moderate=2: Low=1

Core Course- HC-402: Economics of Environment
Course Outcomes (Cos):
CO1: This will help to explain the emergence of environmental economics, its development and goals.

CO2: It will define the basic environmental issues that an economy may face due to the theory of externalities, public goods etc.

CO3: It may develop the idea of various approaches to compute major economic resources where market fails.

CO4: It would help to know the existence, availability, importance and sustainability of natural resources which influence the growth and developmental aspects.

CO5: It will give a concrete view of current environmental issues and various mechanistic approaches for sustainable growth and development.

SYLLABUS:

MODULE-I Economy and Environment:

The historical perspectives of environmental economics - Early economic paradigms and the environment, Post war economics and the rise of environmentalism.
Environmental Economics: Definition and Development of the subject as a separate branch of

study; Resource Economics vs. Environmental Economics, Economy and Environment interlinkages.

Sustainable Development-concept, Sustainable economic growth and development, and the laws of thermodynamics.

MODULE-II -Basic Environmental Issues:

Concept of market failure - Environment Degradation as Market Failure; Environmental Quality as Public Goods.

The optimal level of pollution, Pollution as externality, alternative definitions of pollution, The market achievement and optimal pollution.

Externality: Environmental damage as negative externality, Solution of Market Failure: Pigouvian taxes and subsidies, Coase"s bargaining solution and collective action.

MODULE-III Measurement of Environmental Values:

Meaning of environmental valuation, the uses of economic value, Total economic value, Option value, Existence value.

Use Value- Present use value and future use value, Non-use values- bequest value and existence value, Total economic value and decision-making.

Direct and Indirect Valuation of Environmental Goods: The hedonic price approach, Contingent valuation methods, Travel cost approach, Willingness to pay vs. Willingness to accept.

MODULE-IV Economics of Natural Resources:

Natural Resources- Meaning, Types- Renewable Resources and Non-Renewable Resources (examples), Environmental Kuznet Curve and its limitations.

Renewable Resources: Optimal management, Common Property and Open Access–Tragedy of Commons. Non-renewable Resources - Economic Issues relating to use of Non-renewable Resources.

Renewable Resources: Management of common property resources -People"s participation in the management of common and forest lands ; The institutions of joint forest management and the joint protected area management; Social forestry –rationale and benefits.

MODULE-V Environmental Challenges and its Protection Mechanism

Climate Change-Meaning and causes of Climate Change, adverse impact of climate change on economic growth and development; Sources and types of pollution,Policy instruments for controlling water and air pollution.

Evolution of Environmental Policy in India: Air act, Water act, Pollution Control Policy; Threats to Bio-diversity- Conservation policy of Bhitarkanika National park, Similipal National Park.

Environmental Issues in the Global Context: Green House Gases (GHG) and Ozone depletion, Montreal protocol, GATT &Environment.

REFERENCE BOOKS

1. Kolstad, Charles D .(2010) „Environmental Economics", 2nd Edition. Oxford University Press

2. Bhattacharya, R.(2001) „Environmental Economics: An Indian Perspective", Oxford University Press

3. Shankar, U, "Environmental Economics", Oxford University Press.

4. Baumol W.J. and Oates W.E. (1988), The Theory of Environmental Policy (2nd Edition) Cambridge University Press, Cambridge.

5. Bromley, D.W.(Ed) (1995), Handbook of Environmental Economics, Blackwell,

6. OstromElinor (1997) „Governing the Commons; The Evolution of Institutions for Collective Action, Cambridge University, Cambridge.

7. Hussen A.M. (1999) Principles of Environmental Economics, Routledge, London.

8. Fisher, A. C. (1981). Resource and Environmental Economics, Cambridge University press Cambridge.

9. Pearce D.W. and. Turner R. (1991), Economics of Natural Resource Use and Environment, John Hopkins University Press, Baltimore.

10. Perman, R. Ma, Y. et al.(1996) Natural Resources and Environmental Economics, Longman, London.

11. Tietenberg, T. (1994). Environmental Economics and Policy, HarperCollins New York.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	5	5	4	4	5	4	4	5
CO2	4	5	5	5	4	5	5	4	5	5
CO3	5	4	5	5	5	4	5	4	5	5
CO4	5	4	4	4	5	4	5	4	4	5
CO5	5	5	4	5	4	5	5	4	4	5

Core Course- HC-403: Dissertation
Course Outcomes (COs):
After reading this paper, students should:

CO1: Have knowledge and skills to plan, and engage in, an independent and sustained critical investigation and evaluation of a chosen research topic relevant to economy, environment and society.

CO2: Have knowledge and skills to systematically identify relevant theory and concepts, relate these to appropriate methodologies and evidence, apply appropriate techniques and draw appropriate conclusions.

CO3: Have knowledge and skills to appropriately apply qualitative and/or quantitative

evaluation processes to original data.

CO4: Have knowledge and skills to understand and apply ethical standards of conduct in the collection and evaluation of data and other resources.

CO5: Have knowledge and skills to communicate research concepts and contexts clearly and effectively both in writing and orally.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	5	4	4	4	2	4	2	4
CO2	4	5	5	4	4	4	2	5	2	2
CO3	4	5	5	2	4	4	2	5	2	2
CO4	2	2	5	2	2	2	2	2	5	2
CO5	2	2	5	5	4	4	2	2	4	2

Core Elective-CE-401: International Finance

Course Outcomes (Cos):

After reading this paper, students should have:

CO1: Preparing students to develop critical thinking to carry out investigation about various global financial issues while bridging the gap between theory and practice.

CO2: Encouraging students for pursuing higher studies and research at national and international levelin various issues of International Finance.

CO3: Enhancing the understanding of the students about various international financial issues and policies.

CO4: Enhancing students‟ employability through research by encouraging them to identify financebased research and innovation issues.

CO5: Developing the moral, ethical and social values on issues relating international Finance and its importance for developing economy like India.

SYLLABUS:

MODULE-1:- International Finance: Importance, Types and Scope:-

International Finance- Meaning, scope and significance of international finance and rationale of international finance for a developing country like India.
Importance of International Finance in Business firms, Investors, Banks and Regulators. Risks

in International Finance- Political risk, Exchange rate risk, Counter- party risk and Liquidity risk.

Types of International transactions- International Trade, Foreign Direct Investment (FDI) and Foreign Institutional Investors (FIIs).

MODULE-2:- Financial Markets and Related Concepts:-

Financial markets- Meaning, functions of financial system, financial instruments, Types- Money market, Capital market and Foreign Exchange Market.

Indian Foreign Exchange Market- Structure, Participants, Integration of Capital and foreign exchange market.

Concepts of Currency Convertibility- Currency devaluation and revaluation, currency depreciation and appreciation, Capital Account Convertibility- Specific to Indian context.

MODULE -3:- Foreign Exchange Rates and Related Theories:-

Foreign exchange rate- Meaning, determinants of exchange rate, Types of exchange rate- Fixed exchange rate and Flexible exchange rate.

Foreign exchange quotes- Meaning, Types- Direct and Indirect quote, Two-way quote, Cross-rate, Spot rate and Inter-Bank rate, Forward contract Vs Futures contract.

Theories of Exchange Rates- Purchasing power parity theory and interest rate parity theory.

MODULE -4:-Sources of International Finance and its Regulation:-

International Finance- sources of international finances- Loans, Euro-securities, Foreign Bonds, Depository Receipts (DRs).

Types of DR and Impact of DR issue on domestic float. External Commercial Borrowings (ECBs) of India.

Exchange Rate Management by RBI, FERA (1973) and FEMA (1999) – A Comparison.

MODULE -5:- International Financial Institutions:-

International financial institutions- factors leading to its growth. Evolution of International financial system- Pre and Post Bretton woods system.

International Monetary Fund (IMF)and World Bank- origin, objectives and role in the international financial market.

Eurocurrency market- Euro dollar vs. Euro currency, Eurocurrency market vs. Foreign Exchange Market, Regulation of Eurocurrency market.

READING LIST

1. Shailaja, G (2008), International Finance, Universities Press Pvt. Limited.

2. Levi, M.D (1996), International Finance: The Markets and Financial Management of Multinational Business, 3rd edition, McGraw hill int. Editions.

3. Apte, P.G. (1995): "International Finance Management"; Tata McGraw-Hill

Publishing. Co. Ltd, New Delhi.

4. Kevin, S. "Fundamentals of International Financial Management" PHI, Learning Pvt. Ltd, New Delhi.

5. Click, R.W &Coval, J.D "The Theory and Practice of International Financial Management" Pearson Education.

6. Avadhani, V.A. "International Financial Management" Himalayan Publishing House.

7. Pibeam, K (1998): "International Financial" Mcmillan Press Ltd. London.

8. Shapiro, A.C. (1995): "Multinational Financial Management"; Prentice. Hall of India Pvt. Ltd.

9. Rodriguez, M.R. "International Financial Management" Prentice Hall Inc.

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Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	4	5	5	4	4	2	4	5	5
CO2	5	2	4	4	5	5	4	5	4	4
CO3	4	5	2	5	4	2	5	2	4	2
CO4	5	4	5	2	4	4	4	4	4	5
CO5	2	4	4	4	4	5	5	5	5	4

CE-401- Economics of Social Sector
Course Outcomes (Cos):
After reading this paper, students should have:

CO1: The prime objective of the course is to expose the students to the issues and concerns of various social sectors in India.

CO2: The course aims to acquaint and familiarize students with the Economics of socialsector and to provide a theoretical exposition and meaningful insights into Social SectorIssues.

 CO3: It provides an analysis of issues at the theoretical level and also with regard tospecificity of issues prevailing in the Indian context.

CO4: The Course acquaints with pertinent issues concerning education and Health in India.

CO5: This course is meant to provide insights into Policy Perspectives of Social Sector in

India.

SYLLABUS:

MODULE-1: Introduction to Economics of Education

Education as an instrument for economic growth, Human Capital vs Physical Capital, Components of Human capital.

Economics of Education: definition, methods, evidence and policy, Private demand and social demand for education.

Classical Economist and Education; Human Capital: historic root, uses, sources, values, investment in human capital.

MODULE-2: Investment in Education

Education-Determinants of demand for education, Cost of education- direct and indirect expenditure on education, Private costs and social costs, wastage and stagnation.

Benefits of education – Direct and indirect benefits, Private and social benefits, Returns to education: meaning, type, estimation.

Education production function: concept, estimation, role in policy analysis.

MODULE-3: Demand for Health and Health Care Services

Demand for Health and Healthcare: concept and determinants of Demand for Health and Healthcare services.

Non-Economic determinants of the demand for medical care, Market demand for health care and Fuzzy Demand Curve.

Investment in health as a form of human capital, Grossman‟s investment Model of Health and its critic.

MODULE-4: Supply for Health and Health Care Services

Supply for Health and Healthcare: concept and determinants of supply for Health and Healthcare services.

Hospital as a supplier of medical care, Hospitals and patients-a model of equilibrium quality and price.

Health Production: Concept and Estimation; Health and Development: Theory and Evidences.

MODULE-5: Overview of India's Health sector

India‟s Health sector-history, structure, programmes, infrastructure and health information system. Healthcare system in India: Public health in India, Features of Indian Health sector.

Health sector reform in India.

READING LIST

1. Elchanan C. (1972): The Economics of Education, Lexington Books, D.C. Health and company, Lexington.
2. Blaug, M. (1970): An Introduction to the Economics of Education, Allen Lane The Penguin Press, London.
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Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	4	4	5	2	4	4	2	4	5
CO2	5	4	4	4	2	4	4	2	4	5
CO3	5	4	4	5	2	4	4	2	5	5
CO4	5	4	4	5	2	5	4	2	4	5
CO5	5	5	4	5	2	4	4	2	4	5

Allied Ellective-AE-401- Theory: Women and Society

Unit: 3   Credit: 3   Total Mark: 50 (MidSem.15 + End Sem: 30)
Course Outcomes (COs)
After completion of Course students will be able to:

CO1: Familiarize with the women lead environmental movements and women"s participation in the climate resilience natural resources management.

CO2: Acquire knowledge on the differential impact of climate change disasters.

CO3: Be familiar with the role of technology and how has ICT brought about a change in on women"s everyday lives and livelihoods.

CO4: It will enhance students" critical thinking in the use and management of technology in different productive sectors across different category of women.

CO5: Gain an insight into the women and law from rights and equality of opportunity in the access to justice as well as the nuances involved in it.

CO6: Entrust with the duties of framing reports, conducting research and development activities and solving the issues of injustice imparted to the public.

Course Structure

Unit - I: Women and Environment

- Concept of carbon footprint, GHE & Climate Change: Eco-feminism perspective
- Reclaiming women's environmental rights – Neem patent victory, living democracy and CHIPKO Movement; Narmada *Bachao Aandolan*
- India's Environmental Policies and International Conferences on Environment: Focus on Agenda 21 of Rio Conference, COP 21 and 23; Joint Forest Management Act.
- Case studies on the gendered differential impact of disaster risks and vulnerability: 1999 Super Cyclone in Odisha, Tsunami in Tamil Nadu and Bhopal gas Tragedy
- Women responsive initiatives by the National disaster management plan (NDMP), ODM, pollution control board, waste managements and recycling technology

Unit II: Women and Technology

- The Changing Face of Technology: Status of women
- Concept of Alternative Technology Strategies for positive social changes
- Impact, Programs and policy measures at International, National and State Levels on the technology transformation in India
- Women in the production and service technologies: Case study of agricultural mechanization, health, education, media, ICT, bio-technology and digital innovation
- Women professionals and entrepreneurs in Technology: Job opportunities, constraints and challenges

Unit -III: Women and Law

- **Human rights as women's rights:** International Conventions and Legislations; Constitutional Guarantee of Equality and Uniform Civil Code
- **Civil Laws:** Personal Laws; Family Court Act 1984, NCW; the Protection of Women from Domestic Violence Act 2005; Sexual Harassment of Women at Workplace Act 2013; Dowry Prohibition Act 1961; the Prohibition of Child Marriage Act 2006
- **Criminal Laws:** Indian Penal Code (IPC) & Code of Criminal Procedure (CRPC); Protection of Children from Sexual Offences Act (POCSO) and JJ Act; Witch Hunting and SC and ST Prevention of Atrocities Act 1989; Trafficking (ITPA)
- **Labour Laws:** Minimum Wages Act, 1948; Equal remuneration Act, 1976; Maternity benefit act, 2017; The Factories act, 1948; Laws for women with disabilities
- **Media Laws:** Law of Obscenity, Section 292-293, IPC; Indecent Representation of Women (Prohibition) Act, 1986; Law of Defamation, Section 499-502 of IPC

Recommended Readings

Women and Environment

1. Agarwal, B. (1992). The gender and environment debate: lessons from India. Feminist studies, 18(1), 119-158.
2. Elaine Enarson and PG Dhar Chakrabarti, 2009, Women, Gender and Disaster edited by Sage Publications, India.
3. Guha, Ramachandra., How Much Should a Person Consume? Thinking through the Environment, Permanent Black, New Delhi, 2006.
4. Krishna, Sumi., Genderscapes, Revisioning Natural Resource Management, Zubaan, New Delhi, 2009.
5. Parveen, Uzma., Women and Environmental Management, Women Press, New Delhi, 2009.
6. Vandana Shiva. (2005). Globalization''s New Wars: Seed, Water and Lifeforms. WomenUnlimited, New Delhi.

Women and Technology

1. Vivek Wadhwa and Farai Chideya. 2014. Innovating Women: The Changing Face of Technology "Where are all the women?". Diversion Books, ISBN-10 : 1626814228
2. Cara Alwill Leyba. 2015. Girl Code: Unlocking the Secrets to Success, Sanity, and Happiness for the Female Entrepreneur. Penguin Group
3. Dava Sobel, 2017. The Glass Universe: How the Ladies of the Harvard Observatory Took Measure of the Stars. A New York Times Book Review
4. Sara Wachter. 2017. Technically Wrong – Sexist Apps, Biased Algorithms, and Other Threats of Toxic Tech: Why Digital Products Are Designed to Fail You. ISBN. 978-0393634631
5. Chakravarti, Uma (2000) State, Market and Freedom of Expression: Women and Electronic Media. Economic and Political Weekly Vol. 35, No. 18, Apr. 29 - May 5, pp. WS12-WS17

Women and Law

1. Rao, Mamta. 2018. Law relating to Women & Children. EBS Explorer. Edition: 4th Edition 2018, Reprinted 2022
2. Flavia Agnes, Sudhir Chandra & Monmayee Basu (Eds.) 2016). Women and Law in India. Oxford University Press. ISBN:9780199467211; 780 pages
3. Bindra Anju. 2009. Women and Human Rights. New Delhi: Manglam Publishers.
4. Karna, G.N. (2000), Disability Rights Movement: Conceptual Framework and its Implications for India, Disabilities and Impairments, Vol. 14, NO.1.
5. Mapp Susan C. 2008. *Human Rights and social Justice in a Global Perspective*. New York: Oxford University Press.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	4	2	2	4	5	2	2	2	4	4
CO2	4	2	2	4	4	2	2	2	4	4
CO3	2	2	2	4	2	2	2	2	4	4
CO4	5	4	2	4	2	2	2	2	4	4
CO5	2	2	2	2	2	2	2	2	4	4
CO6	4	4	5	5	4	2	2	2	4	4

DEPARTMENT OF ECONOMICS

SYLLABUS OF Ph.D. PROGRAMME

RAMA DEVI WOMEN'S UNIVERSITY

Vidya Vihar, Bhubaneswar-751022, Odisha

Website: https://rdwu.ac.in

SKILLS	
EMPLOYABILITY	
ENTERPRENURESHIP	

Department of Economics

Syllabus for Ph.D. in Economics
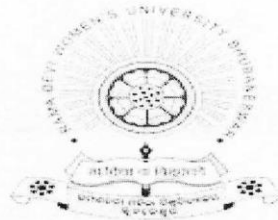
VIDYA VIHAR, BHUBANESWAR 751022

Rama Devi Women's University

Courses of Studies

PhD Course Work in Economics

Year-2021

RAMA DEVI WOMEN'S UNIVERSITY,

VIDYA VIHAR,

BHUBANESWAR- 751022

PhD Course Work in Economics

P G Department of Economics,
Rama Devi Women's University, Vidya Vihar,
Bhubaneswar- 751022

Course Title	Credits	Marks	Pass Marks	Units	Remarks
Research Methodology and Computer Applications	04	100	55%	04	Subject Specific
Applied Mathematics and Statistics	04	100	55%	04	Subject Specific
Presentation of Review of Related Literature	02	50	55%	NA	Subject Specific
Research and Publication Ethics	02	50	55%	Common	Common to all subjects as per UGC Recommendation

K. Saho
25.4.23

P.HD. in Economics Program

Rama Devi Women's University

Program Outcomes (POs):

The Ph.D. Program in Economics has been designed to obtain the following outcomes.

PO1: Creation of trained human resources for research in Theoretical and Empirical Modeling in Economics, and in diverse issues relating to Development Economics, through the induction of doctoral students in appropriate research areas.

PO2: Creation of trained human resources for regional economic research in Odisha and India.

PO3: Capability enhancement of the doctoral students at the University to undertake funded research projects for external development agencies.

PO4: Academically exploring and understanding the needs for regional economic development through a continuous dialogue with regional development agencies.

PO5: Developing economic research on policy issues in the region by instituting a collaborative mechanism.

PO6: Enhancing the role of Rama Devi Women's University as a major stakeholder within the regional development process.

PO7: Prepare research scholars to develop critical thinking to carry out investigation about various socio-economic issues objectively while bridging the gap between theory and practice.

PO8: Enhancing research scholars' employability through research and industry-oriented practical exposure.

PO9: Imparting hands-on training in statistical software packages used in the field of research and industry such as Excel, EViews, STATA, R, etc. in order to enhance computational ability of research scholars.

PO10: Equip research scholars with ethical, moral, and social values.

Program Specific Outcomes (PSOs):

PSO1: Understanding the basic and advanced concepts of microeconomics and macroeconomics for different sectors of the economy.

PSO2: Understanding the basic assumptions in various economic theories and enhance capabilities of developing ideas based on them.

PSO3: Derivation of tools and techniques helping empirical determination/estimation of demand, supply, output, money supply, inflation, employment, poverty, GDP, BOP and optimum inputs usage. Distribution of resources for maximum welfare and identifying causes of market failure and its consequences.

PSO4: Doctoral research tries to deepen specialization in a particular professional direction.

PSO5: Doctoral research helps in shaping the future of specialist by individual cognitive activities aimed at obtaining new knowledge, solving theoretical and practical problems.
Paper 01- Research Methodology and Computer ApplicationsCourse Outcomes (Cos):
After reading this paper, students should have the ability

CO1: To develop the analytical and applied skill of doing research on contemporary issues.

CO2: To enhance the ability of fundamental research.

CO3: To improve the knowledge of research methodologies.

CO4: To enable the use and application of statistical and econometric methods.

CO5: To develop the moral, ethical and social values of conducting research.

This paper consists of four modules having 4 credits and 100 marks. Each Module caries 25 marks. Test will be conducted after the completion of all the four units and the pass mark is 55 percent in aggregate.

Module I: Fundamentals of Research

Meaning of research in Economics: Different types of research. Research Methodology- Preparation of a research proposal and the formulation of research design, Methods and techniques of research- differences among them, the logical framework of investigation, Analysis of historical records. Review of Literature: Meaning, objectives, types, sources, stages and precautions; How to write review of literature chapter? Practical on review of literatures.

Module II: Data Collection and Processing

Methods of collecting primary data; Sampling techniques-sample size, sampling frame and sample collection, sampling errors and problems in sampling, Tools of data collection-Schedules and questionnaires; Nature of field work, Pilot study. Preparation for analysis, Editing, coding, Classification and Transcription of data, Tabulation, Construction of Frequency Table, Graphs/ Charts/Diagrams.

Module III: Statistical Analysis of Data

Descriptive Statistics- Measures of Central Tendency, Use of measures of Dispersion, Relationship and Index Numbers, Use of Correlation and Regression Inferential Statistics: Testing of Hypothesis- Z, t, Chi-square and F (Parametric and Non-parametric), Use of Correlation and Regression, Analysis of variance.

Module IV: Computer Application

Approaches to Computer Application: MS Word: Working with Text, Working with Tables, Graphics and Pages, Document Views and Formatting, and Mail-merge, and Referencing Style.

MS-Office and its application, File handing in window, various versions of MSOffice, Research publishing tool- MS-Word, Adobe acrobat, Graphics tool- MS Excel, MS-Power Point: Creating presentations and adding effects, Subject/field specific tools on www.freeware.com

Use of Internet: Fundamentals and Services – E-mail, FTP, Telnet, WWW

References:

1. Kothari, C. R. (2018): Research Methodology: Methods and Techniques, New Age International Pvt. Limited Publishers, New Delhi.
2. Gupta, S.C. (2012): Fundamentals of Statistics, Himalaya Publishing House, New Delhi.Dooley, D. (2008): Social Research Method, Prentice- Hall of India Pvt. Ltd., New Delhi.Cochran, W.G. (1977): Sampling Techniques, Wiley Eastern Limited, New Delhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	5	4	2	4	4	5	5	4
CO2	4	4	5	5	4	2	4	4	2	5
CO3	4	5	4	4	4	4	5	5	5	4
CO4	5	4	5	2	5	5	2	4	4	2
CO5	5	4	4	5	4	2	4	5	2	4

Paper 02- Applied Mathematics and Statistics
Course Outcomes (Cos):
After reading this paper, students should have the ability

CO1: To enhance the mathematical and statistical understanding of doing research on relevant issues.

CO2: To improve the ability of making quantitative analysis of research issues.

CO3: To improve the basic knowledge of mathematics and statistics.

CO4: To enable the use and application of statistical and mathematical methods in research.

CO5: To develop new techniques of doing social science research.

This paper consists of four modules having 4 credits and 100 marks. Each Module caries 25 marks. Test will be conducted after the completion of all the four units and the pass mark is 55 percent in aggregate.

Module I:

Calculus of Single Variable and multivariable functions in Economics, Optimisation--Constrained and Unsconstrained, Lagrangian Multiplier, Optimisation of CD and CES Production Functions, Log transformation of Non-Linear functions for Estimate of Growth Rates.

Module II:

Game Theory: Mixed Strategy, Dominance Property and Nash Equilibrium. Linear Programming: Basic Concepts, Solution of Maximisation and Minimisation Problems – Graphical and Simplex.

Module III: Regression Analysis –CLRM (Simple and Multiple), Problems in Regression-Multicollinearity, Heteroscedasticity, Autocorrelation, errors in variables and specification errors, remedies.

Module IV:

Discrimination Analysis and Cluster Analysis, Methods of Data reduction- Principal component and Factor analysis; Construction of composite Indices.

References:

1. Gujrati, D. and Sangeetha (2017): Basic Econometrics, Tata McGraw Hill Publishing Company Ltd. New Delhi.
2. Allen R GD (1974): Mathematical Analysis for Economics.
3. Chiang A C (1986): Fundamental Methods of Mathematical Economics.
4. Gass S I (1958): Linear Programming, Methods & Application.

5. Dowling T. W. (1992): Introduction to Mathematical Economics, McGraw Hill Publishing Ltd. New Delhi.

Mapping of Course Outcomes with the Program Outcomes

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	5	5	4	4	2	4	5	5	5	2
CO2	4	5	5	5	2	2	4	5	2	5
CO3	5	4	4	5	4	5	5	4	5	4
CO4	4	4	5	2	4	5	2	5	4	4
CO5	5	5	4	4	4	2	4	5	2	4

Paper 03- Review of Related Literature
Course Outcomes (Cos):
This paper aims to:

CO1: Preparing the students to select a problem on which they have to do intensive review of related studies

CO2: Developing the skill based thinking analytics and bridging the gap between theory and practice.

CO3: Encouraging the students to identify research gap, research questions and objective of the new research topic.

CO4: Nurturing the research-oriented ability of the students relating to contemporary issues.

CO5: Developing the moral, ethical and social values among the students.

Action Plan

Each student is required to select a problem on which she has to do intensive review of related studies under the supervision of a faculty member or the supervisor. She has to review adequate research studies related to the problem and prepare a report.

Each student is required to present the review of related studies through Power-Point. All the Ph.D. and P.G. students of the Department shall remain present and participate in the discussion. There will be an open viva-voce test after the presentation. Assessment shall be made on the basis the following criteria:

1) Relevance of the reviews.

2) Finding the research gap.

3) Standard and quality of writing the review.

4) Style of presentation.

5) Answering the question by Examiners

6) Clarification of queries raised by the participants.

DISTRIBUTION OF MARKS (Total: 50 Marks)

1) Report submission   : 20 Marks

2) Presentation   : 20 Marks

3) Viva-Voce Test   : 10 Marks

Mapping of Course Outcomes with the Program Outcomes

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CO1	4	4	5	5	4	4	4	4	5	5
CO2	5	5	4	5	5	5	4	5	4	4
CO3	4	5	2	5	4	2	5	5	4	2
CO4	5	4	4	4	5	4	4	5	4	5
CO5	2	4	5	4	4	5	5	5	5	4

Paper 04- Research and Publication Ethics

PAPER: IV
RESEARCH AND PUBLICATION ETHICS
Credits: 02   Full Marks: 50
(Common to All Subjects)

Course Outcomes (Cos):

This paper aims to:

CO1: Preparing the students about various fundamental knowledge of basics of philosophy of science and ethics, research integrity, publication ethics.

CO2: Nurturing the research-oriented ability of the students relating to identification of research problem, research gap, Identify research misconduct and predatory publications.

CO3: Developing the understanding of the students about Comprehend indexing and citations, open access publications, research metrics (citations, h-index, Impact Factor etc).

CO4: Create awareness among researchers about publication ethics and publication misconducts and use plagiarism tools for a valid and ethical research report.

CO5: Developing the moral, ethical and social values on various research-oriented issues.

BACKGROUND

This Paper has been incorporated in the Ph.D. course work under this University as per the UGC correspondence in December 2019 vide its 543rd Meeting held on 09 August 2019. The main aim of this course is to create awareness about publication ethics and publication misconducts. It is an interdisciplinary course with 02 credits. This course has 06 units focusing on basics of philosophy of science and ethics, research integrity, publication ethics.

Hands-on-sessions are designed to identify research misconduct and predatory publications. Indexing and citation database, open access publications, research metrics and plagiarism tools are introduced in this course.

The course transaction modes shall be classroom teaching, guest lectures, group discussions and practical sessions. The evaluation of the course will be through continuous assessment processes such as tutorials, assignments quizzes, etc. Weightage will be given for active participation. Final examination will be conducted at the end of the course.

LEARNING OUTCOMES:

On completion of the course, the scholars will be able to-

- Understand fundamental knowledge of basics of philosophy of science and ethics, research integrity, publication ethics.

- Identify research misconduct and predatory publications.

- Comprehend indexing and citations, open access publications, research metrics (citations, h-index, Impact Factor etc).

- Use plagiarism tools for a valid and ethical research report.

COURSE STRUCTURE

Units	Unit Title
A:	**THEORY**
Unit-I	Philosophy and Ethics
Unit-II	Scientific Conduct
Unit-III	Publication Ethics
B:	**PRACTICE**
Unit-IV	Open Access Publishing
Unit-V	Publication Misconduct
Unit-VI	Database and Research Metrics

A. THEORY

Unit-I: Philosophy and Ethics

- Introduction to Philosophy:mdefinition, nature and scope, concept, branches.

- Ethics: definition, moral philosophy, nature of moral judemnet and reactions.

Unit-II: Scientific Conduct

- Ethics with respect to science and research

- Intellectual honesty and research integrity

- Scientific misconduct: Falsification, Fabrication, and Plagiarism (FFP)

- Redundant Publications: duplicate and overlapping publications.

- Selective reporting and misrepresentation of data.

Unit-III: Publication Ethics

- Publication ethics: definition, introduction and importance

- Best practices/standards setting initiatives and guidelines: COPE, WAME etc.

- Conflict interest

- Publication misconduct: definition, concept, problems that lead to unethical behaviour, types.

- Violation of publication ethics, authorship and contributor ship

- Identification of publication misconduct, complaints and appeals

- Predatory publishers and journals

B. PRACTICAL

Unit-IV: Open Access Publishing

- Open Access Publications and initiatives

- Online resource to check publisher copyright and self-achieving policies (SHERPA/RoMEO)

- Software tool to identify predatory publications developed by SPPU

- Journal finder/journal suggestion tools viz. Elsevier finder, Springer, Journal suggester etc.

Unit-V: Publication Misconduct

A. Group Discussion

- Subject Specific ethical issues, FFP, authorship
- Conflict of interest
- Complaints and appeals: examples and fraud from India and abroad

B. Software tools

- Use of plagiarism software like Turnitin, Urkund and other open source software tools

Unit-VI: Database and Research Metrics
A. Databases

- Indexing databases
- Citation databases: Web of Science, Scopus. etc.

B. Research Metrics

- Impact Factor of journal as per Journal Citation Report.
- Metrics: h-index, g-index, i10 index, altmetrics

REFERENCES

Bird, A. (2006). *Philosophy of science*. Rutledge.

MacIntyre, A. (1967). *A short history of ethics*. London.

P.Chaddah (2018). *Ethics in competitive Research: Do not get scooped; do not get plagiarised.*

National Academy of Sciences (2009). *On being a scientist: A guide to responsible conduct in Research* (3rd Ed.), National Academics Press.

Resnik, D.B. (2011). What is ethics in research & why is it important. *National Institute of Environmental Health Sciences*, 1-10.

Beall, J. (2102). Predatory publishers are corrupting open access. *Nature, 489* (7415), 179-179.

Indian National Science Academy (INSA). *Ethics in science education, research and governance* (2019).

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CO4	5	4	4	4	4	4	4	4	4	5
CO5	2	4	4	4	4	5	5	5	5	4