COURSES OF STUDIES

FOR

THREE YEAR DEGREE COURSE

IN

ARTS

DEPARTMENT OF ECONOMICS

Choice Based Credit System (CBCS)

First & Second Semester Examination – 2017-18

Third & Fourth Semester Examination – 2018-19

Fifth & Sixth Semester Examination – 2019-20

GOVERNMENT AUTONOMOUS COLLEGE, PHULBANI, KANDHAMAL

SYLLABI FOR CBCS COURSE

Sem	CORE COURESE (14)		Ability Enhancement Compulsory Course (AECC) (2)	Ability Enhancement Elective Course (AEEC) (2) (Skill Based)	Elective: Discipline Specific DSE (4)	Elective: Generic (GE) (4)
I	CORE-I		M.I.L/English (Communication)			GE-1 (Minor-1)
	CORE-II					
II	CORE-III		Environmental Studies			GE-2 (Minor-2)
	CORE -IV					
III	CORE-V			SEC-1 Communicative English and Writing Skill		GE-3 (Minor-1)
	CORE-VI					
	CORE-VII					
IV	CORE-VIII			SEC-2 *(Subject specific Skill)*		GE-4 (Minor-2)
	CORE-IX					
	CORE-X					
V	CORE-XI				DSE-1	
	CORE-XII				DSE-2	
VI	CORE-XIII				DSE-3	
	CORE-XIV				DSE-4 (Project)	

SEC-1 : To be offered by English Department.

SEC-2 : This is a subject specific skill to be offered by the respective Department.

GE : Minor-1 and Minor-2 is to be decided by the college Based on Subject.

QUESTION PATTERN FOR MID SEM

Mid Semester Examination	Full Marks	No. of Short Answer type Questions (2 marks each) (Compulsory)	No. of Long Answer type Questions (8 marks each)	No. of Long Answer type Questions (12 marks each)
Practical Subject	20	6	1	*
Non-Practical Subject	20	4	*	1
Non-Practical Subject	10	1	1	*

QUESTION PATTERN FOR END SEM

End Semester Examination	Full Marks	GROUP – A No. of Short Answer type Questions (2 marks each) (Compulsory)	GROUP - B No. of Long Answer type Questions (8 marks each)					No. of Long Answer type Questions (12 marks each)				
Units -->		I - V	I	II	III	IV	V	I	II	III	IV	V
Non-Practical Subject	80	10	*	*	*	*	*	1	1	1	1	1
Practical Subject	50	5	1	1	1	1	1	*	*	*	*	*
Non-Practical Subject	40	4	1	1	1	1	*	*	*	*	*	*
Practical Subject	20	2	1	1	*	*	*	*	*	*	*	*

❖ There is no alternative questions (choice) in Group-A questions (Short Answer type questions). All questions are compulsory.

❖ There is internal alternative questions (choice) in each number in Group-B questions (Long Answer type questions). Examinee is to answer one question out of two alternative questions from each number.

❖ There is little deviation in question pattern of AECC-1.4 (Eng Communication) & AEEC-3.5 (Soft Skills). Details regarding question pattern of concerned subject is given at appropriate place.)

❖ The duration of Mid Sem exam of each paper is 1 hour irrespective of Full marks.

❖ The duration of End Sem exam of each paper is 3 hours for 80 marks/50 marks/40 marks & 2 hours for 20 marks.

YEAR & SEMESTER-WISE PAPERS & CREDITS AT A GLANCE

Yr.	Sl.No.	Course Structure	Code	Credit Points
		Three-Year (6-Semester) CBCS Programme (B.A. Hons.) (Economics Core)		
		Semester-I		
	1	Introductory Microeconomics	C-1.1	6
	2	Mathematical Methods for Economics I	C-1.2	6
	3	XXX	GE-1.3	6
	4	XXX	AECC-1.4	2
		Total		20
		Semester-II		
	5	Introductory Macroeconomics	C-2.1	6
	6	Mathematical Methods for Economics II	C-2.2	6
	7	GE-II (Economic)	GE-2.3	6
	8	XX	AECC-2.4	2
		Total		20
		Semester-III		
	9	Microeconomics I	C-3.1	6
	10	Macroeconomics I	C-3.2	6
	11	Statistical Methods for Economics	C-3.3	6
	12	XXX	GE-3.4	6
	13	XXX	AEEC-3.5	2
		Total		26
		Semester-IV		
	14	Microeconomics II	C-4.1	6
	15	Macroeconomics II	C-4.2	6
	16	Public Economic	C-4.3	6
	17	GE-IV (Economics)	GE-4.4	6
	18	SEC-II (Data Analysis and Computer Application) (Theory+Practical)	AEEC-4.5	2
		Total		26
		Semester-V		
	19	Indian Economy I	C-5.1	6
	20	Development Economics I	C-5.2	6
	21	DSE-I (Basic Econometrics/Odisha Economy)	DSE-5.3	6
	22	DSE-II (Research Methodology)	DSE-5.4	6
		Total		24
		Semester VI		
	23	Indian Economy II	C-6.1	6
	24	Development Economics II	C-6.2	6
	25	DSE-III (Applied Econometrics/Environmental Economics)	DSE-6.3	6
	26	DSE-IV (Dissertation / Project Work)	DSE-6.4	6
		Total		24
		Grand Total		140

Note: FIRST YEAR spans Semester-I and Semester-II; SECOND YEAR spans Semester-III and Semester-IV; FINAL YEAR spans Semester-V and Semester VI.

Notes:
- C- Core Course
- GE- Generic Elective Course
- DSE- Discipline Specific Elective Course
- AECC- Ability Enhancement Compulsory Course
- AEEEC- Ability Enhancement Elective Course (Skill Based)
- For a 6 credit course, the total teaching hours are: Minimum- 50 Hours, Maximum-65 Hours
- For a 2 credit course, the total teaching hours are: Minimum- 20 Hours, Maximum-30 Hours

SEMESTER-I
C-1.1: INTRODUCTORY MICROECONOMICS

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Exploring the subject matter of Economics

Why study economics? Scope and method of economics; Basic concepts in economics-prices, property rights, profits, incentives and information, rationing, opportunity sets, economic systems; the economic problem: scarcity and choice- the question of what to produce, how to produce and how to distribute output; science of economics-positive economics & normative economics; reading and working with graphs-co-ordinate axis system, scale-natural and logarithmic, plotting of binary relations-straight lines and curved lines, slope and curvature, graph of single variable over categorical scale-line graph.

UNIT-II : Supply and Demand: How Markets Work, Markets and Welfare

Markets-basic features, competition & monopoly; Perfect competition: determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency of the markets-Pareto optimality

UNIT-III : The Household

The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences-representing preferences with indifference curves; properties of indifference curves; consumer's optimum choice; income and substitution effects; labour supply- choice between leisure and consumption and savings decision –choice between preset consumption and future consumption.

UNIT-IV : The Firm and Market Structures

Behaviour of profit maximizing firms and the production process: production function & technology-total, average and marginal product; short run costs and output decisions; costs and output in the long run; Monopoly and anti-trust policy; government policies towards competition; imperfect competition

UNIT-V : Input Markets

Labour and land markets - basic concepts :derived demand, productivity of an input, marginal productivity of labour, marginal revenue product; demand for labour; input demand curves; shifts in input demand curves; competitive labour markets; and labour markets and public policy.

Suggested Books:

1. N. Gregory Mankiw (2012): *Principles of Economics*,6th edition, Cengage Learning India Private Limited, New Delhi
2. William A McEachern and Simrit Kaur (2012): *Micro Econ: A South-Asian Perspective*, Cengage Learning India Private Limited, New Delhi.
3. Karl E. Case and Ray C. Fair (2007): *Principles of Economics*, 8th Edition, Pearson Education Inc.
4. Joseph E. Stiglitz and Carl E. Walsh (2007): *Economics*, 4th Edition, W.W. Norton & Company, Inc., New York.

C-1.2: MATHEMATICAL METHODS FOR ECONOMICS I

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Preliminaries

Sets and set operations-universal set, null set; union, intersection & difference with Vein diagrams; Cartesian products-relations & functions; Number systems-real number & real line

UNIT-II : Functions of one real variable

Types of functions- constant, polynomial, rational, exponential, logarithmic; Graph & graphs of functions; Limit and continuity of functions; Limit theorems

UNIT-III : 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-IV : 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

UNIT-V : Matrices and Determinants

Vector-definition & dimension, vector addition, multiplication of a vector by a constant, scalar multiplication of a vector into another vector, linear dependence of a set of vectors, vector space, basis of a vector space, Matrices: definition-a set of vectors, types, matrix algebra, transposition, addition & subtraction, inversion, rank; Determinants: concept, properties, solving problems using properties of determinants, solution to a system of equations - Crammer's rule and matrix inversion method.

Suggested Books:

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

2. C. Chiang and K. Wainwright (2005): *Fundamental Methods of Mathematical Economics*, McGraw Hill International Edition.
3. T. Yamane (2012): *Mathematics for Economists*, Prentice-Hall of India

SEMESTER-II
C-2.1: INTRODUCTORY MACROECONOMICS

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Basic Concepts
Macro vs. Micro Economics; Why Study Macroeconomics? 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 and factor cost; Personal Income and Disposable personal Income; Real and Nominal GDP

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

UNIT-IV : Inflation, Deflation, Depression and Stagflation
Inflation – Meaning, Causes, Costs and Anti-Inflationary Measures; Classical, Keynesian, Monetarist and Modern Theories of Inflation, Deflation- Meaning, Causes, Costs and Anti-Deflationary Measurers, Depression and Stagflation; Inflation vs. Deflation

UNIT-V : 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; Income Determination in a 3-Sector Model with the Government Sector and Fiscal Multipliers

Suggested Books:
1. N. Gregory Mankiw (2010):*Macroeconomics*, 7th edition, Cengage Learning India Private Limited, New Delhi
2. Richard T. Froyen (2005): *Macroeconomics*, 2nd Edition, Pearson Education Asia, New Delhi.
3. Errol D'Souza (2009): *Macroeconomics*, Pearson Education Asia, New Delhi.
4. Shapiro, D N Dwivedi

C-2.2: MATHEMATICAL METHODS FOR ECONOMICS II

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

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:
Technique of higher order differentiation; Interpretation of second order derivative; Second order derivative and curvature of a function; Concavity and convexity of functions; Points of inflection

UNIT-III : Differentials and total derivatives:
Differentials and derivatives; Total differentials; Rules of differentials; Total derivatives; Derivatives of implicit functions

UNIT-IV : Single and multivariable optimization:
Optimum values and extreme values; Relative maximum and minimum; Necessary versus sufficient conditions - First and Second derivative test; Economic applications thereof, First and second order condition for extremum of multivariable functions in terms of total differential, partial derivatives and Hessian matrix; Quadratic form, Concave & Convex functions, convex sets

UNIT-V : 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.

Suggested Books:
1. K. Sydsaeter and P. J. Hammond (2002): *Mathematics for Economic Analysis*. Pearson Educational Asia
2. A. C. Chiang and K. Wainwright (2005): *Fundamental Methods of Mathematical Economics*, McGraw Hill International Edition.
3. T. Yamane (2012): *Mathematics for Economists*, Prentice-Hall of India

GE-2.3: INDIAN ECONOMY I

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Introduction to Indian Economy
British Rule: exploitation and under development in India; features of Indian economy – natural resources, infrastructure, population

UNIT-II : Population and Human Development
Demographic trends and issues; education; health and malnutrition

UNIT-III : National Income in India
National income: tends, sectoral composition;

UNIT-IV : Economic Planning in India& Recent Changes
Economic planning: Planning Commission and its functions, Planning exercises in India, Objectives, Strategies and achievements, NITI Ayog

UNIT-V : Current Challenges
Poverty: definition and estimate, poverty line, poverty alleviation programs; Inequality: income and regional inequality – causes and corrective measures; Unemployment: concepts, measurement, types, causes and remedies; Environmental challenges: Land, water and air

Suggested Books:
1. U. Kapila (2010): *Indian economy since Independence.* Academic Foundation, New Delhi
2. S. K. Misra and V. K. Puri (Latest Year):*Indian Economy — Its Development Experience*, Himalaya Publishing House, Mumbai
3. S. Chakraborty: *Development Planning: The Indian Experience.* Clarendon Press.
4. R. Dutt and K. P. M, Sundharam (Latest Year): *Indian Economy*, S. Chand & Company Ltd., New Delhi.
5. A. Panagariya (2008): *India: the Emerging Giant*, Oxford University Press, New York
6. S. Acharya and R. Mohan (Eds.) (2010): *India's Economy: Performance and Challenges*, Oxford University Press, New Delhi.
7. I. J. Ahluwalia and I. M. D. Little (Eds.) (1998): *India's Economic Reforms and Development: Essays for Manmohan Singh*, Oxford University Press, New Delhi.

SEMESTER-III
C-3.1: MICROECONOMICS I

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Consumer Theory I
Economic Models: Theoretical Model, Verification of Economic Model, General Feature of Economic Model, Development of Economic Theory of Value, Modern Developments; Preferences and Utility: Axioms of Rational Choice, Utility, Trades and Substitutions, The Mathematics of Indifference Curves, Utility Functions for Specific Preferences, The Many-Good case; Utility Maximization and Choice: The Two-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
Income and Substitution Effects: Demand Functions, Changes in Income, Changes in a Good's Price, The Individual's Demand Curve, Compensated (Hicksian) Demand Curves and Functions, Demand Elasticities, Consumer Surplus; Demand Relationships among Goods: The Two-Good Case, Substitutes and Complements, Net (Hicksian) Substitutes and Complements, Substitutability with Many Goods, Composite Commodities, and Home Production, Attributes of Goods and Implicit Prices

UNIT-III : Production Theory
Marginal Productivity, Isoquant Maps and the Rate of Technical Substitution, Production with One Variable Input (labour) and with Two-Variable Inputs, Returns to Scale, Four Simple Production Functions (Linear, Fixed Proportions, Cobb-Douglas, CES), Technical Progress

UNIT-IV : Cost Functions
Definition of Costs, Cost Functions and its Properties, Shift in Cost Curves, Cost in the Short-Run and Long-Run, Long-Run versus Short-Run Cost Curves, Production with Two Outputs – Economies of Scope

UNIT-V : Profit Maximization
The Nature and Behaviour of Firms, Profit Maximization, Marginal Revenue, Short-Run Supply by Price-Taking Firm, Profit Functions and its Properties, Profit Maximization and Input Demand – Single-Input Case and Two-Input Case.

Suggested Books:
1. C. Snyder and W. Nicholson (2012): Microeconomic Theory: Basic Principles and Extensions, 11th Edition, Cengage Learning, Delhi, India.
2. R. S. Pindyck, D. N. Rubinfeld and P. L. Meheta (2009): Microeconomics, 7th Edition, Pearson, New Delhi.

3. 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.

C-3.2: MACROECONOMICS I

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Consumption Function
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

UNIT-II : Investment Function
Autonomous and Induced Investment, Residential Investment and Inventory Investment, Determinants of Business Fixed Investment, Decision to Invest and MEC, Accelerator and MEI Theories of Investment.

UNIT-III : 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-IV : 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-V : 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

Suggested Books:
1. N. Gregory Mankiw (2010): *Macroeconomics*, 7th edition, Cengage Learning India Private Limited, New Delhi
2. Richard T. Froyen (2005): *Macroeconomics*, 2nd Edition, Pearson Education Asia, New Delhi.
3. Errol D'Souza (2009): *Macroeconomics*, Pearson Education Asia, New Delhi.

C-3.3: STATISTICAL METHODS FOR ECONOMICS

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Data Collection and measures of central tendency and dispersion
Basic concepts: population and sample, parameter and statistic; 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 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, partial and multiple correlation.

UNIT-III : Regression Analysis
Two variable linear regression analysis-estimation of regression lines (Least square method) and regression coefficients - their interpretation and properties, standard error of estimate.

UNIT-IV : 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-V : Probability theory
Probability: Basic concepts, addition and multiplication rules, conditional probability; Random variables and their probability distribution; Mathematical expectations; Theoretical Distribution: normal distribution - Properties and uses, problems using area under standard normal curve.

Suggested Books:
1. Jay L. Devore: *Probability and Statistics for Engineering and the Sciences,* Cengage learning, 2010.
2. S. C. Gupta : *Fundamentals of Statistics*, Himalaya Publishing House, Delhi
3. Murray R. Speigel: *Theory & Problems of Statistics*, Schaum's publishing Series.

SEMESTER-IV
C-4.1: MICROECONOMICS II

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : The Partial Equilibrium Competitive Model
Market Demand, Timing of the Supply Response, Pricing in the Very Short-Run, Short-Run Price Determination, Shifts in Supply and Demand Curves – a Graphical Analysis, Mathematical Model of Market Equilibrium, Long-Run Analysis: Long-Run Equilibrium-Constant Cost Case, Shape of the Long-Run Supply Curve, Long-Run Elasticity of Supply, Comparative Statics An analysis of Long-Run Equilibrium, Producer Surplus in the Long-Run, Economic Efficiency and Welfare Analysis, Price Controls and Shortages, Tax Incidence Analysis

UNIT-II : General Equilibrium and Welfare
Perfectly Competitive Price System, A Graphical Model of General Equilibrium with Two Goods, Comparative Statics Analysis, General Equilibrium Modelling and Factor Prices, A Mathematical M
Model of Exchange, A Mathematical Model of Production and Exchange, Computable General Equilibrium Models

UNIT-III : Monopoly
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

UNIT-IV : Imperfect Completion
Short-Run Decisions: Pricing and Output, Bertrand Model, Cournot Model, Capacity Constraints, Product Differentiation, Tacit Collusion, Longer-Run Decisions: Investment, Entry and Exit, Strategic Entry Deterrence, Signaling, How many firms Enter? Innovation

UNIT-V : Labour Markets
Allocation of Time, A mathematical Analysis of Labour Supply, Market Supply Curve for Labour, Labour Market equilibrium, Wage variation, Monopsony in the Labour Market, Labour Union

Suggested Books:
1. C. Snyder and W. Nicholson (2012): Microeconomic Theory: Basic Principles and Extensions, 11th Edition, Cengage Learning, Delhi, India.
2. R. S. Pindyck, D. N. Rubinfeld and P. L. Meheta (2009): Microeconomics, 7th Edition, Pearson, New Delhi.
3. 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.

C-4.2: MACROECONOMICS II

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Financial Markets and Reforms
Features of Financial Markets, Functions of Financial Markets, Banks and Financial Markets, Adverse Selection and Moral Hazard, Risk and Supply of Credit, The Determination of Banks Asset Portfolio, Financial Repression and Major Financial Sector Reforms in India, Lessons from the Global Financial Crisis and the Policy Response in India

UNIT-II : Open Economy Macroeconomics
Balance of payments- Concept, Equilibrium and Disequilibrium, Measures to Correct Disequilibrium, Determination of Foreign Exchange Rate- the PPP Theory and its Implications, Fixed vs. Flexible Exchange Rates, The Short-run open economy Model, the basic Mundell-Fleming Model. International Financial Markets

UNIT-III : Modelling Economic Growth
The Basic Harrod- Domar Model, Joan Robinson and the Golden Rule of Capital Accumulation, The Basic Solow Model, Theory of Endogenous Growth – the Rudimentary A-K Model

UNIT-IV : Macroeconomic Policy
The Goals of Macroeconomic Policy and of Policy Makers, The Budget and Automatic Fiscal Stabilizers, The Doctrine of Balanced Budget and Keynesian Objections; Concepts of Budget, Revenue and Fiscal Deficits, Fiscal Policy: Objectives and Limits to Discretionary Policy, The Crowding –Out Hypothesis and the Crowding – in Controversy Meaning, Scope and Objectives of Monetary Policy, Instruments of Monetary Policy, the Transmission Mechanism of Monetary Policy, Rules vs. Discretion in Monetary Policy, Implications of Targeting the Interest Rate, Limits to Monetary Policy

UNIT-V : Schools of Macroeconomic Thought and the Fundamentals of Macroeconomic Theory and Policy
Classics, Keynes, Monetarists, New Classicals and New Keynesians: (i) Keynes vs. the Classics – Aggregate Demand and Aggregate Supply, Underemployment Equilibrium and Wage Price Flexibility, (ii) Monetarists and Friedman's Reformulation of Quantity Theory, Fiscal and Monetary Policy: Monetarists vs. Keynesians, (iii) The New Classical View of Macroeconomics and the Keynesian Counter critique, (iv) The New Keynesian Economics with reference to the Basic Features of Real Business Cycle Models, the Sticky Price Model.

Suggested Books:

1. N. Gregory Mankiw (2010): *Macroeconomics*, 7th edition, Cengage Learning India Private Limited, New Delhi
2. Richard T. Froyen (2005): *Macroeconomics*, 2nd Edition, Pearson Education Asia, New Delhi.
3. Errol D'Souza (2009): *Macroeconomics*, Pearson Education Asia, New Delhi.

C-4.3: PUBLIC ECONOMICS

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Introduction to public finance
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;

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 Budget
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-V: Public Debt
Sources, effects, debt burden – Classical, Ricardian and other views, shifting - intergenerational equity, methods of debt redemption, debt management, tax verses debt;

Suggested Books:
1. J. Hindriksand G. Myles (2006): *Intermediate Public Economics*, MIT Press.
2. R. A. Musgrave and P. B. Musgave (1989): *Public Finance in Theory and Practices.* McGraw Hill
3. B. P. Herber (1975): *Modern Public Finance*.
4. B. Mishra (1978): *Public Finance*, Macmillan India limited.

GE-4.4: INDIAN ECONOMY II

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

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 and HRD
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.

UNIT-IV : Foreign Trade
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;

UNIT-V : Capital Flows
Foreign Capital inflow & outflow-foreign assistance, foreign aid, international borrowing, foreign investment-FPI &FDI, MNCs

Suggested Books:
1. U. Kapila (2010): *Indian economy since Independence.* Academic Foundation, New Delhi
2. S. K. Misra and V. K. Puri (Latest Year):*Indian Economy — Its Development Experience*, Himalaya Publishing House, Mumbai
3. S. Chakraborty: *Development Planning: The Indian Experience*. Clarendon Press.
4. R. Dutt and K. P. M, Sundharam (Latest Year): *Indian Economy*, S. Chand & Company Ltd., New Delhi.
5. A. Panagariya (2008): *India: the Emerging Giant*, Oxford University Press, New York
6. S. Acharya and R. Mohan (Eds.) (2010): *India's Economy: Performance and Challenges*, Oxford University Press, New Delhi.
7. I. J. Ahluwalia and I. M. D. Little (Eds.) (1998): *India's Economic Reforms and Development: Essays for Manmohan Singh*, Oxford University Press, New Delhi.

SEC-4.5: DATA ANALYSIS & COMPUTER APPLICATIONS

Full Marks - 50
Mid Sem – 10/1 hr
End Sem Theory – 20/3 hrs

UNIT-I : Basics of computers

Computer fundamentals - Basic components and organization of a computer, History and generation of computer, computer devices, classification of computers, Data representation, Corepresentation, computer software, Disc Operating system (MS - DOS) & Application softwares, Programming languages and packages.

UNIT-II : Use of computer for office- Automation

Text editor & word processor, operative familiarization of MS- WORD, concept & use of spread sheet, operation and use of MS- EXCEL, Basic of database, table records and fields, Data entry, operating principle of MS- Access, Document formation and presentation through MS- PowerPoint. Introduction to internet - Internet Architecture, Internet, Browser configurations, Accessing through internet Explorer, M.S. outlook.

PRACTICAL

End Sem Practical – 20/3 hrs

UNIT-I : Use of computer for office- Automation

Text editor & word processor, operative familiarization of MS- WORD, concept & use of spread sheet, operation and use of MS- EXCEL, Basic of database, table records and fields, Data entry, operating principle of MS- Access, Document formation and presentation through MS- PowerPoint.

UNIT-II : Use of computer for office- Automation

Basic statistical functions and analysis- Mean, Median, mode & standard deviation. Correlation, regression methods & techniques, Estimation of linear trend and growth rate

Suggested Books:
1. Computer for beginners - V.P. Jagi & S. Jain
2. Computer fundamentals - B. Rain
3. Computer today- Suresh K. Basandra
4. Fundamentals of computers - V. Rajaram
5. Theory & Problems of computer and programming - F. Schied.
6. Compact Guide to Microsoft office - Ron. Mansfield.
7. Essentials of Microsoft, Words & Excel - Kerny.

SEMESTER-V
C-5.1: INDIAN ECONOMY I

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Introduction to Indian Economy

British Rule: exploitation and under development in India; features of Indian economy – natural resources, infrastructure, population;

UNIT-II : Population and Human Development

Demographic trends and issues; education; health and malnutrition

UNIT-III : National Income in India

National income: tends, sectoral composition

UNIT-IV : Economic Planning in India

Economic planning: Planning Commission and its functions, Planning exercises in India, Objectives, Strategies and achievements.

UNIT-V : Current Challenges

Poverty: definition and estimate, poverty line, poverty alleviation programs; Inequality: income and regional inequality – causes and corrective measures; Unemployment: concepts, measurement, types, causes and remedies; Environmental challenges: Land, water and air

Suggested Books:
1. U. Kapila (2010): *Indian economy since Independence.* Academic Foundation, New Delhi
2. S. K. Misra and V. K. Puri (Latest Year):*Indian Economy — Its Development Experience*, Himalaya Publishing House, Mumbai
3. S. Chakraborty: *Development Planning: The Indian Experience.* Clarendon Press.
4. R. Dutt and K. P. M, Sundharam (Latest Year): *Indian Economy*, S. Chand & Company Ltd., New Delhi.
5. A. Panagariya (2008): *India: the Emerging Giant*, Oxford University Press, New York
6. S. Acharya and R. Mohan (Eds.) (2010): *India's Economy: Performance and Challenges*, Oxford University Press, New Delhi.

7. I.J. Ahluwalia and I.M.D. Little (Eds.) (1998): *India's Economic Reforms and Development: Essays for Manmohan Singh*, Oxford University Press, New Delhi.

C-5.2: DEVELOPMENT ECONOMICS I

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Conceptions of Development
Economic development, Economic growth and development, Factors affecting economic development, Obstacles to economic development, Indicators of economic development - National income, Per capita income; Basic needs approach, PQLI, HDI, GDI, Capital formation and economic development, Vicious circle of poverty, circular causation. Alternative measures of development, documenting the international variation in these measures, comparing development trajectories across nations and within them.

UNIT-II : Theories of Economic Development & Growth
Classical theory, Marxian theory of capitalist development, Schumpeterian theory of capitalist development, Harrod-Domar model of steady growth, Neo-Classical growth Model – Solow, Rostow's stages of economic growth

UNIT-III : Growth Models and Empirics
The endogenous growth models, (Romar& Lucas), Human Capital & Growth. Evidence on the determinants of growth, Patterns of Economic Growth, Geography vs. institution Debate

UNIT-IV : Poverty and Inequality: Definitions, Measures and Mechanisms
Understanding Prosperity and Poverty: Geography, Institutions, and the Reversal of Fortune, Measuring Poverty, Inequality axioms; a comparison of commonly used inequality measures; connections between inequality and development; poverty measurement; characteristics of the poor; mechanisms that generate poverty traps and path dependence of growth processes

UNIT-V : Political Institutions and the Functioning of the State
Public Goods and Economic Development, State ownership and regulation, government failures, Corruption and Development, The determinants of democracy; alternative institutional trajectories and their relationship with economic performance; within-country differences in the functioning of state institutions

Suggested Books:
1. Debraj Ray (2009): *Development Economics,* Oxford University Press.
2. Partha Dasgupta (2007): *Economics, A Very Short Introduction,* Oxford University Press.
3. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee (2006): *Understanding Poverty,* Oxford University Press.
4. Amartya Sen (2000): *Development as Freedom,* OUP.
5. Daron Acemoglu and James Robinson (2006): *Economic Origins of Dictatorship and Democracy*, Cambridge University Press.
6. Robert Putnam (1994): *Making Democracy Work: Civic Traditions in Modern Italy*, Princeton University Press.

DSE-5.3 (A): BASIC ECONOMETRICS

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Nature and Scope of Econometrics & Basic Concepts
Meaning of Econometrics, Econometric models-definition and features
Normal distribution; chi-sq, t- and F-distributions; estimation of parameters; properties of estimators

UNIT-II : Hypothesis Testing
Defining statistical hypotheses; distributions of test statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test

UNIT-III : Simple Linear Regression Model: Two Variable Case
Estimation of model by method of ordinary least squares; properties of estimators; goodness of fit; tests of hypotheses; scaling and units of measurement; confidence intervals; Gauss-Markov theorem; forecasting.

UNIT-IV : Multiple Linear Regression Model
Estimation of parameters; properties of OLS estimators; goodness of fit - R^2 and adjusted R^2; partial regression coefficients; testing hypotheses – individual and joint**;** functional forms of regression models; qualitative (dummy) independent variables.

UNIT-V : Violations of Classical Assumptions: Consequences, Detection and Remedies
Multicollinearity; heteroscedasticity; serial correlation.

Suggested Books:
1. Jay L. Devore, *Probability and Statistics for Engineers,* Cengage Learning, 2010.
2. John E. Freund, *Mathematical Statistics*, Prentice Hall, 1992.
3. Richard J. Larsen and Morris L. Marx, *An Introduction to Mathematical Statistics and its Applications,* Prentice Hall, 2011.
4. D.N. Gujarati and D.C. Porter, *Essentials of Econometrics,* McGraw Hill, 4th edition, International Edition, 2009.
5. Christopher Dougherty, *Introduction to Econometrics*, Oxford University Press, 3rd edition, Indian

DSE-5.3 (B): ODISHA ECONOMY

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Macro Economy of Odisha:

A macro glance of Odisha economy: aggregate income, relative standards of living, broad sectoral decomposition,

UNIT-II :

Performance of districts, employment, child labour and bonded labour, employment programmes, consumption expenditure, cost of living; Odisha State finances

UNIT-III : Sectoral Development in Odisha

Agriculture: land ownership and land tenure, agricultural wages and rural unemployment, production and productivity of major crops, agricultural inputs, agricultural policy; Industry: Investment, industrial policy, and the growth of large industries, mining and quarrying; tertiary sector: tourism, transport and power

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

UNIT-V : Economy of Kandhamal

Natural Resources- lands and forests, Population-ST/SC composition, Urban-rural population-human development-education, health and housing, District Income- composition & growth, Employment-worker composition

Basic Readings:

1. Nayak, P., Panda, S.C., Pattanaik, P.K. (forthcoming): Handbook of Economy of Odisha, Oxford University Press, New Delhi.
2. GoO (2012): Economic Survey 2011-12, Planning and Coordination Department, Government of Odisha, Bhubaneswar

Suggested Books:

1. GoO (2004): *Human Development Report 2004 Orissa*, Planning and Coordination Department, Government of Odisha, Bhubaneswar
2. Mahapatro, S.B. (1980): Inter-Industry Wage Differentials in Orissa: An Empirical Analysis, *Indian Journal of Industrial Relations*, 15(4): 525-536.
3. Vyasulu, V. and Arun, A.V. (1997): Industrialisation in Orissa: Trends and Structure, *Economic and Political Weekly*, 32(22): M46-M53.
4. Das, Binod S. (1976)**:** Orissa's Economy in the Nineteenth Century, *Social Scientist*, 4(11): 32-46.
5. Das, Binod S. (1976): Orissa's Economy in the Nineteenth Century: Part Two, *Social Scientist*, 4(12): 38-50.
6. Mohanti, K.K. and Padhi, S. (1995): Employment Situation of Tribal Population in Orissa: 1981 Census Data, *Economic and Political Weekly*, 30(29): 1879-1882.
7. Nair, K.R.G. (1993): New Economic Policy and Development of Backward Regions: A Note on Orissa, *Economic and Political Weekly*, 28(19): 939-941.
8. Mohanty, B. (1993): Orissa Famine of 1866: Demographic and Economic Consequences, *Economic and Political Weekly*, 28(1/2): 55-66.
9. Haan, A. de and Dubey, A. (2005): Poverty, Disparities, or the Development of Underdevelopment in Orissa, *Economic and Political Weekly*, 40(22/23): 2321-2329.
10. Samal, K.C. (1998): Poverty Alleviation after Post-Liberalisation: Study of a Tribal Block in Orissa, *Economic and Political Weekly*, 33(28): 1846-1851
11. Nayak, P. and Chatterjee, B. (1986): Disguised Unemployment in Agriculture: A Case Study of Rural Orissa, *Indian Journal of Industrial Relations*, 21(3): 310-334.
12. DES,Odisha, Bhubaneswar(2011): District Statistical Handbook –Kandhamal
13. DES, Odisha,Bhubaneswar(2013): Bulletin On Operational Holdings (Number & Area)-Agricultural Census, 2010-11, Odisha, Phase-I
14. Census of India,2011: District Census Handbook-Kandhamal, Series-22, Part-XIIB
15. NIPDIT, Phulbani (2008): Block Development Report- Phiringia Block in Kandhamal
16. UNDP, INDIA (2012):District Human Development Report-Kandhamal

DSE-5.4: RESEARCH METHODOLOGY

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

Module I: Research Methods-I

Introduction to research; Definitions and characteristics of research; Types of research; Main components of any research work-Topic Selection: Learning Objectives; Problem identification; Criteria for prioritizingproblems for research. Analysis and Statement of the problem: Learning Objectives; Analyzing the problem; Formulating the problem statement. Literature review: Uses of literature review; Source of information; Organization ofinformation on index cards.Objectives: Learning Objectives; Definitions; Formulation of the research objectives.

Module II: Research Methods-II

Research methodologies: Study population; Variables; Sampling; Sample sizedetermination; Plan for data collection; Methods of data collection; Plan for data processing and analysis; Ethical considerations.Work Plan; Major components and outline of the different phases in a research process; Summary of the major components of a research proposal; Fieldwork; Writing a research report.

Module III: Quantitative Methods:

Statistics: Probability & Sampling distribution; Estimation, Hypothesis testing & application; Correlation & regression analysis. Types of study designs/ Experiment design – Orthogonal array, ANOVA, interaction, Signal-to-Noise ratio, replication; [16 Hrs]

Module IV

Basic of database, table records and fields, Data entry, operating principle of MS- Access,

Module V: Computer Applications:

Spreadsheet tool: Introduction to spread-sheet applications, features & functions, using formulae& functions, data storing, features for statistical data analysis, generating charts/graphs & other features. *[Tools: Microsoft Excel, Open office and similar or other advanced tools]*Presentation tool: Introduction to presentation tool, features & functions, creating presentations, customising presentation. *[Tools used: Microsoft Powerpoint, Open Office or any other tool]*

Web Search: introduction to internet, Use of Internet & www, using search engines using advanced search tools. Thesis writing & Scientific editing tools. [8 Hrs]

References:

1. Montgomary, Douglas C. (2007) 5/e, Design and Analysis of Experiments (Wiley India)
2. Montgomary, Douglas C. & Runger, George C. (2007) 3/e, Applied Statistics & probability for Engineers (Wiley India)
3. Kothari C.K. (2004) 2/e, Research Methodoloy – Methods and Techniques (New Age International, New Delhi)
4. Krishnswamy, K.N., Shivkumar, Appa Iyer and Mathiranjan M. (2006) Management Research Methodology; Integration of Principles, Methods and Techniques (Pearson Education, New Delhi)
5. The Complete reference Office XP- Stephan L. Nelson, Gujulia Kelly (TMH)
6. Basic Computer Science and Communication Engineering – R. Rajaram (SCITECH

SEMESTER-VI
C-6.1: INDIAN ECONOMY II

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

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 and HRD

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.

UNIT-IV : Foreign Trade

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

UNIT-V : Capital Flows

Foreign Capital inflow & outflow-foreign assistance, foreign aid, international borrowing, foreign investment-FPI &FDI, MNCs

Suggested Books:

1. U. Kapila (2010): *Indian economy since Independence.* Academic Foundation, New Delhi
2. S. K. Misra and V. K. Puri (Latest Year):*Indian Economy — Its Development Experience*, Himalaya Publishing House, Mumbai
3. S. Chakraborty (): *Development Planning: The Indian Experience*. Clarendon Press.
4. R. Dutt and K. P. M, Sundharam (Latest Year): *Indian Economy*, S. Chand & Company Ltd., New Delhi.
5. A. Panagariya (2008): *India: the Emerging Giant*, Oxford University Press, New York
6. S. Acharya and R. Mohan (Eds.) (2010): *India's Economy: Performance and Challenges*, Oxford University Press, New Delhi.
7. I. J. Ahluwalia and I. M. D. Little (Eds.) (1998): *India's Economic Reforms and Development: Essays for Manmohan Singh*, Oxford University Press, New Delhi.

C-6.2: DEVELOPMENT ECONOMICS II

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Demography and Development
Demographic concepts; birth and death rates, age structure, fertility and mortality; demographic transitions during the process of development; gender bias in preferences and outcomes and evidence on unequal treatment within households; connections between income, mortality, fertility choices and human capital accumulation; migration.

UNIT-II : Land, Labor and Credit Markets
The Role of Agriculture in Development, The distribution of land ownership; land reform and its effects on productivity; contractual relationships between tenants and landlords; land acquisition; nutrition and labor productivity; informational problems and credit contracts; microfinance; inter linkages between rural factor markets. Credit, Intermediation, and Poverty Reduction, Risk faced by poor

UNIT-III : Individuals, Communities and Collective Outcomes
Individual behavior in social environments, multiple social equilibria; governance in organizations and in communities; individual responses to organizational inefficiency

UNIT-IV : Environment and Sustainable Development
Defining sustainability for renewable resources; a brief history of environmental change; common-pool resources; environmental externalities and state regulation of the environment; economic activity and climate change

UNIT-V : Globalization
Globalization in historical perspective; the economics and politics of multilateral agreements; trade, production patterns and world inequality; financial instability in a globalized world, Political Economy of Foreign Aid & Development

Suggested Books:
1. Debraj Ray (2009): *Development Economics,* Oxford University Press.
2. Partha Dasgupta (2007): *Economics, A Very Short Introduction,* Oxford University Press.
3. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee (2006): *Understanding Poverty,* Oxford University Press.
4. Thomas Schelling (1978): *Micromotives and Macrobehavior*, W. W. Norton.
5. Albert O. Hirschman (1970): *Exit, Voice and Loyalty: Responses to Decline in Firms, Organizations and States,* Harvard University Press.
6. Elinor Ostrom (1990): *Governing the Commons: The Evolution of Institutions for Collective Action,* Cambridge University Press.
7. Dani Rodrik (2011): *The Globalization Paradox: Why Global Markets, States and Democracy Can't Coexist*, Oxford University Press.
8. Michael D. Bordo, Alan M. Taylor and Jeffrey G. Williamson (ed.) (2003): *Globalization in Historical Perspective,* University of Chicago Press.

DSE-6.3 (A): APPLIED ECONOMETRICS

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I :
    Stages in Empirical Econometric Research
UNIT-II : Regression Diagnostics and Specification
    Misspecification; functional forms; model selection.
UNIT-III : Advanced Topics in Regression Analysis
    Selected Topics:
    Dynamic Econometric Models: distributed lag models; autoregressive models; instrumental variable estimation; simultaneous equation models.
UNIT-IV : Panel Data Models
    Methods of estimation; fixed effects model; random effects model.
UNIT-V : Introduction to Econometric Software Package
    Use of econometric software, types of software packages. Use and features of GRETL, SHASAM, & SPSS.

Suggested Books:
1. Jeffrey M. Wooldridge, *Econometrics*, CENGAGE learning, India Edition, 2009.
2. Dimitrios Asteriou and Stephen Hall, *Applied Econometrics: A Modern Approach*, Palgrave Macmillan, 2007.
3. Damodar Gujarati, *Econometrics by Example*, Palgrave Macmillan, 201

DSE-6.3 (B): ENVIRONMENTAL ECONOMICS

Full Marks - 100
Mid Sem – 20/1 hr
End Sem – 80/3 hrs

UNIT-I : Introduction
    What is environmental economics; review of microeconomics and welfare economics.
UNIT-II : The Theory of Externalities

Pareto optimality and market failure in the presence of externalities; property rights and the coase theorem.

UNIT-III : The Design and Implementation of Environmental Policy

Overview; Pigouvian taxes and effluent fees; tradable permits; choice between taxes and quotas under uncertainty; implementation of environmental policy.

UNIT-IV : International Environmental Problems

Trans-boundary environmental problems; economics of climate change; trade and environment.

UNIT-V : Measuring the Benefits of Environmental Improvements

Non-Market values and measurement methods; risk assessment and perception. Concepts; measurement.

Suggested Books:

1. Charles Kolstad, *Intermediate Environmental Economics*, Oxford University Press, 2nd edition, 2010.
2. Robert N. Stavins (ed.), *Economics of the Environment: Selected Readings*, W.W. Norton, 5th edition, 2005.
3. Roger Perman, Yue Ma, James McGilvray and Michael Common, *Natural Resource and Environmental Economics*, Pearson Education/Addison Wesley, 3rd edition, 2003.
4. Maureen L. Cropper and Wallace E. Oates, 1992, ―Environmental Economics: A Survey, ‖ *Journal of Economic Literature*, Volume 30:675-740.

DSE-6.4: DISSERTATION/PROJECT REPORT

Full Marks - 100
End Sem Project – 100

TOPICS FOR DISSERTATION/PROJECT

UNIT-I: INDIAN ECONOMY

National income, population, agriculture, Industry, International trade, Government Finance, Monetary Problems etc.

UNIT-II: ODISHA ECONOMY

State Natural Resources, Population, State Income, Agriculture, Industry, Health, Education, State Finances etc.

UNIT-III: LOCAL ECONOMY

District Income, Natural Resources, Population, Agriculture, Irrigation, Co-operation, Handicrafts, fisheries, local finances- NAC/Municipality

UNIT-IV: ECONOMIC THEORIES

Elasticity, Income, Exchange Rate, Monopoly, Competition, Capital Markets, Stock Exchanges, Interest rates, FDI, FPI etc.

UNIT-V: EMPIRICAL PROJECT

Based on Primary Data and Secondary Data

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