

GUJARAT UNIVERSITY
Based on UGC Model Curriculum
M.A. Part - I Economics
(New Course in force from June : 2003)

Paper I : Micro-economics
Paper II : Macro-economics
Paper III A : Quantitative Methods in Economics

OR

Paper III B : Research Methods in Economics

This Paper is compulsory for these students who had taken two Quantitative Economics (Mathematical Economics and Econometrics) papers or two papers of Statistics as first subsidiary in their B.A.

Paper IV : **Optional Papers**

A : Agricultural Economics Paper I

OR

B : Industrial Economics Paper I

OR

C : Mathematical Economics and Econometrics Paper I

OR

D : Managerial Economics Paper I

OR

E : Environmental Economics Paper I

OR

F : Financial Institutions and Markets Paper I

OR

G : Information Technology and Data Analysis Paper I :

M.A. Part I

Paper I : Micro Economic Analysis

Preamble : This paper analyses the economic behaviour of individuals, firms and markets. It is mainly concerned with the objective of equipping the students in a rigorous and comprehensive manner with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm in modern non-profit maximizing framework. The paper also deals with the micro and macro theories of distribution, welfare economics, general equilibrium in closed and open systems and analysis of economic behaviour under uncertainty.

Module 1 : Introduction and Basic Concepts : Basic Economic Problem - Choice and Scarcity; Deductive and Inductive Methods of Analysis; Positive and Normative Economics; Economic Models; Characteristics of Equilibrium and Disequilibrium Systems.

Module 2 : Demand Analysis : Theories of demand - utility; indifference curve (income and substitution effects, Slutsky theorem, compensated demand curve) and their applications; Revealed preference theory; Revision of demand theory by Hicks; Characteristics of goods approach; consumer's choice involving risk; Indirect utility functions (duality theory); Recent developments in demand analysis (pragmatic approach and linear expenditure systems); Elasticities (price, cross, income) of demand - theoretical aspects and empirical estimation; elasticity of supply; Consumer's surplus; Inter-temporal consumption; Recent developments in demand; Elementary theory of price formation - demand and supply equilibrium; Cobweb theorem; lagged adjustment in interrelated markets.

Module 3 : Theory of Production and Costs : 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 function; Traditional and modern theories of costs - Empirical evidence; Derivation of cost functions from production functions; derived demand for factors.

Module 4 : Price and Output Determination, Market structure and its determinants : 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 the 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 basing point price system) models; Price and output determination under monopsony and bilateral monopoly; Workable competition - Structure, conduct and performance norms.

Module 5 : 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; Full cost pricing rule; Bain's limit pricing theory and its recent developments including Sylos-Labini's model; Behavioural model of the firm; Game theoretic models.

Module 6 : 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 7 : 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 8 : General Equilibrium : Partial and general equilibrium, Walrasian excess demand and input-output approaches to general equilibrium, existence, stability and uniqueness of equilibrium and 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 9 : 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 costs, the economics of information.

Basic Reading List :

- Kreps, David M. (1990), *A Course in Microeconomic Theory*, Princeton University Press, Princeton.
- Koutsoyiannis, A. (1979), *Modern Microeconomics*, (2nd Edition), Macmillan Press, London
- Layard, P.R.G. and A. W. Walters (1978), *Microeconomic Theory*, McGraw Hill, New York.
- Sen, A. (1999), *Microeconomics : Theory and Applications*, Oxford University Press, New Delhi.
- Stigler, G. (1996), *Theory of Price*, (4th Edition), Prentice Hall of India, New Delhi.
- Varian, H. (2000), *Microeconomic Analysis*, W. W. Norton, New York.

Additional Reading List :

Module 1 :

- Baumol, W. J. (1982), *Economic Theory and Operations Analysis*, Prentice Hall of India, New Delhi.
- Hirshleifer, J. and A. Glazer (1997), *Price Theory and Applications*, Prentice Hall of India, New Delhi.

Module 2 :

- Baumol, W. J. (1982), *Economic Theory and Operations Analysis*, Prentice Hall of India, New Delhi.
- Green, H.A.G. (1971), *Consumer Theory*, Penguin, Harmondsworth.
- Henderson, J. M. and R. E. Quandt (1980), *Microeconomic Theory : A Mathematical Approach*. McGraw Hill, New Delhi.
- Hirshleifer, J. and A. Glazer (1997), *Price Theory and Applications*, Prentice Hall of India, New Delhi.

Module 3 :

- Da Costa, G. C. (1980), *Production, Prices and Distribution*, Tata McGraw Hill, New Delhi.
- Healthfields and Wibe (1987), *An Introduction to Cost and Production Functions*, Macmillan, London.
- Hirshleifer, J. and A. Glazer (1997), *Price Theory and Applications*, Prentice Hall of India, New Delhi.

Module 4 :

- Archibald, G. C. (Ed.) (1971), *Theory of the Firm*, Penguin, Harmondsworth.
- Da Costa, G. C. (1980), *Production, Prices and Distribution*, Tata McGraw Hill, New Delhi.
- Hirshleifer, J. and A. Glazer (1997), *Price Theory and Applications*, Prentice Hall of India, New Delhi.

Module 5 :

- Archibald, G. C. (Ed.) (1971), *Theory of the Firm*, Penguin, Harmondsworth.
- Bain, J. (1958), *Barriers to New Competition*, Harvard University Press, Harvard.

Module 6 :

- Bronfenbrenner, M. (1979), *Income Distribution Theory*, Macmillan, London.
- Hirshleifer, J. and A. Glazer (1997), *Price Theory and Applications*, Prentice Hall of India, New Delhi.

Module 7 :

- Broadway, R. W. and N. Bruce (1984), *Welfare Economics*, Basil Blackwell, London.
- Graff, J. De V. (1957), *Theoretical Welfare Economics*, Cambridge University Press, Cambridge.
- Henderson, J. M. and R. E. Quandt (1980), *Microeconomic Theory : A Mathematical Approach*. McGraw Hill, New Delhi.
- Mishan, E. J. (1969), *Welfare Economics : An Assessment*, North Holland, Amsterdam.

Module 8 :

- Da Costa, G. C. (1980), *Production, Prices and Distribution*, Tata McGraw Hill, New Delhi.
- Green, H. and V. Walsh (1975), *Classical and Neo-classical Theories of General Equilibrium*, Oxford University Press, London.
- Hansen, B. (1970), *A Survey of General Equilibrium Systems*, McGraw Hill, New York.
- Henderson, J. M. and R. E. Quandt (1980), *Microeconomic Theory : A Mathematical Approach*. McGraw Hill, New Delhi.
- Quirk, J. and R. Saposnik (1968), *Introduction to General Equilibrium Theory and Welfare Economics*, McGraw Hill, New York.
- Weintrub, E. R. (1974), *General Equilibrium Theory*, Macmillan, London.

Module 9 :

- Arrow, K. J. and M. D. Intrilligator (Eds.) (1981), *Handbook of Mathematical Economics*, Vol. I North Holland, Amsterdam.
- Borch, K. H. (1968), *The Economics of Uncertainty*, Princeton University Press, Princeton.
- Diamond and Rothschild (Eds.) (1978), *Uncertainty in Economics*, Academic Press, New York.

M.A. Part I

Paper II : Macroeconomic Analysis

Preamble : Macroeconomics or aggregative economic analysis establishes the functional relationship between the large aggregates. The aggregate analysis has assumed such a great significance in recent times that a prior understanding of macroeconomic theoretical structure is considered essential for the proper comprehension of the different issues and policies. Macroeconomics now is not only a scientific method of analysis; but also a body of empirical economic knowledge.

The paper entitled “Macro Economic Analysis” equips the students at the postgraduate level to understand systemic facts and latest theoretical developments for empirical analysis.

Module 1 : National Income and Accounts : Circular Flow of Income in two, three and four sector economy; different forms of national income accounting - Social accounting, input-output accounting, flow of funds accounting and balance of payments accounting.

Module 2 : Introduction to Macroeconomics; Classical, Neo-classical and Keynesian Macroeconomic Theories.

Module 3 : Consumption Function : Keynes’ psychological law of consumption - implications of the law; short-run and long - run consumption function; Empirical evidence on consumption function; income consumption relationship - absolute income, relative income, life cycle and permanent income hypotheses.

Module 4 : Investment Function : Marginal efficiency of investment and level of investment; Marginal efficiency of capital and investment - long run and short run; The accelerator and investment behaviour impact of inflation; influence of policy measures on investment - empirical evidence.

Module 5 : Supply of Money : Financial intermediation - a mechanistic model of bank deposit determination; A behavioural model of money supply determination, a demand determined money supply process; RBI approach to money supply; High powered money and money multiplier, budget deficits and money supply; money supply and open economy; control of money supply.

Module 6 : Demand for Money : Classical approach to demand for money - Quantity theory approach, Fisher’s equation, Cambridge quantity theory, Keynes’s liquidity preference approach, transaction, precautionary and speculative demand for money - aggregate demand for money. Post - Keynesian approaches to Demand for Money - Patinkin and the Real Balance effect. Approaches of Baumol and Tobin; Friedman and the Modern PTM, Crisis in Keynesian economics and the revival of monetarism.

Module 7 : Neo-classical and Keynesian Synthesis : Neo-classical and Keynesian views on interest and income; The IS-LM model, Derivation of IS and LM curves, and stability; Extension of IS-LM model with government sector; Relative effectiveness of monetary and fiscal policies, Extension of IS-LM models with labour market and flexible prices.

Module 8 : Theory of Inflation : Classical, Keynesian and Monetarist approaches to inflation, Structuralist theory of inflation; Philips curve analysis - Short run and long run Philips curve; Samuelson and Solow - the natural rate of unemployment hypothesis; Tobin’s modified Philips curve; Adaptive expectations and rational expectations; Policies to control inflation.

Module 9 : Business Cycles : Theories of Schumpeter, Kaldor, Samuelson and Hicks, Goodwin’s model; Control of business cycles - relative efficiency of monetary and fiscal policies.

Module 10 : New Classical Macroeconomics : The new classical critique of micro foundations, the new classical approach; Policy implications of new classical approach - empirical evidence.

Basic Reading List :

- Ackley, G. (1978), *Macroeconomics : Theory and Policy*, Macmillan, New York.
- Blackhouse, R. and A. Salansi (Eds.) (2000), *Macroeconomics and the Real World* (2 Vols.), Oxford University Press, London.
- Branson, W. A. (1989), *Microeconomic Theory and Policy*, (3rd Edition), Harper and Row, New York.
- Dornbusch, R. and F. Stanley (1997), *Macroeconomics*, McGraw Hill, Inc., New York.
- Hall, R. E. and J. B. Taylor (1986), *Macroeconomics*, W. W., Norton, New York.
- Heijdra, B. J. and V. P. Fredericck (2001), *Foundations of Modern Macroeconomics*, Oxford

- Jha, R. (1991), *Contemporary Macroeconomic Theory and Policy*, Wiley Eastern Ltd., New Delhi.
- Romer, D. L. (1996), *Advanced Macroeconomics*, McGraw Hill Company Ltd., New York.
- Scarfe, B. L. (1977), *Cycles, Growth and Inflation*, McGraw Hill, New York.
- Shapiro, E. (1996), *Macroeconomic Analysis*, Galgotia Publications, New Delhi.
- Surry, M. J. C. (Ed.), *Macroeconomic Themes*, Oxford University Press, Oxford.

Additional Reading List :

Module 1 :

- Edey, M. and A. T. Peacock (1967), *National Income and Social Accounts*, Hutchinson University Library, London.
- Powelson, J. P. (1960), *National Income and Flow of Funds Analysis*, McGraw Hill, New York.
- Rao, V. K. R. V. (1983), *India's National Income : 1950 to 1980*, Sage Publications, New Delhi.
- Ruggles, R. and N. Ruggles (1956), *National Income Accounts and Income Analysis*, McGraw Hill, New York.
- United Nations (1974), *Year Book of National Account Statistics*.

Module 2 :

- McConnel C. R. and H. C. Gupta (1987), *Introduction to Macroeconomics*, Tata McGraw Hill, New Delhi.
- Gupta G. S. (2000), *Macroeconomics*, Tata McGraw Hill, New Delhi.
- Froyen, *Macroeconomic Theory and Practice*.
- Vaish M. C., *Macroeconomic Theory*.

Module 3 :

- Duesenberry, J. S. (1949), *Income Saving and the Theory of Consumer Behaviour*, Harvard University Press, Harvard.
- Friedman, M. (1957), *The Theory of Consumption Function*, Princeton University Press, Princeton.
- Keynes, J. M. (1936), *The General Theory of Employment, Interest and Money*, Macmillan, London.
- Mueller, M. G. (1966), *Readings in Macroeconomics*, Holt Rinehard and Winston New York.

Module 4 :

- Gordon R. and S. G. Harris (1988), *Macroeconomics*, Addison Wesley.
- Culbertson. J. M. (1968), *Macroeconomic Theory and Stabilization Policy*, McGraw Hill, Kogenkosh, Tokyo.

Module 5 :

- Chakravarty, S. C. (1985), *Report of the Committee to Review the Working of the Monetary System*, Reserve Bank of India, Bombay.
- Gupta, S. B. (1995), *Monetary Planning in India*, Oxford University Press, New Delhi.
- Gurley, J. and E. S. Shaw (1960), *Money in a Theory of Finance*. Brookings Institution, Washington.
- Mckinen, G. E. (1976), *Money, The Price Level and Interest Rates*, Prentice Hall of India, New Delhi.
- Redy, Y. V. (2000), *A Review of Monetary and Financial Sector Refoms in India—A Central Banker's Perspective*, UBSPD, New Delhi.

Module 6 :

- Friedman, M. (1956), *Studies in the Quantity Theory of Money*, The University of Chicago Press, Chicago.
- Keynes, J. M. (1936), *The General Theory of Employment, Interest, and Money*, Macmillan, London.
- Laidler, D. E. W. (1977), *Demand for Money : Theory and Evidence*, Dum-Don Valley, New York.
- Mckinen, G. E. (1978), *Money, The Price Level and Interest Rates*, Prentice Hall of India, New Delhi.

Module 7 :

- Leijonhufvud, A. (1969), *On Keynesian Economics and Economics of Keynes*, Oxford University

- Levacic, R. and A. Rebman (1986), *Macroeconomics : An Introduction to Keynesian and Neo-classical Controversies*, Macmillan, London.
- Mankiw, N. G. and D. Romer (Eds.) (1991), *New Keynesian Economics*, (2 Vols.), MIT Press, Cambridge.
- Rakshit, M. (1998), *Studies in the Macroeconomics of Developing Countries*, Oxford University Press, New Delhi.
- Friedman, M. (1956), *Studies in the Quantity Theory of Money*, The University of Chicago Press, Chicago.
- Hicks, J. R. (1974), *The Crisis in Keynesian Economics*, Oxford University Press, New Delhi.
- Jha R. (1999), *Contemporary Macroeconomic Theory and Policy*, New Age International (P.) Ltd., New Delhi.
- Laidler, D. E. W. (1977), *Demand for Money : Theory and Evidence*, Dum-Don Valley, New York.
- Leijonhufvud, A. (1968), *On Keynesian Economics and Economics of Keynes*, Oxford University Press, London.
- Patinkin, D. (1965), *Money, Interest and Prices*, Harper and Row, New York.

Module 8 :

- Frisch, H. (1983), *Theories of Inflation*, Cambridge University Press, Cambridge.
- Hagger, A. J. (1977), *Inflation : Theory and Policy*, Macmillan, London.
- Hudson, J. (1982), *Inflation : A Theoretical Survey and Synthesis*, George Allen and Unwin, London.
- Sheffrin S. M. (1996), *Rational Expectations*, Cambridge University Press, Cambridge.

Module 9 :

- Gordon, R. A. (1961), *Busines Fluctations*, Harper and Row.
- Gordon R. A. and L. R. Klein (Eds.), (1965), *Readings in Busines Cycles*, Irwin, Homewood.
- Hicks, J. R. (1950), *A Contribution to the Theory of Trade Cycles*, Clarendon Press, Oxford.
- Lucas, R. (1981), *Studies in Business Cycle Theory*, M.I.T. Press, Cambridge, Masscechussets.

Module 10 :

- Taylor L. (1983), *Structuralist Macroeconomics*, Basic Books, New Longman.
- Turnovsky, S. J. (1977), *Macroeconomic Analysis and Stabilization Policy*, Cambridge University Press, Cambridge.

M.A. Part-I

Paper III (A)—Quantitative Methods

Preamble : The main objective of this paper is to train the students to use the techniques of mathematical and statistical analysis, which are commonly applied to understand and analyze economic problems. The emphasis of this paper is on understanding economic concepts with the help of mathematical methods rather than learning mathematics itself. Hence in this paper a student will be initiated into various economic concepts, which are amenable to mathematical treatment. The paper also deals with simple tools and techniques, which will help a student in data collection, presentation, analysis and drawing inferences about various statistical hypotheses.

Module 1 : Mathematical Methods 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 functions; 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; 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 2 : Mathematical Methods 2 : 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; Difference equations—Solution of first order and second order difference equations; Applications in trade cycle models; Growth models and lagged market equilibrium models.

Module 3 : Mathematical Methods 3 : 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 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.

Module 4 : Statistical Methods 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 the lines of regression; Standard error of estimate; Partial and multiple correlation and regression (applications only); Methods of estimation of non-linear equations—parabolic, exponential, geometric, modified exponential, Gompertz and logistic relationships.

Module 5 : Statistical Methods 2 : Deterministic and non-deterministic experiments; Various types of events—classical and empirical definitions of probability; Laws of addition and multiplication; 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; Properties (without derivations) of Binomial, Poisson and Normal distributions.

Module 6 : Statistical Methods 3 : Basic concept of sampling—random and non-random sampling; Simple random; stratified random and p.p.s. sampling; Concept of an estimator and its sampling distribution; Desirable properties of an estimator; Formulation of statistical hypotheses—Null and alternative; Goodness of fit; Confidence intervals and level of significance; Hypothesis testing based on Z, t, χ^2 (Chi-square) and F tests; Type 1 and Type 2 errors.

Basic Reading List :

- Allen, R. G. D. (1974), *Mathematical Analysis for Economists*; Macmillan Press and ELBS, London.
- Chiang, A. C. (1986), *Fundamental Methods of Mathematical Economics*, McGraw Hill, New York.
- Gupta, S. C. (1993), *Fundamental of Applied Statistics*, S. Chand & Sons, New Delhi.
- Handry, A. T. (1999), *Operations Research*, Prentice Hall of Inca. New Delhi.
- Speigal, M. R. (1992), *Theory and Problems of Statistics*, McGraw Hill Book Co., London.
- Taha, H. A. (1997), *Operations Research : An Introduction* (5th Edition), Prentice Hall of India Pvt. Ltd. New Delhi.
- Yamane, Taro (1975), *Mathematics for Economists*, Prentics Hall of India, New Delhi.

Additional Reading List :

Module 1 :

- Baumol, W. J. (1984), *Economic Theory and Operations Analysis*, Prentice Hall, Englewood Cliffs, New Jersey.
- Monga, G. S. (1972), *Mathematics and Statistics for Economics*, Vikas Publishing House, New Delhi.
- Vygodsky, G. S. (1971), *Mathematical Handbook*, (Higher Mathematics), Mir Publishers, Moscow.

Module 2 :

- Mathur, P. N. and R. Bharadwaj (Eds.) (1967), *Economic Analysis in Input-Output Research*, Input-Output Research Association of India, Pune.

Module 3 :

- Hadley, G. (1962), *Linear Programming*, Addison Wesley Publishing Co. Massachusetts.
- Kothari, C. R. (1992), *An Introduction to Operations Research*, Vikas Publishing House, New Delhi.

— Mustafi, C. K. (1992), *Operations Research : Methods and Practice*, Wiley Eastern, New Delhi.

Module 4 :

— Chou, Y. (1975), *Statistics Analysis*, Holt, Reinhart and Winston, New York.

— Croxton, Crowden and Klein (1971), *Applied General Statistics*, Prentice Hall of India, New Delhi.

— Millar, J. (1996), *Statistics for Advanced Level*, Cambridge University Press, Cambridge.

— Nagar, A. L. and R. K. Das (1993), *Basic Statistics*, Oxford University Press, New Delhi.

Module 5 :

— Chou, Y. (1975), *Statistics Analysis*, Holt, Reinhart and Winston, New York.

— Goon, A. M., M. K. Gupta and B. Dasgupta (1993), *Fundamentals of Statistics*, Vol. 1, The World Press Ltd., Calcutta.

— Hogg, R. V. and A. T. Craig (1970), *Introduction to Mathematics Statistics* (3rd Edition), Macmillan Publishing Co., New York.

Module 6 :

— Hogg, R. V. and A. T. Craig (1970), *Introduction to Mathematical Statistics* (3rd Edition), Macmillan Publishing Co., New York.

— Millar, J. (1996), *Statistics for Advanced Level*, Cambridge University Press, Cambridge.

— Sukhatme, P. V. and B. V. Sukhatme (1970), *Sampling Theory of Survey with Applications*, Iowa State University Press, Ames.

M.A. Part I

Research Methodology in Economics Paper III (B)

Note : This paper is to be compulsory for students with background of two papers of Mathematical Economics and Econometrics (Quantitative Economics) or Statistics as first subsidiary at B.A. level.

Research Methodology in Economics :

1. Review of basic concepts : Population sample — Measures of central tendency, dispersion, skewness and Kurtosis.
2. Probability : Relevance — Definition — Sample space — events — Theorems of Probability—The Bay's theorem.
3. Probability Distribution : Random variable — Expectation and Properties — variance — Joint Probability distribution — Conditional Distribution and independence.
4. Theoretical Probability Distributions; Binomial, Poisson, Normal Distribution and their application in economics.
5. Sampling and Sampling Distributions : Census v/s sampling — probability samples v/s non-probability samples — simple random sampling — Types of sampling — Sampling and non-sampling errors — Central Limit Theorem — Determination of sample size. X^2 , t and F distribution and their uses.
6. Point and interval estimation.
7. Testing of hypothesis; Concept of hypothesis testing, Type — I and Type II errors — Testing of Means, Proportions, equality of population means, two variances etc. z-test and t-test. Chi-square Test — F test, Non-parametric Tests. Confidence interval approach — two tail v/s one-tail hypothesis.
8. Decision making under certainty — Alternative Criteria for Decision under uncertainty — The Bayesian approach — incremental analysis.
9. Correlation Theory — Linear zero order Correlation — Correlation with the grouped data — partial and multiple correlations.
10. Regression — Single and Multivariate — estimation of parameters through OLS — properties of estimators — Gauss Markov theorem — R^2 and relationship with β — Monte Carlo experiments (some idea) — Functional forms — log (in-. log- logn), in-log, measurement of elasticity — Reciprocal models Polynomial models interpretation of partial regression coefficients. Testing of hypotheses regarding regression coefficients and overall regression.
11. Maximum Likelihood — Estimators in Two variables and multivariable Regressions. Properties of these estimators.

12. Time series Analysis — Estimation of trend. Seasonal Indexes and Tests of Randomness. Forecasting based on time series Analysis.
13. Index Numbers : Various formulae of Index Numbers, Construction — Problems and Tests of Index Number. Theory of Cost of Living Index Numbers.

Books :

- Quantitative Techniques for Managerial Decisions by U. K. Srivastav, G. V. Shenoy and S. C. Sharma, 1989, Published by Wiley Eastern Limited.
- 'Basic Statistics', by A. L. Nagar and R. K. Das, Published by Oxford University Press.
- Quantitative Techniques by C. R. Kothari.
- Statistics for Economists — Merryl and Fox.
- 'Basic Econometrics' by Damodar Gujarati — 2002, Published by MacGraw Hill International.

M.A. Part I

Agricultural Economics I

Paper IV— A : (Optional Group)

Preamble : The Objective of this course is to provide a detailed treatment of issues in agricultural economics to those intending to specialize in this area. Its objective is to familiarize students with policy issues that are relevant to Indian agricultural economics and enable them to analyze the issues, using basic micro-economic concepts.

Module 1 : Agriculture & Economic Development : Nature and scope of agricultural and rural economics; Traditional agriculture and its modernization; Role of agriculture in economic development; Interdependence between agriculture and industry - some empirical evidence; Models of interaction between agriculture and the rest of the economy; Agricultural development, poverty and environment.

Module 2 : Delimitation of the Agricultural Sector : Delimitation of the agricultural sector; Special characteristics of agriculture as an economic enterprise; Basic assumptions of commercial agriculture.

Module 3 : Demand for Agriculture Products : Demand for agriculture products; Its special characteristics - Difference between the nature of demand for agricultural products and demand for Industrial products; Factors affecting demand for food and effects of changes in them - Income and price elasticities of demand for agricultural products; Measurement of elasticities.

Module 4 : Agricultural Production and Productivity : Agricultural production - Resource use and efficiency; Production function analysis in agriculture, Factor combination and resource substitution; Cost and supply curves; size of the farm and laws of returns - Theoretical and empirical findings; Farm budgeting and cost concepts; Supply responses of individual crops and aggregate supply; Resource use efficiency in traditional agriculture; Technical change; labour absorption and gender issues in agricultural services.

Module 5 : Technological Changes : Technological changes; Supply function of agricultural products - Cobweb models - Distributed lags - Irreversibility of supply elasticities - Factor affecting long term supply - seasonal, annual and cyclical fluctuations in agricultural activities.

Module 6 : Theory of Location of Crops : Theory of location of crops - Factors affecting the location of agricultural activities - Modifications in the actual locational pattern.

Module 7 : Agricultural Labour & Rural Labour Market : Agricultural labour - Characteristics of the agricultural labour market. Rural labour supply; Interlocking of factor markets; Mobility of labour and segmentation in labour markets; marginalisation of rural labour; Nature, extent and trends in rural unemployment; Agricultural wages in India; Male - female wage difference; Non-agricultural rural employment - Trends & determinants.

Module 8 : Agriculture & Rural Finance : Role of capital and rural credit; Organized and unorganized capital Market; Rural saving and capital formation characteristics and sources of rural credit - Institutional and non-institutional; Reorganization and rural credit - co-operatives, commercial banks, regional rural banks, Role of NABARD.

Basic Reading List :

- Bhaduri, A. (1984), *The Economic Structure of Backward Agriculture*, Macmillan Delhi.

- Bilgrami, S. A. R. (1996), *Agricultural Economics*, Himalaya Publishing House. Delhi.
- Dantwala, M. L. et. al. (1991), *Indian Agricultural Development Since Independence*, Oxford & IBH, New Delhi.
- Government of India (1976), *Report of the National Commission on Agriculture*, New Delhi.
- Government of India, *Economic Survey* (Annual). New Delhi.
- Gulati, A. and T. Kelly (1999), *Trade Liberalisation and Indian Agriculture*, Oxford University Press, New Delhi.
- Joshi, P. C. (1975), *Land Reforms in India : Trends and Prospects*, Allied Publishers. Bombay.
- Kahlon, A. S. and Tyagi D. S. (1983), *Agriculture Price Policy in India*, Allied Publishers, New Delhi.
- Rao, C. H. Hanumantha (1975), *Agricultural Growth, Rural Poverty and Environmental Degradation in India*, Oxford University Press, New Delhi.
- Reserve Bank of India, *Report on Currency and Finance* (Annual), Mumbai.
- Rudra, A. (1982), *Indian Agricultural Economics : Myths and Reality*, Allied Publishers, New Delhi.
- Saini, G. R. (1979), *Farm Size. Resource Use Efficiency and Income Distribution*, Allied Publishers, New Delhi.
- Thamarajakshi, R. (1994), *Intersectoral Relationship in a Developing Economy*, Academic Foundation, Delhi.

Suggested Reading List :

- Bardhan, P. (1984), *Land, Labour and Rural Poverty*, Oxford University Press, New Delhi.
- Chadha, G. K. and A. N. Sharma (1997), *Growth, Employment and Poverty : Change and Continuity in Rural India*, Vikas Publishing, New Delhi.
- Chakravarty, S. (1987), *Development Planning : The Indian Experience*, Oxford University Press, New Delhi.
- Chaudhary, P. (1972), *Readings in Indian Agricultural Development*, George Allen & Unwin, London.
- Chelliah, Raja and R. Sudarshan (1999), *Income, Poverty and Beyond : Human Development in India*, Social Science Press, New Delhi.
- Datwala, M. L. (1996), *Dilemmas of Growth : The Indian Experience*, Sage Publications, New Delhi.
- Ghatak, S. and K. Ingerscent (1984), *Agriculture and Economic Development*, Select books. New Delhi.
- Government of India, *Five Year Plans*, New Delhi.
- Meier, G. M. (1995), *Leading Issues in Economic Development*, Oxford University Press, New Delhi.
- Raj, K. N. et. al. (1988), *Essays in the Commercialization of Indian Agriculture*, Oxford University Press, New Delhi.
- Bharadwaj K. (1974), *Production Conditions in Agriculture*, Cambridge University Press. Cambridge.
- Brahmananda, P. R. and V. R. Panchumukhi (Eds.) (1987), *The Development Process of the Indian Economy*, Himalaya Publishing House, Bombay.
- Desai G. and A. Vaidyanathan (Eds.) (1995), *Strategic Issues in Future Growth of Fertiliser Use in India*, Macmillan, New Delhi.
- Soni, R. N. (1995), *Leading Issues in Agricultural Economics*, Arihant Press, Jalandhar.
- Raghvan and L. Sarkar (Eds.) (1996), *Poverty and Employment*, New Age, New Delhi.
- Visaria, P. and R. Basant (1994), *Non-Agricultural Employment in India : Trends and prospects*, Sage Publications, New Delhi.
- Jodhar N. (Ed.) (1996), *Challenges to Indian Banking*, Macmillan, New Delhi.
- Reserve Bank of India (1989), *Report of the Agricultural Credit Review Committee*, Bombay.
- Cohen, R. L. : The Economics of Agriculture, Ch. 1, Section I

- Schultz, T. : Economic Organization of Agriculture, Chs. III, IV, V, VI.
- Mellor, J. W. : The Economics of Agricultural Development, Chs. 3 & 4.
- Heady, E. O. : Economics of Agricultural Production and Resource Use.
- Dunn, E. : The Location of Agricultural Production.
- Behrman, J. R. : Supply Response in Underdeveloped Agriculture.
- Sawant, S. D. : Supply Behaviour in Agriculture.
- Vakil C. N. and Shah, C. H. : Agricultural Development in India : Policy and Problems, Chapters 4 & 7.
- Wharton, C. R. : Subsistence Agriculture and Economic Development.
- Financing of Agriculture by Commercial Banks (Report of Seminar Held on Dec. 6 to 8, 1968), Reserve Bank of India, 1969.
- Agricultural Labour in India : Rao V. K. R. V. (Ed.), Asia Publishing House, 1962.

M.A. Part I

Paper IV B : Industrial Economics I (Optional Group)

Preamble : In the contemporary world with globalization and liberalization more and more attention is being given to industry. This course intends to provide knowledge to the students on the basic issues such as productivity, efficiency, capacity utilization and debates involved in the industrial development of India. The objective is to provide a thorough knowledge about the economics of industry in a cogent and analytical manner, particularly in the Indian context.

Module 1 : Framework and Problems of Industrial Economics : Concept and organization of a firm—ownership, control and objectives of the firm; Passive and active behaviour of the firm.

Module 2 : Market Structure : Sellers' concentration, Product differentiation; Entry conditions; Economics of scale; Market structure and profitability; Market structure and innovation; Theories of industrial location—Weber and Sargent Florence; Factors affecting location.

Module 3 : Market Conduct : Product pricing—Theories and evidence; Investment expenditure—Methods of evaluating investment expenditure, Theories and empirical evidence on Mergers and acquisitions (M & As) and diversification.

Module 4 : Market Performance : Growth of the firm—Size and growth of a firm; Growth and profitability of the firm; Constraints on growth; Productivity, efficiency and capacity utilization—Concept and measurement, Indian situation.

Module 5 : Indian Industrial Growth and Pattern : Classification of industries; Industrial policy in India—Role of Public and private sectors; Recent trends in Indian industrial growth; MNCs and transfer of technology; Liberalization and privatization; Regional industrial growth in India; Industrial economic concentration and remedial measures; issues in industrial proliferation and environmental preservation; Pollution control policies.

Module 6 : Industrial Finance : Owned, external and other components of funds; Role, nature, volume and types of institutional finance—IDBI, IFCI, SFCs, SIDC, commercial banks, etc.; Financial statement—Balance sheet, Profit and loss account; assessment of financial soundness, ratio analysis.

Module 7 : Project Appraisal : Cost-benefit analysis—Net Present Value (NPV) and internal rate of return (IRR) criteria—balancing private and social returns.

Module 8 : Industrial Labour : Structure of industrial labour; Employment dimensions of Indian industry.

Module 9 : Current Problems of Selected Industries : Iron and Steel; Cotton textiles; Jute; Sugar; Coal; Cement and engineering goods; Development of small-scale and cottage industries in India.

Basic Reading List

- Ahluwalia, I. J. (1985), *Industrial Growth in India*, Oxford University Press, New Delhi.
- Barthwal, R. R. (1985), *Industrial Economics*, Wiley Eastern Ltd., New Delhi.
- Cherunilam, F. (1994), *Industrial Economics : Indian Perspective* (3rd Edition), Himalaya Publishing House, Mumbai.
- Desai, B. (1999), *Industrial Economy in India* (3rd Edition), Himalaya Publishing House, Mumbai.

- Divine, P. J. and R. M. Jones et. al. (1976), *An Introduction to Industrial Economics*, George Allen and Unwin Ltd. London.
- Government of India, *Economic Survey* (Annual).
- Hay, D. and D. J. Morris (1979), *Industrial Economics : Theory and Evidence*, Oxford University Press, New Delhi.
- Kuchhal, S. C. (1980), *Industrial Economy of India* (5th Edition), Chaitanya Publishing House, Allahabad.
- Reserve Bank of India, *Report on Currency and Finance* (Annual).
- Singh, A. and A. N. Sadhu (1988), *Industrial Economics*, Himalaya Publishing House, Bombay.

Additional Reading List :

Module 1 :

- Bains, J. S. (1976), *Industrial Organization*, Cheltenham, U.K.
- Harndeen, J. B. (1975), *The Economic of Corporate Economy*, Dunellen Publishers, New York.
- Kamien, M. T. and N. L. Schwartz (1982), *Market Structure and Innovation*, Cambridge University Press, Cambridge.
- Wiles, P. J. D. (1963), *Price, Cost and Output*, Praeger, New York.

Module 2 :

- Harndeen, J. B. (1975), *The Economics of Corporate Economy*, Dunellen Publishers, New York.
- Kirkpatrick, C. M., N. Lee and E.I. Nixon (1984), *Industrial Structure and Policy in Less Developed Countries*, ELBS/George Allen and Unwin, London.
- Menon, K. S. V. (1979), *Development of Backward Areas Through Incentives*, Asia Publishing House, Bombay.
- Smith, D. M. (1971), *Industrial Location : An Economic and Geographic Analysis*, John Wiley, New York.

Module 3 :

- Bagchi, A. and M. Banerjee (Eds.) (1979), *Change and Choice in Indian Industry*, Bagchi Publications, Calcutta.
- Kelkar, V. L. and V. V. Bhanoji Rao (Eds.) (1996), *India Development Policy Imperatives*, Tata McGraw Hill, New Delhi.

Module 4 :

- Bhagwati J. and P. Desai (1972), *India, Planning for Industrialization*, Oxford University Press, London.
- Brahmananda, P. R. and V. R. Panchamukhi (Eds.) (1987), *The Development Process of the Indian Economy*, Himalaya Publishing House, Bombay.
- Chakravarty, S. (1987), *Development Planning : The Indian Experience*, Oxford University Press, New Delhi.
- Datta, B. (1992), *Indian Planning at the Crossroads*, Oxford University Press, New Delhi.
- Ghosh, P. K. (1977), *Government and Industry*, Oxford University Press, New Delhi.
- Joshi, V. and I.M.D. Little (1999), *India : Macro Economics and Political Economy : 1964-1991*, Oxford University Press, New Delhi.

Module 5 :

- Brahmananda, P. R. and V. R. Panchamukhi (Eds.) (1987), *The Development Process of the Indian Economy*, Himalaya Publishing House, Bombay.
- Chakravarty, S. (1987), *Development Planning : The Indian Experience*, Oxford University Press, New Delhi.
- Datta, B. (1992), *Indian Planning at the Crossroads*, Oxford University Press, New Delhi.
- Dhameeja, N. and K. S. Sastry (1998), *Privatization : Theory and Practice*, A. H. Wheeler, New Delhi.
- Jalan, B. (1996), *India's Economic Policy*, Viking, New Delhi.
- Joshi, V. and I.M.D. Little (1999), *India : Macro Economics and Political Economy : 1964-1991*,

Oxford University Press, New Delhi.

- Kelkar, V. L. and V. V. Bhanoji Rao (Eds.) (1996), *India Development Policy Imperatives*, Tata McGraw Hill, New Delhi.
- Rama Murti, R. and R. Vernan (Eds.) (1991), *Privatization and Control of State-owned Enterprises*, The World Bank, Washington.
- Sandesara, J. C. (1992), *Industrial Policy and Planning — 1947-1991 : Tendencies, Interpretations and Issues*, Sage Publications, India Pvt. Ltd., New Delhi.

Module 6 :

- Gupta, L. C. (1969), *The Changing Structure of Industrial Finance in India*, Oxford University Press, New Delhi.
- Khan, M. Y. (1981), *Indian Financial Systems*, Allied Publishers, New Delhi.
- Sen, R. and B. Chatterjee (2001), *Indian Economy : Agenda for the 21st Century*, (Essays in honour of Professor P. R. Brahmananda), Deep and Deep Publications Pvt. Ltd., New Delhi.

Module 7 :

- Dasgupta, P. S. Marglin and A. Sen (1972), *Guideline for Project Evaluation*, Unido Publications, New York.
- Fog, B. (1959), *Industrial Pricing Policies*, North Holland, Amsterdam.
- Koulsoyiannis, A. (1979), *Modern Microeconomics*, Macmillan, New York.

Module 8 :

- Das, N. (1969), *The Public Sector in India*, Vora and Company, Bombay.
- Sen, R. and B. Chatterjee (2001), *Indian Economy : Agenda for the 21st Century*, (Essays in honour of Professor P. R. Brahmananda), Deep and Deep Publications Pvt. Ltd., New Delhi.

Module 9 :

- Ghosh, P. K. (1977), *Government and Industry*, Oxford University Press, New Delhi.
- Sandesara, J. C. (1982), *Industrial Growth in India : Performance and Prospects*, Lala Lajpat Rai College, Bombay.

M.A. Part I

Paper IV—C : (Optional Group) Mathematical Economics and Econometrics I

Preamble : This course is designed to equip students to understand the economic concepts and theories which use mathematical tools and techniques to refine the verbal logic. The use of calculus has permitted formulation of economic problems in multivariable mode and yield valuable insight about optimizing human behaviour. Modern algebraic tools allow convenient handling of simultaneous equations in the context of linear programming, game theory and input-output analysis.

Mathematical economics deals with various applications of mathematical tools and techniques in defining and developing economic relationships. This course has been accordingly designed to include various mathematical techniques/methods/models related to the different parts of economic theory like consumer theory, theory of production, pricing, trade cycles, growth models, etc. The paper covers important aspects of microeconomics, macroeconomics and development theory and the various modules have been accordingly designed.

Module 1 : Theory of Consumer Behaviour : Cardinal and ordinal utility maximization, Slutsky equation, compensated demand functions, income, substitution, and price effects; Concept of elasticities—generalizations to n variable case; Separable and additive utility functions; homogeneous and homothetic utility functions; constant elasticity of substitution (CES) and transcendental logarithmic utility functions; indirect utility functions; duality theorem; consumer's surplus; Theory of revealed preference and index numbers; Linear expenditure systems; Treatment of demand for durable goods; Empirical demand functions; Consumer behaviour under risk and uncertainty.

Module 2 : Theory of Production : Production function — homogeneous and non-homogeneous; Properties of Cobb-Douglas Production function; CES; VES and trans-log production function; Simple derivation of short and long run cost functions; Modern approach to theory of costs; Cost function; Producer's equilibrium — Laws of return and returns to scale; Constrained optimization of a producer;

Generalization to n variable case; input demand functions; Adding up theorem; Technical progress through production function; Analysis of joint profit maximization and multi-product firm; Production possibility curve; Empirical uses of production function analysis.

Module 3 : Price Determination in Various Markets : Price determination in perfect competition, monopoly, monopolistic competition, duopoly, oligopoly and monopsony; Pricing of factors of production; Bilateral monopoly.

Module 4 : Market Equilibrium : Single market equilibrium—Marshallian and Walrasian equilibrium conditions; Lagged market equilibrium; Multi-market equilibrium—General equilibrium systems of Walras and Debreu; Conditions of stability of equilibrium.

Module 5 : Determination of Income and Fluctuations in Income : Classical and Keynes' macro system; Static and dynamic multiplier; Determinants of investment; Accelerator; trade cycle model of Samuelson and Hicks, Goodwin, Kalecki and Philips; Stabilization policy; Rational expectations and economic policy; Lucas's model.

Module 6 : Growth Models : Harrod problem; Neoclassical model of growth; Solow and Meade growth models with technical progress; Optimal growth; and golden rule of accumulation; Turnpike theorem; Endogenous growth.

Module 7 : Game Theory and Linear Programming and Input-output Analysis : Concept of game—Two-person zero-sum game, Pay-off matrix, pure and mixed strategies, Maximin and minimax solutions, Saddle point solution; Non-constant sum game; Prisoner's dilemma; Linear programming — Primal and dual problem, Simplex method; transport and storage problems and other applications of linear programming in economics; Input-output analysis — Open and closed systems, Hawkins-Simon conditions; Leontief's dynamic system; Testing consistency of planning models.

Basic Reading List :

- Allen, R. G. D. (1976), *Mathematical Economics*, Macmillan, London.
- Arrow, K. J. and M. Intrilligator (Eds.) (1982), *Handbook of Mathematical Economics*, Volumes I, II, and III, North Holland, Amsterdam.
- Henderson, J. M. and R. E. Quandt (1980), *Microeconomic Theory : A Mathematical Approach*, McGraw Hill, New Delhi.

Additional Reading List :

Module 2 :

- Chung, J. W. (1993), *Utility and Production : Theory and Applications*, Basil Blackwell, London.
- Ferguson, C. E. (1976), *Neo-classical Theory of Production and Distribution*.

Module 3 and 4 :

- Allen, R. G. D. (1974), *Mathematical Analysis for Economics*, Macmillan Press and ELBS, London.
- Chiang, A. C. (1986), *Fundamental Methods of Mathematical Economics*, McGraw Hill, New York.

Module 5 and 6 :

- Abel, A., B. S. Bernanke and B. Mcnabb (1998), *Macroeconomics*, Addison Wesley, Massachusetts.
- Barro, R. J. and H. Grossman (1976), *Money, Employment and Inflation*, Oxford University Press, Oxford.
- Jha, R. (1991), *Contemporary Macroeconomic Theory and Policy*, Wiley Eastern Ltd., New Delhi.
- Jones, H. G. (1976), *An Introduction to the Modern Theory of Economic Growth*, McGraw Hill, Kogakusha, Yokyo.
- Mankiw, N. G. and D. Romer (Eds.) (1991), *New Keynesian Economics* (2 Vols.), MIT Press, Cambridge, Mass.

Module 7 :

- Hadley, G. (1962), *Linear Programming*, Addison Wesley Publishing Co., Massachusetts.
- Hiller, F. S. and G. J. Lieberman (1985), *Operations Research*, C. B. S., New Delhi.
- Kothari, C. R. (1992), *An Introduction to Operations Research*, Vikas Publishing House, New Delhi.
- Kuhn, Harold W. (Ed.) (1997), *Classics in Game Theory*, Princeton, University Press, Princeton.
- Mustafi, C. K. (1992), *Operations Research : Methods and Practice*, Wiley Eastern, New Delhi.
- Nash, J. F. (1996), *Essays on Game Theory*, Cheltenham, U.K.

M.A. Part I

Paper IV—D (Optional Group) Managerial Economics

1. Introduction : Definition - Scope - relationship to Economic theory, decision sciences, functional areas of business and administration studies - application cases.
2. Optimization Techniques : Their Usefulness for the theory of firm - Differential calculus - rules of derivation - optimization with calculus - Multivariate optimisation and constrained optimization by lagrangian method - application cases.
3. Demand Estimation and forecasting - Qualitative forecasts : Survey technique and opinion polls. Time series analysis : Reason for fluctuation in time series - Trend projection - seasonal variation - Smoothing techniques : Moving average and exponential smoothing - Barometric Methods and econometric methods - Forecasting with input-out tables.
4. Reviews of Production Cost - market structure already studied at undergraduate level - pricing of goods and services - Pricing for multiple products - price discrimination - product bundling - peak - load pricing - cost plus pricing - Input pricing - labour union and collective bargaining.
5. Capital budgeting and government regulations - value maximisation and capital budgeting - process of capital budgeting - cost of capital - Mergers and acquisitions - Application cases.
6. Markets with assymetric Information : Quality, uncertainty and markets for lemons - market signaling - moral hazard - principle agent problem - managerial incentives in an integrated firm - Assymetric information in labour market - efficiency wage theory.

References :

- ‘Managerial Economics’ by Dominick Salvatore, McGraw Hill International Editions, 1989.
- ‘Managerial Economics’ by H. Craly and Peterson and W. Cris Lewis, Eastern, Economic Edition, Prentice Hall of India, 1995.
- Microeconomics by Robert Pindyou and Daniel L. Rubinfeld, Prentice Hall of India, 1999.
- Intermediate Micro Economics by R. Miller and R. Meiners, McGraw Hill Publishers, 1986.

M.A. Part I

Paper IV—E : (Optional Group)

Environmental Economics I

1. Elementary Ecology - Functions of Ecosystems and Biodiversity. Relation between (a) Economy - Ecosystem and first two laws of Thermodynamics (b) Economic development and the Environment - Environmental Kuznets Curves.
2. Environmental Economics : Meaning, Nature and Scope - Relationship with other branches of economics.
3. Market Failure : Externality and Pure Public Goods - Tragedy of commons with focus on exclusions and non-rivalry.
Intertemporal Efficiency and Intergenerational Equity issues.
4. Environmental Damages - Socio-Environmental Cost - Benefit Analysis - Environmental impact Assessment (EIA) and Project Planning and Appraisal.
5. Valuation Issues : Total Economic value of Enviromental Asset or service - Issues involved in valuation Methods including (1) Contingent valuation (2) Hedonic Pricing (3) Travel Cost Methods and risk assessment.
6. Growth vs Zero Growth, Limits to Growth vs. Sustainable Development Debates.
7. Economics of Sustainable Development.

Reading Material :

- Hanley Nick, Shogren J. F. and White Ben (1997), Environmental Economics in Theory and Practice, Macmillan, New Delhi.
- Kolstad Charles (2000) : Environmental Economics, Oxford University Press, New York.
- Dasgupta Parth and Karl - Goram Malor (eds.) (1997) : The Environment and Emerging Development Issues, Oxford University Press, New York.
- Oates W. E. (1992) : The Economics of the Environment, Cambridge University Press, Cambridge.
- Baumol William and Wallace Oates (1975) The Theory of Environment Policy, Prentice Hall, New Jersey.
- World Bank (1992) : World Development Report 1992 : Development and the Environment, Oxford University Press, New York.
- Collard David, Pearce David, Ulph David (eds.) (1988) : Economics, Growth and Sustainable Environment, St. Martin's Press, New York.
- World Watch Institute (1992) : State of the World, Horizon India Books, New Delhi.
- Seminer (Issue No. 486 : February 2000) : A symposium on Environment : Myth and Reality.
- Cropper M. L. and Oates W. E. (1992) : Environmental Economics : A survey, Journal of Economic Literature.
- Markandya A. and Richardson J. (eds.) (1992) : Environmental Economics : A Reader, St. Martin's Press, New York.
- Asian Development Bank (1996) : Economic Evaluation of Environmental Impact : A Workbook.
- Seitz John L. (1995) : Global Issues, An Introduction, Blackwell, Oxford, U.K.
- Siebert H. (1998) : Economics of Environment : Theory and Policy, (5th revised edition), Springer, New York.
- Centre for Science and environment (1999, 1997, 1991, 1984 and 1982) : The state of India's environment, CSE, New Delhi.
- Preeman Hyrick A. (1993) : The Measurement of Environment and Resource Values, Resources for Future, Washington D.C.
- Opschoor J. (Hans), B. Button Kenneth and Peter Nijamp (eds.) (1999) : Environmental Economics and Development, Edward Elgar, U.K.
- Tietenberg Thomas, Kenneth Button and Peter Nijkamp (eds.) (1999) : Environmental Instruments and Institutions, Edward Elgar, U.K.
- Turner Kerry R., Button Kenneth and Peter Nijkamp (eds.) (1999) : Ecosystems and Nature : Economics, Science and Policy, Edward Elgar, U.K.
- Mehta Shekhar, Mundel Sudipto and Sarkar U. (1997) : Controlling Pollution, Sage, New Delhi.

M.A. Part - I : Economics

Paper IV F (Optional Group) : Financial Institutions and Markets I

Preamble : The positive and significant role of financial institutions in the process of growth and development has been very well recognized in the literature and indeed has become more important during the last two decades as the financial systems of different countries have become integrated in the process of globalization. India is no exception and has taken far reaching measures since 1991 in this direction. It is, therefore, essential that the student of economics should be well conversant with the theory and practice of different financial institutions and markets to understand and analyse the interconnection between the monetary forces and real forces, their developmental role and limitations in shaping and influencing the monetary and related policies both at the national and international levels.

Module 1 : Nature and Role of Financial System : Money and finance - Money and near-money - Financial intermediation and financial intermediaries - The structure of the financial system - Functions of the financial sector - Indicators of financial development - Equilibrium in Financial Markets - Financial System and Economic Development - Criteria to evaluate assets : Risk and financial assets, types of risk, return on assets, Risk - Return trade off - Valuation of Securities.

Module 2 : Structure of Interest Rates : Theories of interest rate determination - Level of interest rates - Long period and Short period rates - Term Structure of interest rates - Spread between lending and deposit rates - Administered interest rates - Appropriate interest rate policy.

Module 3 : The Central Bank, Commercial Banks and Monetary Policy : Functions of Central Bank - The aims and objectives of the monetary policy in developed and developing countries - Instruments of monetary policy - Proliferation of banking and non-banking financial intermediaries - Effectiveness of monetary policy - Credit creation and its control Profitability and efficiency of banks; Development banks - role and functions; Investment banking and merchant banking; Financial sector reforms in India.

Module 4 : Non-bank Financial Intermediaries : Definition and types of non-bank financial institutions : Their growth and impact on India's economic development, Measures taken to control their operations.

Module 5 : Financial Markets : Role and structure of money market and capital market - Call money market. Treasury bill market, commercial bill market including commercial paper and certificate of deposits, Discount market - Government securities market - Markets for derivatives : futures and options, and other derivatives types, uses and pricing of derivatives - Primary and secondary market for securities; SEBI : its impact on the working of capital market in India; IRDA and its role in financial markets.

Basic Reading List :

- Bhole, L. M. (1999), *Financial Institutions and Markets*, Tata McGraw Hill Company Ltd., New Delhi.
- Bhole, L. M. (2000), *Indian Financial System*, Chugh Publications, Allahabad.
- Edminster, R. O. (1986), *Financial Institutions, Markets and Management*, McGraw Hill, New York.
- Goldsmith, R. W. (1969), *Financial Structure and Development*, Yale, London.
- Hanson, J. A. and S. Kathuria (Eds.) (1999), *India : A Financial Sector for the Twenty-first Century*, Oxford University Press, New Delhi.
- Harker, P. T. and S. A. Zenios (2000) (Ed.), *Performance of Financial Institutions*, Cambridge University Press, Cambridge.
- Johnson, H. J. (1993), *Financial Institutions and Markets*, McGraw Hill, New York.
- Khan, M. Y. (1996), *Indian Financial System*, Tata McGraw Hill, New Delhi.
- Machiraju, M. R. (1999), *Indian Financial Systems*, Vikas Publishing House, New Delhi.
- Ohlson, J. A. (1987), *The Theory of Financial Markets and Institution*, North Holland, Amsterdam.
- Prasad, K. N. (2001), *Development of India's Financial System*, Sarup & Sons, New Delhi.
- Robinson, R. I. and D. Wrightman (1981), *Financial Markets*, McGraw Hill, London.
- Smith, P. F. (1978), *Money and Financial Intermediation : The Theory and Structure of Financial System*, Prentice Hall, Englewood-Cliffs, New Jersey.

Additional Reading List :

Module 1 :

- Bishop, P. and D. Dixon (1992), *Foreign Exchange Handbook*, McGraw Hill, New York.
- Chandra, P. (1997), *Financial Markets*, (4th Edition), Tata McGraw Hill, New Delhi.
- Farrell, J. L. (1997), *Portfolio Management* (2nd Edition), McGraw Hill, New York.
- Machiraju, H. R. (1997), *International Financial Markets in India*, Wheeler Publishing, Allahabad.
- Shaw, E. S. (1983), *Financial Deepening in Economic Development*, Oxford Uni. Press, London.

Module 2 :

- Fenstermaker, J. V. (1969), *Readings in Financial Markets and Institutions*, Appleton, New York.
- Shaw, E. S. (1983), *Financial Deepening in Economic Development*, Oxford Uni. Press, London.
- Smith, P. F. (1978), *Money and Financial Intermediation : The Theory and Structure of Financial System*, Prentice Hall, Englewood-Cliffs, New Jersey.

Module 3 :

- Chandler L. V., and S. M. Goldfeld (1977), *The Economics of Money and Banking*, Harper & Row, New York.
- Gupta, S. B. (1983), *Monetary Economics*, S. Chand & Company, New Delhi.
- Rangaranjan, C. (1999), *Indian Economics : Essays on Money and Finance*, UBS Pub., New Delhi.

Publication Department, Guajrat University

— RBI (1983), *Functions and Working of RBI*.

— Sayers, R. S. (1967), *Modern Banking*, Oxford University Press, New Delhi.

— Verma, J. S. (1989), *A Manual of Merchant Banking*, Bharat Law House, New Delhi.

Module 4 :

— Bhatt, R. S. (1996), *Unit Trust of India and Mutual Funds : A Study*, UTI Institute of Capital Markets, Mumbai.

— Sahadevan, K. G. and M. T. Thiripalraju (1997), *Mutual Funds*, Prentice Hall of India, New Delhi.

Module 5 :

— Fisher, G. E. and R. J. Jordon (1992), *Security Analysis and Portfolio Management*, Eastern Economy Edition, New Delhi.

— Goss, B. A. and B. S. Yamey (1978), *The Economics of Futures Trading*, Macmillan, London.

— R.B.I. (1985), *Report of the committee to review the working of the monetary system (Chakravarty Committee)*, Bombay.

— Weller P. (1992), *The Theory of Future Markets*, Blackwell, Oxford.

— Gupta, L. C. (Ed.) (1999), *India's Financial Markets and Institutions*, Society for Capital Research and Development, Delhi.

M.A. Part I Paper IV G (Optional Group)

Information Technology and Data Analysis Paper I

Preamble : The computers have become very essential tools for data analysis, Information processing, modeling and graphical presentation. The advancements for PC software and declining prices of hardware are the key factors for their wide-spread use in education, business and industry. This subject needs to be added in the curriculum since the use of such software lead to higher productivity.

The students of Master's programme in Arts will find this subject very useful in getting the first hand information and skill about the popular PC Software packages. They will also be able to use the Software for data analysis, modeline, report, generation and graphical presentation.

(A) Introduction to Information Technology :

History of development of computers and communication, Types of computers : Analog, Digital and Hybrid, varieties of personal computers and other micro computers.

Computer Hardware - CPU memory, 10 Devices.

Latest IO media and storage capacity-floppies, hard disk, MO disc, DAT, CD-ROM, CD-R and CD writable.

Computer Software-Operating Systems and Development packages, Popular packages for word processing, spreadsheets, presentation and databases.

Communication principles-Analog and Digital, use of modems, networking of computers-LAN, WAN, Networking Software.

Internet facilities-getting connection, accessing Internet facility, sending mail, accessing databases and web pages, using other facilities of Internet.

(B) Operating System and Word Processing :

Study of MS-DOS and Windows; Windows-95/2000

DOS commands for directory, files, editing, printing and other miscellaneous tasks.

Windows Icons, dialogue boxes, control panel, taskbar explorer, File management in Windows.

Built-in accessories-calendar, Address book,. etc.

Word Processing using MS Word. Document creation, modification, Porting, exchange with other documents. formatting, search and replace, spell checking, font selection and printing study and practice of all formatting facilities of a word processing package.

Marks Distribution :

The theory examination of 3 hours will be conducted for 70 marks. 30 marks will be allocated to practical examination.

References :

- | | |
|---|-------------------|
| — Computer Fundamentals by Sinha (P.K. (1992) | BPS Publishers |
| — Illustrated MS DOS by Stultz | BPS Publishers |
| — Learn Windows 95 in a day by Fuller | BPS Publishers |
| — ABCs of MS Office 97 by Hart | BPS Publishers |
| — SPSS/PC Reference Manual | SPSS Incorporated |

GUJARAT UNIVERSITY
Based on UGC Model Curriculum
(New Course in force from June : 2003)
M.A. (Economics)
M.A. Part II

Paper V Public Economics

Paper VI International Economics

Paper VII Economics Growth & Development

Paper VIII : **Optional Papers**

Students will be offered same optional paper as in M.A. Part II

A : Agricultural Economics Paper II

OR

B : Industrial Economics Paper II

OR

C : Mathematical Economics and Econometrics Paper II

OR

D : Managerial Economics Paper II

OR

E : Environmental Economics Paper II

OR

F : Financial Institutions and Markets (International Finance) Paper II

OR

G : Information Technology and Data Analysis Paper II :

M.A. Part II

Paper V : Public Economics

Preamble : Role and function of the Government in an economy have been changing with the passage of time. The term 'Public Finance' has traditionally been applied to the package of those policies and operations which involve the use of tax and expenditure measures while budgetary policy is an important part to understand the basic problems of use of resources, distribution of income, etc. There are vast array of fiscal institutions—tax systems, expenditure programmes, budgetary procedures, stabilization instruments, debt issues, levels of government, etc., which raise a spectrum of issues arising from the operation of these institutions. Further, the existence of externalities, concern for adjustment in the distribution of income and wealth, etc. require political processes for their solution in a manner which combines individual freedom and justice. This paper combines a thorough understanding of fiscal institutions with careful analysis of the issues which underline budgetary policies in general and Indian experience in particular.

Module 1 : Introduction : Role of Government in organized society; Changing perspective—Government in a mixed economy : public and private sector, cooperation or competition; Government as an agent for economic planning and development; Government as a tool for operationalizing the planning process; private goods, public goods and merit goods; Market failure — imperfections, decreasing costs,

externalities, public goods, Uncertainty and non-existence of futures markets; Informational asymmetry—Theory of second best.

Module 2 : Public Choice : Private and public mechanism for allocating resources; Problems for allocating resources; Problems of preference revelation and aggregation of preferences; Voting systems; Arrow impossibility theorem; An economic theory of democracy; Politico-eco-bureaucracy; Rent seeking and directly unproductive profit seeking (DUP) activities.

Module 3 : 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—Contributions of Clarks, Groves and Leyard, Tiebout model, theory of club goods; Stabilization Policy—Keynesian case for 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 4 : 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 5 : 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 6 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 7 : Fiscal Policy : Objectives of fiscal policy—full employment, anti-inflation, economic growth, redistribution of income and wealth; Interdependence of fiscal and monetary policies; Budgetary deficits 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 8 : Fiscal Federalism : Principles of multi-unit finance; Fiscal federalism in India; Vertical and horizontal imbalance; Assignment of function and sources of revenue; Constitutional provisions; Finance Commission and Planning 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.

Module 9 : Indian Public Finances : Indian tax system; Revenue of the Union, States and local bodies; Major taxes in India; base of taxes, direct and indirect taxes, taxation of agriculture, expenditure tax, reforms in direct and indirect taxes, taxes on services; Non-tax revenue of Centre, State and local bodies; Analysis of Central and state government budgets; Lack of flexibility in Central and State budgets, shrinking size of development finance through budgets; Trends in public expenditure and public debt; Fiscal crisis and fiscal sector reforms in India; Reports of Finance Commissions in India.

Basic Reading List :

- Atkinson, A. B. and J. E. Siglitz (1980), *Lectures on Public Economics*, Tata McGraw Hill, New York.
- Auerbach, A. J. and M. Feldstern (Eds.) (1985), *Handbooks of Public Economics*, Vol. 1, North Holland, Amsterdam.
- Buchanan, J. M. (1970), *The Public Finances*, Richard D. Irwin, Homewood.
- Goode, R. (1986), *Government Finance in Developing Countries*, Tata McGraw Hill, New Delhi.
- Houghton, J. M. (1970), *The Public Finance : Selected Readings*, Penguin, Harmondsworth.
- Jha, R. (1998), *Modern Public Economics*, Routledge, London.
- Menutt, P. (1996), *The Economics of Public Choice*, Edward Elgar, U.K.
- Musgrave, R. A. (1959), *The Theory of Public Finance*, McGraw Hill, Kogakusha, Tokyo.
- Musgrave, R. A. and P. B. Musgrave (1976), *Public Finance in Theory and Practice*, McGraw Hill, Kogakusha, Tokyo.

- Shoup, C. S. (1970), *Public Finance*, Aldine, Chicago.
- Shome, P. (ed.) (1995), *Tax Policy : Handbook*, Tax Division, Fiscal Affairs Department, International Monetary Fund, Washington D.C.

Additional Reading List :

Module 1 :

- Cornes, R. and T. Sandler (1986), *The Theory of Externalities, Public Goods and Club Goods*, Cambridge University Press, Cambridge.
- Duff, L. (1997), *Government and Market*, Orient Longman, New Delhi.
- Herber, B. P. (1967), *Modern Public Finance*, Richard D. Irwin, Homewood.
- Spulber, N. (1998), *Redefining the State*, Cambridge University Press, Cambridge.

Module 2 :

- Buchanan, J. M. (1968), *The Demand and Supply of Public Goods*, Rand McNally, Chicago.
- Mueller, D. C. (1979), *Public Choice*, Cambridge University Press, Cambridge.
- Spulber, N. (1998), *Redefining the State*, Cambridge University Press, Cambridge.
- Stiglitz, J. E. (1986), *Economics of Public Sector*, Norton, New York.

Module 3 :

- Dorfman, R. (Ed.) (1970), *Measuring the Benefits of Government Investment*, Brookings Institution, Washington.
- Duff, L. (1997), *Government and Market*, Orient Longman, New Delhi.
- Friedman, A. (1986), *Welfare Economics and Social Choice Theory*, Martins Nijhoff, Boston.
- Glennester, H. and J. Hills (1998), *The State of Welfare : The Economic and Social Spending*, Oxford University Press. London.

Module 4 :

- Mishan, E. J. (1982), *Cost-Benefit Analysis : An Informal Introduction*, George Allen and Unwin, London.
- Peacock, A and D. J. Robertson (Eds.) (1963), *Public Expenditure : Appraisal and Control*, Oliver and Boyd, Edinburgh.
- Phyr, P. (1970), *Zero Base Budgeting : A Practical Management Tool for Evaluating Expenses*, John Wiley, New York.
- Premchand, A. (1966), *Control of Public Expenditure in India*, Allied Publishers, New Delhi.
- Sahni, B. S. (Ed.) (1972), *Public Expenditure Analysis : Selected Readings*, Rotherdam University Press.

Module 5 :

- Bird, R. and O. Oldman (1967), *Readings on Taxation in Developing Countries*, the John Hopkins University Press, Baltimore.
- Cutt, J. (1969), *Taxation and Economic Development in India*, Frederick A Praegar Publishers, New York.
- Kaldor, N. (1955), *An Expenditure Tax*, George Allen and Unwin, London.
- Musgrave, R. A. and C. Shoup (Eds.) (1970), *Readings in the Economics of Taxation*, George. Allen and Unwin, London.

Module 6 :

- Barman, K. (1986), *Public Debt Management in India*, Uppal Publishing House, New Delhi.
- Buchanan, J. M. (1958), *Public Principles of Public Debt, A Defence and Restatement*, Richard D. Irwin Homewood.
- Ferguson, J. M. (Ed.) (1964), *Public Debt and Future Generations*, North Caroline University Press, Chapel Hill.
- Sreekantaradhya, B. S. (1972), *Public Debt and Economic Development in India*, New Delhi.

Module 7 :

- American Economic Association (1955), *Readings in Fiscal Policy*, George Allen and Unwin, London.

- Chelliah, Raja J. (1971), *Fiscal Policy in Underdeveloped Countries*, George Allen and Unwin, London.
- Government of India (1985), *Long Term Fiscal Policy*, New Delhi.
- Peacock, A. and G. K. Shaw (1976), *The Economic Theory of Fiscal Policy*, George Allen and Unwin, London.

Module 8 :

- Bhargava, R. N. (1967), *The Theory and Working of Union Finance in India*, Chaitanya Publishing House, Allahabad.
- Bhargava, P. K. (1982), *Centre State Resource Transfers in India*, The Academic Press, Gurgaon.
- Chelliah, Raja J. et. al. (1981), *Trends and Issues in India's Federal Finance*, National Institute of Public Finance and Policy, New Delhi.
- Gulati, I. S. (1979), *Centre State Financial Relations : An Assessment of the Role of Finance Commission*, M. S. University of Baroda, Baroda.
- Lakdawala, D. T. (1967), *Union State Financial Relations*, Lalwani Publishing House, Mumbai.
- Musgrave, R. A. (1977), *Essays in Fiscal Federalism*, Greenwood West Port.
- Oates, W. E. (1972), *Fiscal Federalism*, Harcourt Brace and Johanowich, New York.
- Reports of various Finance Commissions.
- Srivastava, D. K. (Ed.) (2000), *Fiscal Federalism in India*, Har-Anand Publication Ltd. New Delhi.

Module 9 :

- Bhargava, R. N. (1969), *Indian Public Finance*, B. D. Bhargava and Sons, Chandausi.
- Bhargava, P. K. (1976), *Taxation of Agriculture in India*, Vora and Co. Bombay.
- Bhargava, P. K. (1984), *Some Aspects of Indian Public Finances*, Uppal Publishing House, New Delhi.
- Bhargava, P. K. (1991), *India's Fiscal Crisis*, Ashish Publishing House, New Delhi.
- Borkar, V. V. (1971), *Income Tax Reform in India*, Popular Prakashan, Bombay.
- Chelliah, R. J. (Ed.) (1997), *Towards Sustainable Growth*, Oxford University Press, New Delhi.
- Datt, R. (Ed.) (2001), *Second Generation Economic Reforms in India*, Deep & Deep Publications, New Delhi.
- Gandhi, V. P. (1970), *Some Aspects of India's Tax Structure*, Vora and Company, Bombay.
- Government of India (1992), *Reports of the Tax Reforms Committee-Interim and Final* (Chairman : Raja J. Chelliah).
- Jain, A. K. (1975), *Taxation of Income in India*, Macmillan Company of India Ltd., New Delhi.
- Jain, I. (1988), *Resource Mobilization and Fiscal Policy in India*, Deep & Deep Publications, New Delhi.
- Kumar, A. (1999), *The Black Economy in India*, Penguin, Hamondsworth.
- Mundle, S. (1999), *Public Finance Policy : Issues for India*, Oxford University Press, New Delhi.
- Singh, T. (2000), *The Corporation Tax in India*, Classical Publishing Company, New Delhi.

M.A. Part II

Paper VI—International Economics

Preamble : The course provides a deep understanding about the broad principles and theories, which tend to govern the free flow of trade in goods, services and capital—both short-term and long-term—at the global level. Besides, preparing the students about the relevance and limitations of these principles, the contents of the paper, spread over different modules, lay stress on the theory and nature of the subject which, in turn, will greatly help them to examine the impact of the trade policies followed both at the national and international levels as also their welfare implications at macro level and the distribution of gains from trade to North and South with particular reference to India. The study of the paper under the present era of globalization will train the students about the likely consequences on income, employment and social standards and possible policy solutions as the world will move into the 21st century.

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 intraindustry trade and its impact on developing economics.

Module 2 : Measurement of Gains and Theory of Interventions : Measurement of gains from trade and their distribution; Concept 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; The Theory of Interventions (Tariffs, Quotas and non-tariff barriers), Economic effects of tariff 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 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; The 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 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 : Form of economic cooperation; Reforms for the emergence of trading blocks at the global level; Static and Dynamic effects of a custom 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. Regionalism (EU, NAFTA); Multilateralism and WTO; Rise and fall of gold standard and Bretton-woods system; Need, adequacy and determinants of international reserves; Conditionality clause of IMF; Emerging International Monetary System with special reference to Post-Maastricht development and developing countries; Reform of the International Monetary System, India and developing countries; Theory of short-term capital movements and East-Asian Crisis and lessons for developing countries; International trade and financial institutions—Functions of GATT/WTO (TRIPS, TRIMS), UNCTAD, IMF, World Bank and Asian Development Bank—Their achievements and failures; WTO and World Bank from the point of view of India.

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.

Basic Reading List :

- Bhagwati, J. (Ed.) (1981), *International Trade, Selected Readings*, Cambridge, University Press, Massachusetts.
- Carbough, R. J. (1999), *International Economics*, International Thompson Publishing, New York.
- Chacholiades, M. (1990), *International Trade : Theory and Policy*, McGraw Hill, Kogakusha, Japan.
- Dana, M. S. (2000), *International Economics : Study, Guide and Work Book*, (5th Edition), Routledge Publishers, London.
- Dunn, R. M. and J. H. Mutti (2000), *International Economics*, Routledge, London.
- Kenen, P. B. (1994), *The International Economy*, Cambridge University Press, London.
- Kindleberger, C. P. (1973), *International Economics*, R. D. Irwin, Homewood.
- King, P. G. (1995), *International Economics and International Economics Policy : A Reader*, McGraw Hill, International, Singapore.
- Krugman, P. R. and M. Obstfeld (1994), *International Economics : Theory and Policy*, Glenview, Foresman.

— Salvatore, D.(1997), *International Economics*, Prentice Hall, Upper Saddle River, N. J., New York.

— Soderston, Bo (1991), *International Economics*, The Macmillan Press Ltd.,London.

ADDITIONAL READING LIST

Module 1 :

— Bhagwati, J. (Ed.) (1981), *International Trade : Selected Readings*, Cambridge University Press, Mass.

— Corden, W. M. (1965), *Recent Developments in the Theory of International Trade*, Princeton University Press, Princeton.

— Greenway, D. (1983), *International Trade Policy*, Macmillan Publishers Ltd., London.

Module 2 :

— Aggarwal, M. R. (1979), *Regional Economic Cooperation in South Asia*, S. Chand and Co., New Delhi.

— Barrow, R. J. (1979), *Macro Economic*, 4th Edition, John wiley, New York.

— Bhagwati, J. (1988) *Protectionism*, Cambrige University Press, Mass

— Clement, M. O., R. L. Pffister and K. J. Rothwell (1969), *Theoretical Issues in International Economics* Cosntable Publication, London.

— Corden, W. M. (1974), *Trade Policy and Economic Welfare*, Clarendon Press, Oxford.

— Goldstein, M. (1998), *The Asian Financial Crisis : Causes, Cure and Systematic Implication*, Institute for International Economics, Washington, D.C.

— Jackson, J. (1989), *The World Trading System*, Cambridge University Press, Mass.

— Pomfrert, R. (1988), *Unequal Trade : The Economics of Discriminatory International Trade Policies*, Black well Publishers, Oxford.

Module 3 :

— Crockett, A. (1982), *International Money : Issues and Analysis*, The ELBS and Nelson.

— Heller, H. Robert (1968), *International Monetary Economics*, Prentice Hall, India.

— Linder, S. B. (1961), *An Essay on Trade and Transformation*, Wiley, New York.

— Niehans, J. (1984), *International Monetary Economics*, John Hopkins University Press, Baltimore.

— Schwartz, A. J. (1987), *Money in Historical Perspective*, Chicago University Press, Chicago.

— Yeager, L. B. (1976), *International Monetary Relations : Theory, History and Policy*, Harper and Row, New York.

Module 4 :

— Aggarwal, M. R. (1979), *Regional Economic Cooperation in South Asia*, S. Chand and Co., New Delhi.

— Brahmananda, P. R. (1982), *The IMF Loan and India's Economic Future*, Himalaya Publishing House, Bombay.

— Grable, J. O. (1996), *International Financial Markets*, Prentice Hall, Englewood Cliffs, New York.

— Kenen, P. B. (1995), *Economic and Monetary Union in Europe*, Cambridge University Press, U.K.

— Kindleberger, C. P. (1996), *A History of Financial Crisis : Manias, Panics and Crashes*, (3rd Edition), John Wiley and Sons, New York.

— Manmohan Singh (1964), *India's Export Trends and the Prospects for Self-sustained Growth*, Oxford University Press, New Delhi.

— Mishkin, S. F. (1998), *The Economic of Money, Banking and Financial Markets*, (5th Edition), Harper Colins Publishers, New York.

— Mundell, R. (1968), *International Economic*, The Macmillan Company Ltd., New York.

— Nayyar, D. (1976), *India's Exports and Export Policies in the 1960s*, Cabbridge University Press.

— Panchmukhi, V. R., K. M. Raipuria and R. Tandon (1987), *Money and Finance in World Economic Order*, (RIS), Indus Publishing Co., Delhi.

— Panchmukhi, V. R. (1978), *Trade Policies of India — A Quantitative Analysis*, Concept Publishing Company, New Delhi.

— Pomfrert, R. (1996), *International Trade : An Introduction to Theory and Policy*, Basil Blackwell, Oxford.

- Soloman, R. (1982), *The International Monetary System 1945-1981*, Harper and Row Publishers, New York.
- Tew, B. (1985), *The Evaluation of the International Monetary System : 1945-1985*, Hutchinson.
- Whalley, John (1985), *Trade Liberalization Among Major Trading Areas*, Cambridge University Press, Mass.

Module 5 :

- Bhagwati, J. and P. Desai (1970), *India : Planning for Industrialization*, Oxford University Press, London.
- Brahmananda, P. R. and V. R. Panchmukhi (Eds.) (1987), *The Development Process of the Indian Economy*, Himalaya Publishing House, Bombay.
- Joshi, V. and I. M. D. Little (1998), *India's Economic Reforms, 1999-2000*, Oxford University Press, New Delhi.
- Patel, S. J. (1995), *Indian Economy Towards the 21st Century*, University Press, Ltd., India.
- Satyanarayan, B. (1986), *India's Trade with Asia and the Far East Countries*, B. R. Publishing Corp., New Delhi.
- Verma, M. L. (1995), *International Trade*, Vikas Publishing House Pvt. Ltd. Delhi.

M.A. Part II

Paper VII

Economics of Growth and development

Preamble : The study of economic development has gained importance because of sustained interest of the developing countries in uplifting their economic conditions by restructuring their economies to acquire greater diversity, efficiency and equity in consonance with their priorities. While few success stories can be counted, many have grappled with chronic problems of narrow economic base, inefficiency and low standard of living. For this and other reasons, there have been many approaches to economic development. In recent times, besides hardcore economic prescriptions to development, concerns hitherto relegated to background like education, health, sanitation and infrastructural development, have found a place of pride in explaining the preference of various economies.

Modules incorporated in this paper are devoted to the theories of growth and development, social and institutional aspects of development, importance of agriculture, and the rationale and pattern of industrialization in developing countries. The other important issues in the context of development such as infrastructures-linkages, role of international trade, importance of domestic macroeconomic policies, investment criteria and relevance of planning have been included in the modules of this paper.

Module 1 : Economic Growth I : 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 : Economic Growth II : 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.

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 of 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 Fei model; Dixit and Marglin model, Kelly et.al. Model; Dependence theory of development; Structural view of development.

Module 6 : Sectoral Aspects of Development : Role of agriculture in economic development; Efficiency and productivity in agriculture, New technology and sustainable agriculture; Globalization and agricultural growth; Rationale and pattern of industrialization in developing countries; The choice of techniques and appropriate technology and employment; Efficiency of small-scale vs. large-scale production; Terms of trade between agriculture and industry; Infrastructure and its importance; Labour markets and their functioning in developing countries.

Module 7 : Trade and Economic Development : International trade as engine of growth; Static and dynamic gains from trade; Prebisch, Singer and Myrdal thesis vs. free trade; Export-led growth; Dual gap analysis; Balance of payment; Tariffs and effective protection; Post-GATT international economic order; WTO and developing countries.

Module 8 : Macroeconomic Policies and Development : Role of monetary and fiscal policies in developing countries - Prior savings, inflation and growth - Empirical evidence; External resources - FDI, aid vs. trade, technology inflow; MNC activity in developing countries; Borrowings - domestic and external; Burden of borrowing - IMF and World Bank policies in developing countries.

Module 9—Allocation of Resources : Need for investment criteria in developing countries-present vs., future, Alternative investment criteria; Cost-benefit analysis, Shadow prices, Project evaluation and UNIDO guidelines. Need for planning-democratic, decentralized and indicative planning, micro-level planning; Review of Indian plan models and planning.

Basic Reading List :

- Adelman, I. (1961), *Theories of Economic Growth and Development*, Stanford University Press, Stanford.
- Behrman, S. and T. N. Srinivasan (1995), *Handbook of Development Economics*, Vol. 3, Elsevier, Amsterdam.
- Brown, M. (1966), *On the Theory and Measurement of Technical Change*, Cambridge University Press, Cambridge, Mass.
- Chenery, H. B. et. al. (Eds.) (1974), *Redistribution with Growth*, Oxford University Press, Oxford.
- Chenery, H. and T. N. Srinivasan (Eds.), (1989), *Handbook of Development Economics*, Vols. 1 & 2, Elsevier, Amsterdam.
- Dasgupta, P. (1993), *An Enquiry into Well-being and Destitution*, Clarendon Press, Oxford.
- Ghatak, S. (1986), *An Introduction to Development Economics*, Allen and Unwin, London.
- Gillis, M., D. H. Perkins, M. Romer and D. R. Snodgrass (1992), *Economics of Development*, (3rd Edition), W. W. Norton, New York.
- Gimmell, N. (1987), *Surveys in Development Economics*, Blackwell, Oxford.
- Higgins, B. (1959), *Economic Development*, W. W. Norton, New York.
- Hogendorn, J. (1996), *Economic Development*, Addison, Wesley, New York.
- Kahkonon, S. and M. Olson (2000), *A New Institutional Approach to Economic Development*, Vistaar.
- Kindleberger, C. P. (1977), *Economic Development*, (3rd Edition), McGraw Hill, New York.
- Meier, G. M. (1995), *Leading Issues in Economic Development*, (6th Edition), Oxford University Press, New Delhi.
- Myint, Hla (1965), *The Economics of Underdeveloped Countries*, Press, New York.
- Myint, H. (1971), *Economic Theory and Underdeveloped Countries*, Oxford University Press.

- Todaro, M. P. (1996), (6th Edition), *Economic Development*, Longman, London.
- Thirwal, A. P. (1999), (6th Edition), *Growth and Development*, Macmillan, U. K.

Additional Reading List :

Modules 1 & 2 :

- Barrel, R., G. Mason and M. O. Mahoney (2000), *Productivity, Innovation and Economic Performance*, Cambridge University Press, Cambridge.
- Barrow, R. and X Sela-I, Martin, *Economic Growth*, McGraw Hill, New York.
- Chakravarti, S. (1982), *Alternative Approaches to the Theory of Economic Growth*, Oxford University Press, New Delhi.
- Hayami, Y. (1997), *Development Economics*, Oxford University Press, New York.
- Meadows, D. H. et.al. (1972), *The Limits to Growth*, Universe Books New York.
- Sen, A. K. (Ed.) (1990), *Growth Economics*, Penguin, Harmondsworth.
- Solow, R. M. (2000), *Growth Theory : An Exposition*, Oxford University Press, Oxford.
- Taylor, L. (1979), *Macro Models for Developing Countries*, McGraw Hill, New York.
- Therberge, J. D. et. al. (1968), *Economics of Trade and Development*, John Wiley, New York.

Modules 3 & 4 :

- Dasgupta, P. (1993), *An Enquiry into Well-being and Destitution*, Clarendon Press, Oxford.
- Hirsch, A. O. (1958), *The Strategy of Economic Development*, Yale University Press New York.
- Lewis, W. A. (1955), *The Theory of Economic Growth*, George Allen and Unwin, London.
- Mehrotra, S. and J. Richard (1998), *Development with a Human Face* : Oxford University Press, New Delhi.
- Meier, G. M. and D. Seers (Eds.) (1987), *Pioneers in Development*, Oxford University Press, New York.
- Myrdal, G. (1957), *Economic Theory and Underdeveloped Regions*, Duckworth, London.
- Schumpeter, J. A. (1949), *The Theory of Economic Development*, Harvard University Press, Cambridge, Mass.
- Todaro, M. P. (1971), *Development Planning : Models and Methods*, Oxford University Press, Oxford.
- United Nations (1994), *Human Development Report*, United Nations, New York.

Modules 5 :

- Campbell, N. and F. Burton (Eds.) (1994), *Japanese Multinationals*, Routledge, New York.
- Dasgupta, P., A. K. Sen and S. Marglin (1972), *Guidelines for Project Evaluation*, UNIDO, Vienna.
- Hirsch A. O. (1958), *The Strategy of Economic Development*, Yale University Press, New York.
- Lewis, W. A. (1955), *The Theory of Economic Growth*, George Allen and Unwin, London.
- Mehrotra, S. and J. Richard (1998), *Development with a Human Face*. Oxford University Press, New Delhi.
- Myrdal, G. (1957), *Economic Theory and Underdeveloped Regions*, Duckworth, London.
- Ranis, G. and A. Mahmood (1992), *Political Economy for Development*, Blackwell, Cambridge, Mass.
- Sen, A. (1992), *Inequality Reexamined*, Oxford University Press, Oxford.
- United Nations (1994), *Human Development Report*, United Nations, New York.

Module 6 :

- Chakravarti, S. (1987), *Development Planning : The Indian Experience*, Clarendon Press, Oxford.
- Bhagwati, J. and P. Desai (1970), *India : Planning for Industrialization*, Oxford University Press, London.
- Grossman, G. and E. Helpman (1991), *Innovation and Growth in the Global Economy*, MIT Press, Cambridge, Mass.
- Nayyar, D. (Ed.) (1994), *Industrial Growth and Stagnation : The Debate in India*, Oxford University Press, New Delhi.
- Todaro, M. P. (1971), *Development Planning : Models and Methods*, Oxford University Press,

— Weiss, J. (1988), *Industry in Developing Countries*, Croom Helm, London.

Module 7 :

- Grossman, G. and E. Helpman (1991), *Innovation and Growth in the Global Economy*, MIT Press, Cambridge, Mass.
- Hayami, Y. (1997), *Development Economics*, Oxford University Press, New York.
- Hayami, Y. and M. Akoi (Eds.) (1998), *The Institutional Foundations of East Asian Economic Development*, Macmillan, London.
- Killick, T. (1995), *IMF Programmes in Developing Countries : Design and Impact*, Routledge, London.
- Kuznets, Simon (1971), *Economic Growth of Nations, Total Output and Production Structure*, Harvard University Press, Cambridge, Mass.
- Little, I. M. D. (1982), *Economic Development : Theory and International Relations*, Basic Books, New York.
- Mason, M. (1992), *American Multinationals and Japan*, Harvard University Press.
- Therberge, J. D. (Ed.) (1968), *Economics of Trade and Development*, John Wiley, New York.

Module 8 :

- Brahmananda, P. R. and C. N. Vakil (1956), *Planning for an Expanding Economy*, Vora and Co., Bombay.
- Chakravarti, S. (1987), *Development Planning : The Indian Experience*, Clarendon Press, Oxford.
- Gupta, S. B. (1988), *Monetary Economics : Institutions, Theory and Policy*, S. Chand and Co., New Delhi.
- Jadhav, N. (1995), *Monetary Economics for India*, Macmillan, New Delhi.
- Killick, T. (1995), *IMF Programmes in Developing Countries : Design and Impact*, Routledge, London.
- Little, I. M. D. (1982), *Economics Development : Theory and International Relations*, Basic Books, New York.
- Mason, M. (1992), *American Multinationals and Japan*, Harvard University Press, Cambridge, Mass.
- Mehrotra. S. and J. Richard (1998), *Development with a Human Face*, Oxford University Press, New Delhi.
- Therberge, J. D. (Ed.) (1968), *Economics of Trade and Development*, John Wiley, New York.
- World Bank (1993), *East Asian Miracle*, World Bank Report, Washington D. C.
- World Bank (1994), *Infrastructure and Development*, World Bank, Washington D. C.
- United Nations (1994), *Human Development Report*, United Nations, New York.

Module 9 :

- Dasgupta, P., A. K. Sen and S. Marglin (1972), *Guidelines for Project Evaluation*, UNIDO, Vienna.
- Mishan, E. J. (1975), *Cost-Benefit Analysis*, (2nd Edition), Allen and Unwin, London.
- Bhagwati, J. and P. Desai (1970), *India : Planning for Industrialization*, Oxford University Press, London.
- Brahmananda, P. R. and C. N. Vakil (1956), *Planning for an Expanding Economy*, Vora and Co., Bombay.
- Chakravarti, S. (1987), *Development Planning : The Indian Experience*, Clarendon Press, Oxford.
- Mehrotra. S. and J. Richard (1998), *Development with a Human Face*, Oxford University Press, New Delhi.
- Thirlwal, A. P. (1974), *Inflation, Saving and Geowth in Developing Economies*, Macmillan, London.
- Todaro, M. P. (1971) *Development Planning : Models and Methods*, Oxford University, Press, Oxford.

M.A. Part II

Paper VIII—A (Optional group) : Agricultural Economics II

Preamble : The objective of this course is to provide a detailed treatment of issues in agricultural

economics to those intending to specialize in this area. Its objective is to familiarize students with policy issues that are relevant to Indian agricultural economics and enable them to analyze the issues, using basic micro-economic concepts.

Module 1 : Diversification of Rural Economic Activities : Livestock Economics - livestock resources and their productivity; Problems of marketing; white revolution; Fishery and poultry development; Forestry; horticulture and floriculture; Issues and problems in rural industrialization and development of agro based industries.

Module 2 : Economics of Rural Infrastructure : Use of land, water and energy; Rural transport, communication, banking, extension services, role, modes and problems of rural electrification, Rural social infrastructure - education and health and information dissemination.

Module 3 : Land Reforms and Land Policy : Principles of land utilization; Land distribution - structure and trends; land value and rent; land tenures and farming systems - peasant, capitalist, collective and state farming; Tenancy and crop sharing - forms, incidence, and effects; land reform measures and performance; women and land reforms, problems of marginal and small farmers.

Module 4 : Irrigation : Irrigation - Methods - Sources - Criteria for selection of irrigation projects.

Module 5 : Market Organization & Co-operation in Indian Agricultural : Market organization - village, wholesale and Terminal Markets - Co-operative Marketing - storage and processing - Forward Markets - Marketable surplus - State Trading.

Agricultural co-operation in India, problems and prospects of co-operative institutions.

Module 6 : Agricultural Prices : Marketing and state policy; Agricultural markets and marketing efficiency - Marketing functions and costs; Market structure and imperfections; Regulated markets; marketed and marketable surplus - Behaviour of agricultural prices; price and income stability; state policy with respect of agricultural marketing, warehousing prices. Objectives of agricultural price policy; Instrument & evaluation; Food security in India & Public distribution systems.

Module 7 : Agricultural Growth & Agricultural Policy : Recent trends in agricultural growth in India; price & production control; Behaviour of Agricultural price - sectoral terms of trade between Industry and agriculture - Its role in mobilization of marketable surplus - Economic of price support. Sustainable agriculture indigenous practices; Bio-technological practices and growth potential.

International trade in agricultural commodities; commodity agreements - Role of World Trade Organization; Issues in liberalization of domestic and international trade in agriculture.

Module 8 : Agricultural Taxation in India : Land Taxation - Land Revenue - Farm Income Taxation - Agriculture holding Tax - Battering levy - Irrigation charges.

Module 9 : Risk and Uncertainty in Agriculture : Risk and uncertainty in agriculture; Difference between risk, subjective risk and pure uncertainty - Types of uncertainty - Degree of uncertainty - adjustment at production and resource use to uncertainty - problems and feasibility of crop diversification and crop insurance.

Basic Reading List :

- Bhaduri, A (1984), *The Economic Structure of Backward Agriculture*, Macmillan, Delhi.
- Bilgrami, S. A. R. (1996), *Agricultural Economics*, Himalaya Publishing House, Delhi.
- Dantwala, M. L. et.al. (1991), *Indian Agricultural Development Since Independence*, Oxford & IBH, New Delhi.
- Government of India (1976), *Report of the National Commission on Agriculture*, New Delhi.
- Government of India, *Economic Survey (Annual)*, New Delhi.
- Gulati, A. T. Kelly (1999), *Trade Liberalisation and Indian Agriculture*, Oxford University Press, New Delhi.
- Joshi, P. C. (1975), *Land Reforms in India : Trends and Prospects*, Allied Publishers, Bombay.
- Kahlon, A. S. and Tyagi D. S. (1983), *Agriculture Price Policy in India*, Allied Publishers, New Delhi.
- Rao, C. H. Hanumantha (1975), *Agricultural Growth, Rural Poverty and Environmental Degradation in India*, Oxford University Press, New Delhi.
- Reserve Bank of India, *Report on Currency and Finance (Annual)*, Mumbai.
- Rudra, A. (1982), *Indian Agricultural Economics : Myths and Reality*, Allied Publishers, New Delhi.
- Saini, G. R. (1979), *Farm Size, Resource Use Efficiency and Income Distribution*, Allied

Publishers, New Delhi.

- Thamarajakshi, R. (1994), *Intersectoral Relationship in a Developing Economy*, Academic Foundation, Delhi.
- Papola, T. S. (1982), *Rural Industrialisation in India*, Himalaya Publishing House, Bombay.
- Soni, R. N. (1995), *Leading Issues in Agricultural Economics*, Arihant Press, Jalandhar.
- Wanmali S. and C. Ramasamy (Eds.), (1995), *Developing Rural Infrastructure*, Macmillan, New Delhi.
- Appu, P. S. (1996), *Land Reforms in India*, Vikas, New Delhi.
- Bardhan, P. (1984), *Land, Labour and Rural Poverty*, Oxford University Press, New Delhi.
- Brahmananda, P. R., B. K. Narayan and A. Kalappa (Ed.) (1987), *Dimensions of Rural Development in India*, Himalaya Publishing House, New Delhi.
- Chadha, G. K. and A. N. Sharma (1997), *Growth, Employment and Poverty : Change and Continuity in Rural India*, Vikas Publishing House, New Delhi.
- Chakravarty, S. (1987), *Development Planning : The Indian Experience*, Oxford University Press, New Delhi.
- Chaudhary, P. (1972), *Readings in Indian Agricultural Development*, George Allen & Unwin, London.
- Dantwala, M. L. (1996), *Dilemmas of Growth : The Indian Experience*, Sage Publications, New Delhi.
- Ghatak, S. and K. Ingerscent (1984), *Agriculture and Economic Development*, Select books, New Delhi.
- Haque, T. and A. S. Sirohi (1986), *Agrarian Reforms and Institutional Changes in India*, Concept Publishing Company, Delhi.
- Khusro, A. M. (1973), *The Economics of Land Reforms and Farm Size in India*, Macmillan, New Delhi.
- Reserve Bank of India (1989), *Report of the Agricultural Credit Review Committee*, Reserve Bank of India, Bombay.
- Brahmananda, P. R. and V. R. Panchmukhi (Eds.) (1987), *The Development Process of the Indian Economy*, Himalaya Publishing House, Bombay.
- Desai, G. and A. Vaidyanathan (Eds.) (1995), *Strategic Issues in Future Growth of Fertiliser Use in India*, Macmillan, New Delhi.
- Kaur, R. (1975), *Agricultural Price Policy in Economic Development*, Kalyani Publishers, Delhi.
- Mitra, A. (1977), *Terms of Trade and Class Relations*, Frank Cass Co. Ltd., London.
- Raj, K. N. et. al., (1988), *Essays in the Commercialisation of Indian Agriculture*, Oxford University Press, New Delhi.
- Subbarao, K. and De Janvry (1986), *Agricultural price Policy and Income Distribution in India*. Oxford University Press, New Delhi.
- Vaidyanathan, A. (1995), *The Indian Economy : Crisis, Response and Prospects*, Orient Longmans, New Delhi.
- Bhalla G. S., (1994), *Economic Liberalisation and Indian Agriculture*, Institute for Studies in Industrial Development, New Delhi.
- Chelliah, Raja J. and R. Sudarshan (1999), *Income, Poverty and Beyond : Human Development in India*, Social Science Press, New Delhi.
- Dhawan, B. D. (1988), *Irrigation in India's Agricultural Development*, Sage Publications, New Delhi.
- Uppal, J. S. (Ed.) (1987), *India's Economic Problems - An Analytical Approach*, Tata McGraw Hill, New Delhi.

M.A. Part II

Paper VIII—B (Optional Paper) : Industrial Economics (Labour Economics)

Preamble : Issues pertaining to the labour market, wage theories, employment policies, trade unions and collective bargaining in the globalized economy have become vitally important for developing countries. In a country like India where the bulk of the labour force is in the unorganized sector and the organized sector is witnessing “jobless” growth, the importance of issues such as employment and unemployment as well as livelihood and social security for the growth millions continues to assume significance. This Paper exposes students to theoretical as well as empirical issues relating to the labour market with special reference to India.

Module 1 : Labour Markets : Nature and characteristics of labour markets in developing countries like India; Paradigms of labour market analysis - Classical, neo-classical and dualistic economy; Demand for labour in relation to size and pattern of investment; Choice of technologies and labour policies; Supply of labour in relation to growth of labour force; Labour market policies; Mobility and productivity of labour; Rationalization; Methods of recruitment and placement; Employment service organization in India.

Module 2 : Employment : Employment and development relationship - Poverty and unemployment in developing countries; Unemployment - Concept, Types, and Measurement, particularly in India; Impact of rationalization, technological change and modernization on employment in organized private industry, Public sector and employment in agricultural sector; Analysis of educated unemployment; Employment policy in Five Year Plans and its evaluation.

Module 3 : Wage Determination : Classical, neo-classical and bargaining theories of wage determination; Concepts of minimum wage, living wage and fair wage in theory and practice; Discrimination in labour markets; Wage determination in various sectors - rural, urban, organized, unorganized and in informal sectors; Non-wage component of labour remuneration; Inflation-wage relationship at micro and macro levels; Productivity and wage relationship; Analysis of rigidity in labour markets; Asymmetric information and efficiency of labour markets in wage determination; National wage policy; Wages and wage boards in India; Bonus system and profit sharing.

Module 4 : Industrial Relations : Theories of labour movement - Growth, pattern and structure of labour unions in India, Achievements of labour unions; Causes of industrial disputes and their settlement and prevention mechanism; Role of tripartism; current trends in collective bargaining; Role of judicial activism; labour Legislation in India; Indian labour laws and practices in relation to international labour standards.

Module 5 : State and Labour : State and social security of labour - Concept of social security and its evolution; Social assistance and social insurance; Review and appraisal of states policies with respect to social security and labour welfare in India; Special problems of labour : Child labour, female labour, Discrimination and gender bias in treatment of labour; Receding state and its effect on working of labour markets; Labour market reforms - Exit policy, need for safety nets, measures imparting flexibility in labour markets; Second National Commission on Labour; Globalization and labour markets.

Basic Reading List :

- Datt, G. (1996) : *Bargaining Power, Wages and Employment : An Analysis of Agricultural Labour Markets in India*, Sage Publications, New Delhi.
- Hajela, P. D. (1998) : *Labour Restructuring in India : A Critique of the New Economic Policies*, Commonwealth Publishers, New Delhi.
- Jhabvala, R. and R. K. Subrahmanya (Eds.) (2000) : *The Unorganised Sector : Work Security and Social Protection*, Sage Publications, New Delhi.
- Lester, R. A. (1964) : *Economics of Labour* (2nd Edition), Macmillan, New York.
- MacConnell, C. R. and S. L. Brue (1986) : *Contemporary Labour Economics*, MacGraw Hill, New York.
- Papola, T. S., P. P. Ghosh and A. N. Sharma (Eds.) (1993) : *Labour, Employment and Industrial Relations in India*, B. R. Publishing Corporation, New Delhi.
- Rosenberg M. R. (1988), Labour Markets in Low Income Countries in Chenery, H. B. and T. N. Srinivasan (Eds.) : *The Handbook of Development Economics*, North-Holland, New York.
- Venkata Ratnam, C. S. (2001) : *Globalization and Labour-Management Relations : Dynamics of Change*, Sage Publications/Response Books, New Delhi.

Additional Reading List :

Module 1 :

- McCormick, B. and Smith (Eds.) (1968) : *The Labour Market*, Penguin, Harmondsworth.
- Papola, T. S. and Rodgers, G. (Eds.) (1992) : *Labour Institutions and Economic Development in India*, International Institute for Labour Studies, Geneva.
- Rees, A. (1973) : *Economics of Work and Pay*, Harper and Row, New York.
- Sen, A. K. (1975) : *Employment, Technology and Development*, Oxford University Press,

— Solow, R. M. (1990) : *Labour Market as an Institution*, Blackwell, London.

Module 2 :

- Das, N. (1960) : *Unemployment, Full Employment and India*, Asia Publishing House, Bombay.
- Deshpande, L. K., P. R. Brahmananda, E.A.G. Robinson, (Eds.) (1983) : *Employment Policy in a Developing Economy*, Vol. I & II Macmillan, London.
- Kannapan, S. (1983) : *Employment Problems and Urban Labour Markets in Developing Countries*, University of Michigan, Ann Arbor.
- Papola, T. S. and Sharma, A. N., (Eds.) (1999) : *Gender and Employment in India*, Vikas Publishing House, New Delhi.
- Sharma A. N. and A. Kunda (ed.), (2001) : *Informal Sector in India : Emerging Perspectives*, Institute for Human Development, New Delhi.

Module 3 :

- Binswanger H. P. and M. R. Rosenzweig (Eds.), (1984) : *Contractual Arrangements, Employment and Wages in Rural Labour Markets in Asia*, Yale University Press, New Haven.
- Deshpande L. K. and J. C. Sandesara (Eds.), (1970) : *Wage Policy and Wages Determination in India*, Bombay University Press, Bombay.
- Foster, A. D. and M. R. Rosenberg, (1993) : *Information Flows and Discrimination in Labour Markets in Rural Areas in Developing Countries*, Annual Conference on Development Economics, World Bank, Washington D. C.
- Hicks J. R. (1932) : *The Theory of Wages*, Clarendon Press, Oxford.
- Madan, B. K. (1977) : *The Real Wages of Industrial Workers in India*, Management Development Institute, New Delhi.
- Mazumdar, D. (1989) : *Micro-economic Issues of Labour Markets in Developing Countries*, EDI Services Paper No. 40, World Bank, Washington D. C.

Module 4 :

- Breman, J. (1996) : *Footloose Labour : Working in India's Informal Economy*, Cambridge University Press, Cambridge.
- Memoria, C. B. (1966) : *Labour Problems and Social Welfare in India*, Kitab Mahal, Allahabad.
- Punekar, S. D. (1978) : *Labour Welfare, Trade Unionism and Industrial Relations*, Himalaya Publishing House, Bombay.
- Sach, J. (1990), 'Social Conflict and Populist Policies in Latin America', in R. Brunnetta and C. D. Aringa, (Eds.) : *Labour Relations and Economic Performance*, Macmillan, Basing Stock.
- Singh, V. B., (Ed.) (1970) : *Industrial Labour in India*, Popular Prakashan, Bombay.

Module 5 :

- Deshpande, S. G. Standing and, L. K. Deshpande (1998) : *Labour Flexibility in a Third World Metropolis*, Commonwealth Publishers, New Delhi.
- Hauseman, S. (1991) : *Industrial Restructuring with Job Security*, Harvard University Press, Cambridge, Mass.
- MHRD, GOI (1987) : *Shram Shakti : Report of the National Commission on Self-employed Women and Women Workers in the Informal Sector*, Ministry of Human Resources Development, New Delhi.
- Misra, L. (2000) : *Child Labour in India*, Oxford University Press, New Delhi.
- Riveros, L. (1990) : *Labour Market Policies and Labour Market Reforms in Socialist Economies*, World Bank, Washington D.C.
- Standing G. and V. Tokman, (Eds.) (1991) : *Towards Social Adjustment*, ILO, Geneva.

M.A. Part I

Paper VIII—C (Optional Paper) : Mathematical Economics and Econometrics - II

Preamble : Applications of economic theory need a reasonable understanding of economic relationships and relevant statistical methods. The econometric theory thus becomes a very powerful tool

for understanding of applied economic relationships and for meaningful research in economics. This paper accordingly is devoted to equip the students with basic theory of econometrics and relevant applications of the methods. The topics covered in the course include various problems faced in estimation of both single equations and simultaneous equations models.

The course also covers various econometric methods applicable to different topics in economics and those needed for applied economic research. An introductory module on multivariate methods has also been include in the course which constitutes an important tool for analysis in multivariable data in development related studies.

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^2 and adjusted R^2 ; Concept and analysis of variance approach and its application in regression analysis; Estimation of non-linear equations—parabolic, exponential, geometric, hyperbolic, modified exponential; Gompertz and logistic functions.

Module 2 : Problems in Regression Analysis : Nature, test, consequences and remedial steps of problems of heteroscedasticity; Multicollinearity and auto-correlation; Problems of specification error; Errors of measurement.

Module 3 : Regressions with Qualitative Independent Variables : Dummy variable technique—Testing structural stability of regression models comparing to regressions, interaction effects, seasonal analysis, piecewise linear regression, use of dummy variables in regression with dummy dependent variables; The LPM, Logit, Probit and Tobit models—Applications.

Module 4 : Dynamic Econometric Model : Autoregressive and distributed lag models—Koyck model, Partial adjustment model, adaptive expectations; Instrumental variables; Problem of auto-correlation—Application; Almon approach to distributed-lag models; Error correlation mechanism, 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.

Module 6 : Time Series Analysis : Stationarity, unit roots, co-integration-spurious regression, Dickey-Fuller test, Engle-Granger test, Random walk model, Forecasting with ARIMA modelling; Box-Jenkins methodology; Vector autoregression; Problems with VAR modelling—Applications; Time varying parameters and Kalman filter.

Module 7 : Panel Data Techniques : Panel data techniques—Random coefficients model; Fix effects model; Random effect model.

Module 8 : Multivariate Analysis : Multivariate probability distribution, marginal and conditional probability distribution, multivariate normal distribution and its properties; Hotelling T-scale; Discriminant analysis.

Basic Reading List :

- Amemiya, T. (1985) : *Advanced Econometrics*, Harvard University Press, Cambridge, Mass.
- Baltagi, B. H. (1998) : *Econometrics*, Springer, New York.
- Dongherty, C. (1992) : *Introduction to Econometrics*, Oxford University Press, New York.
- Goldberger, A. S. (1998) : *Introductory Econometrics*, Harvard University Press, Cambridge, Mass.
- Gujarati, D. N. (1995) : *Basic Econometrics* (2nd Edition), McGraw Hill, New Delhi.
- Hill R. C., E. G. William and G. G. Judge (1997) : *Undergraduate Econometrics*, Wiley, New York.
- Kennedy, P. (1998) : *A Guide to Econometrics*, (4th Edition), MIT Press, New York.
- Kmenta, J. (1997) : *Elements of Econometrics* (Reprint Edition), University of Michigan Press, New York.
- Koutsoyiannis, A. (1977) : *Theory of Econometrics* (2nd ed.) The Macmillan Press Ltd., London.
- Krishna, K. L. (Ed.) (1997) : *Econometric Applications in India*, Oxford University Press, New Delhi.
- Maddala, G. S. (Ed.) (1993) : *Econometrics Methods and Application* (2 Vols.), Aldershot U.K.

— Theil, H. (1981) : *Introduction to Econometrics*, Prentice Hall of India, New Delhi.

Additional Reading List :

Module 1 :

— Croxton, F. E., D. J. Cowden and S. Klein (1973) : *Applied General Statistics*, Prentice Hall, New Delhi.

— Maddala, G. S. (1997) : *Econometrics*, McGraw Hill, New York.

Module 2 :

— Intrilligator, M. D. (1978) : *Econometric Methods, Techniques and Applications*, Prentice Hall, Englewood Cliffs, New Jersey.

— Johnston, J. (1991) : *Econometric Methods*, McGraw Hill Book Co., London.

Module 3 :

— Chow, G. C. (1983) : *Econometrics*, McGraw Hill, New York.

— Pindyck, R. S. and D. L. Rubinfeld (1976) : *Econometric Models and Economic Forecasts*, McGraw Hill Kogakusha, Tokyo.

Module 4 :

— Chow, G. C. (1983), *Econometrics*, McGraw Hill, New York.

— Franses, P. H. (1998), *Time Series Models for Business and Economic Forecasting*, Cambridge University Press, New York.

— Hamonda, O. F. and J. C. R. Roley (1997), *Time Series Model, Causality and Exogeneity*, Cheltenham, U. K.

— Hansen, P. R. and S. Johanson, (1998), *Workbook on Cointegration*, Oxford University Press, New York.

— Harvey, A. C. (1981), *Econometric Analysis of Time Series*, Phillip Allen, London.

— Johnston, J. (1991), *Econometric Methods*, McGraw Hill Book Co., London.

— Maddala, G. S. (1997), *Econometrics*, McGraw Hill, New York.

Module 5 :

— Chow, G. C. (1983) : *Econometrics*, McGraw Hill, New York.

— Intrilligator, M. D. (1978) : *Econometric Methods, Techniques and Applications*, Prentice Hall, Englewood Cliffs, New Jersey.

— Pindyck, R. S. and D. L. Rubinfeld (1976) : *Econometric Models and Economic Forecasts*, McGraw Hill, Kogakusha, Tokyo.

Module 6 :

— Dhrymes, P. J. (1970) : *Econometrics - Statistical Foundations and Applications*, Harper and Row Publishers, New York.

— Franses, P. H. (1998) : *Time Series Models for Business and Economic Forecasting*, Cambridge University Press, Cambridge.

— Hansen, P. R. and S. Johanson (1998) : *Workbook on Cointegration*, Oxford University Press, New York.

— Intrilligator, M. D. (1978) : *Econometric Methods, Techniques and Applications*, Prentice Hall, Englewood Cliffs, New Jersey.

Module 7 :

— Draper, N. R. and H. Smith (1966) : *Applied Regression Analysis*, John Wiley, New York.

— Harvey, A. C. (1981) : *Econometric Analysis of Time Series*, Philip Allen, London.

— Pindyck, R. S. and D. L. Rubinfeld (1976) : *Econometric Models and Economic Forecasts*, McGraw Hill Kogakusha, Tokyo.

Module 8 :

— Anderson, T. W. (1958) : *Introduction to Multivariate Statistical Analysis*, Chapman and Hall, London.

— Chatfield, C. and A. J. Collins (1980) : *Introduction to Multivariate Analysis*, Chapman and Hall, London.

M.A. Part II**Paper VIII D (Optional Paper) Managerial Economics II**

1. Risk and uncertainty for decision making : Measuring and Describing risk - Preferences towards risk-reducing risk - demand for risky assets - decision making under uncertainty : the maximin and minimax criteria - other methods and dealing with uncertainty.
2. Benefit - Cost analysis and public sector management : Basic for cost benefit analysis and public goods-social discount rate-evaluation of cost-benefit analysis-theory of public choice and its importance.
3. Game Theory and competitive strategy : Gaming and strategic decisions-dominant strategies - the Nash equilibrium reviewed - Repeated games - Sequential games - threats, commitments credibility - entry deterrence-bargaining strategy.
4. Impact of technological change, transfer of technology - changes in productivity - Technological change and market structure - industrial innovation - environmental forecasting.
5. The Firm in a Global Economy : Basic location principles - Market area determination - Threshold analysis - selecting an industrial location-locating the firm in a global economy.
6. Taxes and decision making : Excise taxes - Taxes on profit - Taxes on inputs - property Taxes - Tax preferences.
7. Industrial Policy reforms, liberalisation and globalisation in Indian Economy and their impact on profitability, markets and production.

References :

- Managerial Economics by H. Craig and W. Cris Peterson, Prentice-Hall of India, 1995.
- Managerial Economics by Dominic Salvatore, McGraw Hill International Editions, 1989.
- Microeconomics for managers by Ravindra H. Dholkia and Ajay N. Oza, Oxford University Press, 1996.
- Indian Economy by Rudra Dutta and Sundaram, 2000.
- Managerial Economics by Rikie W. D. and J. N. Crook, Heritage Publishers, 1988.

M.A. Part II**Paper VIII—E : Environmental Economics - II**

(Natural Resources, Environmental Problems and Policy)

1. Natural Resources : Nature and characteristics - Non-Renewable and Renewable Natural Resources. Development use of Natural Resources and the Environment Economics of Exhaustible and Renewable Resources.
2. Global Environmental Problems : Pollution, climate changes, Deforestation, Soil Degradation, Degradation of Marine Resources and Ground Water Exploitation.
3. Major Environmentally Problematic Projects in developed and Developing countries with special focus on India - the Review of North-South Devide Debate.
4. Conventional National Account System vs. Natural Resource Accounting System.
5. Environmental Policy : Market Based and Non-market Instruments for the control and conservation of Natural - Environmental Resources. Economic Incentives for Environmental Protection - Designing Fiscal Instruments. Marketable Pollution Permits.
6. Trade and Environment in WTO Regime.
7. Global Partnership of Sustainable Development : Stockholm to Rio-Montreal Protocol - Role of International Institutes and Organisations.

Reading Material *—Paper II :

- Randall Alan (1987) : *Resource Economics : An Economic Approach to Natural Resources and Environmental Policy*, 2nd ed., John Wiley, New York.
- Dasgupta Parth (1982) : *The Control of Resources*, Harward University Press, Cambridge, Mass.
- Davis Kingsley and Mikhail S. Bernstam (1991) : *Resources, Environment and Population*, Oxford University Press, New York.
- Pearce and Turner (1990) : *Economics of Natural Resources and the Environment*.
- Turner Kerry R. (ed.) : *Sustainable Environmental Economics and Management : Principles and Practices*.

* Some of the Books and references, suggested for Paper I, are equally useful for the topics covered in this paper.

M.A. Part II

Paper VIII—F (Optional Paper) : Financial Institution & Market (International Finance) II

1. International Finance : Meaning, Scope, Importance.
2. International financial markets : Nature, Organisation and Participants, foreign and Euro components, major centers - London, New York, Tokyo and Singapore.
3. Balance of payments, International liquidity, International capital movements.
4. International monetary systems, IMF changes in world monetary system after 1972.
5. Analysis and measurement of risk in international financial transactions.
6. International money market and forex market - instruments, players and regulations, working of world Bank and its affiliates, ADB.
7. International equity market - instruments, players and regulations.
8. International bond market - instruments, players, and regulations.
9. International financial derivatives - forwards, futures, options and swaps, Characteristics, trading systems, pricing and trading strategies of these financial derivatives.
10. Risk management in international financial transactions, hedging strategies.

Reference :

- International Finance - M. Levi
- International Finance - Arvind Jain
- Foreign Exchange, International Finance, Risk Management - A. V. Rajwade.
- International Financial Management - P. G. Apte
- Handbook of International Finance - George & Giddy
- International Money Market - Giddy
- Money in International Exchange - Mc Kinnon
- Options, futures and other derivatives - Hull
- Financial Derivatives - Red head.
- Brahmananda, P. R. (1982), *IMF Loan and India's Economic Future*, Himalaya Publishing House, Bombay.
- Chamberlain, G. (1981), *Trading in Options*, Woodhed-Faulker, Cambridge.
- Crocker, A. (1982), *International Money : Issues and Analysis*, The English Language Book Society, Nelson, London.
- Kindleberger, C. P. (1996), *A History of Financial Crisis, Manias, Panics and Crashes*, John Wiley & Sons, New York.
- Mackinnon, R. J. (1979), *Money in International Exchange*, Oxford University Press, Oxford.
- Niehans, J. (1984), *International Monetary Economics*, John Hopkins University Press, New York.
- R.B.I. (1995), *Report of the Working Group on Foreign Exchange Market in India*, (Sodhani Group), Mumbai.
- Redseth, A. (2000), *Open Economy Macroeconomics*, Cambridge University Press, Cambridge.
- Yeager, L. B. (1976), *International Monetary Relations : Theory, History and Policy*, Harper and Row, New York.

M.A. Part II

Paper VIII—G (Optional Paper) : Information Technology and Data Analysis : II

(a) Data Analysis with Spreadsheet Package : Fundamentals of electronics spreadsheets : cell, Cell operations, data types allowed. To create spreadsheet, move data, formatting data, relative address, absolute address, arithmetic, financial and statistical operations, generating and printing graphs.

(b) Data Analysis using Statistical Analysis Package : Introduction to SPSS/PC, creation of data files, SPSS Commands for defining data - DATA LIST, variable lables, value Lables, saving system files, Obtaining Statistics with FREQUENCIES proceduer. Use of RECODE, MEANS, COMPUTE and IF, Missing values.

CROSSTABS and related statistics. CORRELATION and REGRESSION. T-TEST.

(c) Using presentation package, Study of Power Point package, creating presentation, using text, graphics, creating and presenting slides.

(d) E-Commerce : Theory and Practice.

Marks Distribution :

The theory examination of 3 hours will be conducted for 70 marks. 30 marks will be allocated to practical examination.

References :

1. Computer Fundamentals by Sinha P. K. (1992) BPS Publishers
 2. Illustrated MS DOS by Stultz BPS Publishers
 3. Learn Windows 95 in a day by Fuller BPS Publishers
 4. ABCs of MS Office 97 by Hart BPS Publishers
 5. SPSS/PC Reference Manual SPSS Incorporated.
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