

North Gujarat University - Patan.

New Syllabus : Recommended by U.G.C.

M.A. Part - I :- Micro Economic Analysis. Paper - I.

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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

Elasticities (price, cross, income) of demand — theoretical aspects and empirical estimation; elasticity of supply; 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); 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 functions; 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

Mo

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.

Mc

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

B/

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; 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; Rawls'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 Microeconomics Theory, Princeton University Press, Princeton.
- Koutsoyiannis, A. (1979), Modern Microeconomics, (2nd Edition), Macmillan Press, London.
- Layard, P.R.G. and A.W. Walters (1978), Microeconomics 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), Microeconomics Analysis, W.W. Norton, New York.

ADDITIONAL READING LIST

Module - 1 :

- Baumol, W.J. (1982), Economics 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), Economics 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.
- Hirschleifer, 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.
- Graf, 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.

- Arrow, K.J. and M.D. Intriligator (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.) (1976), Uncertainty in Economics, Academic Press, New York.
 - Hirshleifer, J. and A. Glazer (1997), Price Theory and Applications, Prentice Hall of India, New Delhi.
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North Gujarat University - Patan.
New Syllabus : Recommended by U.G.C.
M.A.Part - I :- Micro Economic Analysis. Paper - II.

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PREAMBLE :

Microeconomics or aggregative economics analyses and 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.

Module - 1 : National Income and Accounts

NC

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 : Consumption Function

A

Keynes' psychological law of consumption — implications of the law; short-run and long-run consumption relationship — absolute income, relative income, life cycle and permanent income hypotheses.

Module - 3 : 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 - 4 : 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 and open economy; control of money supply.

Module - 5 : 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; Derivation of LM curve.

Module - 6 : Post-Keynesian 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 quantity theory; Crisis in Keynesian economics and the revival of monetarism

Module - 7 : 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 - 8 : Business Cycles

Theories of Schumpeter, Kaldor, Samuelson and Hicks, Goodwin's model; Control of business cycles — relative efficacy of monetary and fiscal policies.

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), Macroeconomics 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. Northon, New York.
- Heijdra, B.J. and V.P. Fredericck (2001), Foundations of Modern Macroeconomics, Oxford University Press, New Delhi.

- Jha, R. (1991), Contemporary Macroeconomic Theory and Polity, Wiliy Eastern Ltd., New Delhi.
- Romer, D.L. (1996), Advanced Macroeconomics, McGraw Hill Company Ltd., New York.
- Scarfo, B.L. (1977), Cycles, Growth and Inflation, MaGrow Jill, New York.
- Shapiro, E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi.
- Surrey, M.J.C. (Ed.) (1976), 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 :

- Duesenberry, J.S. (1949), Income, Saving and the Theory of Consumer Behaviour, Jarvard University Press, Harvard.
- Friedman, M. (1957), The Theory of Consumption Fuction, 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 Rinehart and Winston, New York

Module - 3 :

- Gordon, R. and S.G. Harris (1996), Macroeconomics, Addison Wesley.
- Culbertson, J.M. (1968), Macroeconomics Theory and Stabilization Policy, MaGraw Hill, Kogenkosh, Tokyo.

Module - 4 :

- Chakravarty, S.C. (1985), Report of the Committee to Review the working of the Monetary System, Reserve Bank of India, Bombay.
- Gupta, S.B. (1985), 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. (1978) Money, The Price Level and Interest Rates. Prentice Hall of India, New Delhi.
- Reddy, Y.V. (2000), A Review of Monetary and Financial Sector Reforms in India — A Central Banker's Perspective, UBSPD, New Delhi.

ModModule - 5 :

- 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, Dutton Valley, New York.
- Mckinen G.E. (1978), Money, The Price Level and Interest Rates, Prentice Hall of India, New Delhi.

ModModule - 6 :

- Leijonhufvud, A. (1968), On Keynesian Economics and Economics of Keynes, Oxford University Press, London.
- 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.

ModModule - 7 :

- 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.F.W. (1977), Demand for Money : Theory and Evidence, Dutton 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 :

- Gordon, R. and S.G. Harris (1998), Macroeconomics, Addison Wesley, Massachusetts.
- Mankiw, N.G. and D. Romer (Eds.) (1991), New Keynesian Economics, (2 Vols.), MIT Press, Cambridge.

Module - 9 :

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

Module - 10 :

- Gordon, R.A. (1961), Business Fluctuations, Harper and Row.
- Gordon, R.A. and L.R. Klein (Eds.) (1965), Readings in Business 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, Massachusetts.

Module - 11 :

- Taylor, L. (1983), Structuralist Macroeconomics, Basic Books, New Longman.
 - Turnovsky, S.J. (1977), Macroeconomic Analysis and Stabilization Policy, Cambridge University Press, Cambridge.
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New Syllabus : Recommended by U.G.C.
M.A.Part - I :- Quantitative Methods. Paper - III.

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; Introduction to input-output analysis; Difference equations — Solution of first order and second order difference equations.

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 of linear programming through graphical method; Formulation of the dual of a programme and its interpretation; Concept of duality; 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.

Module - 5 : Statistical Methods — 2

निश्चित और अनिश्चित प्रयोग
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.

Module - 6 : Statistical Methods — 3

Basic concept of sampling — random and non-random sampling; Simple random; stratified random and p.p.s. sampling.

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), Fundamentals of Applied Statistics, S. Chand & Sons, New Delhi.
- Handry, A.T. (1999), Operations Research, Prentice Hall of India, New Delhi.
- Speigai, M.R. (1992), Theory and Problems of Statistics, McGraw Hill Book Co., London.
- Taha, H.A. (1997), Operations Research : An Introduction (6th Edition), Prentice Hall of India Pvt. Ltd., New Delhi.
- Yamane, Taro (1975), Mathematics for Economists, Prentice 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 Economists, 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). Economics Analysis in Input-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 Practice, Wiley Eastern, New Delhi.

Module - 4 :

- Gnou, Y. (1975), Statistical 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), Statistical 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 Mathematical 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.
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RESEARCH METHODOLOGY IN ECONOMICS : M.A. PART I

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 Baye'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
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. This is W.R.T.Z- test and t-test. Chi-square Test - Non-parametric test (confidence interval approach two-tail v/s one-tail hypothesis)-
8. Use and application of t-test and Analysis of variance.
9. Decision making under uncertainty - Alternative Criteria for Decision under uncertainty - The Bayesian approach - incremental analysis.
10. Correlation Theory - Linear zero order correlation - correlation with the ground data - partial and multiple correlations.
11. Regression - Single and Multivariate - estimation of parameters through r^2 and relationship with B. - Monte Carlo experiments (some idea) - Functional forms - log - (ln-, log- log, (ln-log, Measurement of elasticity - Reciprocal models Polynomial models interpretation of partial regression coefficients.
12. Maximum likelihood estimates - Two variable and multivariable - Properties.
13. Time series Analysis - Estimation of trend. Seasonal Indexes and Tests of Randomness. Forecasting based on time series Analysis.
14. Index Numbers Construction - Problems and Tests of Index Numbers.

BOOKS :

1. Quantitative Techniques for Managerial Decisions' by U.J. Srivastav, G.V. Shenoy and S.C. Sharma, 1989, published by Wiley Eastern Limited.
 2. 'Basic Statistics', by A.L. Nagar and R.U. Das, Published by Oxford University Press.
 3. Quantitative Techniques by C.R. Kothari.
 4. Statistics for Economists - Meryll and Fox.
 5. by R.J. Modi
 6. by Leirit Joshi.
 7. 'Basic Economics' by Damodar Gujarati- 1995, published by Macgraw-hill International.
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North Gujarat University - Patan.

New Syllabus : Recommended by U.G.C.

M.A. Part - 1 :- DEMOGRAPHY. Paper - IV (Optional paper).

PREAMBLE :

The main objective of this paper is to make the students aware of the importance of population in economic development and the various theories that explain the growth of population in a country. The paper also enlightens the student on the quantitative and the qualitative aspects and characteristics of the population through various demographic techniques. In recent times, gender characteristics of the population have acquired importance and these have also been included in the framework of study. Migration and urbanization are the characteristics of structural change taking place in a society. Their study is essential to understand the dynamics of this change. The paper exposes the students to sources of population and related characteristics as also to the rationale, need and evolution of population policy.

Module - 1 : Population and Development

Meaning and scope of demography; Components of population growth and their inter-dependence; Measures of population change; Structure, distribution and sources of population data; Theories of population — Malthus, Optimum theory of population; Theory of demographic transition — Views of Medows, Enke and Simon; Population and development. *કોઈ સંજોગે*

Module - 2 : Structure of Population

Population trends in the twentieth century; Population explosion — Threatened of real, distant or imminent; International aspects of population growth and distribution; Pattern of age and sex structure in more developed and less developed countries; Determinants of age and sex structure; Demographic effects of sex and age structure, economic and social implications; Age pyramids and projections — Individual aging and population aging.

Module - 3 : Fertility, ^{મોડર્ન} Nuptiality and Mortality *સંજોગે*.

Importance of study of fertility — Total fertility rate, Gross reproduction rate and net reproduction rate; Levels and trends of fertility in more and less developed

And also state that India is passing through which stage.

countries; Factors affecting fertility — Socio-economic factors, economic status, health, education, nutrition, caste, religion, race, region, rural-urban and status of husband and wife; Nuptiality — Concept and analysis of marital status, single mean age at marriage; Synthetic cohort methods; Trends in age at marriage; Mortality — Death rates, crude and age-specific; Mortality at birth and infant mortality; Factors for decline in mortality in recent past; Life table — Construction and uses; Concepts of stable population; Methods of population projection.

Module - 4 : Migration and urbanization

Concept and types — Temporary, internal and international; International migration — Its effect on population growth and pattern; Factors affecting migration; Theories of migration related to internal migration; Urbanisation — Growth and distribution of rural-urban population in developed and developing countries.

Module - 5 : Demographic Data Base In India

Study of census in India — Methodology and characteristics of census; Nature of information collected in 1971, 1981, 1991 and 2001 census in India; National Family Health Survey 1 and 2 and Rapid Household Survey; Changing characteristics of population in India; Population growth rates, Trends and regional variations in sex ratio; Age structure of population, Mortal, infant and child mortality rates; Maternal mortality rates; Life expectancy; Appraisal of Kerala model; Pattern of Migration and Urbanization in India.

Module - 6 : Population and Development with Reference to India

Population, economy and environment linkages — Population, health, nutrition, productivity nexus; Population and human development issues; Culture and fertility; Education and fertility, Demography and household economic behaviour.

Module - 7 : Population Policy in India

Evolution of population policy in India — The shift in policy from population control to family welfare, to women empowerment; Family planning strategies

and their outcomes; Reproductive health, maternal nutrition and child health policies; Population and strategies for human development of different social groups; Social impact of new reproductive technologies and their regulation; The new population policy: Tasks before the National Population Commission.

BASIC READING LIST

- Agarwala S.N. (1972). India's Population Problem, Tata McGra-Hill Co., Bombay.
- Bose, A. (1996), India's Basic Demographic Statistics, B.R. Publishing Corporation, New Delhi.
- Bogue, D.J. (1971), Principles of Demography, John Wiley, New York.
- Chenety H. and T.N. Srinivasan (Eds.) (1989), Hand Book of Development Economics, Vol. 1 & 2 Elsevier, Amsterdam.
- Choubey, P.K. (2000), Population Policy in India, Kanishka Publications, New Delhi.
- Coale A.J. and E.M. Hoover (1958), Population Growth and Economic Development in Low Income Countries : A Case Study of India's Prospects, Princeton University Press, Princeton.
- Gulati, S.C. (1988), Fertility in India : An Econometric Study of a Metropolis, Sage, New Delhi.
- Simon, J.L. (1992), Population and Development in Poor Countries, Princeton University Press.
- Srinivasan, K. (1998), Basic Demographic Techniques and Applications, Sage, New Delhi.
- Srinivasan, K. and A. Shariff (1998), India : Towards Population and Demographic Goals, Oxford University Press, New Delhi.
- Syrock, H. et. al (1973), The Methods and Materials of Demography, US Department of Commerce, Washington, D.C.
- United Nations (1973), The Determinants and Consequences of Population Trends, Vol. 1, UNO Publications, New York.

ADDITIONAL READING LIST

Module - 1 and 2 :

- Coale A.J. and E.M. Hoover (1958), Population Growth and Economic Development in Low Income Countries : A Case Study of India's Prospects, Princeton University Press, Princeton.
- Simon, J.L. (1992), Population and Development in Poor Countries Princeton University Press

Module - 3 and 4 :

- Bogue, D.J. (1971), Principles of Demography, John Wiley, New York.
- Chiang, C.L. (1974), Life Tables and Mortality Analysis, W.H.O., Geneva.
- Gulati, S.C. (1988), Fertility in India : An Econometric Study of a Metropolis, Sage, New Delhi.
- Novell, C. (1988), Methods and Models in Demography, Bellhaven Press, London.
- Srinivasan, K. (1998), Basic Demographic Techniques and Applications, Sage, New Delhi.

Module - 5 and 6 :

- Agnihotri, S.B. (2000), Sex ratio in Indian Population : A Fresh Exploration, Sage, New Delhi.
- Amsden, A.H. (Ed.) (1989), The Economics of Women and Work, Penguin, Harmondsworth.
- Baud, I.S.A. (1992), Form of Production and Women's Labour, Gender Aspects of Industrialization in India and Mexico, Sage, New Delhi.
- Boserup, E. (1970), Women's Role in Economic Development, George Allen and Unwin, London.
- Jhabwala, R. and R.K. Subramanya (2000) (Eds.), The Unorganized Sector : Work Security and Social Protection, Sage, New Delhi.
- King M. and M.A. Hill (Eds.) (1993), Women's Education in Developing Countries : Barriers, Benefits and Politics, John Hopkins, Baltimore.
- Krishnaji M., R.M. Sudarshan and A. Shariff (1999), Gender Population and Development, Oxford University Press, New Delhi.
- Lewis (Ed.) (1989), Strengthening the Poor : What Have We Learnt, OECD, Paris.

Module - 5 : The Agricultural Sector

Institutional structure — land reforms in India; Technological change in agriculture — pricing of agricultural inputs and output; Terms of trade between agriculture and industry; Agricultural finance policy; Agricultural Marketing and Warehousing; Issues in food security-- policies for sustainable agriculture.

Module - 6 : The Industrial Sector

Industrial policy; Public Sector enterprises and their performance; Problem of sick units in India: privatisation and disinvestment debate; Growth and pattern of industrialisation; Small-scale sector; Productivity in industrial sector, Exit policy--issues in labour market reforms; Approaches for employment generation.

Module - 7 : Public Finances

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

Module - 8 : Money, Banking and Prices

Analysis of price behaviour in India; Financial sector reforms; Interest rate policy; Review of monetary policy of RBI; Money and capital markets; Working of SEBI in India.

Module - 9 : External Sector

Structure and direction of foreign trade; Balance of payments; Issues in export-import policy and FEMA; Exchange rate policy; Foreign capital and MNCs in India: The progress of trade reforms in India.

Module - 10 : Economic Reforms

Rationale of internal and external reforms; Globalisation of Indian economy; W.T.O. and its impact on the different sectors of the economy; Need for and issues in good governance; Issues in competition and safety nets in Indian economy.

BASIC READING LIST

- Ahluwalia, I.J. and I.M.D. Little (Eds.) (1999), India's Economic Reforms and Development (Essays in honour of Manmohan Singh), Oxford University Press, New Delhi.
- Bardhan, P.K. (9th Edition) (1999), The Political Economy of Development in India, Oxford University Press, New Delhi.
- Bawa, R.S. and P.S. Raikhy (Ed.) (1997), Structural changes in Indian Economy, Guru Nanak Dev University Press, Amritsar.
- Brahmananda, P.R. and V.R. Panchmukhi (Eds.) (2001), Development Experience in the Indian Economy : Inter - State Perspectives, Bookwell, Delhi.
- Chakravarty, S. (1987), Development Planning : The Indian Experience, Oxford University Press New Delhi.
- Dantwala, M.L. (1996), Dilemmas of Growth: The Indian Experience, Sage Publications, New Delhi.
- Datt, R.(Ed.) (2001), Second Generation Economic Reforms in India, Deep & Deep Publications, New Delhi.
- Government of India, Economic Survey, (Annual), Ministry of Finance, New Delhi.
- Jain , A.K. (1986), Economic Planning in India, Ashish Publishing House, New Delhi.
- Jalan, B. (1992), The Indian Economy --- Problems and Prospects, Viking, New Delhi.
- Jalan, B. (1996), India's Economic Policy--Preparing for the Twenty First Century, Viking, New Delhi.
- Joshi, V. and I.M.D. Little (1999), India: Macro Economics and Political Economy, 1964-1991, Oxford University Press, New Delhi.
- Parikh, K.S. (1999), India Development Report --1999-2000, Oxford University Press, New Delhi.
- Reserve Bank of India, Report on Currency and Finance, (Annual).
- Sandesara, J.C. (1992), Industrial Policy and Planning, 1947-1991 : Tendencies, Interpretations and Issues, Sage Publications, New Delhi.
- Sen, R.K. and B. Chatterjee (2001), Indian Economy : Agenda for 21st Century (Essays in honour of Prof. P.R. Brahmananda), Deep & Deep Publications, New Delhi.

ADDITIONAL READING LISTModule - 1 :

- Haq, M. (1996), Reflections on Human Development, Oxford University Press, New Delhi.
- Thirlwall, A.P. (1994), Growth and Development, ELBS, Macmillan Press, London.
- Todaro, M. (1997), Economic Development in the Third World, Addison-Wesley, England.
- United Nations Development Programme, (1997), Human Development Report, Oxford University press, New Delhi.

Module - 2 :

- Byres, T.J. (Ed.) (1998), The Indian Economy : Major Debaters Since Independence, Oxford University Press, New Delhi.
- Chakravarty, S. (1987), Development Planning--The Indian Experience, Oxford University Press, New Delhi.
- Chatopadhyaya, M.P. Matiti and M. Rakshit (Eds.) (1996), Planning and Economic Policy in India — Evaluation and Lessons for the Future, Sage Publications, New Delhi.
- Government of India, Planning Commission (1999), Ninth Five Year Plan, 1997-2002, Vol. I & II, New Delhi.
- Kabra, K.N. (1997), Development Planning in India, Sage Publications, New Delhi.

Module - 3 :

- Brahmananda, P.R. and V.R. Panchmukhi (Eds.) (1987), The Development Process of the Indian Economy, Himalaya Publishing House Bombay.
- Chelliah, Raja J. and R. Sudarshan (1999), Income Poverty and Beyond: Human Development in India, Social Science Press, New Delhi.
- Dandekar, V.M. (1996), The Indian Economy, 1947-92, Vol. II, Sage Publications, New Delhi.
- Hanumantha Rao, C. H. and H. Linnemann (Eds.) (1996), Economic Reforms and Poverty Alleviation in India, Sage Publications, New Delhi.
- Subramanian, S. (Ed.) (1997), Measurement of Inequality and poverty, Oxford University Press, Calcutta.
- World Bank (2000), India : Reducing Poverty, Accelerating Economic Development, Oxford University Press, New Delhi.

Module - 4 :

- Frederick, H. and A.M. Charles (1970), Education, Manpower and Economic Growth, New Delhi.
- Government of India, Planning Commission, (1999) Ninth Five Year Plan, 1997-2002 Vol. II, New Delhi.
- Tilak J.B.C. (1993), Costs and Financing of Education in India : A Review of Issues, Problems and Prospects (Mimeo), National Institute of Educational Planning and Administration, New Delhi.

Module - 5 :

- Appu, P.S. (1996), Land Reforms in India, Vikas, New Delhi.
- Brahmananda, P.R. and V.R. Panchmukhi (Eds.) (1987), The Development Process of the Indian Economy, Himalaya Publishing House, New Delhi.
- Joshi P.C. (1975), Land Reforms in India, Allied Publishers Pvt. Ltd., New Delhi.
- Narain, D. (1938), Studies on Indian Agriculture, Oxford University Press, New Delhi.

Module - 6 :

- Ahluwalia, I.J. (1985), Industrial Growth in India, Oxford University Press, New Delhi.
- Bhagwati, J.N. and P.Desai (1970), India : Planning for Industrialization, Oxford University Press, London.
- Datta, B. (1978), Economics of Industrialization, The Bookland, Calcutta.
- Mookherjee, D. (Ed.) (1997), Indian Industry : Policies and Performance, Oxford University Press, New Delhi.
- Swamy, D.S. (1994), The Political Economy of Industrialization : From Self-reliance to Globalization, Sage Publications, New Delhi.

Module - 7 :

- Bhargava, P.K. (1991), India's Fiscal Crisis, Ashish Publishing House, New Delhi.
- Chelliah, Raja J. (1996), Towards Sustainable Growth — Essays in Fiscal and Financial Sector Reforms in India, Oxford University Press, New Delhi.
- Gupta, S.P. (1998), Post-Reform India : Emerging Trends, Allied Publishers, New Delhi.

- Kumar, A. (1999), The Black Money in India, Penguin, Harmondsworth.
- Lucas, R.E.B. and F. Papanek (Eds.) (1988), The Indian Economy — Recent Development and Future Prospects, Oxford University Press, New Delhi.
- Mundle, S. (1999), Public Finance : Policy Issues for India, Oxford University Press, New Delhi.

Module - 8 :

- Bhole, L.M. (2000), Indian Financial System, Chugh Publications, Allahabad.
- Machiraju, H.R. (1998), Indian Financial System, Vikas Publishing House Pvt. Ltd., New Delhi.
- Rangarajan, C. (1997), Indian Economy : Essays on Money and Finance, UBS, New Delhi.
- Reserve Bank of India, Report on Currency and Finance (Annual).

Module - 9 :

- Debroy, B. (1992), Foreign Trade Policy Changes and Devaluation, B.R. Publishing Corporation, Delhi.
- Marinussen, J. (1988), Transnational Corporations in a Developing Country — The Indian Experience, Sage Publications, New Delhi.
- Mukherjee, N. (1988), India's International Payments Imbalances, Mayur Offset, Calcutta.
- Nayyar, D. (Ed.) (1997), Trade and Industrialization, Oxford University Press, New Delhi.
- Nayyar, D. (1976), India's Exports and Export Policies in the 1960s, Cambridge University Press, Cambridge.
- Sen, S. (2000), Trade and Dependence : Essays on the Indian Economy, Sage Publications, New Delhi.
- Verma, M.L. (1995), International Trade, Vikas Publishing House Private Ltd. Delhi.

Module - 10 :

- Basu, K. et.al (1995), Capital Invest and Development.: Essay in memory of Sukhamoy Chakravarty, Oxford University Press, New Delhi.
- Byres, T.J. (Ed.) (1997), The State, Development Planning and Liberalization in India, Oxford University Press, New Delhi.
- Chelliah, Raja J. and R. Sudarshan (1999), Income, Poverty and Beyond : Human Development in India, Social Science Press, New Delhi.
- Dhameeja, N and K.S. Sastry (1998), Privatisation : Theory and Practice, A.H. Wheeler, New Delhi.

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New Syllabus : Recommended by U.G.C.
M.A.Part - I :- Industrial Economics. Paper - IV (Optional paper)

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, 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 objective of the firm; Passive and active behaviour of the firm.

Module - 2 : Market Structure

Seller's concentration; Product differentiation; Entry conditions; Economies 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 analyses.

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; Industrial legislation; Industrial relations; Exit policy and social security; Wages and problem of bonus — labour market reforms.

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. (1996), Industrial Organization, Cheltenham, U.K.
- Harndeen, J.B. (1975), The Economics of Corporate Economics 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.
- Kikpatrick, 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 Weley, 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. Bhanaji Rao (Eds.) (1996), India Development Policy Imperatives, Tata McGraw Hill, New Delhi.
- Rama Murthi, 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. (1987), 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), Guidelines for Project Evaluation, Unido Publications, New York.
- Fog, B. (1959), Industrial Pricing Policies, North Holland, Amsterdam.
- Koutsoyiannis, A. (1979), Modern Microeconomics, Macmillan, New York.

Module - 8 :

- Das, N. (1969), The Public Sector in India, Vora and Company, Bombay.
- Mamoria and Mamoria (2000), Dynamics of Industrial Relations in India (15th Edition), Himalaya Publishing House, Mumbai.
- 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, Lata lajpat Rai College, Bombay.
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M.A.Part - I :- Agricultural Economics. Paper- IV (Optional paper).

SECTION - I

1. Delimitation of the agricultural sector - special characteristics of agriculture as an economic enterprise - Basic assumptions of commercial agriculture.
2. Demand for agricultural 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.
3. Production decisions of a rational farmer - Nature and types of production function in agriculture- Returns to scale - Economics of the size of the farm - Farm management and budgeting.
4. Technological changer - supply function of agricultural products - Conweb models- Distributed lags - Irreversibility of supply elasticities - Factors affecting long term supply - Seasonal, annual and cyclical fluctuations in agricultural activities.
5. Theory of location of crops - Factors affecting the location of agricultural activities - Modifications in the actual locational pattern.
6. Feudal and semi-Feudal modes of production - subsistence agriculture - Co-operative, collective, commune and state farming systems.

SECTION - II

7. Characteristics of the land market - legal and other restrictions on the land market - Types of agricultural leases - Economics of share tenancy.
8. Agricultural labour - Characteristics of the agricultural labour market - Types of employer - employers of the relationship-Alternative concepts and measurement of unemployment and underemployment -condition of work-Minimum wages in agriculture.
9. Characteristics of credit market in agriculture-organised and un-organised credit market- Rular money market.
10. Risk and uncertainty in agriculture-Difference between risk, Subjective risk and pure uncertainty - Types of uncertainty - Degree of uncertainty - adjustment of production and resource use to uncertainty- problems and feasibility of crop diversification and crop insurance.
11. State and agricultural Policy - Price and Production control Behaviour of Agricultural proce - Sectoral terms of trade between industry and agriculture - Ots role in mobilization of marketable surplus - Economics of price support.

REFERENCES

1. Cohen, R.L. : The Economics of Agriculture, Chs. I, Section I.
2. Schultz, T. : Economic Organization of Agriculture Chs. III, IV, V, VI.
3. Mellor, J.W. : The Economics of Agricultural Development, Chs. 3 & 4.
4. Heady, E.O. : Economics of Agricultural Production and Resource Use.
5. Upton, M. : Agricultural Production Economics.
6. Dunn, E. : The Location of Agricultural Production.
7. "Thamarajakshi R. Inter Sectoral terms of trade and marketed Surplus of Agricultural Produce". In Indian Society of Agricultural Development in Developing Countries since World War-II.
8. Behrman, J.R. : Supply Response in Underdeveloped Agriculture.
9. Sawant, S.D. : Supply Behaviour in Agriculture.
10. Lele, U. : Foodgrains Marketing in India.
11. Barlowe, R. : Land Resource Economics, Chs., 7 & 14.
12. Cheung, S.N.S. : The Theory of Share Tenancy.
13. Thorner D. and A. Thorner : Land and Labour in India, Chapter III.
14. Leibenstein, H. : Economic Backwardness and Economic Growth, Chapter 6.
15. Eicher, Anselm, : Distinguished Unemployment in Agriculture in Eicher K. and Kao and Witt L. (ed.) : Agriculture in Economic Development.
16. Desai, A.R. : Rural Sociology in India (1969 edition), Part II, Sections IV, V and VI.
17. Deshpande, S.H. : Problems of Co-operative Farming.
18. Kumar D. : Land and Caste in South India, Part I, Chs. II, III and IV.
19. Vakil C.N. and Shah, C.H. : Agricultural Development in India : Policy and Problems, Chapters 4 & 7.
20. Wharton, C.R. : Subsistence Agriculture and Economic Development.
21. American Economic Association : Readings in Agricultural Economics.
22. Dantwala, M.L. : (Ed.) - Indian Agricultural Development since Independence, Second Revised Edition, Chapters 3, 5, 9, 11, 12, 14.
23. Mies Maria : Indian Women in Subsistence and Agricultural Labour.
24. Bardhan, P.K. : Land, Labour and Rural Poverty.

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M.A.Part - I :- Mathematical Economics. Paper- IV (Optional paper).

PREAMBLE :

The 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; Ordinal utility maximization; Slutsky equation, compensated demand functions, income, substitution, and price effects; Concept of elasticities--generalizations to 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; b Production possibility curve; Empirical uses of production 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; Leontie's dynamic system; Testing consistency of planning models.

BASIC READING LIST

- Allen, R.G.D. (1976), Mathematical Economics, Macmillan, London.
- Arrow, D.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, Mc Graw Hill, New Delhi.

ADDITIONAL READING LISTModules 1 and 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.

Modules 3 and 4 :

- 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.

Modules 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, Wilen Eastern Ltd., New Delhi.
- Jones, H.G. (1976), An Introduction to the Modern Theory of Economics Growth, McGraw Hill-Kongakusha, Tokyo.
- Mankiw, N.G. and D. Romar (Eds.) (1991), New Keynesian Economics (2 Vold), MIT Press, Cambridge, Mass.

- Hadley, G: (1962), Liner 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.
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