Institute of Distance and Open Learning
Gauhati University

New Syllabus for MA/MSc Programme (Semester System) in Economics,

COURSE STRUCTURE

A student shall do a total number of sixteen papers in the four Semesters. Each paper will carry 100 marks - 20 marks for internal evaluation during the semester and 80 marks for external evaluation through end semester examination. All the papers in the First, Second and Third Semesters will be compulsory. The paper XIII and XIV of the Fourth Semester will also be compulsory. The remaining two papers for the Fourth Semesters will be chosen by a student from the optional papers. The names and numbers assigned to the papers are as follows.

First Semester	
I	Microeconomics Theory
II	Macroeconomics Theory - I
III	Mathematical Methods for Economic Analysis-I
IV	Statistical Methods for Economic Analysis
Second Semester	
V	Advanced Microeconomics
VI	Macroeconomic Theory -II
VII	Mathematical Methods for Economic Analysis-II
VIII	Elementary Econometrics
Third Semester	
IX	Development Economics-I
X	International Economics
XI	Issues in Indian Economy
XII	Public Finance-I
Fourth Semester	
XIII	Development Economics-II
XIV	Public Finance-II
Papers XV and XVI are optional.	
A student has to choose any two of the following courses.	
(a)	Population and Human Resource Development
(b)	Econometric Methods
(c)	Environmental Economics
(d)	Financial System

Detailed Contents of the Papers Syllabus

Paper-I: MICROECONOMICS THEORY

Unit –1: Theory of production and Cost
Production function and related concepts – Isoquants and Substitution between Factors – Elasticity of Substitution – Returns to Scale and Returns to a Factor – Technical Progress and Production Function – Forms of Production Function; Cobb-Douglas, CES and Fixed coefficient Type – Single Decision of a Firm; Choice of Optimal Factor Combination – Expansion Path – Derivation of Cost Function from Production Function – Multi-product Firm: production Efficiency Locus, Production Possibility Frontier and Choice of Optimal Combination of Output of Products.

Unit – 2: Market Structure and Pricing of Products
A Review of Perfect Competition Equilibrium – Monopoly and its Regulation – Monopolistic Competition: Price-Output Equilibrium – Duopoly Models of Cournot, Bertrand and Stackelberg – Kinked Demand Curve Model of Oligopoly – Collusive Oligopoly: Price Leadership Models.

Unit – 3: Theory of Distribution and Pricing of Factors
Pricing of Factors under Perfect Competition – Factor Share and Technical Progress – Backward Bending Supply Curve of Labour – Monopsony

Unit – 4: Basic Financial Accounting
Various terms used in Accounting – Account, Assets, Liabilities, Capital / Equity, Profit, Loss, Revenue income, Capital income, Revenue expenditure, Capital expenditure - Profit and Loss Account - Balance Sheet - Cash Flow Statement

Recommended Readings:
1. Koutsoyianis, A., "Modern Microeconomics", Macmillan.
2. Baumol, W.J., "Economic Theory and Operations Research", Prentice Hall of India.
3. Madalla and Miller, "Microeconomics", McGraw Hill.
4. Pindyck, R. & Rubinfield, D.L., " Microeconomics", Prentice Hall of India.
5. Mukherjee, S., "Business and Managerial Economics", New Central Book Agency.
6. Salvartore. D., "Micro Economics", Schaums Series.
7. Juneja and Chawla, "Book Keeping and Accountancy."
8. B. B. Dam and H.C. Gautam, "Financial Accounting"

Paper – II: MACROECONOMIC THEORY - I

Unit – 1: National Income Accounting
Different forms of National Incomer Accounting; Social Accounting, Input-Output Accounting, Flow of Fund Accounting and Balance of Payment Accounting

Unit – 2: Theories of Income and Employment Determination
A Review of the Classical and Keynes's Models – Income Determination Model including Money and Interest; IS-LM Analysis– Real Balance Effect and Patinkin's Full Employment Equilibrium; Patinkin's Concept of Underemployment Disequilibrium

Unit 3: Consumption Function
The Consumption Function Puzzle – The Relative Income Hypothesis – The Permanent Income Hypothesis –The Life Cycle Hypothesis

Unit 4: Investment Function
Marginal efficiency of Investment and level of Investment - The Accelerator and Investment behavior - Impact of inflation - Influence of policy measures on Investment.

Recommended Readings:
1. Jha, R., "Macroeconomics: Theory and Policy"
2. Branson, W.H., "Macroeconomics: Theory and Policy"
3. Agarwala, S.K., "National Income Accounting"
4. Schultz, W., "National Income Analysis"
5. Brooman, F. S., "Macroeconomics".
6. Michl, "Macro Economic Theory –A Short Course", Prentice Hall of India
7. Harris, I., "Monetary Theory"
8. Gupta, S. B., "Monetary Economics"
9. Paul & Taylor, "Macro Economics".

Paper – III: MATHEMATICAL METHODS FOR ECONOMIC ANALYSIS-I

Unit –1: Matrix Algebra and its Application
Matrix Algebra-type of matrices-matrix operations-matrix inversion and solution of simultaneous equations-Crammer's rule -Rank of a matrix-trace of a matrix-application to partial equilibrium market model, national income model, external sector model-static and dynamic open input-output models.

Unit-2: Differentiation
Basic rules of differentiation-rules of differentiations involving more than one functions of the same variable-Rules of differentiation involving functions of different variables-higher order derivatives-applications relating to derivation of elasticity, revenue function, cost function, tax yield in competitive market, tax yield and income multiplier, derivations of other marginal functions.

Unit-3: Partial and total differentiation
Rules of partial and total differentiations-derivative of implicit function-application to comparative static analysis of market model, national income model and input-output model-determination of partial elastic ties of demand-problems relating to indifference curve, isoquant, production function and Euler's theorem.

Unit-4:Unconstrained Optimization
Unconstrained maxima and minima with a single explanatory variable – applications to cost minimization, revenue maximization, tax revenue maximization, profit maximization and equilibrium of firm, Unconstrained maxima and minima with more than one explanatory variables – applications to discriminatory monopoly, Multiproduct equilibrium, Multiplan equilibrium, equilibrium of firm with advertisement cost and subsidy.

Unit – 5: Integration
Applications relating to derivation of total functions from marginal functions, estimation of consumer's surplus, producer's surplus,

Recommended Readings:
1. A.C. Chiang, "Fundamental Methods of Mathematical Economics", McGraw Hill.
2. S. Baruah, "Basic Mathematics and its Economics Applications", MacMillan.
3. J.M.Henderson and R.E.Quandt, "Micro-economic Theory – A Mathematical Treatment."
4. R.G.D. Allen, "Mathematical Analysis for Economists."
5. Mouhammed, "Introduction into Mathematical Economics", Prentice Hall of India.
6. M. Metwally, "Mathematical Treatment of Micro-Economics."

Paper – IV: STATISTICAL METHODS FOR ECONOMIC ANALYSIS

Unit – 1: Probability Theory

Axiomatic Definition and derivation of Basic Probability Rules – Conditional Probability, Baye's Theorem (Concept only) – Random variable – Mathematical Expectation and Moments relating to both Discrete and Continuous random variables.

Unit2: Standard Probability Distribution

Binomial, Poisson and Normal – Moment Generating Function (Definition only) – The Central Limit Theory (without Proof).

Unit – 3: Income Distribution

Pareto's Law of Income Distribution – Log-normal Distribution – Lorenz Curve and Ginni Coefficient

Unit – 4: Index Number

Relation Between Laspayre's and Paasche's Index Numbers – Time Reversal, Factor Reversal, Circular test of Index Number - Fisher's Index Number – Chain Base Index Number – Base Shifting, Splicing and Deflating – Indices of Industrial Production.

Recommended Readings:
1. Yamane, Taro, "Statistics – An Introductory Analysis".
2. Hooda, P.R., "Statistics for Business and Economics", Macmillan.
3. Gupta, S.C. and Kapoor, U.K., "Fundamentals of Mathematical Statistics"
4. Nagar, A.L. and Das, R.K., "Basic Statistics", Oxford.
5. Agarwala, B.L., "Basic Statistics", New Age International.
6. Salvatore, Dominick and Reagle, Darrick, "Statistics and Econometrics", TMH
7. Klein, L.R., "An Introduction to Econometrics"
8. Goon Gupta, Das Gupta, "Fundamental of Statistics, Vol. II"

Paper – V: ADVANCED MICROECONOMICS

Unit – 1: Analysis of Consumer's Choice
A Review of Indifference Curve and Revealed Preference Approach – Violation of the Premises of Indifference curve Approach: Satiation and Lexicographical Ordering.

Unit – 2: Inter-temporal Choice & Choice under Uncertainty
Discounting and Present Value – Inter-temporal Consumption Decision – Inter-temporal Production Decision – Evaluation of Investment Projects – Determination of the Rate of Interest; Attitude Towards Risk – Expected Utility – Measures of Risk Aversion – Certainty Equivalence and the Cost of Risk – Economics of Insurance. – Asymmetric Information and Adverse Selection – Moral Hazard

Unit –3: General Equilibrium

Partial Versus General Equilibrium Approaches – Meaning of General Equilibrium – Walrasian General Equilibrium System: Tatonnement; Existence, Stability and Uniqueness of the Equilibrium – Introductions to the Contributions of Arrow and Debreu – Critique of General Equilibrium Theory – Non–tatonnement Process.

Unit – 4: Welfare Economics
Pareto Optimality – The Fundamental Theorems of Welfare Economics – Market Failure: Externality and Public Good – Welfare Effects of Non-price Allocations and Price Control – Problem of Welfare Maximization: Compensation Principle, Social Welfare Function – Social Choice: Contributions of Arrow and Sen.

Recommended Readings:
1. Layard and Walters, "Microeconomic Theory",
2. Gravelle and Rees, "Microeconomics", Longman.
3. Baumol, W.J., "Economic Theory and Operations Research", Prentice Hall.
4. Ryan and Pearce, "Price Theory," Macmillan.
5. Madalla and Miller, "Microeconomics," Tata McGraw Hill.
6. Varian, Hall, "Intermediate Microeconomics."
7. Henderson and Quandt, "Microeconomic Theory"
8. Sen, A., "On Economic Inequality"
9. Hands, D.W., "Introductory Mathematical Economics", Oxford.

Paper – VI: MACROECONOMIC THEORY - II

Unit – 1: Demand for Money & Supply of Money
The Demand Money – The Classical Approach - The Keynesian Approach – Friedman's Contribution – The Approaches of Baumol and Tobin: Inventory Theoretic Approach – The Portfolio Balance Approach.

Unit 2:Theory of Inflation and Economic Stabilization
Classical, Keynesian and Monetarist approaches to inflation; Philips Curve Analysis – Short run and Long run Philips curve– the natural rate of unemployment hypothesis; Adaptive Expectations - Rational Expectations – The New Classical Approach and its Policy Implications – Empirical Evidence.

Unit –3: International Payments
Exchange Rate-Balance of Payments-relationship between the current account and the capital and financial account- Disequilibrium in International Payment, Adjustment Mechanisms under various Exchange Rate Regimes, Devaluation and Exchange Control - The Monetarist Approach to the Balance of Payments.

Unit – 4: Business Cycles
Theories of Kaldor, Samuelson and Hicks - Control of Business Cycles – Relative efficacy of Monetary and Fiscal policies

Recommended Readings:
1. Brooman, F. S., "Macroeconomics"
2. Branson, W.H., "Macroeconomics: Theory and Policy"
3. Harris, I., "Monetary Theory"
4. Gupta, S. B., "Monetary Economics"
5. Patinkin, D., "Money, Interest and Prices"
6. Jha, R., "Macroeconomics: Theory and Policy"
7. Dornbursch, R. and Fisher, S., "Macroeconomics"
8. Soderstein, B., "International Economics", Tata McGraw Hill.
9. Paul and Taylor, "Macro Economics"

Paper – VII: MATHEMATICAL METHODS FOR ECONOMIC ANALYSIS-II

Unit – 1: Optimization with Equality Constraint
Optimization with equality constraints, Lagrange's multiplier method – application to consumer's equilibrium and producer's equilibrium in factor market

Unit – 2: Calculus for Dynamic Analysis
First order differential equation and its solutions – application to dynamic stability of market and simple growth process (Harrod-Domar), First order difference equation and its solution-application of difference equation – lagged market model (Cobweb) and Harrod's model of growth.

Unit – 3: Optimization with inequality constraint
Liner programming, General formulation Transportation problem, diet problem and production problem – Simplex method of solution (two variables, two constraints only) – Concept of duality

Unit – 4: Game Theory
Two-person Zero sum game – pure strategies with saddle point, games without saddle point – the rules of dominance – solution of games without saddle point – mixed strategies, Basic ideas and examples of non zero sum games – Nash equilibrium, Prisoner's dilemma and Repeated games.

Recommended Readings:
1. A.C. Chiang, "Fundamental Methods of Mathematical Economics", McGraw Hill.
2. S. Baruah, "Basic Mathematics and its Economics Applications", MacMillan.
3. J.M.Henderson and R.E.Quandt, "Micro-economic Theory – A Mathematical Treatment."
4. R.G.D. Allen, "Mathematical Analysis for Economists."
5. Taro Yamane, "Mathematics for Economists."
6. E.T. Dowling. "Theory and Problems of Mathematical Methods for Business and Economics", McGraw Hill.
7. Mouhammed, "Introduction into Mathematical Economics", Prentice Hall of India
8. R.Hadley, "Linear Algebra."
9. M. Metwally, "Mathematical Treatment of Micro-Economics."

Paper –VIII: ELEMENTS OF ECONOMETRICS

Unit – 1: Sampling and Estimation
Concept of Sampling Distribution and Standard Error of a Statistic – Methods of Estimation – Principles of Moments, Least Square and Maximum Likelihood (Concept only) – Characteristics of a Good Estimator

Unit –2: Statistical Inference
Testing of Hypothesis: Type I and Type II Errors, One-tailed and Two-tailed Tests – Test based on Standard Normal, t and Chi-Square Distributions.

Unit – 3: Linear Regression Model and Its Estimation
The Two Variable Model and its OLS Estimation – The General Linear Regression Model – Standard Assumptions – OLS Estimators and their Properties – The Coefficient of Determination – Maximum Likelihood Methods, Estimation and Properties.

Unit – 4: Inference from Linear Regression Estimation
Test of Hypothesis about Regression Coefficients and their Confidence Interval – Prediction with the Linear Regression Model

Unit – 5: Further Topics in Linear Regression Model
Multicollinearity: Effects, Detection and Remedies – Specification Errors and their Consequences – Qualitative Factors and Dummy Variables – Introductions to Heteroscedasticity and Autocorrelation of Disturbances (Ideas only).

Recommended Readings:
1. Johnston, J. "Econometric Methods", McGraw Hill.
2. Gujarathi, D., "Basic Econometrics", McGraw Hill.
3. Salvatore, Dominick and Reagle, Darrick, "Statistics and Econometrics", Tata Mc Graw Hill

Paper – IX: DEVELOPMENT ECONOMICS – I

Unit – 1: Development and Undervelopment-An Overview
Problems in Defining Economic Development — Per Capita Income as an Index of Development – Alternative Measures of Development Gap: HDI, GDI Including new concepts) and related indices. Poverty: Concepts and Measurement - Income Inequality and Growth – Redistribution with Growth

Unit-2: Theories of Economic Growth
Classical Apparoach-Adam Smith and Ricardo – The Theory of Marx.- Schumpeter's Analysis, Harrod-Domor Model: Instability of Equilibrium – Solow's Neoclassical Model and Steady State Growth – Role of Technical Progress – Convergence – Role of Human Capital – Endogenous Growth – Alternative Growth Model: Joan Robinson and Kaldor

Unit – 3: Theories of Development
The Vicious Circle Theory –The Process of Cumulative Causation: Myrdal – Neo-Colonial Dependence Model. The Stages of Growth: Rostow – Big Push: Rosenstein – Rodan – Balanced Growth: Nurkse – Unbalanced Growth: Hirschman – Critical Minimum Efforts: Leibenstein.

Unit – 4: Development from Dual Economic Structure
Unlimited Supply of Labour and The Dual Economy Models of Lewis and Fei-Renis – The Harris–Todaro Model.

Recommended Readings:
1. Meier, G.M., "Leading Issues in Economic Development", OUP.
1. Todaro, M.P., "Development Economics", Pearson.
2. Thirlwal, A. P. " Growth and Development" Palgrave
3. Roy, D., "Development Economics", OUP.
4. Basu, K., "Analytical Development Economics: A Critique of Contemporary Theory", OUP.
5. Sen, A. (Ed.), "Growth Economics", Penguin.
6. UNDP, "Human Development Reports", OUP.
7. World Bank, "World Development Reports", OUP.
8. Barro & Salai-Martin, "Economic Growth", Prentice Hall of India.

Paper – X: INTERNATIONAL ECONOMICS

Unit 1: International Trade Theories
The main propositions of Heckscher-Ohlin Miodel – Rybczynski Theorem - Heckscher-Ohlin Theorem – Stolper-Samuelson Theorem – Factor Price Equalization Theorem
Alternative Trade Theories: Vent for Surplus – Availability – Increasing Returns to Scale – Monopolistic Competition and International Trade – Imitation Gap and Product Cycle Theories of Trade

Unit 2: Economic Growth and International Trade
Effects of Growth on Trade – Growth, Trade and National Income – Trade and Technical Progress – Terms of Trade Effects – Prebisch-Singer Thesis

Unit 3: Trade and Policy Prescriptions
Types of Tariff – Partial Equilibrium Analysis of Tariff – General Equilibrium Analysis (Small Country Case) – Tariff and World Welfare – Tariff and Income Distribution – Effective Protection – Economic and Non-economic Arguments for Protection
Instruments of Commercial Policy: Export Tax and Subsidy – Quantitative Restrictions – International Cartels – Dumping – Other Non Tariff Barriers
Preferential Trading Club - Free Trade Area – Customs Union – Common Market – Economic Union – Trade Creation and Diversion - Dynamic Effects of Customs

Unit 4: International Monetary Order
Portfolio and Direct Investment – Theory of Direct Investment – Effects on Host and Investing Countries – Direct Investment and Exploitation, International Monetary System and Characteristics of a Good IMS – the Gold Standard – Inter-War Period – The Britton Woods System – Present System of Managed Flexibility Union – Optimum Currency Area – European Monetary System

Recommended Readings:
1. Chacholiades, M., "International Trade: Theory and Policy", McGraw Hill.
2. Kindleberger, Ridge, "International Economics", Irwin.
3. Soderston, B., "International Economics", Tat McGraw Hill
4. Lipsey, R.G., "The Theory of Custom Union", Windfield.
5. Caves, R.F. and Jones, "World Trade and Payment", Little Brown Co.
6. Meade, J.F., "Theory of International Economic Policy", OUP.
7. Roy, P.N., "International Trade: Theory and Policy"
8. Jain, Peyrand and Yadav, "International Financial Management".
9. M.M. Conden, "Economics of Protection."

Paper – XI: ISSUES IN INDIAN ECONOMY

Unit – 1: National Income, Unemployment and Poverty
National Income: Trends in Growth and Structure – Unemployment: Recent Trends and Estimates, Employment Policy under Different Plans, New Economic Policy and Employment Prospect – Poverty Analysis

Unit – 2: Industrial Policy and Controls
The Industrial Environment at Independence – Industrial Policy of 1956 – Performance of Industrial Licensing System – Economic Reforms and New Industrial Policy Industry – Indian Industry in the Contemporary context.

Unit – 3: Indian Agriculture
Agriculture Performance: Growth and Productivity – Agriculture Policy: Institutional Reforms, Credit Reforms, Agrarian Reforms – Agricultural Technology, Resources and Investment - Economic Reforms and their impact on Agriculture: Emerging Perspective.

Unit – 4: India's Economic Reforms
Rationale for Economic Reforms – History of Economic Reforms – Current Phases of Reforms – Public Sector Enterprises – Privatisation and Competition – Financial Sector Reforms – Planning in the Context of Liberalisation - Economic Liberalisation and Regional Planning in India.

Unit – 5: India in the Context of Emerging Global Economy
The Nature of Global Economy – Development in the World Economy – India's Economic Reforms in the Global Context – Foreign Trade Policy – Convertibility of Rupee – Impact of WTO on Indian Economy – Foreign Investment and Multinational Corporations.

Recommended Readings:

1. Bardhan, P., "The Political Economy of Development of India", OUP.
2. Brahmananda, P.R. and Panchamukhi, V.R., "The Development Process of Indian Economy", Himalaya.
3. Jalan, Bimal (Ed), "The Indian Economy – Problems and Prospects", Viking.
4. Kapila, Uma (Ed), "India's Economic Reforms", Academic Foundation.
5. Hazari, R.K., "Industrial Planning and Licensing Policy", Final Report.
6. Sen, A. and Dreeze, J., "Economic Development and Social Opportunities", OUP.
7. Wadhwa, C. (Ed), "Some Problems of India's Economic Policy", Tata McGraw Hill.
8. Fouseca, A.J. (Ed), "Challenge of Poverty in India", Vikas.
9. Rao, V.K.R.V., "India's National Income, 1950-1980", Sage.
10. Byres, T.J. (Ed), "The State, Development Planning and Liberalisation in India".

PAPER-XII: PUBLIC FINANCE-I

Unit-1 The State and its role in the Economy
The role of the government in the economy -*allocation, distribution, and stabilization function*s.
Criteria for policy evaluation – *equity, economic efficiency, paternalism and individual freedom and their tradeoff*

Unit-2: The Provision of Public Goods
The nature of Public goods, Public Goods and market failure, The efficient provision of public goods
Basic concepts- *The Theory of Clubs, Tiebout Hypothesis, Voluntary Bargaining in Small Groups (Coase's analysis)*
Public goods - *externalities, corrective policies, and viability of government intervention*
Public Choice: *Majority Rule and the Median Voter, Logrolling,*

Unit-3: Public Expenditure
Theories of Pubic Expenditure- *Lindahl's Model of Voluntary Exchange, Samuelson's Benefit Theory of Public Expenditure, Musgrave's Optimum Budget Theory*
Public Expenditures on, non-marketed goods, fixed-quantity subsidy for marketed goods, and excise subsidy - their impact on allocation and distribution
Evaluation of public expenditure- *cost-benefit analysis.*

Unit-4: Public Revenue
Concepts- *Tax Ratio, Buoyancy, and Elasticity of taxation, Rate schedules of taxation, Tax Credit, Exemption and Deduction, Excess burden of tax, and Taxable Capacity.*
Principles of Taxation: The Benefit Principle. The Ability to Pay Principle- *Concepts of equal sacrifice, ability to pay and tax rate schedules, the Maximum- Welfare Principle of Budget Determination.*
 The Neo-classical Theory of Tax Incidence and Shifting, price-output effect of shifting under different cost conditions and market situations. Musgrave's Budget Incidence Theory.
Capitalization of tax
Value Added Tax.

Recommended Readings:
1. Cullis, John & Jones, Philip, "Public Finance and Public Choice", McGraw Hill.
2. Browning, E.K. & Browning, J.M., "Public Finance and the Price System", Pearson.
3. Musgrave & Musgrave., "Public Finance in Theory and Practice".
4. Current Report of the Finance Commission, India.
5. Buchanan, J.M., "The Public Finance", Richard D. Irwin.
6. Pigou, T.F. and L.G. Sgontz., "An Introduction to Public Finance", Houghton.

Paper – XIII: DEVELOPMENT ECONOMICS–II

Unit –1: Components in the Development Process
Agriculture's Contribution to Development – Agriculture-Industry Interactions – The Role of Land Reforms and Price Policy in Agricultural Transformation- Industrialization: Export Promotion versus Import Substitution Strategies – The Choice of Techniques.

Unit – 2: Development Planning
The Concept and Types of Planning – Rational for Planning in a Developing Economy – The Planning Process: Projection of Macro Variables, Input-Output Models and Sectoral Projections, Project Evaluation and Social Cost-Benefit Analysis – Plan Failures, Market Versus Planning – Planning in a Market Oriented Economy – Plan Models in India (The Models of 2nd Plan, 5th Plan and the ongoing Plan)

Unit – 3: Financing of Development
Domestic Sources: Private Savings, Taxation – Financing by Money Creation and its Effects – The Duel Gap Analysis: Saving-Investment Gap and the Foreign Exchange Gap – Foreign Borrowing and the Debt Serving Problem – Private Foreign Investment.

Unit – 4: Environment and Development
Environment and Economy Interdependence - Poverty and Environmental Degradation – The Concept of Sustainable Development - Micro Planning for Environmental and Eco-Preservation – Watersheds and Joint Forest Management - Role of State in Environmental Preservation

Recommended Readings:
2. Meier, G.M., "Leading Issues in Economic Development", OUP.
3. Todaro, M.P., "Development Economics", Pearson.
4. Thirlwal, A. P. " Growth and Development" Palgrave
5. Roy, D., "Development Economics", OUP.
6. Basu, K., "The Less Developed Economy:", OUP.
7. World Bank, "World Development Reports", OUP.

PAPER-XIV: PUBLIC FINANCE-II

Unit-1: Public Debt
Public Debt – sources, burden and effects. Optimality in Public Debt Management
Pay-As-You-Use and Pay-As-You-Go Finance, Musgrave's Intergeneration Equity Theory
Unit-2: Public Budget
The Modern Theory of Public Budgeting, Structure of a public budget, Incremental and Zero-base Budget, Outcome Budget
Concepts: Budget deficit, revenue deficit, fiscal deficit and primary deficit.
The current Union and the Assam state budget.
Unit-3: Fiscal Policy
 Fiscal Policy and its role in the economy, Compensatory Fiscal Policy, Functional Finance and Pump Priming
 Fiscal Policy under conditions of inflation, and in the presence of unemployment
The Balanced Budget Multiplier, Built-in- Flexibility in the compensatory mechanism
Incidence of deficit financing: Impact of deficit finance on the capital market: *The Crowding Out Effect*. The welfare cost of deficit finance. Rationale and methods of reducing deficits
Unit-4 Fiscal Federalism
Principles of division of financial resources, Instruments of inter-government resource transfer.
Horizontal and Vertical fiscal balance, Problems of Centre-State Financial Relations in India

Recommended Readings:
1. Cullis, John & Jones, Philip, "Public Finance and Public Choice", McGraw Hill.
2. Browning, E.K. & Browning, J.M., "Public Finance and the Price System", Pearson.
3. Musgrave & Musgrave., "Public Finance in Theory and Practice".
4. Current Report of the Finance Commission, India.
5. Buchanan, J.M., "The Public Finance", Richard D. Irwin.
6. Pigou, T.F. and L.G. Sgontz., "An Introduction to Public Finance", Houghton.

Optional Papers

(a) POPULATION AND HUMAN RESOURCE DEVELOPMENT

Unit – 1: Basic Theories and Concepts
The Multhusian Theory of Population - Theory of Optimum Population - Theory of Demographic Transition - Population as Limits to Growth and as 'Ultimate Source' -Sources of Population Data - Population Pyramids, Population Change: Concepts and Measurement - Characteristics of Indian Population as Revealed by the Latest Census.

Unit – 2: Elements of Vital Statistics
Vital Rates: Measures of Fertility – Crude Birth Rate, General Fertility Rate, Age Specific Fertility Rates, Measures of Reproductivity – Total Fertility Rate, Gross Reproduction Rate, Net Reproduction Rate – Measures of Mortality – Crude Death Rates, Age Specific Death Rates, Concept of Infant Mortality Rate, Life Table –Concept, Types and Uses, The Different Columns of a Complete Life Table.

Unit – 3: Economics of Education
Education and Human Resource Development – Education and Economic Development – Cost –Benefit Analysis of Education – Measurement of Costs – Measurement of Benefits – The Rate of Return of Investment in Education – Social Rate of Return to Investment in Education - Public and Private - Financing of Education: Criteria for Adequacy of Education Finance, Traditional as well as Modern Concept of Adequacy – Financing of Education and Equity – Financing for Higher Education in India and its Problems.

Unit – 4: Manpower Planning
Significance and Problems, Measurement – Manpower Demand and Supply – Methodological Issues in Estimating Manpower Demand and Supply – Input-Output Method in Forecasting Manpower Requirement – Educational Planning and its Economic Aspects, Meaning and Concept of Brain Drain – Brain Drain and Under-developed Countries – Cost of Brain Drain.

Recommended Readings:
1. Bhende, A., and R. Kanitkar, "Principles of Population Studies".
2. Gupta and Kapoor, "Fundamentals of Applied Statistics."
3. Goon, Gupta, DasGupta, "Fundamentals of Statistics", Vol. II.
4. Ramkumar, R, "Technical Demography".
5. Nick hanley and Others, "Environmenatl Economics", MacMillan.
6. G. Psacharopolous (ed), "Economics of Education" Perdgaman Press.
7. Ian Beardwell and Len Holden (ed), "Human Resource Management – Contemporary Perspective", MacMillan.
8. M.P.Todaro, "Economic Development in the Third World", Oriented Longman.
9. NCAER, "India: Human Development Report".
10. UNDP Human Development Reports, Oxford University Press.

(b) ECONOMETRIC METHODS

Unit – 1: Generalised Least Squares
Aitken's Theorem of GLS – Feasible GLS and its Properties – Heteroscedasticity: Test and Solutions – Autocorrelation: Test and Solutions.

Unit – 2: Non-Linear Estimation
Non-Linear Least Squares and Iteration process – Models with Binary Dependents Variables – Logit and Probit Models

Unit – 3: Distributed Lag Models
Concept – Koyck Model – Partial Adjustment and Adaptive Expectation Models – Estimation of Models with a Lagged Dependent Variable – Test of Autocorrelation in Auto-Regressive Models

Unit – 4: Analysis of Time Series
Components of Time Series – Fitting of Trend – Variate Difference Method – The idea of a stochastic Time Series - Stationary and Non-stationary Time Series – Autocorrelation Function and Correlelogram - the Problem of Regression Analysis with Non-stationary Time Series.

Unit – 5: Introduction to Simultaneous Equation Model
Structural and Reduced Forms – Simultaneity Bias – Informal Introduction to Identification Problem, Indirect Least Squares and Two Stage least Squares

Recommended Readings:
1. Johnston, J., "Econometric Methods", McGraw Hill.
2. Gujarathi. D., "Basic Econometrics", McGraw Hill.
3. Pindyck and Rubinfeld, "Econometric Models and Econometric Forecasts", McGraw Hill.
4. Greene, William, "Econometric Analysis", Macmillan.
5. Johnston and Dinardo, "Econometric Methods", McGraw Hill.

<h2 style="text-align:center">(c) ENVIRONMENTAL ECONOMICS</h2>

Unit –1: The Economy and the Environment
Interlinkings between the Economy and the Environment – The First two laws of Thermodynamics – Environment Degradation as Market Failure- Externality, Pigouvian Tax, Property Rights and Transaction Costs – Environmental Public Goods

Unit – 2: Economics of Natural Resources
Economic Issues relating to use of Non-renewable Resources, Optimal Depletion – Issues relating to Renewable resources, Sustainable exploitation - Common Property Resources – Open Access – The Tragedy of Commons

Unit –3: Valuation of Environmental Damages and Benefits
Use and Nonuse Values - Valuation Methods – Stated Preference Methods: Contingent Valuation – Revealed Preference Methods: Hedonic Pricing and Travel Cost Method – Environmental Impact Assessment.

Unit –4: Environment and Development
Environment Development Trade off – Poverty and Environment – Concept and Indicators of Sustainable Development: Environmental Accounting - Policies for Sustainable Development.

Unit –5: Political Economy of Global Environmental Issues
Climate Change, Loss of Biodiversity, Ozone Depletion, International Conventions and Protocols –Trade and Environment – Pollution Havens.

Recommended Readings:
1. Kolstad, Charles D., "Environmental Economics", Oxford University Press.
2. Hanley, Shogren and White, "Environmental Economics", Macmillan.
3. Shanker, U, "Environmental Economics", Oxford University Press.
4. Bhattarcharjya, R., Environmental Economics", Oxford University Press.

(d) FINANCIAL SYSTEM

Unit-1: The Financial System
Components of the financial system: Institutions, Markets, Instruments, and Services.-Functions of the Financial System. - Relationship between the Financial System and Economic Growth.

Unit-2: Financial Markets- Money Market
Structure and Functions. - Instruments in the money market -Treasury Bill, Call Money Market, Commercial Papers, Certificate of Deposits and Commercial Bills. Money Market Intermediaries: The Discount and Finance House of India and Money Market Mutual Funds. Liquidity Management Instruments in the Money Market -.Money Market Derivatives.

Unit- 3: Financial Markets- Capital Market
Structure and functions of the capital market - Primary Equity Market: Instruments of resource mobilization- Public Issues, Right Issues, and Private Placement. Resource mobilization from International Capital Market.- Secondary Equity Market: Functions of the secondary market. The Stock market and its operation. Stock Market Index- The BSE Sensex and the NSE Nifty - Derivative Equity Market: Nature of Derivatives and their benefits. Types of Financial Derivatives. - Debt Market: Participants in the Debt Market- The Private Corporate Debt Market, The PSU Bond Market and the Government Securities Market, MF Role and types of MF – Concepts of NPV.

Unit-4: Valuation of Financial Assets
The time value of money and asset pricing - The valuation of debt instruments - The equilibrium price and quantity of bonds: loanable fund approach, Demand and Supply approach. - Valuing stock and other assets- income stocks and growth stocks -Equilibrium price and value of stock transactions.

Unit-5: Financial Sector Reforms
Evolution of Banking System in India - Banking Sector Reforms - Reforms in the Capital Market.

Recommended Readings:
1. Baye, R. Michael & Jonson, W. Bennis, "Money, Banking and Financial Market-An Economic Approach", AITBS Publishers.
2. Pathak, Barati, B., "Indian Financial System", Pearson Publication.
3. Chandler, V.L., "The Economics of Money and Banking"
4. Saxena, R.M., "Development Banking in India"
5. Gupta, S. B., "Monetary Economics: Institutions, Theory and policy"
6. Avadnani, V.A., "Studies in Indian Financial System"
7. Sharma, S.K., "The Institutional Structure and Capital Market in India"
8. Dagli, V., "Financial Institutions in India"
9. Gupta, U.L., "Working of Stock Exchanges in India"
10. Raj, J., "Money Market, Mutual Funds: Scope and Implications"
11. RBI Reports, Tandon, Chakraborty, Dantwala Reports
12. Reserve Bank of India, "Functions and Working".