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
congruent 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 baying 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 - Ricardoian, 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 (Ryczynski 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:

Additional Reading List:
Module 1:

**Module 2:**

**Module 3:**

**Module 4:**

**Module 5:**

**Module 6:**

**Module 7:**

**Module 8:**

**Module 9:**
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 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.


Basic Reading List:
— Heijdra, B. J. and V. P. Fredericck (2001), Foundations of Modern Macroeconomics, Oxford
Additional Reading List:

Module 1:

Module 2:
- Froyen, *Macroeconomic Theory and Practice*.
- Vaish M. C., *Macroeconomic Theory*.

Module 3:

Module 4:

Module 5:

Module 6:

Module 7:
Module 8:


Module 9:


Module 10:


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-liner 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, x² (Chi-square) and F tests; Type 1 and Type 2 errors.

Basic Reading List:
- Yamane, Taro (1975), Mathematics for Economists, Prentics Hall of India, New Delhi.

Additional Reading List:
Module 1:

Module 2:

Module 3:
Module 4:

Module 5:

Module 6:

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:
4. Theoretical Probability Distributions; Binomial, Poisson, Normal Distribution and their application in economics.
5. Sampling and Sampling Distributions: Census v/s sampling — probability samles 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.
9. Correlation Theory — Linear zero order Correlation — Correlation with the grouped data — partial and multiple correlations.
11. Maximum Likelihood — Estimators in Two variables and multivariable Regressions. Properties of these estimators.


Books:
— Quantitative Techniques by C. R. Kothari.
— Statistics for Economists — Merrill and Fox.

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:

**Suggested Reading List**:
— Cohen, R. L.: *The Economics of Agriculture*, Ch. 1, Section I.
Publication Department, Gujarati University

— Schultz, T. : Economic Organization of Agriculture, Chs. III, IV, V, VI.
— Heady, E. O. : Economics of Agricultural Production and Resource Use.
— Dunn, E. : The Location of Agricultural Production.

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

Additional Reading List :
Module 1 :

Module 2 :

Module 3 :

Module 4 :

Module 5 :
Publications Department, Gujarat University
Oxford University Press, New Delhi.


**Module 6:**

**Module 7:**

**Module 8:**

**Module 9:**

**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 unnumbers; 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;
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:

Additional Reading List:
Module 2:

Module 3 and 4:

Module 5 and 6:
Module 7:


**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.
5. Capital budgeting and government regulations: value maximisation and capital budgeting - process of capital budgeting - cost of capital - Mergers and acquisitions - Application cases.

**References**:


**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 Kuzznets Curves.
   Intertemporal Efficiency and Intergenerational Equity issues.
4. Environmental Damages - Socio-Environmental Cost - Benefit Analysis - Environmental impact Assessment (EIA) and Project Planning and Appraisal.
7. Economics of Sustainable Development.
Reading Material:

- Tietenberg Thomas, Kenneth Button and Peter Nijkamp (eds.) (1999): Environmental Instruments and Institutions, Edward Elgar, U.K.

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 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:

Additional Reading List:
Module 1:

Module 2:

Module 3:
Module 4:


Module 5:


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:
- 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 (Interational 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 assymetry—
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
imbances.

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:
— Auerbach, A. J. and M. Feldstern (Eds.) (1985), Handbooks of Public Economics, Vol. 1, North
Holland, Amsterdam.
Hill, Kogakusha, Tokyo.
Additional Reading List:

Module 1:

Module 2:

Module 3:

Module 4:

Module 5:

Module 6:

Module 7:
Module 8:


Reports of various Finance Commissions.


Module 9:

- Government of India (1992), *Reports of the Tax Reforms Committee-Interim and Final (Chairman: Raja J. Chelliah).*

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 intracountry trade and its impact on developing economies.

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 :


ADDITIONAL READING LIST

**Module 1:**

**Module 2:**

**Module 3:**

**Module 4:**
Module 5:

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...
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:

Additional Reading List:

Modules 1 & 2:

Modules 3 & 4:

Modules 5:

Module 6:
— Todaro, M. P. (1971), Development Planning: Models and Methods, Oxford University Press,
Module 7:


Module 8:


Module 9:


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 tansures 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.


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 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:
— Saini, G. R. (1979), Farm Size, Resource Use Efficiency and Income Distribution, Allied


**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:

Additional Reading List:
Module 1:
Module 2:

Module 3:
- Madan, B. K. (1977) : The Real Wages of Industrial Workers in India, Management Development Institute, New Delhi.

Module 4:

Module 5:

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 :**

Additional Reading List:

Module 1:

Module 2:

Module 3:

Module 4:

Module 5:

Module 6:

Module 7:

Module 8:
M.A. Part II

Paper VIII D (Optional Paper) Managerial Economics II


4. Impact of technological change, transfer of technology - changes in productivity - Technological change and market structure - industrial innovation - environmental forecasting.


7. Industrial Policy reforms, liberalisation and globalisation in Indian Economy and their impact on profitability, markets and production.

References:
- Indian Economy by Rudra Dutta and Sundaram, 2000.

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.


6. Trade and Environment in WTO Regime.


Reading Material #—Paper II:
- Pearce and Turner (1990) : Economics of Natural Resources and the Environment.
M.A. Part II

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

1. International Finance : Meaning, Scope, Importance.
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
   — 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.

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 procedure. Use of RECODE, MEANS, COMPUTE and IF, Missing values.
CROSSTABS and related statistics. CORRÉLATION 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 :
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