M.A. APPLIED ECONOMICS:

PONDICHERRY UNIVERSITY
DEPARTMENT OF ECONOMICS

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


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:


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Module 1:
The origin and development of Macro Economics (Before Keynes, Keynesian revolution, and after Keynes).

Module 2:

Module 3:

Module 4:

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:


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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.
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, movements and movement 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:
PONDICHERRY UNIVERSITY
DEPARTMENT OF ECONOMICS

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:

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:
Module 1 :

Module 2 :

Module 3 :

Module 4 :

REFERENCE :
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 R2 and adjusted R2; 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:

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

Module 1: Expected Utility Theory and Choice under Uncertainty


Module 2: Risk: Risk versus 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


Module 4: Term Structure of Interest Rate


Module 5: Models of Securities Prices in Financial Markets


Module 6: Efficient Market Hypothesis (EMH)

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

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


REFERENCES :

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:

Module 1:
Inference – Problems in non-experimental science – Criteria for model specification.

Module 2:

Module 3:

Module 4:

Module 5:
Economic forecasting – Methods of forecasting – Limitations.

Module 6:

References:
2. AMER.
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

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
Module 9: Vector autoregressions

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

REFERENCES:

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III SEMESTER (SYLLABUS)

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

Module 1:

Module 2:

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:

REFERENCES:
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:

03. Economics of Infrastructure (1976), Vol.VI, ICSSR, ICSSR.
04. Crew, M.A. and P.R. Kleindorfer (1979), Public Utility Economics, MacMillan,
New York.
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:


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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:

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: