

**M.A. APPLIED ECONOMICS:**

**PONDICHERRY UNIVERSITY  
DEPARTMENT OF ECONOMICS**

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**I SEMESTER (SYLLABUS)**

**ECON 411 – MICRO ECONOMICS - I - 3 credits (Hard core)**

**Module 1: An overview of demand theory :**

Revision of demand theory by Hicks; Revealed preference theory; Characteristics of goods approach; consumer's choice involving risk; Indirect utility function (duality theory); Recent developments in demand analysis (pragmatic approach and linear expenditure systems); Inter-temporal consumption; Recent developments in demand; Neumann Morgenstern hypothesis – Savage hypothesis – Markowitz hypothesis – Bandwagon effect – Veblen effect – demand and supply equilibrium; Cob-web theorem; Lagged adjustment in inter-related markets.

**Module 2: Theory of Production**

Production function – Short period and long period; Law of variable proportions and returns to scale; Isoquants – Least cost combination of inputs; Returns to factors; Economies of scale; Multi-product firm; Elasticity of substitution; Euler's theorem; Technical progress and production function; Cobb-Douglas, CES, VES and Translog production functions and their properties; Empirical work on production functions; Derivation of cost functions from production functions; Derived demand for factors.

**Module 3: Theory of Costs**

Traditional and modern theories of costs – Empirical evidence – Linear Programming – Input Output analysis.

**Module 4: Price and Output Determination**

Marginal analysis as an approach to price and output determination: Perfect competition – short run and long run equilibrium of the firm and industry - price and output determination - supply curve; Monopoly – short run and long run equilibrium, price discrimination - welfare aspects - monopoly control and regulation; Monopolistic competition – General and Chamberlin approaches to equilibrium, equilibrium of the firm and group with product differentiation and selling costs, excess capacity under monopolistic and imperfect competition, criticism of monopolistic competition; Oligopoly – Non-collusive (Cournot, Bertrand, Edgeworth, Chamberlin, kinked demand curve and Stackelberg's solution) and collusive (cartels and mergers, price leadership and basic point price system) models; Price and output determination under monopsony and bilateral monopoly; Workable competition – Structure, conduct and performance norms.

## **Module 5: Pricing**

Pricing principle – Average cost pricing – Mark up rule price determination – Limit pricing theory – Full cost pricing.

### **REFERENCE :**

1. Koutsoyiannis, A.(2000), Modern Microeconomics, (2<sup>nd</sup> Edition), Macmillan Press, London.
2. Layard, P.R.G. and Walters, A.W.(1978), Microeconomic Theory, McGrawHill, London.
3. Stigler, G.(1996), Theory of Price, PHI, New Delhi.
4. Sen, A.(1999), Microeconomics : Theory and Application, Oxford University Press, New Delhi.
5. Varian, H.R. (2000), Microeconomic Analysis, W.W. Norton, New York.

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**I SEMESTER (SYLLABUS)**

**ECON 412 – MACRO ECONOMICS - I - 3 credits (Hard core)**

**Module 1 :**

The origin and development of Macro Economics (Before Keynes, Keynesian revolution, and after Keynes).

**Module 2 :**

Consumption function hypothesis: Determinants of consumption – Kuznets' consumption puzzle – Irving Fisher's inter-temporal choice model – Relative income hypothesis – Permanent Income hypothesis – Life cycle hypothesis; Investment function: Neo-classical theory of investment – Stock market and Tobin's Q ratio – Neo-Keynesian theory of investment.

**Module 3 :**

One Sector Neo-classical and Keynesian models: Quantity theory of money – Simple Keynesian model; IS-LM model: The interaction of Real and Monetary sectors of the economy – Keynesian version of the IS-LM model – Neo-classical version of the IS-LM model; Fiscal and Monetary Policy analysis in an IS-LM model; IS-LM model with government sector – Policy analysis in a Keynesian model – Policy analysis in a Neo-Classical Model – Fiscal policy and crowding out – Ricardian Equivalence – The role and relative effectiveness of fiscal and monetary policy; The aggregate supply and aggregate demand model: The Neo-classical three sector model - Pigou effect - The Keynesian three sector model - Keynes effect.

**Module 4 :**

Unemployment and the Labour market: The demand for labor – The supply of labour – Neo-classical labour market equilibrium – Keynesian labour market – Principle of effective demand – Under-employment equilibrium.

**Module 5 :**

An overview of open economy macro models: Monetarist model – Dual gap model – Demand constraint models – Structuralist model – North South models – Relevance to India.

## REFERENCE:

1. Eric Pentacost, Macro Economics: An Open Economy Approach, Macmillan, Indian Edition, New Delhi, 2000.
2. Richard,T.Froyen, Macro Economics: Theories and Policies, Pearson Education, 2003
3. P.Edgmond, Macreconomics, PHI, New Delhi, 1999.
4. Gregory Mankiv, Macroeconomics, CBS Publishers, New Delhi,1992.
5. Robert J Gorden, Macroeconomics, Harper Collins, 1994.
6. M.G.Mueller, Readings in Macroeconomics, II Edn, Surjeet Publications, 1978.
7. A.H.Hansen, A Guide to Keynes, McGrawHill, London, 1953.
8. Prabhat Patnaik, Macro Economics, Oxford University Press, Chapter by Amitava Krishna Dutt(1995), New Delhi, 1995.

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**I SEMESTER (SYLLABUS)**

**ECON 413 - MATHEMATICAL METHODS - 4 credits (Hard core)**

**Module 1 :**

Concept of function and types of functions; limit, continuity and derivative; Rules of differentiation; Interpretation of revenue, cost, demand, supply functions; Elasticities and their types; Multivariable functions; Concept and types of production function; Rules of partial differentiation and interpretation of partial derivatives; Problems of maxima and minima in single and multivariable functions; Unconstrained and constrained optimization in simple economic problems; Simple problems in market equilibrium.

**Module 2 :**

Concept of integration; Simple rules of integration; Application to consumer's surplus and producer's surplus; Growth rates and simple properties of time path of continuous variables.

**Module 3 :**

Determinants and their basic properties; Solution of simultaneous equations through Cramer's rule; Concept of matrix – their types, simple operations on matrices, matrix inversion and rank of a matrix; Concept of vector – its properties; Matrices and vectors; Concept of quadratic forms – Eigen roots and Eigen vectors; Introduction to input-output analysis.

**Module 4 :**

Difference equations – Solution of first order and second order difference equations; Applications in trade cycle models; Growth models and lagged market equilibrium models.

**Module 5 :**

Linear programming – Basic concept, formulation of a linear programming problem. Its structure and variables; Nature of feasible, basic and optimal solution; Solution of linear programming through graphical and simplex method; Statement of basic theorems of linear programming; Formulation of the dual of a programme and its interpretation; Shadow prices and their uses; Concept of duality and statement of duality theorems; Concept of a game; Strategies – simple and mixed; Value of a game; Saddle point solution; Simple applications.

**REFERENCE:**

- 1 Yamane, Taro (1975), Mathematics for Economists, PHI, New Delhi.
- 2 Allen, R.G.D.(1974), Mathematical Analysis for Economists, Macmillan Press, New Delhi.
- 3 Gupta, S.C.(1993), Fundamentals of Applied Statistics., S.Chand, NewDelhi.
- 4 Chiang, A.C.(1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New York.
- 5 Handry, A.T.(1999), Operations Research, PHI, New Delhi.

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**I SEMESTER (SYLLABUS)**

**ECON 414 - STATISTICAL METHODS - 4 credits (Hard core)**

**Module 1 :**

Meaning, assumptions and limitations of simple correlation and regression analysis; Pearson's product moment and Spearman's rank correlation coefficients and their properties; Concept of the least squares and lines of regression; Standard error of estimate; Partial and multiple correlation and regression (applications only).

**Module 2 :**

Methods of estimation of non-linear equations – Parabolic, exponential, geometric, modified exponential, Gompertz and logistic relationships.

**Module 3 :**

Deterministic and non-deterministic experiments; Various types of events – classical and empirical definitions of probability; Laws of addition and multiplication; Theorem of probability- Conditional probability and concept of interdependence; Baye's theorem and its applications; Elementary concept of random variable; Probability, mass and density functions; Expectations, moments and moment generating functions.

**Module 4 :**

Theoretical distribution of Binomial, Poisson and Normal distributions; Chi-square distribution – F distribution.

**Module 5 :**

Basic concept of sampling – random and non-random sampling; Simple random; Stratified random and concept of an estimator and its sampling distribution; Desirable properties of an estimator; Formulation of statistical hypothesis – Null and alternative hypothesis; Goodness of fit; Confidence intervals and level of significance; Hypothesis testing based on Z, t, Chi-square) and F tests; Type 1 and Type 2 errors.

**REFERENCE:**

1. Speigal. M.R.(1992), Theory and Problems of Statistics, McGraw Hill, London.
2. Monga,G.S.(1972), Mathematics and Statistics for Economists,Vikas Publications, New Delhi.
3. Yamane, Taro (1975), Mathematics for Economists, PHI, New Delhi.

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**I SEMESTER (SYLLABUS)**

**ECON 417 – ECONOMIC GROWTH AND DEVELOPMENT - 4 credits (Hard core)**

**Module 1 :**

Economic growth and development – Factors affecting economic growth: capital, labour and technology; Growth models – Harrod and Domar, instability of equilibrium; Neo-classical growth models – Solow and Meade, Mrs. Joan Robinson's growth model; Cambridge criticism of Neo-classical analysis of growth; The capital controversy.

**Module 2 :**

Technological progress – embodied and disembodied technical progress; Hicks, Harrod, learning by doing, production function approach to the economic growth; Total factor productivity and growth accounting; Growth models of Kaldor and Pasinetti, optimal savings and Ramsay's rule, golden rule of accumulation, two-sector model of Ujawa, stability of equilibrium; Money in economic growth, Tobin, Levhari, Patinkin and Johnson; Endogenous growth; Intellectual capital; Role of learning, education and research; AK model – Explanations of cross-country differentials in economic growth.

**Module 3 :**

Social and Institutional aspects of development - Development and underdevelopment – Perpetuation of underdevelopment; Poverty – absolute and relative; Measuring development and development gap – Per capita income, inequality of income, Human development index and other indices of development and quality of life – Food security, education, health and nutrition; Human resource development; Population problem and growth pattern of population – theory of demographic transition; Population as limits to growth and as ultimate source – population, poverty and environment; Economic development and institutions – markets and market failure, state and state failure, issues of good governance; Sustainable Development.

**Module 4 :**

Theories of development - Classical theory of development – contributions of Adam Smith, Ricardo, Malthus and James Mill; 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 capitalism; structural analysis of development; Imperfect market paradigm.

## **Module 5 :**

Approaches to development - Partial theories of growth and development – vicious circle of poverty, circular causation, unlimited supply of labour, big push, balanced growth, unbalanced growth, critical minimum effort thesis, low income equilibrium trap; Dualism – technical, behavioural and social; Ranis and Fie model; Dixit and Marglin model, Kelly et. al. Model; Dependency theory of development; Structural view of development.

## **REFERENCES :**

1. I. Adelman (1961), Theories of Economic Growth and Development, Stanford University Press, Stanford.
2. B. Higgins (1959), Economic Development, W.W. Norton, New Delhi.
3. Michael P. Todaro (1996), Economic Development, Longman, London.
4. A.P. Thirlwal (1999), Growth and Development, MacMillan, London.
5. A.K. Sen (Ed.) (1990), Growth Economics, Penguin, Harmondsworth.

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**II SEMESTER (SYLLABUS)**

**ECON 421 – MICRO ECONOMICS - II - 3 credits (Hard core)**

**Module 1: Alternative Theories of the Firm**

Critical evaluation of marginal analysis; Baumol's sales revenue maximization model; Williamson's model of managerial discretion; Marris model of managerial enterprise; Behavioural model of Cyrt and March.

**Module 2: Distribution**

Neo-classical approach – Marginal productivity theory; Product exhaustion theorem; Elasticity of technical substitution, technical progress and factor shares; Theory of distribution in imperfect product and factor markets; Determination of rent, wages, interest and profit; Macro theories of distribution – Ricardian, Marxian, Kalecki and Kaldor's.

**Module 3: Welfare Economics**

Pigovian welfare economics; Pareto optimal conditions; Value judgement; Social welfare function; Compensation principle; Inability to obtain optimum welfare – Imperfections, market failure, decreasing costs, uncertainty and non-existent and incomplete markets; Theory of Second Best – Arrow's impossibility theorem; Rawl's theory of justice, equity-efficiency trade off.

**Module 4: General Equilibrium**

Partial and general equilibrium; Walrasian excess demand and input-output approaches to general equilibrium existence - stability and uniqueness of equilibrium - general equilibrium, coalitions and monopolies; Production without consumption – One sector model, homogeneous functions, income distribution; Production without consumption – Two sector model, relationship between relative commodity and factor prices (Stolper-Samuelson theorem), relationship between output mix and real factor prices, effect of changes in factor supply in closed economy (Rybczynski theorem), production and consumption.

**Module 5: Economics of Uncertainty**

Individual behaviour towards risk, expected utility and certainty equivalence approaches, risk and risk aversion – Sensitivity analysis, gambling and insurance, the economics of insurance, cost and risk, risk pooling and risk spreading, mean-variance analysis and portfolio selection, optimal consumption under uncertainty, competitive firm under uncertainty, factor demand under price uncertainty. The economics of search – Different models, the efficient market hypothesis, stochastic models of inventory demand; Market with incomplete information, search and transaction cost. The economics of information.

**REFERENCE :**

1. Koutsoyiannis, A. (2000) Modern Microeconomics, (2<sup>nd</sup> Edition), Macmillan Press, London.
2. Layard, P.R.G. and Walters, A.W. (1978), Microeconomic Theory, McGrawHill, London.
3. Stigler, G.(1996) Theory of Price (4<sup>th</sup> edition), PHI, New Delhi.
4. Sen,A. (1999), Microeconomics: Theory and Application, Oxford University Press, New Delhi.
5. Varian, H.R (2000), Microeconomic Analysis, W.W. Norton, New York.
6. Baumol, W.J., (1995) Economic Theory and operations Analysis, Prentice Hall, New York.
7. B.S.Pindyck and D.Rubinfeld, (1993) Microeconomics, East West Press, London.
8. Nicholson Walter, (1978), Microeconomic Theory, The Drydon Press, London.
- 9.. E.K. Browning and J.M.Browning (1998), Microeconomics: Theory and Applications, Kalyani Publisher, New Delhi.

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**II SEMESTER (SYLLABUS)**

**ECON 422 – MACRO ECONOMICS-II - 3 credits (Hard core)**

**Module 1 :**

Walrasian and Non-Walrasian approaches in Macroeconomics – the classical Heritage – Says’ Equality and Says’ Identity – Walras’ Law – Walrasian system – Patinkin and Real Balance Effect – Arrow – Debreu model – Overlapping Generation Model of Samuelson – Cash in Advance Model of Clower.

**Module 2 :**

Post Keynesian demand for money theories – inventory theory of Baumol – portfolio balance theory of Tobin – Restatement of the quantity theory as a theory of demand for money by Friedman – Supply of money theories – Money multiplier model – Behavioural model of money supply – Endogenous money supply theory.

**Module 3 :**

Inflation and unemployment – The Phillips relation – The expectation augmented Philips curve – The natural rate of unemployment hypothesis – Adaptive expectation hypothesis. – Theories of business cycles – Multiplier – Accelerator interaction model – Real business cycle theory – The political business cycle model of Nordhaus.

**Module 4 :**

Re-interpretation of Keynes by Clower and Leijonhufvud – The dual decision hypothesis – Rationing models of Barrow, Grossman and Malinvaud – Monetarist contributions – An overview of major themes in Monetarism – The new classical macroeconomics – Rational expectation hypothesis – Lucas’ surprise supply function – The inter-temporal substitution model – Policy ineffectiveness argument – The Lucas critique – Post Keynesian Macroeconomics – Basic themes – The historical time concept- Kalecki’s pricing theory – The New Keynesian school – Micro foundations of macroeconomics – Small menu cost model – Implicit wage contract model – Efficient wage theories – Insider-Outsider model – The new growth or endogenous growth theory.

**REFERENCE :**

1. Merin K Lewin and Paul D Mizen (2000), Monetary Economics, OUP, New York.
2. Jagadish Handa (2000), Monetary Economics, Routledge, London.
3. R.W.Clower (1969), Monetary Theory, Penguin, London.
4. Brian Snowdown and Howard Vane (1997), A Macroeconomics Reader, Routledge, London.

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**II SEMESTER (SYLLABUS)**

**ECON 423 – BASIC ECONOMETRICS - 4 credits (Hard core)**

**Module 1: Basic Econometrics**

Nature, meaning and scope of econometrics; Simple and general linear regression model – assumptions, Estimation (through OLS approach) and properties of estimators; Gauss-Markov theorem; Concepts and derivation of R<sup>2</sup> and adjusted R<sup>2</sup>; Concept and analysis of variance approach and its application in regression analysis.

**Module 2: Problems in Regression Analysis**

Problems of heteroscedasticity; Multicollinearity and auto-correlation; Problems of specification error; Error in measurement.

**Module 3: Regressions with Qualitative Independent Variables**

Dummy variable technique – Testing structural stability of regression models comparing to regressions, interaction effects, seasonal analysis, piece wise linear regression, use of dummy variables, regression with dummy dependent variables; The LPM, Logit, Probit and Tobit models – applications.

**Module 4: Dynamic Econometric Model**

Auto-regressive and distributed lag models – Koyak model, partial adjustment model, adaptive expectations; Instrumental variables, Problem of auto-correlation – application; Almon approach to distributed lag models; Causality test, Granger test and Sim's test.

**Module 5: Simultaneous Equation Models**

Introduction and examples; The simultaneous equation bias and inconsistency of OLS estimators; The identification problem; Rules of identification – order and rank conditions; Methods of estimating simultaneous equation system; Recursive methods and OLS; Indirect least squares (ILS); 2SLS, 3SLS and ML methods – applications.

**REFERENCES :**

- 1 Koutsoyiannis, A.(1977), Theory of Econometrics, Macmillan Press, London.
- 2 Amemiya, T. (1985), Advanced Econometrics, Harvard University Press, London.

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**II SEMESTER (SYLLABUS)**

**ECON 424 – PUBLIC ECONOMICS - 4 credits (Hard core)**

**Module 1: Rationale for Public Policy**

Allocation of resources – Provision of public goods; Voluntary exchange models; Impossibility of decentralized provision of public goods (contributions of Samuelson and Musgrave); Demand revealing schemes for public goods – Tiebout model, theory of club goods; Stabilization Policy – Keynesian case of stabilization policy; Uncertainty and expectations; Failure of inter temporal markets; Liquidity preference; Social goals; Poverty alleviation; Provision of infrastructural facilities, removing distributional inequalities and regional imbalances.

**Module 2: Public Expenditure**

Wagner's law of increasing state activities; Wiseman-Peacock hypothesis; Pure theory of public expenditure; Structure and growth of public expenditure; Criteria for public investment; Social cost-benefit analysis – Project evaluation; Estimation of costs, discount rate; Reforms in expenditure budgeting; Programme budgeting and Zero base budgeting.

**Module 3: Taxation**

Theory of incidence; Alternative concepts of incidence – Allocative and equity aspects of individual taxes; Benefit and ability to pay approaches; Theory of optimal taxation; Excess burden of taxes; Trade-off between equity and efficiency; Theory of measurement of dead weight losses; The problem of double taxation.

**Module 4: Public Debt**

Classical view of public debt; Compensatory aspect of debt policy; Burden of public debt; Sources of public debt; Debt through created money; Public borrowings and price level; Crowding out of private investment and activity; Principles of debt management and repayment.

**Module 5: Fiscal Policy**

Objectives of fiscal policy – full employment, anti-inflation, economic growth, redistribution of income and wealth; Interdependence of fiscal and monetary policies; Budgetary deficit and its implications; Fiscal policy for stabilization – Automatic vs discretionary stabilization; Alternative measures of resource mobilization and their impact on growth, distribution and prices; Balanced budget multiplier.

**Module 6: Fiscal Federalism**

Principles of multi-unit finance; Fiscal federalism in India; Vertical and horizontal imbalances; Assignment of function and sources of revenue; Constitutional provisions; Finance Commission; Devolution of resources and grants; Theory of grants; Resource transfer from Union to States – Criteria for transfer of resources; Centre-State financial relations in India; Problems of states' resources and indebtedness; Transfer of resources from Union and States to local bodies.

## REFERENCES

1. Goode, R.(1986), Government Finance in Developing Countries, TMH, New Delhi.
2. Jha. R.(1998), Modern Public Economics, Routledge, London.
3. Musgrave, R.A. and P.B.Musgrave (1976), Public Finance in Theory and Practice, McGraw Hill, Kogakusha, Tokyo.
4. Atkinson, A.B. and J.E. Siglitz (1980), Lectures on Public Economics, TMH, New York.
5. Herber, B.P. (1967), Modern Public Finance, Richard D.Irwin, Homewood.

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**II SEMESTER (SYLLABUS)**  
**ECON 427 – FINANCIAL ECONOMICS - 3 credits (Hard core)**

**Module 1: Expected Utility Theory and Choice under Uncertainty**

The Economic properties of utility functions – concept & measures to model attitudes towards risk – Expected utility maximization – Risk aversion – Motivation – First order stochastic dominance – Second order stochastic dominance – Stochastic dominance Vs dominance- risk: Risk versus return: Mean-variance analysis.

**Module 2: Risk: Risk vers Return and VaR: Value at Risk**

Trade-off between risk and return (the Markowitz model) – Efficient frontier of risky assets – Vaue at risk of a portfolio – Computing VaR-Definition of VaR.

**Module 3: Capital Asset Pricing Model and Arbitrage Pricing Model**

Security market line – Standard and Zero Beta CAPM – Empirical evidence on CAPM – Deriving APT – Measuring performance using APT.

**Module 4: Term Structure of Interest Rate**

Drawing the term structure – Methods of computing the yield to maturity – Market expectations theory of the term structure – yield curve analysis - Liquidity preference theory of the term structure – Market segmentations theory of the term structure – Estimating the expected return of a bond for portfolio analysis.

**Module 5: Models of Securities Prices in Financial Markets**

Single period models – Asset dynamics – Portfolio and Wealth process – Multi-period models – General model specifications – Cox-Ross Rubinstein Binomial model – Continuous time models – Simple facts about the Merton Black-Scholes model – Brownian Motion process – Diffusion process – Stochastic Integrals – It<sup>o</sup>'s rule.

**Module 6: Efficient Market Hypothesis (EMH)**

Three forms of EMH and their implications for financial markets – Random walk – Martingales.

**Module 7: Volatility in Financial Markets**

Causes of Volatility - Volatility testing.

**Module 8: Option: Features and Price Bounds**

Basic taxonomy of option analysis – Payoff structure of an option – Price Bounds for Option (depending on their type, the time left to expiry and their strike price) – put – call parity relationship.

## **Module 9: Option : Pricing theory**

Risk Neutral pricing - basic notion of Binomial - Multinomial - Black-Scholes Pricing - What the hedge ratio ('Delta') - Gamma – Vega Theta - Rho means.

### **REFERENCES :**

1. D.G. Luenberger (1998), Investment Science, Oxford University Press, New York.
2. J. Cvitanic and Zapatero F (2004), Introduction to Economics and Mathematics of Financial Markets, MIT Press, Cambridge, London.
3. E. J. Elton and M.J. Gruber, Modern Portfolio Theory and Investment Analysis, Wiley, London.
4. Z. Bodie, A. Kane and A.J. Marcus (2004), Investments, Irwin McGraw – Hill, London.
5. R.A. Haugen (2001), Modern Investment Theory, Fifth Edition, Prentice Hall, New Jersey.
6. J.C. Hull (2004), Futures and Option Markets, Prentice-Hall, New Jersey.

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**III SEMESTER (SYLLABUS)**

**ECON 511 – INTERNATIONAL TRADE AND PAYMENT - 4 credits (Hard core)**

**Module 1: Theory of International Trade**

The pure theory of international trade – Theories of absolute advantage, comparative advantage and opportunity costs - Modern theory of international trade; Theorem of factor price equalization; Empirical testing of theory of absolute cost and comparative cost – Heckscher-Ohlin theory of trade - Kravis and Linder theory of trade; Role of dynamic factors, i.e., changes in tastes, technology and factor endowments in explaining the emergence of trade; The Rybczynski theorem – Concept and policy implications of immiserizing growth; Causes of emergence and measurement of intra-industry trade and its impact on developing economies.

**Module 2: Measurement of Gains and Theory of Interventions**

Measurement of gains from trade and their distribution; Concepts of terms of trade, their uses and limitations; Hypothesis of secular deterioration of terms of trade, its empirical relevance and policy implications for less developed countries; Trade as an engine of economic growth; Welfare implications – Empirical evidence and policy issues; Theory of interventions (Tariffs, Quotas and Non Tariff Barriers); Economic effects of tariffs and quotas on national income, output, employment, terms of trade, income distribution; Balance of payments on trading partners both in partial and general equilibrium analysis; The political economy of non-tariff barriers and their implications; Nominal, effective and optimum rates of tariffs – their measurement, impact and welfare implications; Trade under imperfectly competitive market.

**Module 3: Balance of Payments**

Meaning and components of balance of payments; Equilibrium and disequilibrium in the balance of payments; Process of adjustment under systems of gold standard, fixed exchange rates and flexible exchange rates; Expenditure-reducing and expenditure-switching policies and direct controls for adjustment; Policies for achieving internal and external equilibrium simultaneously under alternative exchange rate regimes; A critical review of the monetary approach to the theory of balance of payments adjustment; Foreign trade multiplier with and without foreign repercussions and determination of national income and output; Relative merits and demerits of fixed and flexible exchange rates in the context of growth and development in developing countries.



#### **Module 4: The theory of Regional Blocks**

Forms of economic cooperation; Reforms for the emergence of trading blocks at the global level; Static and dynamic effects of a customs union and free trade areas; Rationale and economic progress of SAARC/SAPTA and ASEAN regions; Problems and prospects of forming a customs union in the Asian region; European Union; Rise and fall of gold standard and Bretton-Woods system; Need, adequacy and determinants of international reserves; Conditionality clause of IMF; International Monetary System; India and developing countries; Theory of short-term capital movements and East Asian crisis; Functions of GATT/WTO (TRIPS/TRIMS), UNCTAD, IMF, World Bank and Asian Development Bank – Their achievements and failures.

#### **Module 5: Trade policies in India**

Trade problems and trade policies in India during the last five decades; Recent changes in the direction and composition of trade and their implications; Rationale and impact of trade reforms since 1991 on balance of payments, employment and growth. Problems of India's international debt; Working and regulations of MNCs in India; Instruments of export promotion and recent import and export policies and agenda for future.

#### **REFERENCES :**

01. Bhagwati. J (1981), International Trade, Cambridge University Press, London
02. Carbough, R.J. (1999), International Economics.
03. Dana, M.S. (2000), International Economics, Routledge Publications, London.
04. Salvatore, D. (1997), International Economics, PHI, New York.

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**III SEMESTER (SYLLABUS)**

**ECON 512 – APPLIED ECONOMETRICS - 4 credits (Hard core)**

**Module 1:**

Inference – Problems in non-experimental science – Criteria for model specification.

**Module 2:**

Consumer behaviour – Derivation of demand functions and theoretical restrictions – Specification and estimation of demand functions – Elasticities – Engel curve.

**Module 3:**

Producer's behaviour: Specification and estimation of production function – Cobb-Douglas, Translog and CES production function – Measurement of partial and total factor productivity.

**Module 4:**

Identification – Market model – Simple Keynesian model – Estimation and testing.

**Module 5:**

Economic forecasting – Methods of forecasting – Limitations.

**Module 6:**

Application of econometric tool in verification of selected economic topics – Wagner's law of public expenditure – Various methods of estimation of elasticities in taxation – Demand for money – Inflation–output trade off – Export led growth strategy hypothesis – Inter-relationship between fertility rate, work participation rate and family planning adoption.

**References:**

1. Raw and Miller. R.L., Applied Econometrics, PHI, Delhi, 1959.
2. AMER.
3. Journal of Quantitative Economics.
4. Koutsoyanis, Econometrics, MacMillan Publishers Ltd., London, 1979.

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**III SEMESTER (SYLLABUS)**

**ECON 513 – COMPUTER APPLICATION IN ECONOMIC ANALYSIS**  
**- 3 credits (Soft core)**

**Module 1 :**

Overview of computer – Basic operating instructions – Describing the data to RATS and Eviews software packages – SPSS – Reading the data – Computing statistics – Displaying the data – Data transformations and creating new series – Graphing the data – Using SRC file in the RATS package.

**Module 2 : Dealing with Data**

The tools – Where are your data now? Missing data – RATS format – Error messages – Familiarity with different data base such as: PROWESS, Capital online, HBS, National Sample Survey Organisation reports, Census data – National Health and Family Welfare reports.

**Module 3 : Graphics**

Displaying graphs on the screen – Saving and operating graphs – Printing graphs – Labeling graphs – Overlay (two scale) graphs – Multiple graphs on a page.

**Module 4 : Scalars, Matrices and Functions**

Working with scalars – Getting information from RATS – The RATS Data types – Basic Data types – The Aggregate Data types – Matrix calculations.

**Module 5 : Linear Regression**

Annotated regression output – Extensions to linear regression; A framework – Heteroscedasticity – Serial correlation – Example 5.1 – Instrumental variables – Example 5.2. Polynomial distributed lags – Example 5.3. Choosing lag length information criteria – Example 5.4. Grunfeld's investment equations; Use of SUR.

**Module 6 : Hypothesis Testing**

Example 6.1. - Testing for Heteroscedasticity – Serial correlation – Granger – Sims causality/Exogeneity tests – Chow or structural stability tests.

**Module 7 : Non Linear Estimation**

General principles and problems – Newton-Raphson and related methods – Setting up your model; Non-linear least squares/Two stage least squares; Example 7.1. Generalized instrumental variables.

**Module 8 : Introduction to Forecasting**

Introduction – Forecast performance – Univariate forecasting – Box-Jenkins models – ARIMA procedures.

**Module 9 : Vector autogressions**

Setting up a VAR – Example 9.1. Testing lag length – Graphing an impulse response function.

**Module 10 : Special Models and Techniques**

ARCH and related models – The standard models – Trouble shooting ARCH/GARCH models – EGARCH – GJR.

**Module 11 : Cross Section and Panel Data**

Probit and Logit models – Example 11.1. Panel and related data sets.

**REFERENCES :**

01. Applied Econometric Time Series (1995), John Wiley & Sons, New York.
02. Box, G.E.P. and Jenkins, G.M. (1976), Time series Analysis, Forecasting and Control, Holden Day, San Francisco.
03. Hamilton. J. (1994), Time Series Analysis, Princeton University, Princeton.

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**III SEMESTER (SYLLABUS)**

**ECON 514 – RESEARCH METHODOLOGY - 3 credits (Hard core)**

**Module 1 :**

Meaning of research – Importance – Objectives of research – Formulation of research problem – Formulation of hypothesis – Research design – Features of good research design – Pure and applied research – Evaluation of research – Research in Social Sciences.

**Module 2 :**

Facts, theories and concepts in social science research – Deductive and inductive methods – stages of scientific method – Case study method – Schedule and questionnaire – Principle underlying construction of a questionnaire – Tabulation – Diagrammatical representation.

**Module 3 :**

Survey research and scaling – Types of survey – Selecting the survey method – Construction the survey method.

**Module 4 :**

Hypothesis formulation – testing-t, Chi-square test and Normal distribution test – ANOVA

**Module 5 :**

Report writing – Steps – Bibliography – Qualities of a good thesis.

**REFERENCES :**

1. C.R. Kothari, Research Methodology, Wiley Eastern Ltd., New Delhi, 2002.
2. W.G. Cochran, Sampling Techniques, John Wiley, New York, 1963.
3. W.J. Goode and P.K. Hatt, Methods in Social Research, McGraw Hill, New York, 1952.
4. T.S. Wilkinson and P.L. Bhandarkar, Methodology and Techniques of Social Research, Himalaya Publishing House, Bombay, 1979.

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**III SEMESTER (SYLLABUS)**

**ECON 527 – ECONOMICS OF INFRASTRUCTURE - 3 credits (Hard core)**

**Module 1 :**

Infrastructure and economic development – Infrastructure as a public good; Social and physical infrastructure; Special characteristics of public utilities. The peak load, Off load problem; Dual principle controversy; Economies of scale of joint supply; Marginal cost pricing vs. other methods of pricing in public utilities; Cross subsidization – free prices, equity and efficiency.

**Module 2 :**

The structure of transport costs and location of economic activities; Demand for transport – Models of freight and passenger demand; Model choice; Cost functions in the transport sector; Principle of pricing; Special problems of individuals modes of transport; Inter-model condition in the Indian situation.

**Module 3 :**

Rate making in telephone utilities; Principles of decreasing costs in telephone industry – Characteristics of postal services; Criteria for fixation of postal rates; Measurement of standards of service in telephone and postal utilities.

**Module 4 :**

Primacy of energy in the process of economic development; Factors determining demand for energy; Effects of energy shortages; Energy conservation, renewable and non-conventional sources of energy; Energy modeling; The search for an optimal energy policy in the Indian context.

**Module 5 :**

Bulk supply and pricing of electricity – The relative economics of thermal, hydel and nuclear power plants – The case for a National Power Grid, financing water utilities - Urban and rural water supply; The exploitation of National Gas; Pricing problem.

**Module 6 :**

Organisation and financing of supply of social services; Private vs public sector financing; Recent debate about the fixation of prices of social services; Development of social services in the successive Indian plans.

**Module 7 :**

Education and economic growth; Approaches to educational planning, social demand, rate of return and manpower balance approaches; The case for universal, free, primary education; Structure of higher education and problems of its financing in India; Human resources and human capital development – The issues in education policy; Health dimensions of development - Determinants of health – Poverty, malnutrition, illiteracy and lack of information, Economic dimensions of health care – Demand and supply of health care, Financing of health care and resource constraints - Inequalities in health – Class and gender perspectives; Institutional issues in health care delivery.

**REFERENCES :**

01. National Council of Applied Economic Research, 1996, India Infrastructure Report : Policy Implications for Growth and Welfare, New Delhi.
02. Parikh, K.S. (1999), India Development Report 1999-2000, Oxford, New Delhi.
03. Economics of Infrastructure (1976), Vol.VI, ICSSR, ICSSR.
04. Crew, M.A. and P.R. Kleindorfer (1979), Public Utility Economics, MacMillan, New York.





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### IV SEMESTER (SYLLABUS)

#### ECON 521 – INDIAN ECONOMIC DEVELOPMENT AND POLICY - 4 credits (Hard core)

##### **Module 1: Economic Development and its Determinants**

Approaches to economic development and its measurement – sustainable development; Role of State, market and other institutions; Indicators of development – PQLI, Human Development Index (HDI), gender development indices - Objectives and strategy of planning; Failures and achievements of Plan.

##### **Module 2: Demographic Features, Poverty and Inequality**

Broad demographic features of Indian population; Rural-urban migration; Urbanization and civic amenities; Poverty and Inequality; Energy; Social infrastructure – education and health; Environment; Financing of infrastructure – Financial Institutions.

##### **Module 3: Agriculture and Industry :**

Institutional structure – land reforms in India; Technological change in agriculture – pricing of agricultural inputs and output; Terms of trade between agriculture and industry; Agricultural finance policy; Agricultural marketing and warehousing; Issues in food security – policies for sustainable agriculture - industrial policy; Public sector enterprises and their performance; Problem of sick units in India; Privatisation and disinvestment debate; Growth and pattern of industrialization; Small scale sector; Productivity in industrial sector; Exit policy – issues in labour market reforms; Approaches for employment generation.

##### **Module 4: Public Finances :**

Fiscal federalism – Centre-state financial relations; Finances of central government; Finances of state governments; Parallel economy; Problems relating to fiscal policy; Fiscal sector reforms in India.

##### **Module 5: Money, Banking and Economic Reforms**

Analysis of price behaviour in India; Financial sector reforms; Interest rate policy; Review of monetary policy of RBI; Money and capital markets; Working of SEBI in India; Rationale of internal and external reforms; Globalisation of Indian economy; W.T.O. and its impact on different sectors of the economy; Need for and issues in good governance; Issues in competition and safety nets in Indian economy.

## REFERENCES:

1. Ahluwalia, I. J. and I.M.D. Little (Eds) (1999), India's Economic Reforms and Development, Oxford University Press, New Delhi.
2. Bardhan, P.K. (1999), the Political Economy of Development in India, Oxford University Press, New Delhi.
3. Bawa, R.S. and P.S. Raikhy, (1997), Structural Changes in Indian Economy, Gurunanak Dev University Press, Amritsar.
4. Chakravarty, S.(1987), Development Planning: The Indian Experience, Oxford University Press, New Delhi.
5. Datt. R. (2001), Second Generation Economic Reforms in India, Deep and Deep Publications, New Delhi.

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**IV SEMESTER (SYLLABUS)**

**ECON 522 – REGIONAL ECONOMICS - 3 credits (Hard core)**

**Module 1:**

Objectives and scope of regional economic analysis – Inter-disciplinary aspects of regional economics – The regional economic problems – Causes.

**Module 2:**

Theories of regional economic development: Cumulative causation (Perroux, Myrdal, Hirschman) – Export base theory - Central place theory (Christaller), Sector theory (Colin-Kuznets) - Stage theory (Rostow).

**Module 3:**

Theory of location – Weber’s theory of location – Spatial dispersion of progress – Dispersion of innovation and technical progress – Sectoral growth centres – Area – Urban bias.

**Module 4:**

Regional disparities – Trends in regional income disparities – Inter-state variations of poverty and unemployment – Comparative analysis of industrial development in different states – Agricultural development in different stages.

**Module 5:**

Regional imbalances – Regional economic advantages and regional optimization and financial institution in India – Inter-state disparity and fiscal devaluation in India – Problems of developing the backward area – Regional planning in India during the plan period – Area approach - Integrated overall development – Regional planning in rural India under various plan period.

**REFERENCES:**

1. Richardson (1960), Elements of Regional Economics, Penguin Books, London.
2. Myrdal G (1968), Economic theory and Underdeveloped Regions, Vora, New Delhi.
3. Misra R.P (1974), Regional Development Planning in India, Vikas, New Delhi.
4. Brahmananda, P.R. and Panchmukhi, (2001), Development Experience in the Indian Economy, Bookwell, New Delhi.