

**M.A. (Applied Economics)**  
**Course Structure (Paper Titles)**

<p style="text-align: center;"><b><u>Semester 1</u></b></p> <ol style="list-style-type: none"><li>1. Micro Economics I</li><li>2. Macro Economics I</li><li>3. Basic Statistics</li><li>4. Research Methodology</li> <li>5. <b>Optional –</b><ol style="list-style-type: none"><li>A. Economics of Banking and Insurance</li><li>B. Economics of Social Sector and Gender</li></ol></li></ol>	<p style="text-align: center;"><b><u>Semester 2</u></b></p> <ol style="list-style-type: none"><li>1. Micro Economics II</li><li>2. Macro Economics II</li><li>3. Statistical Inference</li><li>4. Computer Applications</li> <li>5. <b>Optional –</b><ol style="list-style-type: none"><li>A. Financial Economics</li><li>B. Regional &amp; Rural Economics</li></ol></li></ol>
<p style="text-align: center;"><b><u>Semester 3</u></b></p> <ol style="list-style-type: none"><li>1. Theories of Growth and Development I</li><li>2. International Economics I</li><li>3. Public Economics</li><li>4. Indian Economic Development</li> <li>5. <b>Optional –</b><ol style="list-style-type: none"><li>A. Mathematical Economics</li><li>B. Agricultural Economics</li></ol></li></ol>	<p style="text-align: center;"><b><u>Semester 4</u></b></p> <ol style="list-style-type: none"><li>1. Theories of Growth and Development II</li><li>2. International Economics II</li><li>3. Environmental Economics and Demography</li><li>4. Dissertation + Viva Voce</li> <li>5. <b>Optional –</b><ol style="list-style-type: none"><li>A. Econometrics</li><li>B. Industrial and Labour Economics</li></ol></li></ol>

## **SEMESTER 1**

### **Paper 1**

#### **Microeconomics – I**

**Unit I:** Micro and Macro Economics, Positive and Normative Analysis, Inductive and Deductive Approaches, General Equilibrium and Partial Equilibrium, Problem of Scarcity and Choice, Utility Analysis – Concepts of Cardinal and Ordinal Measurement of Utility, Law of Diminishing Marginal Utility, Law of Equimarginal Utility. Diamond-Water Paradox, Marshallian Demand Analysis - Law of Demand and Supply, Elasticity of Demand: Price Elasticity, Income Elasticity, Cross Elasticity, Substitution Elasticity; Elasticity of Supply (Numerical based applications on various elasticities)

**Unit II:** Indifference Curve Analysis; Indifference Curves and their properties, Relationship between Marginal rate of Substitution and Marginal Utilities, Concept of Budget Line, Consumer's Equilibrium, Price Effect, Income Effect, Substitution Effect; Breakup of Price effect into Income Effect and Substitution Effects; Approaches of Hicks and Slutsky, Compensating Variation and Equivalent Variation; Concept of Giffen Goods; Curves – Price consumption curve, Income consumption curve, Engel Curve, Bandwagon, Snob and Veblen Effect; Some More Applications of Indifference Curve Analysis – Taxation: Direct vs Indirect taxation; Rationing: Cost of living index; Effect of subsidies to consumers; Revealed Preference Theory – Derivation of Demand Curve; Concept of Strong and Weak Ordering.

**UNIT III:** Theory of Production - Production Function; Equal Product Curves or Isoquants; Marginal Rate of Technical Substitution; Factor Intensity; Marginal Product of the Factors; Ridge Lines; Production Possibility Curve; Product Lines; Law of Variable Proportions; Law of Returns to Scale (Constant, Increasing, Decreasing), Producer's Surplus, Elasticity of Substitution, Concept of Homogeneous Production Function, Constant Elasticity of Substitution (CES), Cobb Douglas Production Function and derivation of its properties. Numerical applications based on the production function. Theory of Costs and Revenue – Theories of Cost: various types of short-run and long-run costs; Economies and diseconomies of scale and the shape of the long run average cost, Graphs and Equations and interrelationships of AC, MC, TC, AFC. Elasticity of Cost; Learning Curve; Concepts of Revenue – TR, AR, MR and Elasticity of Demand. Numerical based Applications.

**UNIT IV:** Market Analysis: Pricing and Output determination under Perfect Competition, : Short run (Supernormal Profit, Normal Profit, Loss) and Long Run Analysis, Break Even Point; Shut down point in Short Run. Pricing in Monopoly – Price and Output determination under Monopoly, Absence of Supply Curve under Monopoly, Long Run Monopoly Equilibrium; Price Discrimination under Monopoly, Dumping, Monopoly Measures by Triffin, Bain and Rothschild. Comparison of Perfect Competition and Monopoly; Ways to Regulate Monopoly.

## Paper 2

### Macroeconomics – I

**UNIT I:** Meaning and some preliminary concepts involved in Macroeconomic, Development of Macro-Economics. Meaning & definition of National Income, Circular Flow of national Income-Two sector economy; Three sector economy; four sector economy, Measurement of National Income--- GNP, GDP, NDP, NNP, Personal Income and Disposable Income, Nominal GNP and Real GNP. Determination of Equilibrium level of national Income-Two sector model, Three Sector model & Four Sector model. Value Added Method, Expenditure Method, Income method, Difficulties in the Measurement of National Income. An overview of Macro-economic issues and their measurement: inflation, unemployment, output and growth, separating growth from cycles, Detrending a GDP time series, Persistence and coherence.

**UNIT II:** Determination of Output and Employment – Classical theory of Employment, Say's Law; Keynes' theory of Employment and Income determination, Principle of Effective Demand; Consumption function, Saving Function, Linear & Non-Linear Consumption Function, Determinants of Propensity to Consume , Keynes' Psychological Law of Consumption and its implications, short run and long run consumption function, Kuznets' findings , Absolute Income Hypothesis, Relative Income Hypothesis. Permanent Income Hypothesis, Life Cycle Hypothesis.

**UNIT III:** Investment – Types & Determinants– Marginal efficiency of capital, Accelerator theory of Investment, Neo classical theory of Investment, Capital Stock Adjustment, Tobin's Q theory of Investment, The concept of Investment Multiplier – Importance; Paradox of Thrift; Impact of Multiplier, Static and Dynamic Multiplier; Demand for Money : Classical approach to demand for money-Quantity theory approach- Fisher's transactions approach, Cambridge cash balance approach, Keynes' theory of Money and Prices; Friedman's Modern Quantity theory of money;

**UNIT IV:** Rate of Interest - Keynes's liquidity preference approach; IS-LM Framework: IS curve and good market equilibrium, LM curve and money market equilibrium, General equilibrium. AD-AS Framework: AD curve, its derivation and shifting; AS curve, its derivation and shifting; Equilibrium. Evaluating effectiveness of macroeconomic policies: IS-LM and AD-AS frameworks. The concept of Crowding Out of Private Investment. (Numerical based applications of IS-LM and crowding out).

## **Paper 3**

### **Basic Statistics**

**UNIT I:** Definition, Importance & Scope of statistics, Describing and summarizing univariate distributions, frequency tables, histogram, distinguishing features, mean based and order based numerical summaries, visual techniques such as box plots. Measures of Central tendency (Arithmetic Mean, Geometric Mean, Harmonic Mean), Calculation of Median and Mode, Concept of Quartile. Measures of Dispersion– Range, Quartile deviation, Mean deviation, Standard deviation, Coefficient of Variation, Lorenz Curve; Measures of Skewness, Moments.

**UNIT II:** Index Numbers: Concept, types, application and problems in construction of Index numbers, The chain index numbers, Base shifting and deflating the index numbers, Cost of Living index numbers. Problems in the Construction of Index Numbers; Laspeyres', Pasche's and Fischer's Ideal Index Numbers. Problems in the construction and limitations of index numbers, Tests for ideal index number. Analysis of Time Series - Introduction, application, Components of Time Series. Measurement of Trend by Graphic Method, Semi-Average & Moving Average method and Least Squares Method.

**UNIT III:** Correlation Analysis: Karl Pearson coefficient of correlation, Spearman's rank correlation, and concept of Probable Error. Regression Analysis: Concept, Plotting of Regression lines, Regression coefficients, equations and prediction (Least Square Method), Interpolation and extrapolation.

**UNIT IV:** Fundamental Principles of Counting, Permutation and Combination, Probability and its Theorems: Concepts & Definition- Random experiment, random variable, sample space, events, Calculation of Probability, Theorems -Addition Theorem and Multiplication Theorem classical, relative frequency and axiomatic approaches to probability, basic results on probability, conditional probability, Baye's thereon.. Understanding Probability Distribution: Normal, Binomial & Poison Distribution (Numerical on distributions), Central Limit Theorem.

## **Paper 4**

### **Research Methodology**

**UNIT I:** Research – Definition, Characteristics, Objectives, Research and Scientific Method; Importance of Research; Types of Research - Descriptive vs. Analytical Research, Applied vs. Fundamental Research, Quantitative vs. Qualitative Research, Conceptual vs. Empirical Research; Research Methodology: An Introduction, Research Process- Basic Overview, Research Methods vs. Research Methodology; Features of Good research Study; Problem Identification Process: Defining the Research Problem; Review of Literature - Identification of Research Gaps and Research Needs; Formulation of Objectives and Hypothesis, Types of Hypothesis, Hypothesis: Variables and their linkages, characteristics of good Hypothesis.

**UNIT II:** Nature of Research Design, Formulation of Research Design; Various Types of Experimental and Non-Experimental Research Designs. Data Collection – Secondary and Primary Data; Questionnaire Designing; Qualitative Methods of Data Collection -Survey, Interview (Personal and Focus Group), Observation, Case Study, Projective Techniques; Types of Measurement Scales (Likert and Thurston), Criterion for Good Measurement. Reliability and validity of Research tools.

**UNIT III:** Sampling – Sampling concepts, Sample vs Census, Sampling Frame; Probability Sampling – Simple Random, Systematic Sampling, Stratified Random Sampling, Cluster Sampling; Non-Probability Sampling – Convenient Sampling, Judgement Sampling, Snowball Sampling, Quota Sampling; Determination of Sample Size, Sampling and Non- Sampling Errors.

**UNIT IV:** Writing an Article, Essay and Research Paper; Importance of Report Writing; Types of Research Reports, Structure of Report- Guidelines; Reviews - Book Review; Case Review; Citation Methods - Foot Note, Text Note, End Note, References, Bibliography; Citation Rules - Blue Book, MLA, APA, Chicago. Online Research – New Age techniques; Use of Mendley; Criteria of Good Research, Research Ethics – Plagiarism , laws related to Plagiarism and measures to avoid Plagiarism.

**Paper- 5**  
**OPTIONAL PAPER**

**A. ECONOMICS OF BANKING & INSURANCE**

**UNIT I:** Risk, Uncertainty and Asymmetric Information in Banking and Insurance Markets - Expected Utility Theory in Insurance Market; Risk pooling; risk spreading; risk transfer; Quality Choice – Choosing the Quality; Moral Hazard and Adverse Selection in Banking and Insurance Theories; Signaling - The Sheepskin Effect; Incentives; Asymmetric Information - Monitoring Costs Example: The Grameen Bank; Systems Competition; The Problem of Complements; Relationships among Complementors; Markets with Network Externalities.

**UNIT II:** Commercial Banking – Meaning and Functions of a Bank, Types of Banks, Banking Systems, Balance Sheet of a Bank, Portfolio Management, Credit Creation Process, , Deposit Insurance and Credit Guarantee Scheme, Banking Legislation in India; Nationalisation of Banking – A critical analysis, Social Responsibility of Banks, Non-Performing Assets, Innovative Banking, Merchant Banking, Free Life Insurance Cover to Saving Bank Account Holders, , Economic Liberalisation and Banking Sector Reforms, Narsimham Committee Report-2 on Banking Sector Reforms, New trends in Commercial Banking in India, Role of Commercial Banks in a Developing Economy, Cooperative Banking, Land Development Banks, Regional Rural Banks, NABARD.

**UNIT III:** Central Bank- Functions of Central Bank, Role of Central Banks in developing countries, Credit Control Methods – Bank Rate Policy, Open Market Operations, Variable cash Reserve Ratio, Qualitative methods of credit control; RBI – Origin and Monetary policy over time, Achievements and failures of RBI; SBI – Establishment and Organisation, Objectives and functions, Achievements; Non-Banking Financial Intermediaries, Development Banks, IFCI, SFCs, IDBI, SIDBI, IRBI, ICICI, UTI, NBFCs, Export-Import Bank of India, Critical Evaluation of Development Banks; Exchange Banks, Indian Banks Abroad.

**UNIT IV:** Social v/s Private Insurance; Life v/s Non-Life Insurance; Concept of General Insurance-Types; Health Insurance, Marines Insurance, Motors Insurance, Agricultural Insurance, Fire Insurance, Personal Accident Insurance; Importance of General Insurance in a Country's Economic Development; Concept of Short-Term Risk; Inspection or Risk; Rating and Calculation of Premiums; Marketing of General Insurance; General Insurance Corporation of India. Insurance as Investment - Tax-Advantage and Tax Non-Advantage; Essentials of Individual Retirement Planning; Pension Plans; Basic Principles of Pension Plans; Pension Plans in India. Regulation of Insurance: Insurance Regulation in India; Role and need of regulation-History of Insurance regulation in India- Insurance Regulation and Development Authority (IRDA); Insurance reforms and birth of IRDA - Performance of IRDA - Indian insurance in the Global Platform-Future potential in Indian insurance business.

## B. ECONOMICS OF SOCIAL SECTOR & GENDER

**UNIT I:** Economics of Education -Concept and scope of Economics of Education; Education as consumption and investment goods; Human capital-concept and components of human capital; Education and economic growth; Cost of education; Expenditure on education, private costs and social cost, direct and indirect cost; Benefits of education-Direct and indirect benefits, private and social benefits; Cost-Benefit analysis in education. Educational Planning and Financing Approaches to educational planning- Production function models; Manpower Requirement Approach, Input Output model, Gender based Approach; Educational planning in developing countries with special reference to India, Role of financing in educational development, educational financing in India- equity and efficiency effects of financing education in India.

**UNIT II:** Health Economics - Concepts, definition and components, Measures of health status; Economic Evaluation of Health care; Health care markets, Demand for Health care, Supply side considerations, Market for health insurance. Public Policy on Health and Development Dimensions, Public policy in health care delivery- role of state; Hale and DALY, Health dimension of development – Poverty and Malnutrition; Inequalities in health – Class and gender perspectives, Health care in India: Post Reform Scenario.

**UNIT III:** Concept of Social Overhead Capital, Infrastructure-Development Linkages; Infrastructure as Public Good – Issues in non-excludability and non-rivalrous consumption; Nature of Public Utilities; The Peak-Load, Off-Load Problem; Issues in Privatisation of Infrastructure. Infrastructure Policy and Regulation; Infrastructure Finance; Public-Private Partnership (PPP); Transportation: Railways, Roadways, Airways and Waterways: Progress, Pricing; Technological Advancement and Challenges. New policies/programmes related to each mode of transportation; Communication: Tele-density, Mobile and Internet.

**UNIT IV:** Concept of Gender Economics; Gender issues in economic theory; Gender division of work; Invisibility of women's work; Gender budget; Gender Audit. Approaches: Women in development (WID); Women and development (WAD), Gender and development (GAD); Neoliberal approaches. Conceptualizing and measuring women's contribution to national income and growth; Gender Inequality in human development; Gender related development indices; Measuring gender empowerment; Women in agriculture; Women in industry; Women in services; Gender dimensions of International trade.

## **SEMESTER 2**

### **Paper 1**

#### **Microeconomics – II**

**UNIT I:** Monopolistic Completion: Major features; Pricing under Monopolistic Competition – Short Run; Group Equilibrium in the Long run under Monopolistic Competition – Concept of Excess Capacity; Chamberlin’s Alternative Approach; Oligopoly – Major features, Non Collusive Oligopolies - Cournot’s Duopoly Model, Bertrand’s Model, Stackelberg Model; Chamberlin’s Model, The Kinked Demand Model, Hotelling Model, Edgeworth Model. Collusive Oligopolies – Various types of Price Leadership, Cartels.

**UNIT II:** Alternate theories of the firm: Full Cost Pricing theory, Baumol’s Sales Maximisation theory, Williamson’s Managerial Discretion theory, Herbert Simon’s Satisficing theory, Behavioural theory of Cyert and March; Limit pricing principle (Bains, Sylos-Labini, Modigliani and Bhagawati);

Basic concepts of Game theory; Types of game; Payoff Matrix;; Nash equilibrium; Mixed strategies. Games of Coordination- Prisoner’s dilemma, Battle of sexes; Assurance game. Games of Commitment- The Frog and the Scorpion, The Kindly Kidnapper, Pigs pressing levers, Intergeneration conflict over Saving. Solving Sums on Two Person Zero Sum and Non-Zero-Sum Games (Pure and Mixed Strategy), Saddle point solution , Value of a Game,

**UNIT III:** Theory of Factor Pricing – Concepts of productivity (MPP & VMP); Marginal Productivity Theory; Equilibrium of the firm in Perfectly competitive markets; Factors prices under imperfect competition – Monopolistic Exploitation, Monopsonistic Exploitation, Double Exploitation; The Adding Up Problem – Product Exhaustion Problem, Classical and Modern theories of Rent, Interest, Profit and Wages.

**UNIT IV:** Elements of General Equilibrium Analysis, Edgeworth Box Diagrams, Welfare – Some Early Criteria, Marginal conditions of Pareto Efficiency, First and Second Fundamental Theorems of Welfare Economics; Kaldor-Hicks Compensation Criterion, Scitovsky Paradox, Social Welfare Function, Arrow’s Impossibility Theorem , Grand Utility Possibility Frontier, Bliss Point, Theorem of Second Best

**Paper 2**  
**Macroeconomics – II**

**UNIT I:** Determinants of Supply of Money: Concept of Money and its evolution, Meaning of Money Supply, Monetary Aggregates in India, High Powered Money, The Money Multiplier and its derivation; Credit Creation, Determinants of money multiplier; Keynes' Income theory of money. Post-Keynesian approaches to demand for money-Patinkin and the Real Balance Effect, Approaches of Baumol and Tobin; Friedmans' Modern quantity theory.

**UNIT II:** Inflation: Nature, Causes, Types, Measurements – CPI, WPI; Economics effects of Inflation – The effect of Inflation on the distribution of Income and Wealth, The effect of Inflation on output, Employment and the Growth Rate. Inflation and Unemployment: The Phillips Curve, Shift in Phillips Curve – Effect of Cost of Living on Wages, Stagflation, Friedman-Phelps model of Stagflation; Long Run Phillips Curve - Adaptive Expectation and Rational Expectation theory; Taxation and Laffer Curve, Supply Side Economics

**UNIT III:** Trade Cycles – Models of Samuelson, Hicks and Kaldor; International Adjustment: The Determination of National Income in Open Economy; IS and LM The International Transmission of Disturbance: Transmission under Fixed Exchange Rate; Transmission under Floating Exchange Rate (Mundel Fleming Model). Classicism, Keynesianism and Monetarism – Classical and Keynesian Models compared; Crisis in Keynesian economics and revival of Monetarism, Keynesianism Vs Monetarism. Relevance of Keynes for Developing Countries.

**UNIT IV:** The theory of economic policy, - target and Instrumental variables, policy lags. Monetary policy – Objectives, Instruments – Quantitative and Qualitative; Rules Vs Discretion, Monetary targeting and inflation. Fiscal policy, Okun's Law – Growth Vs Stability and Macroeconomic policy during reform period. Relative Roles of Fiscal and Monetary Policies; Monetary and Fiscal Policy Mix; India's Monetary and Fiscal Policy over the years. Economic growth and its determinants – Saving, Investment and India's Growth Performance over the years; COVID – 19 and its Impact on Growth ; Global Financial Crises and their Impact on World Economy;

## **Paper 3**

### **Statistical Inference**

**UNIT I:** Sampling and Estimation - Concepts of parameter, statistic, sampling distribution, Estimation using Normal Distribution, standard error; Point estimation and Desirable properties of a point estimator; Interval Estimation, Statistical hypothesis, null and alternative hypotheses, Types of errors, (Type I and Type II), Power of the test and Power Curve, level of significance, confidence intervals, choice of critical region, one tailed two tailed tests; Concept and interpretation of p value.

**UNIT II:** Testing of Hypothesis about Attributes – number of successes, proportion of successes, difference between proportions. Testing Hypothesis - Parametric tests – Small sample test – t test – testing hypothesis about population mean and proportion; testing hypothesis for differences between two means or proportions; Large sample test – z test; Variance ratio test – F test; ANOVA – One way and Two Way.

**UNIT III:** Non-Parametric Tests – Chi Squares – testing of independence and Goodness of Fit; Runs Test, One Sample Sign Test, Two Sample Sign Test, Mann Whitney U Test for Independent Samples, Wilcoxon Signed – Rank Test for Paired Samples, The Kruksal- Wallis Test. Spearman's Rank Correlation test, Kendall's rank correlation test,

**UNIT IV:** Factor Analysis – Use, Conditions, Steps, Factor Loadings and Eigen Values, Concept of Communality; Discriminant Analysis – Objectives and Uses, Steps; Key Concepts of Cluster Analysis; Multidimensional Scaling and Perceptual Mapping; Basics of Conjoint Analysis.

## **Paper 4**

### **Computer Applications**

**UNIT I.** Anatomy of computer, operating system concepts, hardware, software concepts & terminology, networking--- definition, types, applications. Introduction to GUI. Various Generations of Computers. An overview of Computer Languages  
Introduction to MS-Office— MS Word: creating documents, formatting features, standard toolbar, text formatting, header & footer, mail-merge, macro, insertion of files & pictures.

**UNIT II - MS-Excel-** Construction of worksheet and inserting data according to its characteristics, creation of charts and graphs. Functions to estimate descriptive statistics – Measures of central tendency and variation, covariance & coefficient of correlation, estimation of simple linear regression. coefficient of correlation and regression and application of various tests for hypothesis testing.  
MS- Power point – Create power point presentation with the help of different presentation styles, editing slides, various views of PowerPoint presentation, insertion of chart and pictures, animation and transition effects, creation of photo album.

**UNIT III -** Use of SPSS – Method of preparing data sheet and entering data according to its characteristics , use of various statistical tools on SPSS. Application of t-test, paired t test, One-way ANNOVA, Two way ANNOVA, Chi-Square test.

**UNIT IV-** Internet basics & Applications—Internet & its uses, Intranet & Extranet, web pages, websites, web servers, web browser, internet domains, URL's, IP address, search engines. Use of Internet Resources for research. How to create a Google website, Google Form, Online Quiz,/Feedback form etc.

**Paper- 5**  
**OPTIONAL PAPER**

**A. FINANCIAL ECONOMICS**

**UNIT I:** Introduction to Financial Economics - Finance and Economics – Role of Financial Intermediation - Financial System and Economic Development; Equilibrium in Financial Markets; Criteria to evaluate assets: Risk and financial assets, types of risk, return on assets, Risk - Return trade off - Valuation of securities.

Theories of interest rate determination - Level of interest rates - Long period and Short period rates; Term Structure of Interest rates - Theories of interest rates structure - Expectational theory - Segmentation theory; Administered interest rates - Appropriate interest rate policy

**UNIT II:** Money and Finance- Money and Near Money – Components of financial markets - Money markets and capital markets - Primary and secondary markets – Organized and over-the counter markets – Commodity and currency market - Derivative market - Securities traded in financial markets - Financial Instruments - T- Bills- Commercial papers – Certificates of Deposits – Repos and Reverse repos – Bond Markets – Treasury bonds- State and Municipal Government bonds- Corporate Bonds – Zero Coupon Bonds – Convertible bonds- callable bonds- putable bonds – Fixed and floating rate bonds – International bonds- Instruments in capital markets

**UNIT III:** Primary Markets, Initial Public Offers – Follow on public offer - Rights issue – Bonus issue – Qualified Private placements - Function of merchant banker – Pre-issue obligations – Post-issue obligations – Pricing of Public issue – price bands – Credit Rating – Dutch auction - Book Building -Post-Issue Obligations- Eligibility Norms- Contribution of Promoters and lock-in- Demat Issues- Euro Issues- Applications Supported by Blocked Amount (ASBA) -Qualified Institutions Placement (QIP)

Secondary Market: Depository system – Stock exchanges – Demutualization of stock exchanges – Listing of securities – Internet trading – Trading in Secondary Markets – types orders – Limit orders – Market orders- Stop loss order – Day order – Cancel Order - Matching Orders - Circuit breakers – Insider Trading – Unfair trade Practices – Buy back - Over-the counter Markets. BSE, NSE.

**UNIT IV:** Derivative market - Forwards, Options and futures – Call and put option – Speculating with call option – Speculating with put options – Determinants of call option premium - Determinants of put option premium.

Foreign Exchange Rates - International Monetary Fund- International Liquidity- Leading Operation of World Bank and its Affiliates; Working of International Development Agency and International Finance Corporation; Asian Development Bank and India; Euro-Dollar and Euro Currency Markets

Financial Sector Reforms - Philosophy of Financial Sector Reforms – Achievements - Areas of Concerns in Financial Sector Reforms. SEBI: its impact on the working of capital market in India.

## **B. REGIONAL & RURAL ECONOMICS**

**UNIT I:** Regional Economy – Meaning and Definitions; Theory of Location and interdependence, Concept of Regional Planning - complementary region, Causes for Regional Imbalances- Measures to reduce regional Imbalances- Regional Development and regional planning- Sectoral and Functional approaches. Importance of Regional analysis in developed and backward economics, Application of theories; Status of Development in relation to Regional economic development; Export Base Theory – Sectoral Theory Vs Regional Theory of Development; Growth Pole theory-Central place theory – Diffusion Theory-integration: Development Differentials.

**UNIT II:** Rural Economy: rural dynamics, characteristics, problems, challenges and opportunities; Responding to Changing Agrarian Economy; Rural Farm and Non-Farm Sector: Employment and Barriers; Rural Employment Generation Programmes: NRLM, MGNREGA. Changing dimensions of Village Self Reliance in the post COVID Era. Approaches to understand rural development: Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA); Sustainable Rural development, Technology for rural growth: ICT, mobile, successful programmes; Business Markets for village economy.

**UNIT III:** Planning for Rural Development: levels, functions, decentralization, methodology of micro-level planning, for block and district level planning; Organizations for rural development: criteria, government organisations, PRIs, Cooperatives, Voluntary Agencies/NGOs, Corporations; Community Capacity Building, Common Property Resources. Capital formation in Rural Sector – Savings, Assets and Credits.

**UNIT IV:** Rural Entrepreneurship: role, programmes, role of institutions, Agri-Entrepreneurship; Micro-Finance Institutions (MFIs): role of MFIs, Self Help Groups; Micro, Small and Medium Enterprises in Rural India; Rural and micro Insurance; Rural Industrialization. Bundelkhand Rural Economic Development – Major Issues : Drought, Migration, Crop Failure, Mining; and Approaches to Solve them.

## **SEMESTER 3**

### **Paper 1**

#### **Theories of Growth and Development – I**

**UNIT I:** Development and Scope of Development Economics - Background and beginnings of 'Development Economics': post-war world economic order and end of formal colonialism; distinction between growth and development economics/studies. Human Development and deprivation The concept of development – Evolution of Measures of Economic Development, Human Development Index and its extensions, modifications, and other related measures: Human Poverty Index (HPA), Gender related Development Index (GDI), Gender Empowerment Measure (GEM); Concept of Sustainable Development

**UNIT II:** Major Growth Theories -Classical Theories of Growth: Contributions of Adam Smith, Ricardo and Malthus; Karl Marx and development of capitalistic economy — Theory of social change, surplus value and profit; Immutable laws of capitalist development; Crisis in capitalism — Schumpeter and capitalistic development; innovation — role of credit, profit and degeneration of capitalism; Keynesian Model of Development

**UNIT III:** Major themes/perspectives of post-war 'high development theory' (late 1940s to 1970s); Rostow's stages of growth, Vicious circle of poverty; big push, balanced and unbalanced growth, dual-economy models – broad policy implications -Lewis model of development, Ranis-Fei model of development.

**UNIT IV:** Strategies of Growth ; Balanced and Unbalanced Growth, Big Push, Hirschman model; Leibenstein's model; Nelson's low level Equilibrium trap, Political Economy of development and underdevelopment; Dependency school and its critique; Learning by Doing, Endogenous Growth: Role of Education, research and knowledge – explanation of cross country differentials in economic development and growth.

## **Paper 2**

### **International Economics – I**

**UNIT I:** Distinguishing features of Interregional and International trade; Importance and Scope of International Trade. International division of labour and specialization; Smith's theory of Absolute Difference in costs; Ricardo's theory of comparative differences in costs and its application in underdeveloped countries.

**UNIT II:** Mills' theory of Reciprocal Demand; Concept of Offer Curves; Explanation of Mills' concept of Reciprocal Demand with the help of Marshall's Offer Curves. International Trade Equilibrium; Some analytical tools- Offer curves, Production Possibility Curves; the Community Indifference Curves; Equilibrium in Community Consumption and Output. Harberler's Theory of Opportunity Costs; International trade under constant, Increasing and decreasing opportunity costs. The Modern Theory of Factor Endowments; its explanation under price criterion and physical criterion and its relevance in the present scenario. Its superiority over the classical theory; Leontief Paradox.

**UNIT III:** International trade and factor prices, Samuelson's Factor Price Equalization Theorem. The Terms of Trade- Meaning and various concepts, Factors affecting it, Terms of Trade and underdeveloped countries.

**UNIT IV:** Tariffs meaning and types; - Effects of tariff under partial and general equilibrium; Optimum tariff and welfare; Effects of tariff on income distribution, Stolper- Samuelson theorem, Dumping: Types, Objectives and effects of dumping; Current incidence of dumping in India and its impact on our economy; Anti-dumping measures.

## **Paper 3**

### **Public Economics**

**UNIT I:** Market and Government - Economic rationale of government, fiscal functions; The role of State in Allocation, Distribution, Regulation and Stabilization; Market Failures and Govt. Intervention : imperfections, externalities and public goods; concepts of private goods, pure public goods, mixed goods and merit goods; free Rider's problem, Optimal provision of public goods – voting and public choice – preference revelation mechanisms – Lindahl and successors, free riding, mobility; The theory of clubs and local public goods, Public goods and the private cost of public goods- Pseudo- market mechanism for Preference Revelation. The optimal provision of public goods,

**UNIT II:** Theories of Maximum Social Advantages-Dalton, Pigou and Musgrave; Budgeting - Various concepts, Performance budgeting, PPBS, Zero base budgeting; Budget Analysis, Fiscal Policy and Fiscal Reforms in India. Investment and growth Burden of Public Debt, India's Public debt

**UNIT III:** Public Expenditure - Wagner's law of Increasing State Activities, Peacock Wiseman hypothesis; economic effects of public expenditure; Dalton norms of Public Expenditure, Trends in India's Public Expenditure. Union-State Financial Relations-Horizontal and vertical imbalances; Finance commission. FRBM Act – An Assessment

**UNIT IV:** Theory of Taxation - Cannons of taxation, neutrality, equity, ability to pay, benefit principle, revenue maximization, income maximization; analysis of incidence of taxes, elasticity, buoyancy and taxable, capacity, efficient tax design: optimal taxation, effects of taxation on work effort, savings, investment and growth; classification of taxes: direct and indirect taxes, progressive, proportionate and regressive taxes, Advalorem and specific taxes; Tax systems in India; structure, composition and various economic issues.

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**Paper 4**  
**Indian Economic Development**

**UNIT I:** Basic features and problems of Indian Economy: Economic History of India -Indian Economy before Independence: A Review; Economic consequences of the British rule; Need for planned economic development; Basic strategy for development of the Indian economy under the planning period; Changes in the strategy of Indian planning; Role of the public and private sectors in India; and Main aspects of new economic policy and its relevance. Nature of Indian Economy, Natural Resources, Demographic features and Human Development Index, Problems of Poverty, Unemployment, Inflation, income inequality, Black money in India.

**UNIT II:** Sectoral composition of Indian Economy: Issues in Agriculture sector in India, Green Revolution, Agrarian Reforms: Land Reforms, New agricultural policy; Production Structure of Indian Agriculture; Terms of trade between agriculture and industry; Industrial policy; Nature and extent of industrialization; and the existing production structure of industry in India. Industrial development, MSMEs, small scale and cottage industries, Various Industrial Policies, Public sector in India, Service Sector in India.

**UNIT III:** Economic Policies: Economic Planning in India , Planning commission v/s NITI Aayog, Five Year Plans, monetary policy in India, Fiscal Policy in India, Centre state Finance Relations, Finance commission in India. LPG policy in India. Savings and Capital Formation in Indian Economy; Trends in national income; Performance of different sectors; Trends in prices and money supply; Fiscal and Financial Sector reforms and recent changes in the policy; Measures to fight slowdown and the vision of \$5 Trillion Economy.

**UNIT IV:** External sector in India: - Foreign capital in India; and Foreign Direct investment and Portfolio Investment, India's foreign trade value composition and direction, Foreign Trade in Goods and Services; Balance of Payment; India Balance of payment since 1991, FDI in India, Impact of Globalization on Indian Economy, WTO and Indian Economy; Restrictions on Monopolies and Concentration of economic power; Poverty and economic inequalities; Population problem; Unemployment; Regional imbalances; Trends in migration; Economic Development and Environment Degradation; SHGs and Women empowerment.

**Paper- 5**  
**OPTIONAL PAPER**

**A. MATHEMATICAL ECONOMICS**

**UNIT I:** Basic Concepts: Number system, Venn diagram (Set Theory), Functions and their graphs; Logarithms and exponents ; Equations – Simple, quadratic and simultaneous and Identities; Equations of a straight line, concept of slope; Equation and interpretation of Rectangular Hyperbola ; Series – Arithmetic and Geometric series; Elements of Trigonometry and Coordinate Geometry; Trigonometric functions and identities. Two –dimensional coordinates; Plotting of curves; Straight line; Parabola and Hyperbola.

**UNIT II:** Simple Differentiation –Rules of Differentiation, Solving Higher Order Derivatives, Application of differentiation in Concepts of elasticity; Elasticity of demand; Average and Marginal functions; Interrelationships among total, marginal and average cost and revenues. Static Optimization Problems and their applications. Integration – Rules of Integration, Indefinite Integral, The Definite Integral, Integration by Substitution; Integration by parts. Application of Integration in Economics: Consumers' and Producers' Surplus.

**UNIT III:** Matrices and Determinants- Types of Matrices, Multiplication of Matrices, Adjoint of a Matrix, Inverse of a Matrix, Rank of matrix Determinants, Cramer's' Rule, Use of Matrix Algebra in solving Simultaneous Equation System and in Regression Analysis. Jacobian and Hessian determinants and their use. Input Output Analysis and sums based on it, Leontief's static open input-output model, Hawkins Simons Condition. Eigen values and Eigen vectors.

**UNIT IV:** Linear Programming- graphical method and Simplex Method, The Dual. Other approaches to optimization. Differential Equations; Definitions and Concepts; First-order Linear Differential Equations; Exact Differential Equations; Integrating Factors; Separation of variables; Second-order Differential Equations. Economic Application, Difference Equations: Definitions and Concepts; First-order and Second-order, Linear Difference Equations; Stability conditions. Economic Applications: Cobweb Model. Concept of Rate of growth, Present Value, Annuities and their measurements

## **B. AGRICULTURAL ECONOMICS**

**Unit-I** Agricultural Economics: Meaning, Scope and Role in economic development; Interface between Agriculture and Industry; Schultz's prescription of transforming traditional agriculture; Models of Agriculture Development- Jorgenson's Model of development of Dual economy, Mellor's Model of Agriculture Development, and Boserup Model of Agriculture development; Land Reforms, Agriculture Development during Planning Periods; Green Revolution; Growth, Productivity and Regional Disparities in Indian Agriculture; Agrarian Crisis and Farmer Suicide

**Unit-II** Development issues - poverty, inequality, unemployment and environmental degradation; Recycling – Methods and Issues; emerging issues in Organic farming and issues in GM crops; Population and food supply, Food security and public distribution system in India. Farm Size and Productivity Relationships, Risk and Uncertainty in Agriculture, Environmental Issues in Agriculture.

**Unit-III - Farm Management:** Basics; Agricultural Marketing: Existing Structure, Problems, Costs and Efficiency in the markets, Marketing Reforms, Innovations in Agricultural Marketing System. Recent trends in agricultural growth in India; Inter-regional variations in growth of output and productivity; Types of Marketing - Group, Global, Corporate & Forward; Agricultural marketing and price system in India; Challenges of Agricultural marketing in India.

**Unit-IV-** Agricultural Price Policy in India-instruments and assessment; Food Security and Public Distribution System (PDS), Agricultural Finance: Role, Agencies, problems, Policies, Inter-linked Markets, Value Chain, Market Reforms, Indebtedness.

Cooperative: Organisation, Structure, Functions, Inter-sectoral terms of trade; Agricultural subsidies - Nature, Trends and Distributional Implications; Agricultural Exports: Nature, Trend, Composition; WTO and Indian agriculture.

**Paper 1**  
**Theories of Growth and Development – II**

UNIT I: Growth Models I: Post Keynesian Era - Harrod and Domar, instability of equilibrium; Neo-classical growth models — Solow and Meade, Mrs. Joan Robinson's growth model; Cambridge criticism of Neoclassical analysis of growth, The capital controversy.

UNIT II: Growth Models II- Technological progress — embodied and disembodied technical progress; Hicks and Harrod; Growth models of Kaldor and Pasinetti, Golden rule of accumulation, Stability of equilibrium; Money in economic growth, Tobin, Levhari, Patinkin and Johnson

UNIT III: Trade and Development; Trade as an engine of growth; two gap analysis; Views of Prebisch, Singer and Myrdal; Gains from Trade and LDC's Role of FDI and MNC's in emerging scenario, Dualistic development theories - Chenery's two gap model.

UNIT IV : Techniques of Planning; Plan Models in India, Mahalonobis Model- A Detailed Analysis; Planning in a Market Oriented Economy Choice of techniques and Appropriate Technology, Various Investment Criteria; Social Cost Benefit Analysis.

**Paper 2**

## **International Economics – II**

**UNIT I:** Foreign Trade and Economic Development. Meaning and Components of Balance of Payments, Equilibrium and disequilibrium of Balance of Payments. Factors causing disequilibrium balance of payments . Adjustment mechanisms of Balance of Payments Under Gold Standards, Under flexible exchange rates (price effect), Under elasticity approach Marshall Lerner condition, Under capital Movements and direct control for adjustment. Foreign Trade Multiplier and determination of Income.

Concept of Foreign exchange rate, Determination of Equilibrium exchange rate. Theories of Exchange rate determination the purchasing power parity theory and the Balance of Payment theory. Factor causing changes in exchange rates. Relative's merits and demerits of fixed and flexible exchange rates, concepts of spot and forward exchange rates, convertibility of currency.

4. Exchange control Meaning, features, objectives and methods of exchange control.

Devaluation Devaluation of Indian Rupee and its impact on out economy. Free Trade versus Protection cases for and against.

5. Foreign Direct Investment FII Multinational corporation Global margin equitation and Consequence. Current issues of International Trade

6. World Trade Organization -Functions, structure objectives and working of WTO India and WTO Trade Blocks EU, NAFTA, ASEAN, International Monetary Fund Origin, objectives, functions and working of the fund, India & IMF .World Bank Functions, working, India and the World Bank. Foreign Trade and Balance of payment in India, Recent changes in the direction and composition of trade, Major problems of Indian export sector.

## **Environmental Economics and Demography**

**UNIT I:** Introduction: Meaning of environmental economics; environment as a Public Good; The theory of Externality and Public Goods: Concepts, Market failure, Pigouvian Solution, Buchanan's Theory, Coase's theorem and its critique, Pigouvian vs. Coasian solution; Detrimental externality and non-convexities in the production set; Property rights; Collective action. The Design and Implementation of Environmental Policy: Overview; Pigouvian taxes and effluent fees; Tradable permits; choice between taxes and quotas; implementation of environmental policy;

**UNIT II:** Measurement of Environmental Values: Use values; Option value and non-use values. Techniques of Valuation: Market and Non-Market Valuation: Physical linkage methods; Abatement Cost Methods; Behavior Linkage Method-Revealed and stated preference; Social Cost benefit Analysis; Environmental impact assessment, Hedonic property values and household production models (Travel cost method and household health production function). Methods based response to hypothetical Markets, Contingent Valuation Methods.

**UNIT III:** India's Environmental Policy and Performance, Environmental Planning and Management, Macroeconomic Policies and Environment, People's Participation. Population and Environment, Poverty and Environment; International Environmental Problems: Trans-boundary environmental problems; economics of climate change; trade and environment - Trade and environment in the WTO regime, Eco-labeling, Economics of climate change, Causes and Consequences of Ozone depletion and climate change. Rio and other than Rio Conference, Protocols and Treaties relating to climate change and Environmental degradation, Ozone depletion and Bio diversity. Sustainable Development: concept and measurement.

**UNIT IV:** Theories of Population; Concepts and Measures: Fertility, Morbidity, Mortality; Age Structure, Demographic Dividend; Life table; Migration.

**Paper 4**  
**Dissertation + Viva Voce**

**Paper- 5**  
**OPTIONAL PAPER**

**A. ECONOMETRICS**

**UNIT I:** Random Variable, Expectation of Random Variable. Basics of Hypothesis Testing; Nature and Scope of Econometrics. Types of data; Meaning and Methodology of Econometrics; Meaning of Causal relationship; Nature of Regression Analysis; Properties of good Estimator; Gauss-Markov Theorem.

**UNIT II:** Basics of Two-Variable Regression Analysis. Estimation and Hypothesis Testing; interpretation of results and their application Extensions of the Two-variable Linear Regression Model. Multiple Regression Model, its Estimation and Inference; Types of Non Linear Regression Models and their applications.

Unit V

Nature, Consequences, Detection and Remedial Measures of Specification Bias, Heteroscedasticity, Autocorrelation and Multi Collinearity

Unit VI

Regression on Dummy Variables and their application.

Unit VII

Autoregressive and Distributed Lag Models; problems in estimation and their application.

Unit VIII

Systems of Equations, Identification(Rank and Order Conditions) and Estimation Methods (ILS and 2SLS) of Simultaneous Equation Models.

**B. INDUSTRIAL & LABOUR ECONOMICS**

Labour: Some key Issues, Labour in a Developing Economy, Structure and Peculiarities of Labour Market, Indian Labour; Characteristics of Indian Labour, Recruitment of Industrial Workers-Employment Exchange, National Employment Service in India, Rural Labour in India, Unemployment, Employment Programmes in India, Labour Productivity and Wage Relationship. Wages Determination: Theories of Wage Determination, System of Wages Payment Various Concepts of Wages-fair. Living and Minimum, Minimum Wages Act, Profit, Sharing, Payment of Bonus Act, Wage Structure, Share of Wages in National Income in India, Wage Differentials, Standardisation of Wages and National Wage Policy.

Trade Union Movement in India. Labour Participation in Management, Machinery for the Prevention and Settlement of Industrial Disputes. Working Conditions and hours of Work, Child and Women Labour, Labour Legislation in India: Factory, Mine and Plantation, International Labour Organization and India.