



PANJAB UNIVERSITY, CHANDIGARH-160014 (INDIA)

(Estd. under the Panjab University Act VII of 1947—enacted by the Govt. of India)

FACULTY OF ARTS

SYLLABI

FOR

**M.A. Economics Parts I & II
Examinations, 2011**

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APPLICABILITY OF REGULATIONS FOR THE TIME BEING IN FORCE

Notwithstanding the integrated nature of a course spread over more than one academic year, the regulations in force at the time a student joins a course shall hold good only for the examinations held during or at the end of the academic year. Nothing in these regulations shall be deemed to debar the University from amending the regulations subsequently and the amended regulations, if any, shall apply to all the students whether old or new.

GUIDELINES FOR CONTINUOUS INTERNAL ASSESSMENT (20%) FOR REGULAR STUDENTS OF POST-GRADUATE COURSES (Annual System) Except M.Sc. (Mathematics)
(Effective from the First Year Admissions for the Academic Session 2004-2005)

1. The Syndicate has approved the following guidelines, mode of testing and evaluation including Continuous Internal Assessment of students :
 - (i) Terminal Evaluation : 80 %
 - (ii) Continuous Assessment : 20 %
 - (iii) Continuous Assessment may include written assignment, snap tests, participation in discussions in the class, term papers, attendance etc.
 - (iv) In order to incorporate an element of Continuous Internal Assessment of students, the Colleges/Departments will conduct three tests as quantified below :

(a) Three Tests :	I	25	}	2 best tests	=	50
	II	25				
	III	25				
 - (b) Snap Tests : 15
 - (c) Participation in class discussions : 10
 - (d) Term Paper/s : 15
 - (e) Attendance : 10

Total : 100 reduced to 20

2. Weightage of 2 marks for attendance component out of 20 marks for Continuous Assessment shall be available only to those students who attend 75% and more of classroom lectures/seminars/workshops. The break-up of marks for **attendance component** for theory papers shall be as under :

Attendance Component

Mark/s for Theory Papers

(a) 75 % and above upto 85 %	:	1
(b) Above 85 %	:	2

3. It shall **not be compulsory** to pass in Continuous Internal Assessment. Thus, whatever marks are secured by a student out of 20% marks, will be carried forward and added to his/her score out of 80 %, i.e. the remaining marks allocated to the particular subject and, thus, he/she shall have to secure pass marks both in the University examinations as well as total of Internal Continuous Assessment and University examinations.
4. Continuous Internal Assessment awards from the affiliated Colleges/Departments must be sent to the Controller of Examinations, by name, **two weeks before** the commencement of the particular examination on the *proforma* obtainable from the Examination Branch.

SPECIAL NOTE :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
- (iii) In the case of Postgraduate Courses in the Faculties of Arts, Science, Languages, Education, Design & Fine Arts, and Business Management & Commerce (falling under the purview of Academic Council), where such a provision of Internal Assessment/Continuous Assessment already exists, the same will continue as before.
- (iv) The marks obtained by a candidate in Continuous Internal Assessment in Postgraduate Classes from the admissions of 2004 will be shown separately in the Detailed-Marks-Card (D.M.C.).

PANJAB UNIVERSITY, CHANDIGARH

OUTLINES OF TESTS, SYLLABI AND COURSES OF READING IN ECONOMICS FOR M. A. PART-I EXAMINATION, 2011

OUTLINES OF TESTS

Compulsory Paper :

Paper-I : Micro-economic Theory and Welfare Economics 80 marks

Optional Papers :

Paper II : Any **one** from the following papers :

Option (i) Indian Economy : Issues and Problems 80 marks

Option (ii) History of Economic Thought 80 marks

Paper III : Any **one** from the following subject to restriction laid down in the note given below :

Option (i) Mathematics and Statistics for Economic Analysis 80 marks

Option (ii) Theoretical Statistics 80 marks

Paper IV : Any **one** from the following :

Option (i) Economics of Agriculture 80 marks

Option (ii) Economics of Industry 80 marks

Option (iii) Economics of Labour 80 marks

Option (iv) Economics of Population 80 marks

Option (v) Economics of Human Resource Development 80 marks

Note : Candidates, who prior to their taking M.A. Part I in Economics have already passed M.Sc. Statistics or M.Sc. Mathematics with Statistics as an optional paper, shall not be allowed to take Paper III but shall be required to offer two optional papers in Paper IV in M. A. Part I Economics examination (instead of one optional paper in Paper IV in lieu of Paper III).

PAPER I : MICRO-ECONOMIC THEORY AND WELFARE ECONOMICS

80 Hours

The objective of this paper is to rigorously and comprehensively equip the students with theoretical concepts, methodology and process of reasoning involved in analyzing economic behaviour of individuals, firms and markets using, in general, a static and partial equilibrium framework.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit –4 in all. Each question will carry 15 marks.

UNIT-I

Scope of Microeconomics. Methodology of economics as a positive science. Criteria for choosing among alternative theories. Dynamic economic analysis and Cobweb theorem. Partial vs general equilibrium analysis. Marshallian and Walrasian stability conditions.

Demand Analysis : Ordinal utility theory. Revealed preference theory. Market demand : Bandwagon and Snob effects. Measures of consumer's surplus. Markets and Asymmetric information : Quality uncertainty and the market for lemons; Market Signaling : A simple model of job market signaling.

Neumann-Morgenstern method of measuring utility. Risk aversion and risk preference. Risk return trade-off.

UNIT-II

Production and Costs : Technology and production function. Cost minimising equilibrium and choice of technique and scale. Effects of a change in factor price and elasticity of factor substitution. Expansion path and derivation of long run cost curves. Homogeneous production functions and resultant shapes of long run cost curves (a geometric exposition only). Sources of various economies and diseconomies of scale. Economies of scope. Learning curve and production costs. Saucer shaped and L-shaped long run average cost curves. Productivity curves of variable factors and derivation of short run cost curves. Concept of idle capacity. Saucer shaped average variable cost curve. Relationship between short run and long run cost curves. Multi-product firm equilibrium.

UNIT-III

Perfect Competition : Welfare effects of price controls, price supports and production quotas. Classical allocative efficiency due to perfect competition vs. production efficiency due to the emergence of important scale economies.

Monopoly : Measurement, determinants and welfare effects of monopoly power. Price regulation. First, second and third degree price discrimination. Inter-temporal price discrimination and peak load pricing.

Pricing under bilateral monopoly.

Monopolistic Competition : Group equilibrium. Selling costs equilibrium. Excess capacity and Chamberlin's answer.

Oligopoly : Definition and nature. Cournot's model. Kinky demand curve model. Dominant firm and low cost firm price leadership models. Stackelberg's model. Collusion or Cartel model. Bain's limit pricing theory. Marginalism vs. Average cost pricing. Profit maximisation vs. Baumol's sales maximisation hypothesis.

UNIT-IV

Game Theory : Definition, objectives and usefulness; Dominant strategy and Nash Equilibrium; Prisoner's Dilemma, Price and Non-price competition and Cartel Cheating; Repeated Games and Tit-for-Tat strategy.

Euler's theorem. Inter-temporal consumption choice and Fisher's theory of the rate of interest.

Welfare Economics : Pareto-optimality conditions in production, consumption and exchange. Efficiency of perfect competition and inefficiency of imperfect competition. Market failure due to externalities in production and Pigou's solution of taxes and subsidies. Inter-personal comparisons of utility and the compensation criteria. Utilitarian, Rawlsian and Bergson-Samuelson social welfare function and optimal social welfare.

BOOKS RECOMMENDED :

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| Bell, P. W. and Todaro, M. A. (1969) | : | Economic Theory : An Integrated Text, Oxford University Press, Bombay, Delhi, Calcutta and Madras. |
| Koutsoyiannis, A. (1979) | : | Modern Micro-economics, Macmillan Press, London. |
| Ryan, W.J.L. and Pearce, D.W. (1977) | : | Price Theory, Macmillan India Ltd., Delhi. |
| Pindyck, Robert S. and Rubinfeld, Daniel L. (2002) | : | Microeconomics (5 th Edn.), Pearson Education, Delhi. |
| Katz, Michael L. and Rosen, Harvey S. (1994) | : | Micro Economics Irwin, Austria, 2 nd Ed. |
| Baumol, W. J. (1973) | : | Economic Theory and Operations Analysis (3 rd Edn.), New Delhi, Prentice Hall. |
| Briet, W. and Hochman, H. M. (Ed.) (1971) | : | Readings in Micro-economics, Dryden Press, Hinsdale, Illinois. |
| Ferguson, C. E. (1972) | : | Micro Economic Theory (3 rd Edn.) Illinois, Richard D. Irwin. |
| Ferguson, C. E. and Gould (1989) | : | Micro Economic Theory (6 th Edn.), Delhi, All India Traveller Bookseller. |
| Naylor, T. H. and Vernon, J. M. (1969) | : | Microeconomic Theory and Decision Models of the Firm. |
| Winch, D. M. (1971) | : | Analytical Welfare Economics, Penguin Books, Harmondsworth. |

Bilas, R. A. (1971) : Micro-Economic Theory (2nd Edn.), New York, McGraw-Hill.

OTHER BOOKS :

Arrow, K. J. & Scitovsky, W.A. (1969) : Readings in Welfare Economics, London, George Allen Unwin Ltd.

Boulding, K. E. & Spivey, W. A. (1960) : Linear Programming and the Theory of the Firm (Chapters 1 & 6), New York, Macmillan.

Friedman, M. (1962) : Price Theory – Provisional Text, Ludhiana, Lyall Book Depot.

Graff, J. V. (1957) : Theoretical Welfare Economics, Cambridge .

Green, H. A. John (1971) : Consumer Theory, Harmondsworth, Penguin Books.

Kamarchen, D. R. (1969) : Readings in Micro-Economics, New York, John Wiley & Sons, Inc.

Stigler, G. J. (1996) : The Theory of Price (4th Edn.), New Delhi, Prentice Hall.

PAPER II OPTION (i) : INDIAN ECONOMY : ISSUES AND PROBLEMS

80 Hours

The objective of this paper is to acquaint the students with the performance of different sectors of the Indian economy and the policy framework governing them. This will provide them an insight into the past, present and future functioning of the Indian economy and strengthen their analytical capability.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 15 marks.

UNIT-I

- (i) *Indian Economy at the Dawn of Independence* : A Review. Planning; Objectives; Rationale and Performance; Adoption of mixed economy model; economic planning in the nineties and beyond.
- (ii) *Restructuring of the Economy* : State of the economy in 1990-91; need and features of Structural Adjustment Programme (SAP); Globalization and WTO in India; Appraisal of economic reforms.

UNIT-II

- (i) *Growth & Structure of Indian Economy since 1950* : Growth of National Income and Per Capita Income, Personal Income Distribution in India. Demographic features : Population Growth, Work-force participation, occupational structure; urbanization in India; Inter-state disparities in the pattern of development.
- (ii) *Poverty and Unemployment* : Nature, extent and regional variations in poverty and unemployment; government programmes for eradication of poverty and unemployment with special reference to the post-reform era.

UNIT-III

- (i) *Agriculture* : Pattern of growth of Indian agriculture and constraints thereon; regional variations in agricultural development. Sustainable agriculture – Need and Policies. Recent agricultural policy of Govt. of India. WTO and Indian agriculture.
- (ii) *Industry* : Trends in growth and structure of Indian industry; regional disparities in industrial development; deregulation and liberalization of the private sector; public sector reforms and privatization. Impact of New Economic Policy on Indian Industry. Rationale, objectives and functioning of Consumer Protection Act (1986).

UNIT-IV

- (i) *Financial Sector* : Nationalisation of banks and their performance; banking sector reforms since 1991. Capital market – growth, problems and reforms since 1991. Role of Securities Exchange Board of India (SEBI).
- (ii) *Public Finance* : Recent trends in Public Debt and Fiscal Deficits in Central and State Finances. Centre-State financial relations – the debate. Recent reforms in Indian tax structure.
- (iii) *External Sector* : Trade policy during pre and post reform period; Exchange rate policy and Foreign Exchange Management Act (FEMA); External Debt. Foreign Direct Investment and multinational corporations in India.

BOOKS RECOMMENDED :

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| Ahluwalia, I. J. (1985) | : | Industrial Growth in India, Oxford University Press, New Delhi. |
| Ahluwalia, I.J. & Little, IMD (Eds.)(1998) | : | India's Economic Reforms & Development (Essays in Honour of Manmohan Singh), Oxford University Press, New Delhi. |
| Brahmananda, P. R. and Panchmukhi, V. R. (Eds.) (1987) | : | The Development Process of Indian Economy, Himalya Publishing House, Bombay. |
| Brahmananda, P. R. and Panchmukhi, V. R. (Eds.) (2001) | : | Development Experience in the Indian Economy : Inter-State Perspectives, Bookwell, Delhi. |
| Byres, T. J. (Ed.) (1998) | : | The Indian Economy : Major Debate Since Independence, Oxford University Press, New Delhi. |
| Lucas, E. B. & Papanek, G. F. (Eds.) (1988) | : | The Indian Economy—Recent Development and Future Prospects, Oxford University Press, New Delhi. |
| Jalan, B. (1992) | : | The Indian Economy—Problems and Prospects, Viking, New Delhi. |
| Chelliah, Raja J. (1996) | : | Towards Sustainable Growth – Essays in Fiscal and Financial Sector Reforms in India, Oxford University Press, New Delhi. |
| Rangarajan, C. (1998) | : | Indian Economy : Essays on Money and Finance, UBS, New Delhi. |
| Government of India | : | Economic Survey (Annual), Ministry of Finance, New Delhi. |
| Reserve Bank of India | : | Report on Currency and Finance (Annual), Mumbai. |
| Economic and Political Weekly | : | Various Issues. |

PAPER II OPTION (ii) : HISTORY OF ECONOMIC THOUGHT

100 Hours

Evolution of economic ideas is both a response to contemporary economic problems and a self-conscious attempt to refine earlier ideas to integrate them as a part of current social thought. The objective of this course is to familiarize the students with the historical evolution of economic ideas into the contemporary economics.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

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UNIT-I

Nature and Importance of Economic Thought. Relativist and Absolutist approaches to Economic Thought. Mercantilism : Views on Trade, Money and Prices, Wages and Employment. Physiocracy : Natural Order; Net product and Circulation of Wealth. Classical Political Economy. Adam Smith : Theories of Value, Distribution and Growth.

UNIT-II

Ricardian Economics : Value Analysis, Theories of Trade and Distribution, Views on Machinery and Employment, Ricardo-Malthus glut controversy. J. S. Mill : Theory of Value, Views on Production and Distribution. Classical Stationary State with special reference to Mill's views.

UNIT-III

Marxian Economics : Historical Materialism, Theory of Value, Theory of Capital Accumulation, Theories of Crisis; Simple and Extended Reproduction Schemes, Theory of Surplus Population.

Vablen's theory of Leisure Class.

UNIT-IV

Essential features of Marginalism. Jevon's Theory of Value. Bohm-Bawerk's Theory of Capital. Walras's Theory of General Equilibrium. A General Overview of Marshall's Contribution.

Features of Neo-classical economics and its critique. Debate on 'History versus Equilibrium'.

BOOKS RECOMMENDED :

A. K. Dasgupta (1986)	:	Epochs of Economic Theory, Oxford Univ. Press, New Delhi.
D. C. Collander (Ed.)	:	Neo-Classical Economists.
O' Brien, D. P. (1975)	:	The Classical Economists, Oxford, Clarendon Press, 1975.
Dobb, Maurice (1973)	:	Theories of Value and Distribution since Adam Smith.
E. Mandel (1971)	:	Marxist Economic Theory, Rupa & Co.
Eric Roll (1992)	:	History of Economic Thought, Faber and Faber (Rupa).
Gide, C. and Rist C. (1948)	:	A History of Economic Doctrines, George G. Harap & Co.
Krishna Bhardwaj (1978)	:	Classical Political Economy and Rise to Dominance of Supply and Demand Theories, University Press, India.
M. Blaug (1983)	:	Economic Theory in Retrospect, Vikas Publishing House, 3 rd ed. (Cambridge University Pub.).
P. Sweezy (1945)	:	Theory of Capitalist Development, Monthly Review Press.
Samuel Hollander (1987)	:	Classical Economics.
Schumpeter, J. A. (1954)	:	History of Economic Thought, Oxford University Press.
Tom Bottomore (1980)	:	Dictionary of Marxist Thought, Basil Blackwell Publishers, England, 1985 .

PAPER III OPTION (i) : MATHEMATICS AND STATISTICS FOR ECONOMIC ANALYSIS

120 Hours

The objective of this paper is to train the students in the use of mathematical and statistical tools in analyzing economic problems. The course content contains simple tools and techniques, thought necessary for data collection, presentation, analysis and drawing inferences about various statistical hypotheses.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

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UNIT-I

Differentiation : Partial and total derivatives; Homogeneous functions, Euler's Theorem. Maxima and Minima of functions of one and two variables, constrained Maxima and Minima of functions of two variables, Lagrange's method.

Integration : Definite and indefinite, integration of a function of only one variable, method of substitution – simple cases. Method of Partial Fraction- Simple cases.

Simple Economic Applications : Mathematical interpretation of marginal, average and elasticity concepts. Deriving their inter-relations by using calculus. Calculation of these values and from these (in simple forms) finding the original function. Partial derivatives and nature of commodities. Optimization Problems (involving one and two independent variables) relating to revenue, cost, profit, utility and production. Consumer's surplus and producer's surplus.

Rate of Growth (CARG) & its measurement; Present Value (or Capital Value) and its Application; Annuities : Type, Amount & Present Value.

UNIT-II

Matrices : Transpose, trace, adjoint and inverse of matrices. Solution of a system of two and three equations by Matrix inverse method and Cramer's method; Linear independence (L.I.) and Linear dependence (L.d.) of vectors; Rank of a matrix; Relation between L.d./L.I. and rank; Simple Application Questions.

Differential Equation : Introduction, Solution – Variable separable case, homogeneous case, standard linear differential equation; Bernoulli's form, Exact equation; Solution of linear differential equation with constant coefficients. Simple Application Questions.

Linear Programming : Basic Concepts; Formulation of Linear Programming Problem (LPP) – Its structure and variables, Nature of feasible, basic and optimal solutions; Solution of Linear Programming Problem (LPP) through Graphic and Simplex method.

UNIT-III

Time Series : Methods of measuring trend - quadratic exponential, modified exponential, gompertz and logistic; seasonal indices by methods of simple average, Ratio to moving average and Ratio to trend.

Correlation and Regression Analysis : Partial and multiple correlations in case of three variables; Simple linear regression model and least squares estimation of the regression coefficients; Multiple linear regression upto two explanatory variables and estimation of the regression coefficients; Interpretation of r , r^2 and R^2 .

Probability and Probability Distribution : Types of events; classical, empirical and axiomatic definitions of probability, additive and multiplicative rules; Concept of a random variable and expected value; Moments and moment generating function (m.g.f.); Probability Distribution; Properties (without derivations) and Simple Application of Binomial, Poisson and Normal distributions.

UNIT-IV

Elements of Statistical Inference : Parameters and estimates; Concept of sampling distribution of a statistic, Standard error (SE) and its utility; Distribution of the sample mean, Properties of estimator : Unbiasedness, consistency, efficiency, sufficiency and minimum variance; Interval Estimation, Confidence Interval.

Tests of Significance : The concept and basic terminology; Large and Small Sample tests based on normal and t distributions : Tests of significance of means, difference between means, single proportion, difference between proportions, simple correlation coefficient and regression coefficient; Tests based on F_c and χ^2 , z, t distributions.

BOOKS RECOMMENDED :

Books on Mathematics :

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| Aggarwal, S. C. and Rana, R. K. (2005) | : Basic Mathematics for Economists, V.K. (India), Enterprises, New Delhi. |
| Allen, R.G.D. (1983) | : Mathematical Analysis for Economists (Relevant Parts of Chapters 5, 6, 7 & 8), Macmillan, London. |
| Chiang, Alpha C. (1984) | : Fundamental Methods of Mathematical Economics (3 rd Edition) (Chapters 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 18 & 19), McGraw-Hill Book Company, New Delhi. |
| Kandoi, Balwant R. (2005) | : Mathematics for Economics and Business with Applications, Oxford Uni. Press, New Delhi. |
| Weber Jean E. (1982) | : Mathematical Analysis (Business and Economic Applications) (4 th Edn.) (Chapters 2, 3, 4, 7 & 8), Harper & Row, New York. |
| Yamane, Taro (1972) | : Mathematics for Economists, (Relevant Chapters) Prentice-Hall of India, New Delhi. |

Books on Statistics :

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|------------------------------------|--|
| Aggarwal, S.C. & Rana, R.K. (2005) | : Basic Statistics for Economics, V.K. (India) Enterprises, New Delhi. |
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- Gupta, S.C. (2004) : Fundamentals of Statistics, Himalayan, Mumbai.
- Gupta, S.P. (2005) : Statistical Methods, Sultan Chand, New Delhi.
- Freund, John E. (1979) : Modern Elementary Statistics, Prentice Hall of India, Delhi.
- Hoel, P. G. and Jessen, R. J. (1977) : Basic Statistics for Economics and Business, Wiley, N.Y.
- Spiegel, M. R. and Stephen, L.J. (2000) : Theory & Problems of Statistics (Schaum's Series) (3rd Edition), McGraw Hill Book Company, New York.
- Wonnacott, T. H. and Wonnacott, R. J. (1972) : Introductory Statistics for Business and Economics, John Wiley & Sons, New York.

OTHER BOOKS :

Books on Mathematics :

- Arora, P. N. & Arora, S. (2004) : C. A. Foundation Course in Mathematics.
- Huang, D. S. (1964) : Introduction to the use of Mathematics in Economic Analysis, Wiley, N.Y., 1964.
- Kooros, A. (1965) : Elements of Mathematical Economics (Chapters 1, 2, 3, 4, 5, 6, 7, 8, 11, 12 & 13).
- Lewis, J. Parry (1971) : Introduction to Mathematics for Students of Economics, Macmillan, London.
- Tintner, G. & Millham, C. B. (1970) : Mathematics and Statistics for Economists.

Books on Statistics :

- Levin, R.I. (1999) : Statistics for Management, Prentice Hall of India, New Delhi.
- Croxtan, F. E., Cowden, D. H. & Block, B. W. () : Applied General Statistics (Latest Edition).
- Hooda, R. P. (1994) : Statistics for Business and Economics, Macmillan, Delhi.
- Bhardwaj, R. S. (1999) : Business Statistics, Excel Books, New Delhi.
- Karmel, P. H. (1970) : Applied Statistics for Economists, Pitman Publishing House, London.
- Yule, G. V. and Kendall, M. G. (1965) : An Introduction to Statistics, Hafner Publishing, New York.
- Beals, R. E. (1972) : Statistics for Economists – An Introduction, McNally, Chicago.

PAPER III OPTION (ii) : THEORETICAL STATISTICS

100 Hours

The objective of this paper is to train the students in the use of statistical methods in analyzing and interpreting economic problems and to teach them advanced topics useful for study of econometrics in the next year.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

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UNIT-I

Probability – Various types of events, classical and axiomatic approaches to probability; Basic theorems on probability, conditional probability; Independent events; Baye's Theorem. One-dimensional and multi-dimensional random variables and probability distributions; Marginal and conditional distributions. Mathematical Expectation : Definition and basic theorems; moments; moment generating function (m.g.f.) and characteristic function (c.f.), Bernoulli's theorem; Central Limit Theorem.

UNIT-II

Chebychev's inequality; law of large numbers, study of Binomial, Poisson, Normal (Univariate and Bivariate), log normal, Beta, Gamma, Chisquare, t, F and Z distributions; their derivations, properties and inter-relationship; Sampling distribution.

UNIT-III

Theory of Correlation and Regression – Simple as well as Multiple; Correlation Ratio.

Theory of Estimation : Properties of unbiasedness, efficiency and consistency; sufficient estimates; Maximum likelihood estimates and their properties. The concept of confidence intervals; confidence intervals for Mean and Variance.

Analysis of Time-Series : Determination of trend; Seasonal indices, Asymptotic growth curves – main types (Exponential, Gompertz, Logistic and Pareto).

UNIT-IV

Theory of Sampling and tests of Significance : Large and Small tests based on Normal, t, χ^2 and F.

Analysis of Variance – One way and two way classifications.

Testing of Hypotheses : Type I and type II errors; levels of significance and power of a test: Neyman-Pearson Lemma.

Non-Parametric Tests : Ordinary Sign Test, Wilcoxon's Signed Rank Test, Wald Wolfwitz Run Test, Mann-Whitney U Test.

BOOKS RECOMMENDED :

- | | | |
|---|---|---|
| Hoel, P. G. (1955) (2 nd Edition) | : | Introduction to Mathematical Statistics, John Wiley, N.Y. |
| Weatherburn, C. E. (1959) | : | A First Course in Mathematical Statistics, Cambridge |
| Kapoor, J. N. & Saxena, H. C. (1996) | : | Mathematical Statistics, S. Chand and Company, New Delhi. |
| Gupta, S. C. & Kapoor, V. K. (1994) | : | Fundamentals of Mathematical Statistics, Sultan Chand, New Delhi. |
| Meyer, Paul L. (1970) | : | Introductory Probability and Statistical Applications, Amerind Publishing Comp., Delhi. |
| Goon, A. M., Gupta, M. K. Dass & Gupta, B. (1983) | : | Fundamentals of Statistics, Vols. I & II, World Press, Calcutta. |
| Brunk, H. D. (1960) | : | An Introduction to Mathematical Statistics, Xerox College Pub., Lexington. |
| Freund, E. F. (1964) | : | Mathematical Statistics. |
| Kenny, J. F. & Keeping, E. S. (1965) | : | Mathematics of Statistics, Vols. I & II, Toronto, D. Van Nostrand. |
| Mood, A. M., Grabill, F. A. & Boss, D. C. | : | Introduction to the Theory of Statistics (Latest Edition), McGraw Hill, N.Y. |
| Croxtan, F. E. & Cowden, D. G. (1970) | : | Applied General Statistics (7 th Edition), Pitman, London. |
| Dixon, W. J. & Massey, E. J. (1957) | : | Introduction to Statistical Analysis, Tokyo, McGraw Hill, Kogakusha. |
| Beals, Rap, Ralph E. (1972) | : | Statistics for Economists– An Introduction, McNally, Chicago. |

OTHER BOOKS :

- | | | |
|---|---|--|
| Cramer, H. (1958) | : | Mathematical Methods of Statistics, Princeton University Press. |
| Kendall, M. G. & Stuart, A. (1953) | : | Advanced Theory of Statistics, Vols. I & II. |
| Wilks, S.S. (1962) | : | Mathematical Statistics. |
| Guenther, W. C. (1965) | : | Concepts of Statistical Inference, McGraw Hill Kogakusha, Tokyo. |
| Anderson, R. S. & Bankcroft, T. F. (1952) | : | Introduction to Statistics. |
| Yeoman's, K. A. (1971) | : | Statistics for the Social Scientists, Vols. I & II, Lane, Lond. |

PAPER IV OPTION (i) : ECONOMICS OF AGRICULTURE

100 Hours

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 the theory of agricultural economics and issues that are relevant to Indian agricultural economics and enable them to understand and analyse the problem of the economics of agriculture.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit –4 in all. Each question will carry 15 marks.

UNIT-I

Role of agriculture in economic development. Decline in the importance of agriculture with economic growth and structural change.

Production function, input-input and product-product relationships. Equilibrium of the capitalist farm and peasant family farm. Equilibrium of share-tenant farm and its efficiency.

UNIT-II

Nature and Type of Risk and Uncertainty in Agriculture: Methods used by farmers and Government policies for reducing risk and uncertainty.

Nature of supply and demand for agricultural products and structure of agricultural markets. Role of Land Reforms. Instability of agricultural prices; need and objectives of agricultural price policy.

Schultzian theory and role of technological change in modernization of traditional agriculture.

UNIT– III

Objectives, progress and assessment of land reforms in India and nature of the emerging agrarian structure.

Progress of Green revolution in India and its impact on production, rural employment and income distribution. Overview of growth rates of area, production and productivity of major crops and of regional disparities in agricultural development.

UNIT–IV

Nature of returns to scale and farm size productivity relationship in Indian agriculture. Problems of mechanization of Indian agriculture.

Terms of trade of agricultural sector in India since independence; objectives and problems of agricultural price policy in India.

Agricultural Credit in India : Sources, problems and government policies since independence.

Capital Formation in Indian Agriculture.

WTO and Indian Agriculture.

BOOKS RECOMMENDED :

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|---|---|--|
| Fox, K.A. and Johnson, D.C. (Ed.) :
(1970) | : | Readings in Economics of Agriculture. |
| Ghatak, S. and K. Ingerscent :
(1984) | : | Agriculture and Economic Development, Selectbooks, New Delhi. |
| Heady, E. O. (1952) | : | Economics of Agricultural Production and Resource Use, Prentice-Hall of India Pvt. Ltd., New Delhi. |
| Metacalf, D. (1969) | : | The Economics of Agriculture, Penguin Books. |
| NCAER (1974) | : | Credit Requirements for Agriculture, NCAER, New Delhi. |
| Rao, C. H. H. (1975) | : | Technological Change and Distribution of Gains in Indian Agriculture, Asia Publication House, Delhi. |
| Schultz, T. W. (1969) | : | Transforming Traditional Agriculture, Lyall Book Depot, Ludhiana. |
| Southworth, H. M. & Johnson, D.C.:
(Ed.)(1966) | : | Agricultural Development and Economic Growth
Cornell, University Press. |

OTHER BOOKS :

- | | | |
|---|---|---|
| Bhalla, G.S. (1994) | : | Economic Liberalisation and Indian Agriculture, Institute for Studies in Industrial Development, New Delhi. |
| Bhalla, G. S. and
Gurmail Singh (2001) | : | Indian Agriculture : Four Decades of Development, Sage Publications, New Delhi. |
| Cheung, S. N. S. (1968) | : | Private Property Rights and Share Cropping, Journal of Political Economy. |
| Gardner, Bruce L. and Gordon C. :
Rausser (2001) | : | Handbook of Agricultural Economics, Vol. I (A), I (B) and Vol. II, Elsevier, Amsterdam. |

Govt. of India (1972)	:	Report of the Committee on Taxation of Agricultural Wealth and Income.
Govt. of India (various years)	:	Five Year Plans, Planning Commission, New Delhi.
Govt. of India (Latest)	:	Agricultural Statistics at a Glance, Ministry of Agriculture, New Delhi.
Gulati, A. and T. Kelly (1999)	:	Trade Liberalisation and Indian Agriculture, Oxford University Press, New Delhi.
Haque, T. and Sirohi, A.S. (1986)	:	Agrarian Reforms and Institutional Changes in India, Concept Publishing Company, Delhi.
Kahlon, A. S. & Singh, Karam (1980)	:	Economics of Farm Management in India : Theory and Practice (Chapt. 6).
Kalirajan, K .P., Mythili, G. and Sankar, U. (2001)	:	Accelerating Growth Through Globalization of Indian Agriculture, Macmillan India Ltd., New Delhi.
Reserve Bank of India (1996)	:	Report of the Agricultural Credit Review Committee, Bombay.
Rudra, A. (1982)	:	Indian Agricultural Economics : Myths and Reality, Allied Publishers, New Delhi.
Saini, G. R. (1979)	:	Farm Size, Resource, Use Efficiency and Income Distribution, Allied Publishers, New Delhi.

PAPER IV OPTION (ii) : ECONOMICS OF INDUSTRY

100 Hours

In the contemporary world with globalization and liberalization more and more attention is being given to industry. Since industry performance critically depends on firms' behaviour allowing equilibrium outcome, the course intends to provide a rigorous knowledge of different long-run equilibrium outcome of firms under different conditions from the point of view of public policy. The students are also equipped to deal with debates involved in the industrial development in a cogent and analytical manner, particularly in the Indian context. However, it should be noted that Game Theoretic approach to any topic/problem is outside the scope of the present syllabus.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 15 marks.

Game Theoretic approach to any topic/problem is outside the scope of the present syllabus.

UNIT-I

Firm & Modern Corporation : Ownership, Management and Control. Challenges to Neo-Classical Principles of Profit Maximization with special emphasis on the Issue of Separation of Ownership from Management and Control.

Static Alternative to Profit Maximization : W.J. Baumol, O. Williamson. *Dynamic Alternative to Profit Maximization* : R. Marris. *Behavioral Theory of the Firm* : Cyert and March.

UNIT-II

Monopoly Power and Oligopolistic Market Structure. Measures of Seller's Concentration. Determinants of Seller's Concentration : Economies of Scale, Barriers to Entry.

Market Conduct under Oligopoly : Rivalry and Possibility of Collusion among Existing Firms. Dominant Firm Behavior, the Concepts of Potential Competition and Contestable Markets. Static and Dynamic Limit Pricing. Non-price competition with special reference to Advertising.

Market Performance : Allocative versus Productive Efficiency : Economics of R & D.

UNIT-III

Pattern of Industrial Growth and Changes in Industrial Structure in India since 1951. Factors affecting Industrial Location. Regional Imbalances in Industrial development in India and Government Policy for Balanced Regional Development of Industry. Nature of Concentration in Indian Industry. Evaluation of MRTP Act.

UNIT-IV

Liberalization and Privatization in Indian Industry. Foreign Competition; Mergers and Take-overs. Impact of New Economic Policy on Indian Industry and Business. Competition Policy. Consumer Protection in India.

BOOKS/JOURNALS RECOMMENDED

- Cohen, K. L. & Cyert, R.M. (1976) : Theory of the Firm, Prentice Hall.
- Scherer, F. M. & Ross David (1990) : Industrial Market Structure and Economic Performance, Boston Houghton Mifflin Company.
- Hay, D. A. and Morris, D. J. (1991) : Industrial Economics : Theory and Evidence, Oxford University Press.
- Shepherd, W. G. (1990) : The Economics of Industrial Organisation (3rd Edn.), Prentice Hall Englewood Cliffs, New Jersey.
- Martin Stephen (1989) : Industrial Economics (Economic Analysis and Public Policy).
- Bain, J. S. (1968) : Industrial Organizations (2nd edn.), University of California.
- Caves, R. (1972) : American Industry : Structure, Conduct Performance (2nd edn.), Prentice Hall.
- Wildsmith, S. (1975) : Managerial Theories of the Firm.
- Hawkin, C. J. (1973) : Theory of the Firm, Macmillan.
- Devine, P. J. & Others (1976) : Introduction to Industrial Economics, George Allen & Unwin.
- Bhagwati, J. and Desai, P. (1970) : Planning for Industrialization : India, Oxford University Press.
- Dilip Mukherjee (1995) : Indian Industry, Oxford University Press.
- Nayyar, Deepak (ed.)(1994) : Industrial Growth and Stagnation, Oxford University Press.
- Gupta, Vinod K. (1972) : "Some Factors relating to Concentration in Indian Industries", Artha Vijnana (December, 1972).
- do- (1985) : 'Profit Margin Performance and Market Structure in Indian Manufacturing Industries', Artha Vijnana, Vol. XXVII (March, 1985).
- Kansra, S. L. (1990) : Monopoly Power : Some Aspects of its Impact on Indian Industry (Unpublished Ph.D. Thesis, P. U.).
- Economic and Political Weekly : Various Issues.

PAPER IV OPTION (iii) : ECONOMICS OF LABOUR

100 Hours

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 "joblessness", the importance of issues such as employment and unemployment as well as livelihood and social security for the growing 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.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 15 marks.

UNIT-I

Labour Markets and Employment : 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; Supply of labour in relation to growth of labour force; Labour market policies.

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.

UNIT-II

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 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.

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, their settlement and prevention mechanism; Role of tripartism; Current trends in collective bargaining.

UNIT-IV

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 State policies with respect to social security and labour welfare in India; Special problems 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.

BOOKS RECOMMENDED

- | | | |
|---|---|--|
| Binswanger, H. P. & M. R. Rosenzweig (eds.) (1984) | : | Contractual Arrangements, Employment, and Wages in Rural Labour Markets in Asia, Yale University Press, New Haven. |
| Datt, G. (1996) | : | Bargaining Power, Wages and Employment : An Analysis of Agricultural Labour Markets in India, Sage Publications, New Delhi. |
| Deshpande, L. K., P. R. Brahmananda and EAG Robinson (eds.)(1983) | : | Employment Policy in a Developing Economy, Vols. I & II, Macmillan, London. |
| Deshpande, L. K. and J. C. Sandesara (eds.) (1970) | : | Wage Policy and Wages Determination in India, Bombay University Press, Bombay. |
| Deshpande, S. G. Standing and L. K. Deshpande (1998) | : | Labour Flexibility in a Third World Metropolis, Commonwealth Publishers, New Delhi. |
| Foster, A. D. & M. R. Rosenberg (1993) | : | Information Flows and Discrimination in Labour Markets in Rural Areas in Developing Countries, Annual Conference on Development Economics, World Bank, Washington D C. |
| Hauseman, S. (1991) | : | Industrial Restructuring with Job Security, Harvard University Press, Cambridge, Mass. |
| Hicks, J. R. (1932) | : | The Theory of Wages, Clarendon Press, Oxford. |
| Lester, R. A. (1964) | : | Economics of Labour (2 nd edition), Macmillan, New York. |
| McConnell, C. R. & S. L. Brue (1986) | : | Contemporary Labour Economics, McGraw-Hill, New York. |
| McCormick, B. & Smith (eds.) (1968) | : | The Labour Market, Penguin, Harmondsworth. |

- MHRD, GOI (1987) : Shram Shakti : Report of the National Commission on Self-employed Women and Women Workers in the Informal Sector, Ministry of Human Resources Development, New Delhi.
- Papola, T. S., P. P. Ghosh & A.N. Sharma (eds.)(1993) : Labour, Employment and Industrial Relations in India, B. R. Publishing Corporation, New Delhi.
- Papola, T. S. & Rodgers, G. (eds.)(1992) : Labour Institutions and Economic Development in India, International Institute of Labour Studies, Geneva.
- Riveros, L. (1990) : Labour Market Policies and Labour Market Reforms in Socialist Economies, World Bank, Washington D. C.
- Rosenberg, M. R. (1988) : Labour Markets in Low Income Countries in Chenery, H. B. and T. N. Srinivasan (eds.) The Handbook of Development Economics, North-Holland, New York.
- Sach, J. (1990) : 'Social Conflict and Populist Policies in Latin America', in R. Brunnetta and C. D. Aringa (eds.) *Labour Relations and Economic Performance*, Macmillan, Basing Stoke.
- Sen, A. K. (1975) : Employment, Technology and Development, Oxford University Press, New Delhi.
- Sharma, A. N. & A. Kundu (eds.)(2001) : Informal Sector in India : Emerging Perspectives, Institute for Human Development, New Delhi.
- Solow, R. M. (1990) : Labour Market as an Institution, Blackwell, London.
- Standing, G. & V. Tokman (eds.)(1991) : Towards Social Adjustment, ILO, Geneva.
- Venkata Ratnam, C. S. (2001) : Globalization and Labour-Management Relations : Dynamics of Change, Sage Publications/Response Books, New Delhi.

PAPER IV OPTION (iv) : ECONOMICS OF POPULATION

100 Hours

The main objective of this paper is to make the students aware of the importance of population in economic development and the various theories that explain the growth of population in a country. The study of Quantitative and Qualitative composition of population is also required to understand the dynamics of population growth. Migration and urbanization are the characteristics of structural changes taking place in the economy.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

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- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 15 marks.

UNIT-I

Theories of Population : Malthus, Optimum, Marxian, Leibenstein, Becker.
Demographic transition theory and Optimum population theory.

Population and Economic Development : Utilization of resources. (Boserup thesis) technology and production of food.

Population and Environment : Concepts of environment. Growth of population and environment changes.

UNIT-II

Population Structure and Characteristics : Impact of Population growth on the age and gender structure. Aging of population.

Concepts of fertility transition. Measurement of fertility and fertility differentials in India.

Mortality : Components and Measurement. Mortality differentials in India : Rural-urban, age and gender.

UNIT-III

Migration : Concepts, measurement, migration selectivity, causes and consequences (economic and demographic) of migration.

Globalisation and International : Neo-classical and World System Theory.

Migration in India : Causes and Trends. Migration Differentials in India : Rural-Urban, Male-Female.

Urbanization : Concepts, Determinants and Consequences. Trends of Urbanization in India.

UNIT-IV

Growth and Structure of Indian Population since Independence.

Literacy : Literacy transition in India, pattern of literacy and literacy differentials in India.

Economic Composition of Indian Population : Work force participation and occupational structure.

Estimation of Population in India : Census, sampling and vital registration methods.

Population Policy in India since Independence.

BOOKS RECOMMENDED :

- | | | |
|--|---|---|
| Aggarwal, S. N. (1972) | : | India's Population Problem, Tata McGraw-Hill Co., Bombay. |
| Becker, G. (1960) | : | An Economic Analysis of Fertility in Demographic Change and Economic Change in Developed Countries, (edited by National Bureau of Economic Research) Princeton University Press, Princeton. |
| Boserup, E. (1981) | : | Population and Technological Change, University of Chicago Press, Chicago. |
| Bouge, D. J. (1971) | : | Principles of Demography, John Wiley, New York. |
| Bose, Ashish (1978) | : | India's Urbanisation, Tata McGraw Hill Publishing Co. Ltd., New Delhi. |
| Coale, A. and E. Hoover (1958) | : | Population Growth and Economic Development in Low Income Countries : A Case Study of India's Prospects, Princeton University Press, Princeton. |
| Chenery, H. and T. N. Srinivasan (eds.) (1989) | : | Handbook of Development Economics, Vol. 1 & 2, Elsevier, Amsterdam. |
| Chandna, R. C. (2000) | : | A Geography of Population : Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi. |
| Cox, Peter R. (1979) | : | Demography, Vikas Publishing House, New Delhi. |
| Easterlin, R. A. (1968) | : | Population, Labour Force and Long Swings in Economic Growth : National Bureau of Economic Research, New York. |
| Ghosh, B. N. (ed.) | : | Studies in Population and Economic Development, Deep and Deep Publications, New Delhi. |
| John R. Weeks (2002) | : | Population : An Introduction to Concepts and Issues (7 th edition), Wadsworth Publishing Company, New York. |

- Leibenstein, H. (1957) : Economic Backwardness and Economic Growth, New York, John Wiley and Sons.
- Proceedings of the International Population Conference, New Delhi : Population : Today and Tomorrow—Policies, Theories and Methodologies, B. R. Publishing Corporation, Delhi.
- Sauvey, A. (1969) : A General Theory of Population, Basic Books, New York.
- Shryock, H. S. et. al. (1976) : The Methods and Materials of Demography, Academic Press, New York.
- Simon, J. L. (1992) : Population and Development in Poor Countries, Princeton University Press, New Jersey.
- Srinivasan, K. (1998) : Basic Demographic Techniques and Applications, Sage Publications, New Delhi.
- Thompson, W. S. and Lewis, D. T. (1976) : Population Problems, Tata McGraw Hills Publishing Co., New Delhi.
- United Nations (1973) : The Determinants and Consequences of Population Trends, Population Studies No.17, UNO Publications, New York.
- Govt. of India : Census Report, 2001.

PAPER IV OPTION (v) : ECONOMICS OF HUMAN RESOURCE DEVELOPMENT

100 Hours

The objective of this paper is to rigorously and comprehensively equip the students with theoretical concepts, methodology and process of reasoning involved in analysing economic behaviour of individuals, firms and markets using, in general, a static and partial equilibrium framework.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 15 marks.

UNIT-I

Human Resource Development (HRD) : Concept, nature, scope, significance, objectives, functions; Traditional and modern approaches; Role of economic and non-economies forces in motivating human resource growth.

Human Resource Development and Manpower Planning in India : Genesis, Growth and Thrust Areas.

UNIT-II

Human Capital : Concept and its determinants, problems of measurement; An appraisal of underlying theories of Human capital formation particularly in the context of developing economics; Role of public and private investment in human capital formation.

Economics of education (formal, informal, on-the-job training and re-training) Models of Becker, Mincer-Chiswick, An introduction to economics of health and nutrition, health care status in India.

UNIT-III

Functioning of Market for Human Resources : Internal allocation and brain drain, asymmetric information and functioning of the human resource market.

Migration : Theories, trends in internal migration in India since mid sixties, emerging challenges.

UNIT-IV

Managing Human Resources : Demand and supply forecasting, wages, incentives—productivity relationship, economics of discrimination.

Trade Unions and HRD (employees' protection, occupation specific, workers participation in management, performance appraisal techniques and succession planning).

REFERENCES :

Becker, Gary S. (1957) : Economics of Discrimination, University of Chicago Press, Chicago.

- Bellante, Don and Mark Jackson : Labour Economics : Choice in Labor Markets, McGraw Hill Book Company, New York.
- Campbell, R. McConnel and Stanley L. : Contemporary Labor Economics, McGraw Hill Book Company, New York.
- Dunlop, John T. : The Theory of Wage Determination, MacMillan Co., London.
- Fonseca, A. J. : Wage Issues in a Developing Economy, Oxford University Press, Bombay.
- Fulmer, Robert M. : Practical Human Relations, Richard D. Irwin, Illinois.
- Kempton, John : Human Resource Management and Development : Current Issues and Themes, MacMillan, London.
- Richard B. Peterson and Lam Tracy : Systematic Management of Human Resources, Addison Wesley Publishing Company, London.
- Schultz, Theodore W. : Investing in People : The Economics of Population Quality, Hindustan Publishing Corporation (India), Delhi.
- Stoney, John J. (ed.) : Human Resource Management : A Critical Text, Routledge, London.

**OUTLINES OF TESTS, SYLLABI AND COURSES OF READING IN ECONOMICS FOR M.A.
PART II EXAMINATION, 2011**

OUTLINES OF TEST

Compulsory Papers

Paper- I	:	Macro-Economic Theory	80 marks
Paper -II	:	Economics of Growth, Development and Planning	80 marks

Optional Papers

Papers III & IV - Any **two** from the following :

Option (i)	Econometrics	80 marks
Option (ii)	Mathematical Economics	80 marks
Option (iii)	International Economics	80 marks
Option (iv)	Economics of Public Finance	80 marks
Option (v)	Economics of Money & Banking	80 marks
OR		
	Economics of Financial Markets and Institutions	80 marks
Option (vi)	Political Economy	80 marks
Option (vii)	Computer Applications in Economic and Statistical Analysis	80 marks
Option (viii)	Economics of Agriculture or Economics of Industry – whichever the student has not offered in M. A. – I. The syllabi in this option will be the same as prescribed in M.A.-I.	80 marks
Option (ix)	Economics of Environment	80 marks
Option (x)	Dissertation	100 marks

- Note :**
1. Only those candidates who have obtained at least 55% (fifty five percent) marks in the M. A. Part I examination can opt for Option (x) Dissertation.
 2. Only Regular students will be allowed to offer Option (vii) and the prescribed course of attendance in practical in this paper will also be compulsory.

SYLLABI AND COURSES OF READING FOR M.A. PART II ECONOMICS

PAPER I : MACRO-ECONOMIC THEORY

100 Hours

Macroeconomics or aggregative economics 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 Theory” equips the students at the postgraduate level to understand systemic facts and latest theoretical developments for empirical analysis.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students’ written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 15 marks.

UNIT-I

Consumption Function : Absolute Income Hypothesis, Relative Income Hypothesis, Permanent Income and Life-Cycle Hypotheses. Consumption under Uncertainty – Modern Approach.

Investment Function : Keynesian approach. Accelerator Theory, Neo-classical theory of investment and Tobin’s Q theory of investment.

UNIT-II

Demand for Money : Quantity theory of money, Keynesian Approach, Baumol and Tobin's Contributions, Friedman's restatement of Quantity Theory of money.

Supply of Money : Definition of money and its importance in macro-economics. Money multiplier and credit creation by commercial banks.

Derivation, properties and shifts in IS and LM curves and simultaneous equilibrium in money and product markets. Effects of monetary and fiscal policies under different cases in the IS-LM framework.

UNIT-III

Demand and Supply of Labour : Classical and Keynesian views.

Keynesian and classical models of income and employment determination. Wage-price flexibility and automatic full employment – Classical versus Keynesian approach.

Inflation : Its effects, Kaldorian theory of distribution. Quantity theory view, Keynes' view. Phillips curve analysis, Long run Phillips curve, monetarist theory and structuralist theory of inflation.

Trade Cycle Theories : Accelerator – Multiplier Interaction model, Kaldor model.

UNIT-IV

Balance of Payments : Current and Capital Accounts. Mundell–Flemming open economy model, Disequilibrium in balance of payments and its consequences. Balance of payments, adjustment policies in fixed and flexible exchange rate.

Monetary and Fiscal Policies : Objectives, conflicts among objectives. Mundell Model, Swan Model.

Recent Developments : Monetarism, New-Classical Macro Economics : Rational Expectations revolution and Real Business Cycle theory. New Keynesian Macro economics.

BOOKS RECOMMENDED :

- | | | |
|--|---|---|
| Ackley, G. (1978) | : | Macroeconomics : Theory and Policy, Macmillan, New York. |
| Aschheim, J. and Hsieh, C. (1969) | : | Macroeconomics : Income and Monetary Theory, Columbus, Ohio, Charles E. Merrill Publishing House. |
| Blanchard, O. J. and Fisher, S. (1989) | : | Lectures in Macroeconomics, MIT Press, Cambridge. |

- Branson, W. H. (1994) (3rd ed.) : Macroeconomic Theory and Policy, Harper and Row, New York.
- Branson, W. H. & Litvack, J. M. (1976) : Macroeconomics, Harper and Row, New York.
- Brooman, F. S. (1975) (5th edn.) : Macro Economics, George Allen and Unwin Ltd., London.
- Burrow, P. & Hitiris, T. (1974) : Macro Economic Theory : A Mathematical Introduction, John Wiley & Sons, New York.
- Curwen, P. J. (1976) : Inflation, Macmillan and Co., London.
- Dernberg, T. F. and Mc Dugall, D. M. (1976) : Macro Economic Analysis (4th Ed.), McGraw Hills, New York.
- Dornbusch, R. (1980) : Open Economy, Macro Economics, Basic Books, New York.
- Dornbusch, R. & F. Stanley (1997) : Macroeconomics, McGraw Hill, Inc., New York.
- Duesenberry, J. S. (1949) : Income, Saving and the Theory of Consumer Behaviour, Harvard University Press, Harvard.
- Eugene, Diulio (1997) : Macroeconomics, Schaum's Outlines of Theory and Problems, McGraw Hill.
- Friedman, M. (1970) : A Theory of the Consumption Function, Oxford and IBH.
- Friedman, M. (1956) : Studies in the Quantity Theory of Money, The University of Chicago Press, Chicago.
- Frisch, H. (1983) : Theories of Inflation, Cambridge University Press, Cambridge.
- Gordon, R. and S. G. Harris (1998) : Macroeconomics, Addison Wesley, New York.
- Hagger, A. J. (1977) : Inflation : Theory and Policy, Macmillan, London.
- Hall, R. E. & J. B. Taylor (1986) : Macroeconomics, W.W. Norton, New York.
- Heijdra, B. J. & V. P. Frederick (2001) : Foundations of Modern Macroeconomics, Oxford University Press, New Delhi.
- Hicks, J. R. (1950) : A Contribution to the Theory of Trade Cycles, Clarendon Press, Oxford.

- 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.
- Keynes, J. M. (1936) : The General Theory of Employment, Interest and Money, Macmillan, London.
- Laidler, D. E. W. (1977) : Demand for Money : Theory and Evidence, Dum-Don Valley, New York.
- Levacic, R. and R. Rebman (1986) : Macroeconomics : An Introduction to Keynesian and Neo-classical Controversies, Macmillan, London.
- Lucas, R. (1981) : Studies in Business Cycle Theory, MIT Press, Cambridge, USA.
- Mankiw, N. G. and D. Romer (eds.) (1991) : New Keynesian Economics (2 Vols.), MIT Press, Cambridge.
- Mathews, R. C. O. (1964) : The Trade Cycle, Cambridge Univ. Press.
- Mckinen, G. E. (1978) : Money, The Price Level and Interest Rates, Prentice Hall of India, New Delhi.
- Mueller, M. G. (1966) (Ed.) (3rd ed.) : Readings in Macroeconomics, Holt Rinehart and Winston, New York.
- Patinkin, D. (1965) : Money, Interest and Prices (2nd ed.), Harper and Row, New York.
- Peston, M. H. (1982) : Theory of Macroeconomic Policy, Heritage Publishers.
- Rakshit, M. (1998) : Studies in the Macroeconomics of Developing Countries, Oxford University Press, New Delhi.
- Romer, D. L. (1996) : Advanced Macroeconomics, McGraw Hill Co. Ltd., New York.
- Scarfe, B. L. (1977) : Cycles, Growth and Inflation, McGraw Hill Co. Ltd., New York.
- Shapiro, E. (1996) : Macro-economic Analysis (5th ed.), Galgotia Publications, New Delhi.
- Surrey, M. J. C. (ed.) (1976) : Macroeconomics Themes, Oxford University Press, Oxford.

- Smith, W. L. and Teigen, R. L. : Readings in Money, National Income and Stabilization Policy, Richard D. Irwin.
(Ed.) (1970)
- Taylor, L. (1983) : Structuralist Macroeconomics, Basic Books, New Longman.
- Turnovsky, S. J. (1977) : Macroeconomic Analysis and Stabilization Policy, Cambridge University Press, Cambridge, USA.
- American Economic Association : A Survey of Economic Theory, Vols.1, 2 & 3.
and The Royal Economic Society
(1965)

PAPER II : ECONOMICS OF GROWTH, DEVELOPMENT AND PLANNING

100 Hours

As a sequel to the post-second war developments, the study of Economic Development, gained impetus because three-fourths of humanity was experiencing wretched conditions of existence. There was a pressing need in those countries for uplifting their economic conditions by restructuring their economies to acquire greater diversity, efficiency and equity, in consonance with their priorities.

Since a variety of perspectives were available, the policy makers were eager to acquaint themselves with various policy options in their bid to re-construct their dilapidated economies. In addition, various international bodies were also keen to help and guide the laggards. Consequently, the study of development economics assumed greater significance.

In recent times, the resurgence of marketism and greater focus on areas like education, health, sanitation, energy and environment, and infrastructure development, hitherto relegated to the background, have reopened some of the old debates besides opening up new areas of investigation. Growth and Development economists are making earnest efforts at theorizing to break fresh grounds. Consequently, study of this discipline continues to be of prime importance.

Modules incorporated in this paper are devoted to the theories of growth and 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 infrastructure-linkages, role of international trade, importance of economic policies and relevance of planning have been included in the modules of this paper.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit –4 in all. Each question will carry 15 marks.

UNIT-I

Modern Economic Growth – Rate, Structure and Spread : Economic growth of Nations in the Post-Industrial revolution era and Kaldor's stylised facts of growth.

Economic Growth and Structural Change (Hypothesis and empirical regularities relating to changes in the composition of output, occupational structure, demographic changes and income distribution—the Kuznet's curve).

Theorising Growth (The Models of Solow-Swan, Kaldor-Passinetti, Robinson; Convergence/Divergence debate without reference to the recent thrust in the theory of international trade—the ideas of Arrow, Lucas and Romer—their Specific Models not to be derived).

UNIT-II**From Economic Growth to Economic Development :**

Defining Development (Development, Growth and Change; Goulet's Sufficiency for all, and Sen's Development as Freedom).

Measuring Development (Income/Output based measures and their inadequacies; rationale, construct, and use of PQLI and HDI as indicators of development).

Population Growth and Economic Development (Their interaction; Spatial distribution of population and developing economies).

Economic Growth and the Issue of Sustainable Development (Resource depletion, resource augmentation, environmental consequences and sustainability).

UNIT-III**Theories of Development & Underdevelopment :**

Explaining Underdevelopment (Myrdal's cumulative causation thesis, theories of Raul Prebisch and E. Emmanuel).

Theories and Processes of Development (Classicals—only a synthesized version; Karl Marx and Joseph A. Schumpeter).

UNIT-IV

Strategies for Development :

The Dual-Economy (Models of W.A. Lewis, and Fei and Ranis; Harris & Todaro model of Rural-Urban migration).

Balanced and Unbalanced Growth :

Economic Isolation and Integration with the Global Market (Reliance on foreign-trade, international aid, FDI and MNCs).

BOOKS/JOURNALS RECOMMENDED :

- | | | |
|---|---|---|
| A.P. Thirlwal (1999) | : | Growth and Development with Special Reference to Developing Economies, Macmillan, London. |
| A. K. Sen, (ed.) (1970) | : | Growth Economics, Penguin Books, London. |
| Amartya Sen (1999) | : | Development as Freedom, Oxford University Press, London. |
| Debraj Ray (1998) | : | Development Economics, Oxford University Press, Delhi. |
| Gerald M. Meier
James E. Rauch (2000) | : | Leading Issues in Economic Development, Oxford University Press, New York. |
| Gustav Ranis & John C.H. Fei (1961) | : | “A Theory of Economic Development”, American Economy Review, September, pp. 533-65. |
| Hollis Chenery & Moises Syrquin (1975) | : | Patterns of Development : 1950-70, Oxford University Press. |
| Kenneth Arrow (1962) | : | The Economic Implications of Learning by Doing Review of Economic Studies, June, pp. 155-173. |
| Michael P. Todaro (1997) | : | Economic Development, Addison-Wesley, Mass, ISE. |
| Pan A. Yotopoulos
Jeffrey B. Nugent (1976) | : | Economics of Development—Empirical Investigations, Harper & Row, New York. |
| Paul, M. Romer (1986) | : | Increasing Returns and Long Run Growth, Journal of Political Economy, October. |
| ----- (1990) | : | Endogenous Technological Change, Journal of Political Economy, October. |
| Robert Lucas (1988) | : | On the Mechanics of Economic Development, Journal of Monetary Economics, July. |

- S. Kuznets (1966) : Modern Economic Growth, Rate, Structure and Spread, Vakils, Feffer and Simons Private Limited, Bombay.
- Sukhmoy Chakravarty (1982) : Alternative Approaches to Theories of Economic Growth : Marx, Marshall and Schumpeter, R.C. Dutt Lectures on Political Economy, 1980, Centre for Studies in Social Sciences, Calcutta, Orient Longman.
- Theodore W. Schultz (1981) : Investing in People, Hindustan Publishing Corporation (India), Delhi.
- Thorvaldur Gylfason (1999) : Principles of Economic Growth, Oxford University Press.

PAPERS III & IV OPTION (i) : ECONOMETRICS

100 Hours

Application 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.

Besides the time-tested method of imparting verbal instructions through lectures, description and derivation of econometric models would be demonstrated by extensive use of blackboard. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

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There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 15 marks.

UNIT-I

Introduction : Nature, Scope and Methodology of Econometrics, Specification of an Econometric Model, Nature of data used in Estimation.

Single Equation Estimation : Method of Ordinary Least Squares (OLS) for Simple and Multiple Regression Models, Properties of the Least Squares Estimators, the Gauss-Markov Theorem, Tests of significance of OLS estimates and confidence intervals, Maximum Likelihood Estimation (MLE), Application and Uses of Dummy Variables (both as dependent and independent), Criteria for Model Selection.

UNIT-II

Problems with OLS Estimation : Multicollinearity, Specification Errors, Heteroscedasticity, Autocorrelation, Aitken's Generalized Least Squares (GLS) Method of Estimation, Estimation from Grouped Data, Errors of Measurement.

Dynamic Econometric Models : Autoregressive and Distributed Lag Models, Kyock's and Almon's Methods of Estimation, Rational Expectations Models, Granger and Sim's Causality Tests.

UNIT-III

Simultaneous Equation Models : Description, Identification Problem, Rank and Order Conditions.

Single Equation Methods of Estimation : Indirect Least Squares (ILS), Two Stage Least Squares (2 SLS), and Limited Information Maximum Likelihood (LIML); System Methods of Estimation : Three Stage Least Squares (3 SLS).

UNIT-IV

Time Series Analysis : Stationarity, Unit roots, Co-integration, spurious regression, Dickey-Fuller test, Engle-Granger test, Random walk models, Forecasting with ARIMA models, Box-Jenking Methodology; Vector auto-regression : Uses and Problems.

Panel Data Techniques : Random Coefficient; models; Fix effects models; Random effect model.

BOOKS RECOMMENDED :

- | | | |
|--|---|---|
| Amemiya, T. (1985) | : | Advanced Econometrics, Harvard University Press, Cambridge, Mass. |
| Baltagi, B. H. (1998) | : | Econometrics, Springer, New York. |
| Box, G. and G. Jenkins (1984) | : | Time Series Analysis : Forecasting and Control, 2 nd Ed. San Francisco : Holden Day. |
| Goldberger, A. S. (1998) | : | Introductory Econometrics, Harvard University Press, Cambridge Mass. |
| Gujarati, Damodar (2002) | : | Basic Econometrics (4 th Edn.), McGraw Hill. |
| Intriligator, M.J. and Hsiao Bodkin (1996) | : | Econometric Models : Techniques and Applications, (2 nd Edn.) Prentice Hall. |
| Johnston, J. and D. Nardo (1997) | : | Econometric Methods (4 th Edn.), McGraw Hill. |
| Judge, G.C. Hill, W. Griffiths and T. Lee (1985) | : | Theory and Practice of Econometrics, New York : John Wiley and Sons. |
| Krishna, K. L. (1997) | : | Econometric Applications in India, Oxford University Press. |

- Koutsoyiannis, A. (1978) : Theory of Econometrics, Macmillan Publishers.
 Maddala, G. S. (1997) : Econometrics, McGraw Hill, New York.
 Mills, T. (1990) : Time Series Techniques for Economists, New York : Cambridge University Press.
 Pesaran, M. H. & Peter Schmidt (Ed.) : Handbook of Applied Econometrics, Vols. I & II, Oxford (1999) University Press.
 Pindyck, R. S. and Rubinfeld, D. L. : Econometric Models and Economic Forecasts (4th Edn.), (1998) McGraw Hill.
 William, Green (2000) : Econometric Analysis (4th Edn.), Prentice Hall.

PAPERS III & IV OPTION (ii) : MATHEMATICAL ECONOMICS

100 Hours

This course is designed to equip students to understand the economic concepts and theories by using 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.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 15 marks.

UNIT-I

The Nature of Mathematical Economics and Ingredients of a Mathematical Model.

Theory of Consumer Behaviour : Utility Function-Behavioural postulates, nature and existence; Separable and additive utility functions; Homogeneous and homothetic utility functions; Demand function; Compensated demand function; Cardinal and Ordinal utility maximization; Slutsky equation for two and more commodities : Traditional and modern derivation and its interpretation; Concept of elasticities – generalization to n variable case; linear expenditure function and indirect utility function; Roy's identity; Expenditure function; Consumer's surplus; Choice under risk, Von Neuman utility function; Intertemporal utility maximization; Revealed preference theory—the weak and strong axioms, integrability problem; Composite commodity theorem.

Production Analysis : Homogeneous and Homothetic production functions; Elasticity of substitution; Cobb-Douglas, CES and VES production functions; Output and profit maximization, cost minimization; Duality in production; Input demand functions; Adding up Theorem; Analysis of joint profit maximisation and multi-product firm; Production possibility curve.

UNIT-II

Market Equilibrium : Price and Output determination under perfect competition, Monopoly and price discrimination, oligopoly and duopoly—the Cournot-Nash equilibrium, Collusion and Stackleberg model; Commodity market and factor market equilibrium; Existence and uniqueness of equilibrium; stability of equilibrium; Dynamic equilibrium with lagged adjustment; Cobweb model. Multi-market equilibrium, Walras's law and the existence of general equilibrium (without proof) and conditions for stability of equilibrium.

UNIT-III

Macro Economics : The Classical and Keynes' system; Hicks-Hansen version of the Keynesian model; fiscal policy and the balanced budget theorem; liquidity trap and the efficiency of monetary policy; Comparative statics in the Classical and Keynesian models.

Static and dynamic multiplier; Accelerator.

Trade Cycles : General concepts, Hicks-Samuelson multiplier-accelerator interaction model.

Growth Models : Harrod-Domar growth model and its stability; Solow model: Basic neo-classical growth model; Golden age problem; Technical progress and stability of neo-classical models. Optimal growth and golden rule of capital accumulation. Endogenous growth.

UNIT-IV

Input-Output Analysis : Static open and closed models, viability conditions; Activity analysis interpretation of input-output model; Aggregation problem; Substitution theorem; Cost and price determination; Dynamic Leontief system.

Linear Programming : Activity analysis interpretation of a linear program; Simplex and the revised simplex method; Dual and its economic interpretation; Complimentary slackness conditions; Duality theorems; Applications of linear programming in economics.

Game Theory : Two person zero sum non co-operant game, pure and mixed strategies; linear programming formulation of a matrix game; Methods of solving a game problem; Fair game and conversion of linear programming problem into a game problem. Introduction to non-constant sum games; Prisoner's dilemma.

BOOKS RECOMMENDED :

- | | | |
|--|---|--|
| Abel, A., Bernanke, and Mcnabb
(1998) | : | Macroeconomics, Addison Wesley, Massachusetts. |
| Allen, R. G. D. (1974) | : | Mathematical Economics, Macmillan, London. |
| Allen, R. G. D. (1974) | : | Mathematical Analysis for Economists, Macmillan Press & ELBS, London. |
| Allen, R. G. D. (1967) | : | Macro Economic Theory, Macmillan, London. |
| Baumol, W. J. (1978)
(4 th Edn.) | : | Economic Theory and Operations Analysis, Prentice Hall of India, N. Delhi. |
| Dorfman, R. Samuelson, P. and
Sallow, R. (1968) | : | Linear Programming and Economic Analysis, McGraw Hill, Kogakusha Ltd., Tokyo. |
| Dornbusch, R. and Fisher, S. (1981) | : | Macroeconomics, McGraw Hill, N. Delhi. |
| Hamberg, D. (1971) | : | Models of Economic Growth, Harper & Row, New York. |
| Henderson, J. M. & Quandt, R. B.
(1980) | : | Micro Economic Theory : A Mathematical Approach (3 rd ed.), McGraw Hill, New Delhi. |
| Lancaster, V. (1965) | : | Mathematical Economics, Rand McNally College Pub. |
| Silberberg, E. (1978) | : | The Structure of Economics – A Mathematical Analysis, McGraw Hill, New York. |
| Varian, H. R. (1992) | : | Microeconomic Analysis, W. W. Norton, New York. |
| Nehar, Phillips, A. (1971) | : | Economic Growth and Development : A Mathematical Introduction, John Wiley, New York. |

Madnani, G. M. K. : Mathematical Economics, IBH Publishing Co. Pvt. Ltd., New Delhi.

OTHER BOOKS :

Chiang, A. C. (1984) : Fundamental Methods of Mathematical Economics (3rd edn.), McGraw Hill, New York.

Chung, J. W. (1993) : Utility and Production : Theory and Application, Basil Blackwell, London, New York.

Green, H. A. J. (1971) : Consumer Theory, Penguin, Harmondsworth.

Jha, R. (1991) : Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.

Jones, H.G. (1976) : An Introduction to the Modern Theory of Economic Growth, McGraw Hill Kogakusha, Tokyo.

Mahesh Chand & Anand, V. K. (1981) : Economic Theory – A Mathematical Approach, Kitab Mahal, Allahabad.

Nash, J. F. (1996) : Essays on Game Theory, Cheltenham, U.K.

Quirk, J. and Saposnik, R. (1968) : Introduction to General Equilibrium Theory and Welfare Economics, McGraw Hill, New York.

Sen, A. K. (ed.) (1990) : Growth Economics, Penguin, Harmondsworth.

Solow, Robert M. (2000) : Growth Theory – An Exposition, Oxford University Press, Oxford.

Taha, H. S. (1997) : Operations Research – An Introduction (6th edition), Prentice Hall of India Pvt. Ltd., New Delhi.

Leontief, W. W. (1966) : Input-Output Economics, Oxford University Press, New York.

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

PAPERS III & IV OPTION (iii) : INTERNATIONAL ECONOMICS

100 Hours

The course intends to provide 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. 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 with particular reference to India. Finally, it prepares the students in examining contents in Indian context.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

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UNIT-I

The Pure Theory of International Trade : Theories of absolute advantage, comparative advantage and opportunity costs. Heckscher Ohlin theory of trade, factor price equalization. Empirical testing of Heckscher Ohlin theory. Impact of dynamic factor in international trade (changes in tastes, technology and factor endowment), (The Rybczynski Theorem and immiserising growth). Gains from trade and distribution. Terms of trade : Concepts and measurement of terms of trade. Secular deterioration hypothesis. New approaches to trade theory (The product cycle and economics of scale theory), preference similarity hypothesis. Causes of emergence and measurement of intra-industry trade.

UNIT-II

Theory of Tariffs : Effects of tariffs on balance of payments, terms of trade, national income, consumption, output and income distribution. Emergence of and the political economy of Non-tariff barriers. Regionalism and multilateralism. Trade restrictions and economic development of Southern countries. Optimum and effective rate of tariffs. Various forms of economic integration : The Theory of customs union. Static and dynamic effects of customs union. Problems and prospects of forming a customs union in developing areas with reference to Asian region.

UNIT-III

The Balance of Payments and Adjustments : Concepts and components of balance of payments. Causes of dis-equilibrium in the balance of payments. The process of adjustment in the Balance of Payments under Gold Standard, fixed exchange rate and flexible exchange rate systems. Elasticity and absorption approaches to balance of payments. Monetary and fiscal measures for adjustment in balance of payments dis-equilibrium, both under flexible and fixed exchange rates systems. Monetary approach to the balance of payments. Foreign trade multiplier with and without foreign repercussions.

UNIT-IV

Role of Multinational corporations in developing countries with special reference to India. The Euro-dollar and eurocurrency market and developing countries. International economic institutions. Functions and achievements of GATT/WTO. Impact of WTO on different sectors of the Indian Economy. UNCTAD broad outcome of VI, VII, VIII Rounds and their relevance for developing countries. Anatomy of the new international economic order. **TRIPS** and **TRIMS**, MFA and WTO. The Theory of optimum currency areas.

The Bretton Woods System : Its working and reasons for its collapse. Problems of international liquidity. Proposals for international monetary reforms and IMF. Developing Countries and the reform of International monetary system. East Asia : Success and crisis.

Recent trends towards trade liberalisation policies in India and their implications for trade and growth.

BOOKS RECOMMENDED :

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|--|---|---|
| Aggarwal, M. R. (2001) | : | International Institutions and Development in Developing Countries, Deep & Deep Publications, New Delhi. |
| Anne-o- Krueger (1984) | : | Trade Policies in Developing Countries, Published in R. W. Jones and P.B. Kenen (ed.), Handbook of International Economics, Vol. I, 1984. |
| Bhagwati, J. (1988) | : | Protectionism, Cambridge University Press, USA. |
| Brahmananda, P. R. (1982) | : | The IMF Loan and India's Economic Future, Himalaya Publishing House, Bombay. |
| Brahmananda, P. R. & V. R. Panchamukhi (ed.), 1987 | : | The Development Process of the Indian Economy, Himalaya Publishing House, New Delhi. |
| Chacholiades, M. (1980) | : | International Trade : Theory and Policy, McGraw Hill, Kugakusha, Japan. |
| Clement, Mpfister, R. L. & Rothwell, K. J. (1976) | : | Theoretical Issues in International Economics, Constable Publications, London. |
| Crockett, A. (1982) | : | International Money : Issues and Analysis, The ELBs and Nelson (UK). |
| Nayyar, Deepak (1976) | : | India's Exports and Export Policies in the 1960's, Cambridge University Press. |
| Salvatore, Dominick (1987) | : | The New Protectionist Threat to World Welfare. |
| Finance and Development (March, 2000) | : | Surmounting the Challenges of Globalization, IMF. |

- Helpman, H. & Krigman, P. R. (1985) : Market Structure and Foreign Trade, MIT Press.
- Whally, John (1985) : Trade Liberalization among Major Trading Areas, Cambridge MIT Press.
- Kenen, P. B. (1994) : The International Economy (3rd ed.).
- Kindleberger, C. P. (1991) : International Economics (8th ed.), India Traveller Books Sellers, New Delhi.
- Kindleberger, C.P. (1996) : Maxias, Panics and Crashes –A History of Financial Crisis.
- Lall, S. & Streeten, P. (1977) : Foreign Investment, Traditional and Developing Countries.
- Singh, Manmohan (1964) : India's Export Trends and the Prospects for Self Sustained Growth.
- Martin, Feldstein (1990) : International Economic Co-operation.
- Nagy, Bela Csikos, and Young, D. G. : East-West Economic Relations in the Changing Global Environment.
- Ferguson, Nial (2001) : The Cash Nexus Money and Power in Modern World (1700-2000).
- OECD (1985) : Costs and Benefits of Protection, Paris, OECD.
- Panchmukhi, V. R., Raipuria, K. M. and Tandon R. (ed.)(1987) : Money and Finance in a World Economic Order, Indus Publishing Co., New Delhi.
- Panchmukhi, V. R. (2000) : WTO and India, Challenges and Perspectives, RIS Discussion Papers.
- Paul, R. Krugman & Maurice Obstfeld (2000) : International Economics Theory and Policy (5th ed.), Addison-Wesley Series in Economics.
- Alibev, R.Z. (1987) : The International Money Game, Basic Books, New York.
- Solomon, Robert (1982) : The International Monetary System (1945-1981), Marker and Row Publishers, New York.
- Salvatore, D. (1996) : Theory and Problems of International Economics (7th ed.), Prentice Hall, New York.
- Salvatore, D. (1997) : International Economics, Prentice Hall, New York.
- Schwartz, A. J. (1987) : Money in Historical Perspective, Chicago University Press, Chicago.
- Sodersten, B. O. (3rd ed.) (1999) : International Economics, The Macmillan Press Ltd., London.

The World Bank (2002) : Globalization, Growth and Poverty : Building an Inclusive World Economy, World Bank Policy Research Paper, Oxford University Press, New York .

PAPERS III & IV OPTION (iv) : ECONOMICS OF PUBLIC FINANCE

100 Hours

Role and functions 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 existing 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 a careful analysis of the issues which underline budgetary policies in general and Indian experience in particular.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit –4 in all. Each question will carry 15 marks.

UNIT –I

Issues Relating to the Economic Activities of the Government/Public Sector. Instruments of Public Finance : Concept and the role of Budgets (short-term demand management, redistribution of income and wealth).

Welfare Foundations of Public Economics : Pareto Optimality, Market Failure, Distinction between Private and Public Goods. The Optimal provision of Public Goods, Lindhal Equilibrium, Free Rider Problem. The Pure Theory of Public Goods by Samuelson.

UNIT-II

Theory of Taxation : Various approaches of equity in taxation. Benefit Principle, Lindahl and theory. Ability to Pay Approach.

Tax Incidence : Partial and General Equilibrium Incidence Analysis, excess burden, effects on work effort, savings, investment and growth.

UNIT-III

Public Expenditure : Growth and Structural changes, economic and political—Wagner's Law, Peacock and Wiseman's hypothesis, Criteria for Expenditure Evaluation : Valuation of Benefit and Cost, Choice of Discount rate.

Macro Analysis of Public Debt : Functional Finance and the Controversy relating to the burden of public debt and its shifting, Public Borrowing, Debt Management, Deficit Financing.

UNIT-IV

Fiscal Policy in a Macro Perspective in India : Fiscal Deficit and Inflation, Indian Tax System, Pattern of Govt. Expenditure, Public Debt Management, Problem of Tax Evasion and Parallel Economy.

Issues on Federal Finance in India : Devolution Criteria, Peculiarities and Problems.

BOOKS RECOMMENDED :

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| Brown, C. V. and Jackson, P. M. (1990) | : | Public Sector Economics, 4 th edition, Basil Blackwell, Oxford. |
| M. Govinda Rao and Tapas Sen (1998) | : | Financial Federalism in India, Mcmillan, Delhi. |
| Hemalata Rao (1994) | : | Federal State Financial Relations : Theories and Principles, Ashish Publishing House. |
| Arun Kumar (1998) | : | Black Economy in India, Penguin Books, New Delhi. |
| Musgrave, R. A. & Musgrave, P. B. (Latest Edition) | : | Public Finance in Theory and Practice, McGraw Hill International eds. |
| Houghton, R. W. (ed.) (1970) | : | Public Finance, Harmondsworth, Penguin Books. |
| Atkinson, A. B. and Stiglitz, J. E. | : | Lectures on Public Finance, Maiden head, U.K. |
| Peacock, and Straw, G. K. (1970) | : | The Economic Theory of Fiscal Policy, George Allen and Unwin, London. |
| Chelliah, R. C. (1996) | : | Sustainable Growth, Essays on Financial and Fiscal Sector Reforms, Oxford University Press. |

Raghabendra Jha (1999)	:	Modern Public Economics, Routledge.
Govt. of India, Ministry of Finance	:	9 th , 10 th and 11 th Finance Commission Reports.
Govt. of India, Ministry of Finance (1988)	:	Sarkaria Commission Report on Centre-State Financial Relations.

PAPERS III & IV OPTION (v) : ECONOMICS OF MONEY AND BANKING

100 Hours

Money and banking constitute important components towards understanding of economics. A clear understanding of the operations of money and banking and their interaction with the rest of the economy is essential to realize how monetary forces operate through a multitude of channels – market, non-market, institutions and among others, the state. The operation of financial markets and their regulations are to be studied to appreciate their key-role in an economy, especially after the far reaching banking and financial sector reforms in India and elsewhere. The present course is designed to acquaint the students fully with the changing role of financial institutions in the process of growth and development. Accordingly, the paper on ‘Economics of Money and Banking’ is an optimal integration of monetary theory, banking and non-banking financial institutions, which combines with itself a systematic discussion of the theory, institutions and policy with special reference to India.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students’ written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 15 marks.

UNIT-I

Money : Post war controversy on the definition of Money and Money supply. Money and Near Money Assets. Theoretical and empirical attempts to define money. Ordinary money and high powered money. Inside money and outside money.

Demand for Money : Classical theory, Keynes' Liquidity Preference Approach, Patinkin and the Real Balance Effect, Friedman's theory, Empirical Evidence on Demand for Money.

Supply of Money : Components and Sources of Money Supply, A simple theory of money supply. Money multiplier process, Determinants of money supply. Analysis of money supply in India - Reports of different RBI working groups.

UNIT-II

Monetary Policy : Goals, targets, indicators, instruments and effectiveness of monetary policy. Role, objectives and limitations of the monetary policy in developed and developing countries. Transmission mechanism of monetary policy, Rules versus Discretion, Monetarism, Debate on Neutrality of Money Monetary targeting—its relevance in India.

Term Structure of Interest Rates : Theories of term structure of interest rates, Structure of interest rates in India. Appropriate interest rate policy.

UNIT-III

The Central Bank : Role and functions, Techniques of Monetary Control, the Changing Context of Monetary Policy in India, Autonomy of Central Banks—RBI Autonomy and Monetary Management.

Commercial Banks : Role and functions, major developments in Commercial Banking in India since independence. Cooperative Banks in India – major developments in recent years.

Non-bank Financial Intermediaries : Distinction between Banks and NBFIs. Their growth, structure and impact on India's economic development. Control and Regulation of NBFCs by RBI.

UNIT-IV

Financial Markets : Money Market and Capital Market – Main Functions and Structure. Efficiency of Money Market. Structure of Indian Money and Capital Market. SEBI : Its impact on the working of Capital Market. Financial Sector Reforms in India and Agenda for Future. Issues regarding Convertibility—Implications of Tarapore Committee Report.

International Monetary System : International Liquidity and the IMF. India and the IMF. European Monetary System—Main features of Maastricht Treaty—Post Maastricht developments. Reforms in international monetary system for developing countries.

BOOKS/JOURNALS RECOMMENDED :

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|--|---|---|
| Aschheim, J. and Hsieh, C. (1969) | : | Macro Economics : Income and Monetary Theory. Columbus, Ohio, Charley E. Merrill. |
| Benjamin, M. Friedman and Frank H. Hahn (1990) | : | Handbook of Monetary Economics (North Holland). |
| Benett, T. McCallum (1996) | : | International Monetary Economics, Oxford University Press, Oxford. |

- Bhole, L. M. (1999) : Financial Institutions and Markets, Tata McGraw Hill Ltd., New Delhi.
- Bhole, L. M. (2006) : Indian Financial System, Chugh Publications, Allahabad.
- Carr J. and M. Darby (1981) : The Role of Money Supply Shocks in Short Run Demand for Money, Journal of Monetary Economics, Vol. 8.
- Fry, M. J. (1982) : Money, Interest and Banking in Economic Development, John Hopkin's University Press.
- Gupta, S. B. (1995) : Monetary Planning for India, Oxford University Press, Oxford.
- Gupta, S. B. (1982) : Monetary Economics—Institutions, Theory and Policy, S. Chand and Company, N. Delhi.
- Gurley, J. G. and Shaw, E. S. (1960) : Money in a Theory of Finance, Brooking Institution, Washington.
- Heller, H. Robert (1968) : International Monetary Economics, Prentice Hall, India.
- James Tobin (1965) : Money and Economic Growth, Econometrica, Volume 33.
- Jadhav, N. (1964) : Monetary Economics for India, Macmillan India Ltd., New Delhi.
- Jadhav, N. (1996) : Challenges to Indian Banking (Ed.), Macmillan India Limited, New Delhi.
- Khan, M. Y. (1996) : Indian Financial System, Tata McGraw Hill, New Delhi.
- Kulkarni, G. (1999) : Modern Monetary Theory (Macmillan), Delhi.
- Laidler, David (1972) : Demand for Money : Theories and Evidence, Allied Publishers, New Delhi.
- Laidler, David (1999) : The Foundations of Monetary Economics, Volume II, Edward Elgar Publishing Ltd.
- Mckinen, G. E. (1978) : Money, The Price Level and Interest Rates, Prentice Hall of India, New Delhi.

- Mishkin, S. F. (1998) (5th ed.) : The Economics of Money, Banking and Financial Markets, Harper Colins Publishers, New York.
- Newlyn, W.T. (1978) : Theory of Money (3rd Edition), Clarendon Press Oxford, London.
- Patinkin, Don : Money, Interest and Prices – An Integration of Monetary and Value Theory, New York, Harper and Row, 2nd Edition.
- Prasad, K. N. (2001) : Developments in India's Financial System, Sarup and Sons, New Delhi.
- Peter, J. Montrel (1991) : Transmission Mechanism of Monetary Policy for LDCs, IMF Staff Papers, Vol. 38.
- R. Dornbusch and A. Giovannini : Monetary Policy in the Open Economy, Chapter 23, Handbook of Monetary Economics.
- Rangarajan, C. (1999) : Indian Economy : Essays on Money and Finance, Universal Book Stall, New Delhi.
- Reddy, Y. V. (2000) : A Review of Monetary and Financial Sector Reforms in India – A Central Banker's Perspective, Universal Book Stall, New Delhi.
- Reserve Bank of India : Report of the Committee to Review the Working of the Monetary System in India; Chakravarty Committee Report, Mumbai.
- : Report of the Committee on the Financial System.
- : Report of the Committee on Capital Account Convertibility.
- : Annual Report (Recent Issues).
- : Report on Currency and Finance (Recent Issues).
- : RBI Occasional Papers.
- : Report of the Working Group on Money Supply : Analysis and Methodology of Compilation, RBI Bulletin, July, 1998.
- Schwartz, A. J. (1987) : Money in Historical Perspective, Chicago University Press, Chicago.
- Trevor M. Sikorki (1996) : Financial Liberalization in Developing Countries, Edward Elgar.

OR**PAPERS III & IV OPTION (v) : ECONOMICS OF FINANCIAL MARKETS AND INSTITUTIONS**

100 Hours

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 students 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.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 15 marks.

UNIT-I

Financial Markets and Financial Instruments – The place of Financial Markets in the Economy – A framework for macro economic analysis of financial and non-financial flows – The relation between stocks and flows – Rate of Interest – Exchange rates. Structure and Functions of Financial Institutions.

Introduction to Corporate Finance – Forms of Business Organization – Goals of Financial Management and Basic Concept of Accounting, The Cost of Capital and the Capital Structure.

UNIT-II

The Supply of Securities, Regulations governing Supply of Securities – General Characteristics of Securities – Government bonds – Index Linked Bonds – Corporate Securities, Mutual Funds, Money Market Funds.

The Demand for Securities – The time dimension – present value and duration, yields on zero-coupon bonds – The term structure of interest rates (with special reference to India). Measurement of risk, expected utility approach, Mean variance portfolio theory, portfolio diversification.

UNIT-III

Efficiency of Securities Markets, The Efficient Market Hypothesis (EMH), mean, semi-strong and strong form of EMH, The Capital Asset Pricing Model (CAPM), the simplest form, estimating betas, validity of CAPM, the Arbitrage Pricing Theory (APT), Introduction to Stock Indices.

Securities Analysis and Market Efficiency – Macro economic developments and securities markets. Performance of Securities Markets and Securities Markets – Industry growth, structure and Firm specific factors – Uses and pitfalls of Price/Earnings Ratios.

UNIT-IV

Introduction to Derivatives, Futures and Options, commodity and finance futures, Hedgers, Speculators and Market Equilibrium, Option Pricing Theory, Binomial approach, Black-Sholes Option pricing model. The put-call parity theorem, other option models, Currency, Equity and Commodity Swaps.

Regulation of Financial Markets – The ethics of finance and the economic function of financial markets, Securities and Exchange Board of India (SEBI) – Role and Functions, Recent Reforms in the Indian Financial Market.

BOOKS RECOMMENDED :

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| Bhole, L. M. (2006) | : Financial Institutions and Markets, Tata McGraw Hill, New Delhi. |
| Brealey, R. and Myers, S. (1997) | : Principles of Corporate Finance, New York, McGraw Hill. |
| Govt. of India | : Narasimhan Committee Report, 1992. |
| Houthakker, H. S. and Williamson, P. J. (1996) | : Economics of Financial Markets, Oxford University Press. |
| Luenberger, David (1998) | : Investment Science, Oxford University Press. |
| Fabozzi, Frank J, Modigliani Franco, and Ferri Michael (1998) | : Foundation of Financial Markets and Institutions, Pearson Ed. |
| Khan, M. Y. (2000) | : Indian Financial System, Tata McGraw Hill, New Delhi. |
| Reserve Bank of India | : Reports on Currency and Finance Annual. |

PAPERS III & IV OPTION (vi) : POLITICAL ECONOMY

100 Hours

The objective of this paper is to expose the students to alternative perspectives on the study of change, analysis of Economic behaviour, distribution and exercise of power.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit –4 in all. Each question will carry 15 marks.

UNIT-I

Meaning, Nature and Evolution of Political Economy. Essential features of Neo-classical economics and its critique. Some Concepts and Theories : The concept of power, Theories of class and class formation. Theories of State, Theory of economic policy. The concept of dialectical materialism.

UNIT-II

Historical Social formations and emergence of capitalism. The process of primitive accumulation under capitalism. Nature of Capitalist Development : Schumpeters formulation.

UNIT-III

Monopoly, Capitalism and Imperialism. Neocolonialism : The highest stage of Imperialism. Political Economy of Development and Underdevelopment : Theories of Paul Baran, G. Frank and A. Emmanuel.

UNIT-IV

Marx and Classical Economists. Marx's Method of Analysis. Transformation problem. Falling Rate of Profit. Theory of Reserve Army of Labour. Marx's Theory of Alienation. Marx's Theory of Money. Asiatic Mode of Production. Marx on Development and Under-development. Contemporary Reference of Marx.

BOOKS RECOMMENDED :

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|---|---|---|
| John Eaton (1973) | : | Political Economy, International Publishers, New York. |
| R. Blackburn (Ed.), 1973 | : | Ideology in Social Sciences. |
| --do-- | : | Reading in Critical Social Theory Collins, 73, London. |
| M. Blaug (1978) (Ed.) | : | Economic Theory in Retrospect, Vikas Publishing House, New Delhi. |
| Tom Bottomore, 1985 | : | A Dictionary of Marxist Thought, Basil Blackwell Publishers, England. |
| Tom, Bottomore ed., 1988 | : | Interpretation of Marx, Oxford, Basil Blackwell, 1988. |
| Paul M. Sweezy (1946) | : | Theory of Capitalist Development, Dennis Dolson Ltd., London. |
| M. C. Howards & J. E. King (Ed.) (1976) | : | The Economics of Marx, Penguin Books Ltd., Harmondsworth, England. |
| Joan Robinson (1966) 2 nd edn. | : | An Essay on Marxian Economics, Macmillan, London. |
| Karl Marx, 1976 VI, 1978 VII | : | Capital, Vols. I, II, III, Penguin Books, Harmondsworth, England |
| Karl Marx (1973) | : | Grundrisse. |
| G. C. Wang (1977) | : | Fundamentals of Political Economy. |
| B. N. Ghosh (1990) | : | Political Economy : A Marxist Approach (Macmillan), Delhi. |
| Maurice Cornforth, 1955-56 | : | Dialectical Materialism : An Introduction, London, Lawrence . 1955-56, 3 Vol. |
| B. Hindess and P. S. Hirst (1975) | : | Pre-capitalist Modes of Product. |
| Tom Kemp (1967) | : | Theories of Imperialism, Lond., Dolison. |
| Owen R. and Sutecliffe, Bole (1975) | : | Studies in the Theory of Imperialism, London, Longman. |
| K. Nkrumah | : | Neocolonialism. |
| Jack Woodis | : | An Introduction to Neocolonialism. |
| Water Calvert (1982) | : | The Concept of Class. |
| B. N. Ghosh, et.al. (1991) | : | Five Great Economists (5 vols.), Deep & Deep Pub., Delhi. |

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| C. A. Kregel (1973) | : | Reconstruction of Political Economy. |
| D. Mermelstein (1970) | : | Economics : Mainstream Readings and Radical Critique. |
| C. Myrdal (1932) | : | Political Element in the Development of Economic Theory. |
| R. Miliband (1969) | : | The State in Capitalist Society. |
| N. Poulantzas | : | Political Power and Social Classes. |
| N. Poulantzas (1978) | : | Classes in Contemporary Capitalism. |
| C. Wilber (Ed.) (1973). | : | Political Economy of Development and Underdevelopment. |
| H. Bernstein (Ed.) (1973) | : | Underdevelopment and Development, Penguin Books Ltd., Harmondworth, England . |
| P.A. Baran (1957) | : | Political Economy of Growth, Modern Reader Paperbacks, New York. |
| N. T. Uphoff and W. Ilchman (Ed.) (1972) | : | Political Economy of Development, University of California Press. |
| Theodore Morgan (1975) | : | Economic Development . |
| D. L. Johnson & R. H. Chilcote | : | Theories of Development : Mode of Production or Dependency. |
| T. Wilson (1982) | : | The Political Economy of the Welfare State . |
| E. O. Wright (1979) | : | Class, Crisis and the State . |
| P. Coontz | : | Population Theories : An Economic Analysis. |
| Bhikhu Parekh (1982) | : | Marx's Theory of Ideology, Delhi. |
| P. K. Bardhan's Paper I John Roemer (1986) | : | Analytical Marxism. |
| Paul, M. Sweezy, 1979 | : | A Crisis in Marxism, Monthly Review, June. |

PAPERS III & IV OPTION (vii) : COMPUTER APPLICATIONS IN ECONOMIC AND STATISTICAL ANALYSIS

100 Hours

The direction towards the knowledge society shall be resting on a healthy economics and proper use of Information Technology. Economics being an empirical science, computers have emerged as the pivotal instruments of economic analysis, research and forecasting. Therefore, the future economists must be equipped with skills and tools based on computers, which this course shall provide to them. This will not only enhance their employability but also prepare them for the challenges of the future.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

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There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit –4 in all. Each question will carry 15 marks.

UNIT-I

Computer Fundamentals : Basic Introduction to Computer and its Components, Input/Output devices, concepts of primary/secondary storage, types of software, configuration of a personal computer.

Using DOS and Windows : Introduction to operating system, Functions and types of operating system, Fundamentals of DOS, Internal and external commands, batch files, ASCII and multiple files, Use of Editors like ED/EDIT; Windows fundamentals and administration, anatomy of a window, start menu, my computer, creating and using groups, customizing windows, installing a printer, using clipboard; Introduction to UNIX operating system.

UNIT-II

Fundamentals of MS-Word : Menus, Toolbars, Ruler, Scroll Bars, Status Bar; Creating, Saving, Importing, Exporting and Inserting Files; Formatting, Indents/Outdents, Lists, Tabs, Styles; Working with Frames, Columns, Pictures, Charts/Graphs, Forms, Tools, Equations and Macros.

Overview of Programming Languages : Compiler, assembler, interpreter; First generation languages to current state of language development, basic features of FORTRAN, writing simple programs in FORTRAN for correlation, regression, matrix inversion etc.

UNIT-III

Organisation and Manipulation of Data and Data Files (Introduction to MS Excel, Lotus 1-2-3) : Importing and Exporting of data files with special emphasis on creation and transformation of Cross-section and time series data; pooling of cross section and time series; panel data, concept of lags and leads, Use of macros and simple statistical, financial and mathematical functions; Use of simple graphics, Basics of using panel data, Reading in panel data, Unbalanced panels.

Statistical Package for Social Sciences (SPSS) : Creating data file, Correcting data, Assigning names and labels to variables, missing values, different types of variables, Saving and retrieving the data file, Using the menus to analyse the data, summarize, compare means, ANOVA models, correlation, regression, multiple regression, parametric (Pearson) and rank correlation, partial correlation, Chi-Square for 2 or more independent sample, selecting permanent/temporary subscripts, graphs in SPSS, merging data files in SPSS, Transforming files between SPSS and other programs; transformation of data and output (text) files to/from a word processor, transfer data files to/from other packages, transferring chart files.

UNIT-IV

Database Management : Data and Information, Definition of Database, Objectives of Database, Database Management System, Levels of Database, Data Storage and Retrieval, Architecture for a Database System, Data Languages, the Hierarchical Structure, The Network Structure, Relational Structure etc.

Introduction to System Models : An overview, Inventory Model, Progress Model, Writing-line Model, Markov Process Model, Forecasting Model, Linear Programming Model etc.

Internet : Use of E-mail and Internet; Downloading information related to economics, processing and presenting them through a project report.

BOOKS RECOMMENDED :

Ashok Arora and Akshay Bhatia	:	Information System for Managers, Excel Books, New Delhi.
Rajaraman, V. (1996)	:	Fundamental of Computer, Prentice Hall of India, New Delhi.
Majumdar, A. K. and P. Bhattacharjee (1996)	:	Database Management Systems, Tata McGraw Hills.
William E. Mayo and Martin Curiakala (1995)	:	Theory and Problems of Programming with Fortran. 77, McGraw Hill.
SPSS 7.5 Users Manual		
B. W. Kerningham	:	The Unix Programming Environment.
Cady, G. H. and Pat McGregor	:	Mastering the Internet, New Delhi.

**PAPERS III & IV OPTION (viii) : ECONOMICS OF AGRICULTURE
OR**

ECONOMICS OF INDUSTRY—whichever the student has not offered in M.A.-I. The syllabi in this option will be the same as prescribed in M.A.-I

PAPERS III & IV OPTION (ix) : ECONOMICS OF ENVIRONMENT

100 Hours

This course is meant to provide some insights into the application of economic theory in the design and implementation of public policy related to the management of environment. The course finds roots in welfare economics, national income accounting, macro economic policies and trade and development.

The time-tested method of imparting verbal instructions through lectures would be used. Examples, in so far as possible, would be selected from everyday life/experience. The feedback would be sought through the students' written assignments, tutorials and seminars.

The students would be evaluated at the end of the academic year through subjective type questions/answers (both short and essay type). The scripts would be evaluated by the examiners having adequate postgraduate teaching experience in the paper/option concerned.

Instructions for the Paper-setters and candidates :

- (i) The theory question paper will be of 80 marks and 20 marks will be for internal assessment.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

The paper setter must put note (ii) in the question paper.

The syllabus has been divided into four units.

There shall be **9** questions in all. The first question is **compulsory** and shall be short answer type containing 15 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 10 short answer type questions carrying 20 marks i.e. 2 marks of each. Rest of the paper shall contain **4** units. Each unit shall have **two** questions and the candidates shall be given internal choice of attempting one question from each Unit – 4 in all. Each question will carry 15 marks.

UNIT-I

Scope of Environmental Economics : Basic Concepts, Environment sustainability, Development and Environment – Linkage and trade off, major environment problems, Introduction to Laws of thermodynamics, Renewable and non-renewable resources.

Environmental Externality : Market failure, Pigouvian, Coasian and Arrowian solutions; Non-convexities in production set, Uncertainty and choice of policy instruments (Graphical approach).

UNIT-II

Economics of Exhaustible Resources : Hotelling, Rule, Solow-Hartwick rule, Depletion Cost, Optimal pricing.

Economics of Renewable Resources : Model of biological population growth, fisheries, common property resources, forest conservation, community participation.

Economics of Sustainable Development : Sustainability rules, indicators of sustainability.

UNIT-III

Valuation Methods and Approaches : Evaluation criteria, Household production function method, Contingent Valuation Method (CVM), Hedonic price method, Travel cost and Random utility methods.

Environmental Instruments : Property regulations, Command and Control regulations; Economic, Fiscal and Financial Instruments (Pollution charges and Tradable permits).

UNIT-IV

Sources of Pollution and Environmental Policy in India : Sources and types of pollution, current states of pollution in India, Evolution of Environmental Policy in India : Air act, Water act, Pollution Control Policy, 1992.

Environmental Issues in the Global Context : Green House Gases (GHG) and Ozone depletion, Montreal protocol, Trade and Environment, GATT & Environment.

BOOKS RECOMMENDED :

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|---|---|--|
| Nick Hanley, Jason F. Shogen and Ben White (1999) | : | Environmental Economics in Theory and Practice (Macmillan India Ltd., New Delhi). |
| Charles D. Kolstad (2000) | : | Environmental Economics (Oxford Univ. Press, New York). |
| William Baumol and Wallane E. Oats (1998) | : | The Theory of Environmental Policy (2 nd Edn.), Cambridge Univ. Press, Cambridge. |
| Daniel W. Bromly (Eds.) (1996) | : | Handbook of Environmental Economics (Blackwell Publishers Ltd.) |
| Hussen, A. H. (2000) | : | Principles of Environmental Economics, Routledge. |
| Mehta, S., Mundle, S. and Sarkar, U. (1997) | : | Incentives and Regulations for Pollution Control, (Sage Publishers). |

PAPERS III & IV OPTION (x) : DISSERTATION

1. Dissertation may be submitted as one of the nine options, provided pupils who elect to do so satisfy the following conditions :
 - (i) they are either on the rolls of the University Department or the affiliated Colleges or private candidates – having been college teachers with at least five years' teaching experience as on the last date for submitting (M.A. Part II) examination forms;
 - (ii) they are allowed to write a dissertation as one of the options on a subject and under a supervisor, duly approved by the Board of Studies in Economics.

2. Pupils fulfilling the above conditions shall communicate to the University not later than the fifteenth of October preceding their Part II examination the precise title of their dissertation, the chapter-scheme of writing; a bibliography of books and articles.
3. In length, no dissertation ought to fall below 75 or exceed 125 pages. It should be on one and half spaced foolscap sheets neatly typewritten on both sides. The typescript must be properly bound in cloth or leather with the title of the Dissertation; name of the Candidate and Year of submission embossed on the cover and the spine.
4. The subject of thesis approved by the Board of Studies shall remain valid for four years only.
5. Stop using a blank sheet before the page carrying figure or table.
6. Try to insert figure/table in the text page itself (instead of using a fresh page for it each time).
7. Every candidate shall submit his thesis so as to reach the University at least 20 days before the commencement of Part II Examination. Delay in receipt of the thesis may be condoned upto April 30 of the year of examination but no thesis can be accepted after that date.
8. Submission and Evaluation of dissertation would be as per decision of the Academic Council Item No. XXII dated 28-04-2003 reproduced below :
 - (i) Only such students will be eligible to take up dissertation as an optional paper in M.A. Part II who have secured at least 55% in aggregate in M.A. Part I Economics Examination.
 - (ii) The weightage of written dissertation and viva-voce examination be 70 and 30 respectively.
 - (iii) It will be essential for a candidate to secure at least 40% marks in viva-voce examination, i.e. 12 marks out of 30 to qualify in the dissertation.
 - (iv) The viva-voce examination will be conducted at the Department of Economics, Panjab University, Chandigarh irrespective of the Centre/College from where the candidate has studied and submitted the dissertation.
 - (v) These clauses pertaining to the evaluation of M.A. dissertation shall be applicable to such students who seek admission in M.A. Part I (Economics) i.e. from the academic session 2003-04 onwards.
9. Written Dissertation will be evaluated only by the External Examiner.
