

MAHARSHI DAYANAND SARASWATI UNIVERSITY, AJMER



पाठ्यक्रम  
**SYLLABUS**

SCHEME OF EXAMINATION AND COURSES OF STUDY

**FACULTY OF ARTS & SOCIAL SCIENCE**

**M.A. Economics (Previous)  
(w.e.f. 2015-16)**

**M.A. Economics (Final))  
(w.e.f. 2016-17)**

महर्षि दयानन्द सरस्वती विश्वविद्यालय, अजमेर

**NOTICE**

1. Change in Statutes/Ordinances/Rules/Regulations/ Syllabus and Books may, from time to time, be made by amendment or remaking, and a candidate shall, except in so far as the University determines otherwise comply with any change that applies to years he has not completed at the time of change. **The decision taken by the Academic Council shall be final.**

**सूचना**

1. समय-समय पर संशोधन या पुनः निर्माण कर परिनियमों /अध्यादेशों / नियमों / विनियमों / पाठ्यक्रमों व पुस्तकों में परिवर्तन किया जा सकता है, तथा किसी भी परिवर्तन को छात्र को मानना होगा बशर्ते कि विश्वविद्यालय ने अन्यथा प्रकार से उनको छूट न दी हो और छात्र ने उस परिवर्तन के पूर्व वर्ष पाठ्यक्रम को पूरा न किया हो। **विद्या परिषद द्वारा लिये गये निर्णय अन्तिम होंगे।**

**M.A. (Economics) EXAMINATION****(Annual Examination Scheme)**

1. There shall be 9 papers (4 papers in previous examination and 5 papers in final examinations). Each theory paper shall be of three hours duration having 100 marks each. Dissertation/thesis/surveywork/field work in lieu of a theory paper shall be of 100 marks (50 marks for Dissertation/thesis/ survey work/ field work prescribed, if any and 50 marks for Viva-voce).
2. The maximum marks for each paper/practical has been shown in the syllabus for different papers. It will be necessary for a candidate to pass in the theory part as well as in the practical part (wherever prescribed) of a subject/paper separately.
3. A candidate for a pass of each of the Previous and the Final examinations shall be required to obtain (i) atleast 36 % marks in the aggregate of all the papers prescribed for the examination, and (ii) atleast 36% marks in practical(s) wherever prescribed at the examination, provided that if a candidate fails to secure atleast 25% marks in each individual paper at the examination and also in the viva-voce-dissertation/thesis/survey report/ field work, wherever prescribed, he shall be deemed to have failed at the examination, notwithstanding his having obtained the minimum percentage of marks required in the aggregate for that examination. No division will be awarded at the previous examination. Division shall be awarded at the end of the Final examination on the combined marks obtained at the previous and the final examinations taken together, as noted below:
 

Passed with first division -	60% of the aggregate marks taken together of the previous and the Final exam.
Passed with Second Division -	48% of the aggregate marks taken together of the previous and the Final exam.

All the rest will be declared to have passed the examination.
4. If a candidate clears any Paper(s)/ Practical(s)/Dissertation/Thesis/survey report/field work/ Viva-voce prescribed at the Previous and/ or Final Examination after a continuous period of three years, then for the purpose of working out his division the minimum pass marks only viz, 25% (36% in the case of practical) shall be taken into account in respect of such paper(s)/Practical/ Dissertation/ Viva-voce as are cleared after the expiry

of the aforesaid period of three years; provided that in case where a candidate requires more than 25% marks in order to reach the minimum aggregate, as many marks out of those actually secured by him will be taken in to account as would enable him to make up the deficiency in the requisite minimum aggregate.

5. Only such candidates shall be permitted to offer Dissertation/Thesis/Field work/Survey Report (if provided in the syllabi concerned) in lieu of a paper who have secured atleast 55% marks in the aggregate of all the papers prescribed for the previous examinations irrespective of the number of papers in which a candidate actually appeared at the examination.
6. The Dissertation/Thesis/Survey Report/ Field work shall be type-written and submitted in triplicate to the Principal of the college concerned or the Head of the Deptt. concerned, as the case may be atleast 7 days before the commencement of the theory examination. The principal/Head of the Department concerned must ensure that the dissertation/thesis/survey report/ so submitted reach to the office of the Registrar, within a week's time. Evaluation of the dissertation and field work shall be conducted centralised.

Details of papers, maximum and minimum marks and Syllabus etc. is given below:-

There shall be nine papers in all, of these seven papers will be compulsory and two will be optional. The candidate is required to offer four compulsory papers in M.A. Previous and three compulsory papers and two optional papers in M.A. Final Examination. The two optional papers will considered as paper VIII and IXth respectively. Each paper will contain three parts A, B and C of 100 marks and three hours duration. The distribution of marks in each part is given below:-

**Part A** Marks - 20

All questions are compulsory. The answer of the each question should not exceed 20 words. All questions carry equal marks.

**Part B** Marks - 20

All questions are compulsory. The answer of each question should not exceed 50 words. All questions carry equal marks.

**Part C** Marks - 60

The candidate should attempt 3 questions selecting one question from each unit. The answer should not exceed 400 words. All questions carry equal marks.

### M.A. Previous

	Max. Marks	Min. Marks	Duration	
<b>Compulsory Papers</b>				
Paper I	Micro Economic Theory	100	36	3 Hrs.
Paper II	Macro Economic Theory	100	36	3 Hrs.
Paper III	Statistical Methods and Quantitative Techniques	100	36	3 Hrs.
Paper IV	Public Economics	100	36	3 Hrs.

### M.A. Final

<b>Compulsory Papers</b>				
Paper V	Economics of Growth and Development	100	36	3 Hrs.
Paper VI	International Trade and Finance	100	36	3 Hrs.
Paper VII	Comprehensive Economics	100	36	3 Hrs.
Paper VIII	Optional			
Paper IX	Optional			

#### Optional Papers

In addition to above compulsory papers each student shall be required to opt two optional papers out of the following :

1.	Industrial Economics	100	36	3 Hrs.
2.	Labour Economics	100	36	3 Hrs.
3.	Mathematical Economics	100	36	3 Hrs.
4.	Econometrics	100	36	3 Hrs.
5.	Agricultural Economics	100	36	3 Hrs.
6.	Financial Institutions and Markets	100	36	3 Hrs.
7.	History of Economic Thought & Indian Economic Thinkers	100	36	3 Hrs.
8.	Dissertation	100	36	

### M.A. Previous Compulsory Paper

#### Paper-I MICRO ECONOMIC THEORY

**3 Hrs. Duration** **Max. Marks 100**

**Note :** Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :-

**Part - A** **Total 20 marks**

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

**Part - B** **Total 20 marks**

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

**Part - C** **Total 60 marks**

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

#### Unit I

#### 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.****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. Recent developments in demand analysis (pragmatic approach and linear expenditure systems); Consumer's surplus.

**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; Economics of scale; Multi-product firm; Elasticity of substitution; Euler's theorem; Technical progress and production function; Cobb-Douglas and CES.

Cost of Production - Economic cost and accounting cost. Opportunity cost. short run and long run cost curves.

**Unit II****Price and Output Determination**

Marginal analysis as an approach to price and output determination; perfect competition - short run and long run equilibrium of the firm and industry, price and output determination, supply curve; Monopoly - short run and long run equilibrium, price discrimination, welfare aspects, monopoly control and regulation; Monopolistic competition - general and Chamberlin approaches to equilibrium, equilibrium of the firm and the group with product differentiation and selling costs, excess capacity under monopolistic and imperfect competition, criticism of monopolistic competition; Oligopoly - Non-collusive (Cournot, Bertrand, Edgworth, 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.

**Unit III****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.

**Welfare Economics**

Pigovian welfare economics; Pareto optimal conditions; 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; equity- efficiency trade off.

**BASIC READING LIST**

- Kreps, David M. (1990), A Course in Microeconomic Theory, Princeton University Press, Princeton.
- Koutsoyiannis, A. (1979), Modern Microeconomics, (2nd Edition), Macmillan Press, London.

- Layard, P.R.G. and A.W. Walters (1978), Microeconomic Theory, McGraw Hill, New York.
- Sen, A. (1999), Microeconomics : Theory and Applications, Oxford University Press, New Delhi.
- Stigler, G. (1996), Theory of Price, (4th Edition), Prentice Hall of India, New Delhi.
- Varian, H. (2000), Microeconomic Analysis, W.W. Norton, New York.

**ADDITIONAL READING LIST**

- Baumol, W.J. (1982), Economic Theory and Operations Analysis, Prentice Hall of India, New Delhi.
- Hirshleifer, J. and A. Glazer (1997), Price Theory and Applications, Prentice Hall of India, New Delhi.
- Henderson, J.M. and R.E. Quandt (1980), Microeconomic Theory : A Mathematical Approach, McGraw Hill, New Delhi.
- Broadway, R.W. and N. Bruce (1984), Welfare Economics, Basil Blackwell, London.
- Graff, J. De V. (1957), Theoretical Welfare Economics, Cambridge University Press, Cambridge.
- Mishan, E.J. (1969), Welfare Economics : An Assesment, North Holland, Amsterdam.
- 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. Intrilligator (Eds.) (1981), Handbook of Mathematical Economics, Vol. I, North Holland, Amsterdam.
- Borch, K.H. (1968), The Economics of Uncertainty, Princeton University Press, Princeton.

**Paper-II : MACRO ECONOMIC THEORY**

3 Hrs. Duration

Max. Marks 100

Note : Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :-

**Part - A**

Total 20 marks

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

**Part - B**

Total 20 marks

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

**Part - C**

Total 60 marks

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

**Unit I****Nature of Macro Economics & National Income Accounting**

Nature and scope of Macro Economics. The background and schools of macroeconomics. Macro economic policy : objectives and tools. Main areas of controversies in Macro Economics.

National income accounting in four sector economy. Different forms of national income accounting - social accounting, input-output accounting, flow of funds accounting and balance of payments accounting. Matrix

representation of national income. GNP and quality of life.

#### **Consumption Function**

Income-consumption relationship - absolute income, relative income, life cycle and permanent income hypotheses.

#### **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.

### Unit II

#### **Supply of Money**

Financial intermediation - a mechanistic model of bank deposit determination. Theory of money supply - RBI approach to money supply; High powered money and money multiplier; budget deficits and money supply; control of money supply.

#### **Theory of Employment/Income/ Output**

Complete classical model of employment. Keynesian criticism against classical theory. Keynesian theory of employment - partial and general equilibrium.

#### **Neo-classical and Keynesian Synthesis**

Neo-classical and Keynesian views on interest and income : The IS-LM model; 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.

#### **Pre & post-Keynesian Demand For Money**

Fisher's, Cambridge and Keynesian views on 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. Keynesian and monetarist debate : basic tenets, policy implications and evidence supporting monetarism.

### Unit III

#### **Macroeconomics in an Open Economy**

Monetary approach to balance of payments. Fiscal policy and crowding out - direct and indirect crowding out. Crowding out in Aggregate demand and Aggregate Supply Model. Transmission mechanism of money supply. Relative effectiveness of monetary and fiscal policy - empirical evidences.

#### **Theory of Inflation**

Classical, Keynesian and Monetarist approaches to inflation; Structural 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 Framework for monetary policy Rules versus discretion. Recent developments in monetary policy conduct - interest rate versus high powered money.

#### **Business Cycles**

Theories of Schumpeter, Kalador, Samuelson and Hicks, Goodwin's model: Control of business cycles - relative efficacy of monetary and fiscal policies.

#### **New Classical Macroeconomics**

The new classical critique of micro foundations, the new classical approach:

Policy implications of new classical approach - empirical evidence.

#### **BASIC READING LIST**

- Ackley, G. (1978), Macroeconomics : Theory and Policy, Macmillan, New York.
- Blackhouse, R. and A. Salansi (Eds.) (2000), Macroeconomics and the Real World (2 vols.) Oxford University Press, London.
- Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd Edition), Harper and Row, New York.
- Dornbusch, R. and F. Stanley (1997), Macroeconomics, McGraw Hill, Inc., New York.
- Hall, R.E. and J.B. Taylor (1986), Macroeconomics W.W. Norton, New York.
- Heijdra, B.J. and V.P. Fredericck (2001), Foundations of Modern Macroeconomics, Oxford University Press, New Delhi.
- Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.
- Rome, D.L. (1996), Advanced Macroeconomics, McGraw Hill Company Ltd., New York.
- Scarfe, B.L. (1977), Cycles, Growth and Inflation, McGraw Hill, New York.
- Shapiro, E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi.
- Survey, M.J.C. (Ed.) (1976), Macroeconomic Themes, Oxford University Press, Oxford.
- Vaish, M. C. Macro Economics.

#### **ADDITIONAL READING LIST**

- Duesenberry, J.S. (1949), Income, Saving and the Theory of Consumer Behaviour, Harvard University, Press, Harvard.
- Friedman, M. (1957), The Theory of Consumption Function, Princeton University Press, Princeton.
- Keynes, J.M. (1936), The General Theory of Employment, Interest and Money, Macmillan, London.
- Mueller, M.G. (1966), Readings in Macroeconomics, Holt Rinehart and Winston, New York.
- Culbertson, J.M. (1968), Macroeconomic Theory and Stabilization Policy, McGraw Hill, Kogekosh, Tokyo.
- Chakravarty, S.C. (1985), Report of the Committee to Review the Working of the Monetary System, Reserve Bank of India, Bombay.
- Gupta, S.B. (1995), Monetary Planning in India, Oxford University Press, New Delhi.
- Gurley, J. and E.S. Shaw (1960), Money in a Theory of Finance, Brookings Institution, Washington.
- Meinen, 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.
- Friedman, M. (1956), Studies in the Quantity Theory of Money, The University of Chicago Press, Chicago.

- Levacic, R. and A. Rebman (1986), Macroeconomics : An Introduction to Keynesian and Neo-Classical Controversies, Macmillan, London.
- Rakshit, M. (1998), Studies in the Macroeconomics of Developing Countries, Oxford University Press, New Delhi.
- 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.
- Patinkin, D. (1965), Money, Interest and Prices, Harper and Row, New York.
- 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.
- Frisch, H. (1983), Theories of Inflation, Cambridge University Press, Cambridge.
- Hagger, A.J. (1977), Inflation : Theory and Policy, Macmillan, London.
- Hudson, J. (1982), Inflation : A Theoretical Survey and Synthesis, George Allen and Unwin, London.
- Sheffrin, S.M. (1996), Rational Expectations, Cambridge University Press, Cambridge.
- 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.

### Paper-III : STATISTICAL METHODS AND QUANTITATIVE TECHNIQUES

3 Hrs. Duration

Max. Marks 100

Note : Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :-

**Part - A**

Total 20 marks

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

**Part - B**

Total 20 marks

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

**Part - C**

Total 60 marks

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

#### Unit I

##### *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; Concepts and types of production functions; Rules of partial differentiation and interpretation of partial derivatives; Problems of maxima and minima in single and multivariable functions. Concept of integration; Simple rules of integration; Applications to consumer's surplus and producer's surplus; Growth rates and simple properties of time path of continuous variables.

##### *Mathematical Methods - 2*

Determinants and their basic properties; Solution of simultaneous equations through Cramer's rule; concepts of matrix - their types, simple operations on matrices, matrix inversion and rank of a matrix; Concept of vector - its properties; Matrices and vectors.

##### *Linear Programming*

Linear programming - Basic concept; Formulation of a linear programming problem - its structure and variables; Nature of feasible, basic and optimal solution; Solution of linear programming through graphical and simplex method; Statement of basic theorems of linear programming.

#### Unit II

##### *Theory of Probability*

Elements of theory of probability-Classical and empirical definition of probability; Laws of addition and multiplication; Conditional probability and concept of inter dependence; Baye's theorem and applications. Properties (without derivation) of Binomial, Poisson and Normal D distributions.

##### *Statistical Methods - 1*

Meaning, assumptions and limitations of simple correlation and regression analysis; Pearson's product moment and Spearman's rank correlation coefficients and their properties; Concept of the least squares and the lines of regression; Standard error of estimate; Partial and multiple correlation and regression (applications only); Methods of estimation of non-linear equations - parabolic, exponential, geometric, modified exponential, Gompertz and logistic relationships.

#### Unit III

##### *Statistical Method - 2*

Association of attributes, Chi-Square test, Index numbers - simple and weighed index numbers, Laspeyres, Paasche's and Fisher's Ideal Index numbers, Interpolation - Binomial, Newton and Lagrange's method.

##### *Vital Statistics*

Measurement of Fertility crude birth rate, specific fertility rate, general fertility rate, reproduction rates - GRR and NRR measures of Mortality - Crude Death rate, infant Mortality rate - construction of Human Development index.

##### *Statistical Methods - 3*

Basic concept of sampling - random and non-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,  $\chi^2$  (Chi-square) and F test; Type I and Type II errors.



**BASIC READING LIST**

- Allen, R.G.D. (1974), *Mathematical Analysis for Economists*, Macmillan Press and ELBS, London.
- Chiang, A.C. (1986), *Fundamental Methods of Mathematical Economics*, McGraw Hill, New York.
- Gupta, S.C. (1993), *Fundamentals of Applied Statistics*, S. Chand & Sons, New Delhi.
- Handry, A.T. (1999), *Operations Research*, Prentice Hall of India, New Delhi.
- Yamane, Taro (1975), *Mathematics for Economics*, Prentice Hall of India, New Delhi
- Gupta, S.P. (2001), *Statistical Methods*, Sultan Chand and Sons

**ADDITIONAL READING LIST**

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

**Paper-IV : PUBLIC ECONOMICS**

**3 Hrs. Duration** **Max. Marks 100**

**Note :** Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :-

**Part - A** **Total 20 marks**

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

**Part - B** **Total 20 marks**

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

**Part - C** **Total 60 marks**

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

**Unit I****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; Club goods; private goods, public goods, and merit goods; Market failure - imperfections, decreasing costs, externalities, public goods. Private and public mechanism for allocating resources; Problems for

allocating resources; Problems of preference revelation and aggregation of preferences; Voting systems; Arrows impossibility theorem.

Allocation of resources - provision of public goods; Voluntary exchange models; Impossibility of decentralized provision of public goods (contributions of Samuelson and Musgrave). Stabilization Policy - Keynesian case for stabilization policy.

Wagner's law of increasing state activities; Wiesman - 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.

**Unit II**

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

**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.

**Unit III****Fiscal Policy**

Objective of a 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. Balanced budget multiplier.

Fiscal federalism in India; Assignment of function and sources of revenue; Constitutional provisions; Recommendation of 12th and 13th Finance Commission and ; Devolution of resources and grants; 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.

**Indian Public Finances**

Indian tax system, Revenue of the Union, States and local bodies; major taxes in India; direct and indirect taxes, taxation of agriculture, 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, Trends in public expenditure and public debt. Fiscal sector reforms in India;

**BASIC READING LIST**

- Goode, R. (1986), *Government Finance in Developing Countries*, Tata McGraw Hill, New Delhi.
- Jha, R. (1998), *Modern Public Economics*, Routledge, London.
- Menutt, P. (1996), *The Economics of Public Choice*, Edward Elgar, U.K.
- Musgrave, R.A. (1959), *The Theory of Public Finance*, McGraw Hill, Kogakhusa, Tokyo.

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- Musgrave, R.A. and P.B. Musgrave (1976), Public Finance in Theory and Practice, McGraw Hill, Kogakusha, Tokyo.
- Shoup, C.S. (1970), Public Finance, Aldine, Chicago.

**ADDITIONAL READING LIST**

- Stiglitz, J.E. (1986), Economics of Public Sector, Norton, New York.
- Dorfman, R. (Ed.) (1970), Measuring the Benefits of Government Investment, Brookings Institution, Washington.
- Barman, K. (1986), Public Debt Management in India, Uppal Publishing House, New Delhi.
- Peacock, A. and G.K. Shaw (1976), The Economic Theory of Fiscal Policy, George Allen and Unwin, London.
- Bhargava, P.K. (1982), Centre State Resource Transfers in India, The Academic Press, Gurgaon.
- Gulati, I.S. (1979), Centre State Financial Relations : An Assessment of the Role of Finance Commission, M.S. University of Baroda, Baroda.
- Reports of various Finance Commissions
- Srivastava, D.S. (Ed.) (2000), Fiscal Federalism in India, Har-Anand Publications Ltd., New Delhi.
- Gandhi, V.P. (1970), Some Aspects of India's Tax Structure, Vora and Company, Bombay.
- Jain, A.K. (1975), Taxation of Income in India, Macmillan Company of India Ltd., New Delhi.

**Paper-V****ECONOMICS OF GROWTH AND DEVELOPMENT****3 HRS DURATION****MAX. MARKS 100**

Note : Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :-

**Part - A****Total 20 marks**

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

**Part - B****Total 20 marks**

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

**Part - C****Total 60 marks**

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

**Unit I****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.

**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 (TFR) and growth accounting; Growth models of Kaldor and optimal savings and Ramsay's rule, golden

rule of accumulation, Stability of equilibrium; money in economic growth, Tobin, Devhari, Patinkin and Johnson; Endogenous growth; AK model - Explanations of cross country differentials in economic growth.

**Unit II****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

**Theories of Development**

Classical theory of development - contributions of Adam Smith, Ricardo, Malthus and James Mill; Karl Marx and development of capitalistic economy - Crisis in capitalism - Schumpeter and capitalistic development innovation - role of credit, profit and degeneration of capitalism; Structural analysis of development; imperfect market paradigm. Gandhian, Sukhmoy Chakravorty and Pt. Deen Dayal Upadhyaya's views on economic growth and development.

**Unit III****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 Margin model, Dependency theory of development; Structural view of development.

**Trade and Economic Development**

International trade an engine of growth; Static and dynamic gains from trade; Prebisch, Singer and Myrdal thesis Vs. free trade; Export-led growth; Dual gap analysis; Developing Country's Balance of payments; Tariffs and effective rate of protection; Post-GATT, New International Economic Order(NIEO), WTO and India.

**Macro-economic Policies and Development**

Role of monetary and fiscal policies in developing countries - Trade Vs. Aid, Burden of borrowing - IMF and World Bank viz. a viz. India.

**Allocation of Resources**

Investment criteria in developing countries - Alternative investment criteria: Social Cost-benefit analysis, Shadow pricing, Project appraisal and UNIDO guidelines.

**Planning and Development**

Need for planning - democratic, decentralized and indicative planning, micro-level planning; Review of Indian VIII, IX and X Plan models.

**BASIC READING LIST**

- Adelman, I. (1961). Theories of Economic Growth and Development, Stanford University Press, Stanford.



- Chennery, H. and T.N. Srinivasan (Eds.) (1989). *Handbook of Development Economics*, Vols. 1 & 2, Elsevier, Amsterdam.
- Ghatak, S. (1986), *An Introduction to Development Economics*, Allen and Unwin, London.
- Higgins, B. (1959), *Economic Development*, W.W. Norton, New York.
- Meier, G.M. (1995), *Leading Issues in Economic Development* (6th Edition), Oxford University Press, New Delhi.
- Todaro, M.P. (1996), (6th Edition), *Economic Development*, Longman, London.

#### **Additional Reading List**

- Sen, A.K. (Ed.) (1990), *Growth Economics*, Penguin, Harmondsworth.
- Taylor, L. (1979), *Macro Models for Developing Countries*, McGraw Hill, New York.
- Brahmananda, P.R. and C.N.Vakil (1956), *Planning for an Expanding Economy*, Vora and Co. Bombay.
- Jadhav, N. (1995), *Monetary Economics for India*, Macmillan, New Delhi.
- Little, I.M.D. (1982), *Economic Development : Theory and International Relations*, Basic Books, New York.
- Mehrotra, S. and J. Richard (1998), *Development with a Human Face*, Oxford University Press, New Delhi.
- World Bank (1994), *Infrastructure and Development*, World Bank, Washington D.C.
- United Nations (1994), *Human Development Report*, United Nations, New York.
- Mishan, E.J. (1975), *Cost-Benefit Analysis*, (2nd Edition), Allen and Unwin, London.
- Bhagwati, J. and P. Desai (1970), *India : Planning for Industrialization*, Oxford University Press, London.
- Thirlwal, A.P. (1974), *Inflation, Saving and Growth in Developing Economics*, Macmillan, London.
- Todaro, M.P. (1971), *Development Planning : Models and Methods*, Oxford University Press, Oxford.

### **Paper - VI**

## **INTERNATIONAL TRADE AND FINANCE**

**3 HRS. DURATION**

**Max. Marks 100**

**Note :** Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :

#### **Part - A**

**Total 20 marks**

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

#### **Part - B**

**Total 20 marks**

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

#### **Part - C**

**Total 60 marks**

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

### **Unit I**

#### **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 Lindey theory of trade, Role of dynamic factors, i.e., The Rybczynski theorem - concept and policy implications of immiserizing growth; Causes of emergence and its impact on developing economies.

#### **Measurement of Gains and Theory of Interventions**

Measurement of gains from trade and their distribution; Concepts of terms of trade, their uses and limitations; Hypothesis of secular deterioration of terms of trade, its empirical relevance and policy implications for less developed countries; Trade as an engine of economic growth; Welfare implications - The Theory of interventions (Tariffs, Quotas and non-tariff barriers); Economic effects of tariffs and quotas terms of trade, income distribution.

### **Unit II**

#### **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; A critical review of the monetary approach to the theory of balance of payments adjustment; Foreign trade multiplier with and without foreign repercussions and determination of national income and output; Relative merits and demerits of fixed and flexible exchange rates in the context of growth and development in developing countries.

### **Unit III**

#### **The Theory of Regional Blocs**

Forms of economic cooperation; Reforms for the emergence of trading blocks at the global level; Static and Dynamic effects of a customs union and free trade areas; Rationale and economic progress of SAARC/SAFTA 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 International trade and financial institutions - Functions of 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.

#### **Trade Policies in India**

Trade problems and trade policies in India since June 1991 ; Recent changes in the direction and composition of trade and their implications; 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**

- Kenen, P.B. (1994), *The International Economy*, Cambridge University Press, London.

- Kindleberger, C.P. (1973), *International Economics*, R.D. Irwin, Homewood.
- King, P.G. (1995), *International Economics and International Economic Policy : A Reader*, McGraw Hill International, Singapore.
- Krugman, P.R. and M. Obstfeld (1994), *International Economics - Theory and Policy*, Glenview, Foresman.
- Salvatore, D. (1997), *International Economics*, Prentice Hall, Upper Saddle River, N.J., New York.
- Soderston, Bo (1991), *International Economics*, The Macmillan Press Ltd., London.

**ADDITIONAL READING LIST**

- Niehans, J. (1984), *International Monetary Economics*, John Hopkins University Press, Baltimore.
- Aggarwal, M.R. (1979), *Regional Economic Cooperation in South Asia*, S. Chand and Co., New Delhi.
- Mundell, R. (1968), *International Economics*, The Macmillan Company Ltd., New York.
- Nayyar, D. (1976), *India's Exports and Export Policies in the 1960s*, Cambridge University Press.
- Panchmukhi, V.R., K.M. Rajpuria and R. Tandon (1987), *Money and Finance in World Economic Order (RIS)*, Indus Publishing Co., Delhi.
- Panchmukhi, V.R. (1978), *Trade Policies of India - A Quantitative Analysis*, Concept Publishing Company, New Delhi.
- Pomfret, R. (1996), *International Trade : An Introduction to Theory and Policy*, Basil Blackwell, Oxford.
- Soloman, R. (1982), *The International Monetary System 1945-1981*, Harper and Row Publishers, New York.
- Tew, B. (1985), *The Evaluation of the International Monetary System 1945-85*, Hutchinson.
- Whalley, John (1985), *Trade Liberalization Among Major Trading Areas*, Cambridge University Press, Mass.
- Bhagwati, J. and P. Desai (1970), *India : Planning for Industrialization*, Oxford University Press, London.
- Joshi, V. and I.M.D. Little (1998), *India's Economic Reforms, 1999-2000*, Oxford University Press, New Delhi.
- Patel, S.J. (1995), *Indian Economy Towards the 21st Century*, University Press Ltd., India.
- Satyanarayan, B. (1986), *India's Trade with Asia and the Far East Countries*, B.R. Publishing Corp. New Delhi.
- Verma, M.L. (1995), *International Trade*, Vikas Publishing House Pvt. Ltd. Delhi.

**Paper VII : Comprehensive Economics****3 hrs. Duration****Max. Marks 100**

**Note :** Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :-

**Part - A****Total 20 marks**

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

**Part -B****Total 20 marks**

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

**Part - C****Total 60 marks**

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

There will be two parts of the paper. Each part will be of 50 marks. Part first will cover theory portion of all compulsory papers of M.A. and part second will cover Indian Economics and Current International Economic issues. In this paper students are expected to have a clear understanding of the concepts and their applications in Indian and International scenario.

**Questions in each part will be set in the following pattern.**

- 14 questions - Objective type of one mark each.
- 12 questions - short answer (not more than 50 words) of two marks each.
- Three short essay type questions (not more than 150 words) of 4 marks each.

There will be internal choice only in the short essay type questions.

### M.A. ECONOMICS OPTIONAL PAPERS

Each student is required to opt two optional papers as Paper VIII and IX out of the following Papers.

**M.A. Final Optional Paper****Paper - I : INDUSTRIAL ECONOMICS****3 Hrs. Duration****Max. Marks 100**

**Note :** Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :-

**Part - A****Total 20 marks**

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

**Part - B****Total 20 marks**

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

**Part - C****Total 60 marks**

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

**Unit I****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.

**Market Structure**

Sellers' 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.

**Market Conduct**

Product pricing - Theories and evidence; Investment expenditure - Methods of evaluating investment expenditure; Theories and empirical evidence on

Mergers and acquisitions (M &amp; As) and diversification.

**Unit II****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.

**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.

**Unit III****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.

**Project Appraisal**

Cost-benefit analysis - Net Present Value (NPV) and internal rate of return (IRR) criteria - balancing private and social returns.

**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.

**Current Problems of Selected Industries**

Iron and Steel; Cotton textiles; Jute; Sugar; Coal; Cement and engineering goods; Development of small-scale and cottage industrial 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.
- Kuchhal, S.C. (1980), Industrial Economy of India (5th Edition), Chaitanya Publishing House, Allahabad.
- Singh, A. and A.N. Sandhu (1988), Industrial Economics, Himalaya Publishing House, Bombay.

**ADDITIONAL READING LIST**

- Smith, D.M. (1971), Industrial Location : An Economic and geographic Analysis, John Wiley, New York.
- Sandesara, J.C. (1992), Industrial Policy and Planning - 1947-1991 Tendencies, Interpretations and Issues, Sage Publications, India Pvt. Ltd., New Delhi.

- Gupta, L.C. (1969), The Changing Structure of Industrial Finance in India, Oxford University Press, New Delhi.

**Paper-II : LABOUR ECONOMICS****3 Hrs. Duration****Max. Marks 100**

**Note :** Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :-

**Part - A****Total 20 marks**

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

**Part - B****Total 20 marks**

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

**Part - C****Total 60 marks**

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

**Unit I****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.

**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.

**Unit II****Wage Determination**

Classical, neo-classical and bargaining theories of wage determination; Modern theory 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.

**Unit III****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.

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Indian labour laws and practices in relation to international labour standards.

**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; National Commission on Labour.

**BASIC READING LIST**

- McConnell, C.R. and S.L.Brue (1986), Contemporary Labour Economics, McGraw-Hill, New York.
- Papola, T.S., P.P. Ghosh and A.N. Sharma (Eds.) (1993), Labour, Employment and Industrial Relations in India, B.R. Publishing Corporation, New Delhi.
- Venkata Ratnam, C.S. (2001), Globalization and Labour-Management Relations : Dynamics of Change, Sage Publications/Response Books, New Delhi.

**Paper - III : MATHEMATICAL ECONOMICS**

3 Hrs. Duration

Max. Marks 100

Note : Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :-

**Part - A**

Total 20 marks

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

**Part - B**

Total 20 marks

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

**Part - C**

Total 60 marks

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

**Unit I****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 n variable case: Separable and additive utility functions; homogeneous and homothetic utility functions; constant elasticity of substitution (CES) and transcendental logarithmic utility functions; indirect utility functions; duality theorem; consumer's surplus; Theory of revealed preference and index numbers; Linear expenditure systems; Treatment of demand for durable goods; Empirical demand functions; Consumer behaviour under risk and uncertainty.

**Theory of Production**

Production function - homogeneous and non-homogeneous; Properties of Cobb-Douglas production function; CES; VES 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-production possibility curve.

**Unit II****Price Determination in Various Markets**

Price determination in perfect competition, monopoly, monopolistic competition, duopoly, oligopoly and monopsony; Pricing of factors of production; Bilateral monopoly.

**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.

**Unit III****Determination of Income and Fluctuations in Income**

Classical and Keynes' macro system; Static and dynamic multiplier; Determinants of investment; Trade cycle model of Samuelson and Hicks, Goodwin, Kalecki and Philips; Stabilization policy; Lucas's model of Rational expectations and economic policy;

**Growth Models**

Harrod problem; Neoclassical model of growth; Solow and Meade growth models with technical progress; Optimal growth; and golden rule of accumulation; Tumpika theorem; Endogenous growth.

**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; Input-output analysis - Open and closed systems, Hawkins-Simon conditions; Leontief's dynamic system; Testing consistency of planning models.

**BASIC READING LIST**

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

**ADDITIONAL READING LIST**

- Chung, J.W. (1993), Utility and Production : Theory and Applications, Basil Blackwell, London.
- Ferguson, C.E. (1976), Neo-classical Theory of Production and Distribution.
- 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.
- Abel, A., B.S.Bemanke and B. Monabb (1998), Macroeconomics.

Addison Wesley, Massachusetts.

- Barro, R.J. and H. Grossman (1976), Money, Employment and Inflation, Oxford University Press, Oxford.
- Jha, R. (1991), Contemporary Macro-economic Theory and Policy, Wiley Eastern Ltd., New Delhi.
- Jones, H.G. (1976), An Introduction to the Modern Theory of Economic Growth, McGraw Hill - Kogakusha, Tokyo.
- Mankiw, N.G. and D.Romer (Eds.) (1991), New Keynesian Economics (2 Vols.) MIT Press, Cambridge, Mass.
- Hadley, G. (1962), Linear Programming, Addison Wesley Publishing Co., Massachusetts.
- Hiller, F.S. and G.J. Lieberman (1985), Operations Research, C.B.S., New Delhi.
- Kothari, C.R. (1992), An Introduction to Operations Research, Vikas Publishing House, New Delhi.
- Kuhn, Harold W. (Ed.) (1997), Classics in Game Theory, Princeton, University Press, Princeton.
- Mustafi, C.K. (1992), Operations Research : Methods and Practice, Wiley Eastern, New Delhi.
- Nash, J.F. (1996), Essays on Game Theory, Cheltenham, U.K.

#### Paper - IV : ECONOMETRICS

3 Hrs. Duration

Max. Marks 100

Note : Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :-

##### Part - A

Total 20 marks

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

##### Part - B

Total 20 marks

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

##### Part - C

Total 60 marks

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

#### Unit I

##### 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.

##### 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.

##### 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, regression with dummy dependent variables; The LPM, Logit, Probit and Tobit models - Applications.

#### Unit II

##### Dynamic Econometric Model

Autoregressive and distributed lag models - Koyak model, Partial adjustment model, adaptive expectations; Instrumental variables; Problem of auto-correlation - Application; Almon approach to distributed-lag models; Error correlation mechanism, Casualty test, Granger test and Sim's test.

#### Unit III

##### 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.

##### 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.

##### Panel Data Techniques

Panel data techniques - Random coefficients model; Fix effects model; Random effect model.

##### Multivariate Analysis

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

##### Basic Reading List

- Amemiya, T. (1985), Advanced Econometrics, Harvard University Press, Cambridge, Mass.
- Baltagi, B.H. (1998), Econometrics, Springer, New York.
- Goldberger, A.S. (1998), Introductory Econometrics, Harvard University Press, Cambridge, Mass.
- Gujarati, D.N. (1995), Basic Econometrics (2nd Edition), McGraw Hill, New Delhi.
- Hill R.C., E.G. William and G.G. Judge (1997), Undergraduate Econometrics, Wiley, New York.
- Kennedy, P. (1998), A Guide to Econometrics (4th Edition), MIT Press, New York.
- Kmenta, J. (1997), Elements of Econometrics (Reprint Edition), University of Michigan Press, New York.
- Koutsoyiannis, A. (1977), Theory of Econometrics (2nd ed.), The Macmillan Press Ltd., London.
- Krishna, K.L. (Ed.) (1997), Econometric Applications in India, Oxford University Press, New Delhi.
- Maddala, G.S. (Ed.) (1993), Econometrics Methods and Application (2 Vols.), Aldershot, U.K.
- Theil, H. (1981), Introduction to Econometrics, Prentice Hall of India,



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New Delhi.

- Intrilligator, M.D. (1978), *Econometric Methods, Techniques and Applications*, Princtice Hall, Englewood Cliffs, New Jersey.
- Johnston, J. (1991), *Econometric Methods*, McGraw Hill Book Co., London.

**ADDITIONAL READING LIST**

- Croxton, F.E., D.J. Cowden and S. Klein (1973), *Applied General Statistics*, Prentice Hall, New Delhi.
- Chow, G.C. (1983), *Econometrics*, McGraw Hill, New York.
- Pindyck, R.S. and D.L. Rubinfeld (1976), *Econometric Models and Economic Forecasts*, McGraw Hill Kogakusha, Tokyo.
- Chow, G.C. (1983), *Econometrics*, McGraw Hill, New York.
- Franses, P.H. (1998), *Time Series Models for Business and Economic Forecasting*, Cambridge University Press, New York.
- Hansen, P.R. and S.Johanson, (1998), *Workbook on Cointegration*, Oxford University Press, New York.
- Harvey, A.C. (1981), *Econometric Analysis of Time Series*, Phillip Allen, London.
- Pindyck, R.S. and D.L. Rubinfeld (1976), *Econometric Models and Economic Forecasts*, McGraw Hill-Kogakusha, Tokyo.
- Dhrymes, P.J. (1970), *Econometrics - Statistical Foundations and Applications*, Harper and Row Publishers, New York.
- Draper, N.R. and H. Smith (1966), *Applied Regression Analysis*, John Wiley, New York.
- Harvey, A.C. (1981), *Econometric Analysis of Time Series*, Phillip Allen, London.

**Paper - V : AGRICULTURAL ECONOMICS****3 Hrs. Duration****Max. Marks 100**

**Note :** Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :-

**Part - A****Total 20 marks**

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

**Part - B****Total 20 marks**

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

**Part - C****Total 60 marks**

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

**Unit I****Agriculture and 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.

**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 industrilization and development of agro-based industries.

**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.

**Agricultural Production and Productivity**

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

**Unit II****Land Reforms and Land Policy**

Principles of land utilization; Land distribution - Structure and trends; Land values and rent; Land tenures and farming systems - Peasant, capitalist, collective and state farming; Tenancy and crop sharing - Forms, incidence and effects; Land reform measures and performance; Women and land reforms; Problems of marginal and small farmers.

**Rural 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 differences; Non-agricultural rural employment - Trends and determinants.

**Rural Finance**

Role of capital and rural credit; Organized and unorganized capital market; Rural savings and capital formation; Characteristics and sources of rural credit - Institutional and non-institutional; Reorganization of rural credit - cooperatives, commercial banks, regional rural banks; Role of NABARD.

**Cooperation in India**

Cooperative movement; Genesis and growth of cooperative sector; Agricultural cooperation in India; Problems and prospects of cooperative institutions.

**Unit III****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 - Cobweb model; Price and income stability; State policy with respect to agricultural marketing Warehousing; Prices; Need for state intervention; Objectives of agricultural price policy - Instruments and evaluation; Food security in India and public distribution system.

**Agricultural Growth in India**

Recent trends in agricultural growth in India; Inter-regional variations in



growth of output and productivity; Cropping pattern shifts; Supply of inputs - Irrigation, power, seed and fertilizers; Pricing of inputs and role of subsidies; Distribution of gains from technological change; role of Public investment and capital formation in Indian agriculture; Strategy of agricultural development and technological progress; Sustainable agriculture - indigenous practices; Bio-technological practices and growth potential.

#### **Agriculture and External Sector**

International trade in agricultural commodities; Commodity agreements - Role of World Trade Organization; Issues in liberalization of domestic and international trade in agriculture - Nature and features of agri-business; Role of MNCs; Globalization of Indian economy and problems and prospects of Indian agriculture; Impact of World Trade Organisation on Indian agriculture.

#### **BASIC READING LIST**

- Bhaduri, A. (1984) The Economic Structure of Backward Agriculture, Macmillan, Delhi.
- Bilgrami, S.A.R. (1996), Agricultural Economics, Himalaya Publishing House, Delhi.
- Dantwala, M.L. et. al. (1991), Indian Agricultural Development Since Independence, Oxford & IBH, New Delhi.
- Government of India (1976), Report of the National Commission on Agriculture, New Delhi.
- Government of India, Economic Survey (Annual), New Delhi.
- Gulati, A. and T. Kelly (1999), Trade Liberalisation and Indian Agriculture, Oxford University Press, New Delhi.
- Joshi, P.C. (1975), Land Reforms in India : Trends and Prospects. Allied Publishers, Bombay.
- Kahlon, A.S. and Tyagi D.S. (1983), Agriculture Price Policy in India, Allied Publishers, New Delhi.
- Rao, C.H. Hanumantha (1975), Agricultural Growth, Rural Poverty and Environmental Degradation in India, Oxford University Press, New Delhi.
- Reserve Bank of India, Report on Currency and Finance (Annual), Mumbai.
- Rudra, A. (1982), Indian Agricultural Economics : Myths and Reality, Allied Publishers, New Delhi.
- Sami, G.R. (1979), Farm Size, Resource Use Efficiency and Income Distribution, Allied Publishers, New Delhi.
- Bardhan, P. (1984), Land, Labour and Rural Poverty, Oxford University Press, New Delhi.
- Chadha, G.K. and A.N. Sharma (1997), Growth Employment and Poverty : Change and Continuity in Rural India, Vikas Publishing, New Delhi.
- Ghatak S. and K. Ingerscent (1984), Agriculture and Economic Development, Select books, New Delhi.
- Government of India, Five Year Plans, New Delhi.
- Meier, G.M. (1995), Leading Issues in Economic Development, Oxford

- University Press, New Delhi.
- Raj, K.N. et. al. (1988), Essays in the Commercialization of Indian Agriculture, Oxford University Press, New Delhi.
- Papola, T.S. (1982), Rural Industrialisation in India, Himalaya Publishing House, Bombay.
- Soni, R.N. (1995), Leading Issues in Agricultural Economics, Arihant Press, Jalandhar.
- Wanmali S. and C. Ramaswamy (Eds.) (1995), Developing Rural Infrastructure, MacMillan, New Delhi.
- Brahmananda, P.R. and V.R. Panchumukhi (Eds.) (1987), The Development Process of the Indian Economy, Himalaya Publishing House, Bombay.
- Raj, K.N. et. al. (1988), Essays in the Commercialisation of Indian Agriculture, Oxford University Press, New Delhi.
- Soni, R.N. (1995), Leading Issues in Agricultural Economics, Arihant Press, Jalandhar.
- Appu, P.S. (1996), Land Reforms in India, Vikas, New Delhi.
- Bandhan, P. (1984), Land, Labour and Rural Poverty, Oxford University Press, New Delhi.
- Brahmananda, P.R., B.K. Narayan and A. Kalappa (Ed.) (1987), Dimensions of Rural Development in India, Himalaya Publishing House, New Delhi.

#### **Paper-VI**

#### **FINANCIAL INSTITUTIONS AND MARKETS**

**3 Hrs. Duration**

**Max. Marks 100**

**Note :** Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :-

##### **Part - A**

**Total 20 marks**

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

##### **Part - B**

**Total 20 marks**

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

##### **Part - C**

**Total 60 marks**

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

##### **Unit I**

##### **Nature and Role of Financial System**

Money and finance :- Financial intermediation and financial intermediaries - The structure of the financial system - Functions of the financial sector - Indicators of financial development - Financial System and Economic Development.

##### **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.

**Unit II****The Central Bank, Commercial Banks and 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.

Functions of Central Bank - and Instruments of monetary policy - Effectiveness of monetary policy .

**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.

**Unit III****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: - Primary and secondary market for securities: SEBI: its impact on the working of capital market in India.

**International Financial Markets**

Nature, organization and participants - Exchange rates - devaluation, and depreciation - Working of floating exchange rates since 1973 Rise and fall of Brettonwood Institutions - Reforms in International monetary system for developing countries - World Bank - Working of IDA and IFC. The Theory of optimum currency areas - Growth of Regional financial institutions. Asian Development bank and its lending activities. Euro-dollar and Euro-Currency markets.

**BASIC READING LIST**

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

& Sons, New Delhi.

- Robinson, R.I. and D. Wrightman (1981), Financial Markets, McGraw Hill, London.
- Smith, P.F. (1978), Money and Financial Intermediation: The Theory and Structure of Financial System, Prentice Hall, Englewood-Cliffs, New Jersey.

**ADDITIONAL READING LIST**

- Fenstermaker, J.V. (1969), Reading in Financial Markets and Institutions, Appleton, New York.
- Sayers, R.S. (1967), Modern Banking, Oxford Press, New Delhi.
- Fisher, G.E. and R.J. Jordon (1992), Security Analysis and Portfolio Management, Eastern Economy Edition, New Delhi.
- Goss, B.A. and B.S. Yamey (1978), The Economics of Futures Trading, Macmillan, London.
- Weller P. (1992), The Theory of Future Markets, Blackwell, Oxford.
- Gupta, L.C. (Ed.) (1999), India's Financial Markets and Institutions, Society for Capital Research and Development, Delhi.
- R.B.I. (1995), Report of the Working Group in Foreign Exchange Market in India. (Sodhani Group), Mumbai.
- Redseth, A. (2000), Open Economy macroeconomics, Cambridge University Press, Cambridge.

**Paper VII : History of Economic Thought and Indian Economic Thinkers**

Note : Each theory paper comprises of three units. The question paper is divided into three parts, Part-A, Part-B and Part-C :-

**Part - A** **Total 20 marks**

All questions are compulsory. There shall be 10 questions of two marks each at least three questions from each unit. Answer to be given in 20 words.

**Part - B** **Total 20 marks**

All questions are compulsory. There shall be 5 questions of four marks at least one from each unit. Answer to be given in 50 words.

**Part - C** **Total 60 marks**

All questions are compulsory. There will be 3 questions of 20 marks each with internal choice. Answer to be given in 400 words.

**Unit I**

Mercantalism, Physiocrates - Quesnay's Teblleau Economique.

Classical school. Adam Smith : The invisible hand doctrine, Wealth of Nation, Laissez faire, labour profits and wages, modern revival of Adam Smith - Critiques of Adam Smith.

Malthus theory of population and theory of under consumption. Ricardo - Principles of political economy and taxation - distribution theory - differential rents. Differences with Say on Determination of value, modern revival and interpretations by Sraffa.

Critics of the classical school-Sismondi, List and the Nationalist school. Restatement of the classical positions, Senior and the four postulates. J.S. Mill.

Evolution of socialist thought - Utopian. Socialism, Saint Simon Owen

Blance. Fourier, Proudhon: Scientific Socialist.

**Unit II**

Karl Marx and critiques of Marx, modern revival of Marx in Economics. The German Historical School and the development of Marginalism. The Neo-classical school Marshall.

Twentieth century economic thought - main features only the rise of Keynesianism, the rise of Mathematical Economics, dynamics and Econometric. Critical valuation of the Development of Economic Thought.

**Unit III**

Economic ideas of ancient - Indian thinkers - Manu, Shukra and Kautilya. Swami Dayanand Saraswati, Dada Bhai Naroji, Mahadev Govind Ranade and Gopal Krishna Gokhle.

Economic Thinking of R.C. Dutt, Mahatma Gandhi, B.R. Ambedkar, Jawahar Lal Nehru and Deen Dayal Upadhyaya. Major Economic research work of V.K.R.V. Rao, J.K.Mehta, Raj Krishna, Amartya Sen and P.R. Brahmaand.

**Books for References**

1. B.L. Gupta - Value and Distribution System in Ancient India
2. B.N. Ganguli - Indian Economic Thought - A 19th Century perspective.
3. Kautilya - Arthshastra
4. S.S. Kulkarni - Ekatra Arthniti.
5. Mahesh Sharma - Deendayal Upadhyaya - Kartavya avam Vichar
6. R.C. Dutt - Economic History of India, Vol. I & II.
7. Narhariji Pareekh - Manav Arthshastra
8. Amartya Sen : Inequality Re-examined.
9. Ramkrishna Arya - Swami Dayanand ka Arthic Chintan
10. Vijay Krishna - Writings of Rajkrishna
11. Indian Economic Journal - Conference Volume 1995.
12. Haney, History of Economic Thought
13. Eric Rol, History of Economic Thought.
14. Gide and Rist. History of Economic Doctrine.
15. M.C. Vaish, History of Economic Thought.

**Paper VIII : Dissertation**

To provide an adequate and proper exposure to the students with the external environment so as to ascertain, what he/she has learned at the post graduate level in economics, a short dissertation of 100 marks is necessary. Only such candidates shall be permitted to offer dissertation in lieu of a paper who have secured at least 55% marks in the aggregate in M.A. Previous examination. Student may write a dissertation on any economic problem/topic based on primary or secondary data, using proper statistical techniques. The students may also choose any topic relating the contribution of any economic thinker. The supervisor should ensure the originality of the dissertation work. The students are required to submit three copies of dissertation so as to reach the office of the Registrar within a week's time before the commencement of theory examinations.