FACULTY OF ECONOMICS AND BUSINESS

SYLLABUS
For
M.A. (Economics)
(Under Continuous Evaluation System)
(SEMESTER: I – II)

Session: 2018–19

The Heritage Institution
Kanya Maha Vidyalaya, Jalandhar
(Autonomous)

M.A. (Economics)

Session 2018-19

Program Specific Outcome

M.A. Economics is two year post graduate course with five subjects in each semester. The basic objective of M.A. Economics is to develop strong theoretical base along with practical skills of students associated with economic theories and real world internal as well as international economic problems. This course will help to develop academicians, researchers, analysis, bankers and anchors

Upon successful completion of this course, students will be able to:

PSO1: understand basic and advanced economic theories related to micro economics, macro economics, International trade, Economic Development & Planning etc.

PSO2: learn basic and advance data analysis techniques and their theoretical base.

PSO3: also learn how to apply the analytical tools to solve the real world economic problems.

PSO4: learn and understand basic problems and issues of Indian and Punjab Economy.

PSO5: learn and evaluate various policy measures which are very critical for the solution of economic problems.

Scheme of Studies and Examination
Session 2018-19
M.A (Economics): Semester I

Course Code	Course Name	Course Type	Marks				Examination time (in Hours)
			Total	Ext.		CA	
				L	P		
MECL-1171	Micro Economics-I	C	100	80	-	20	3
MECL-1172	Macro Economics-I	C	100	80	-	20	3
MECL-1453	Quantitative Methods for Economists-I	C	100	80	-	20	3
Optional Subjects							
MECL-1174 (OPT-__)	Option to be selected from Table below	E	100	80	-	20	3
MECL-1175 (OPT-__) / MECM-1125 (OPT- XI)	Option to be selected from Table below	E	100 100	80 50	- 30	20 20	3/ 3+3
	Total		**500**				

Any two of the following options:

Sr. No.	Paper Title
OPT-I	Public Finance
OPT-II	Economics of Labour
OPT-III	Theory of Statistics
OPT-IV	Money, Banking and Finance
OPT-V	Industrial Economics
OPT-VI	History of Economic Thought
OPT-VII	Economics of Socialism
OPT-VIII	Econometrics
OPT-IX	Economics of Agriculture
OPT-X	Economics of Public Enterprises
OPT-XI	Computer Applications for Economists (Th.:50+ Pr.: 30+ Int. Ass.:20) = 100 Marks
OPT-XII	Operations Research
OPT-XIII	Economics of Environment and Demography
OPT-XIV	Economics of Infrastructure

Note: C- Compulsory Subject E –Elective

Scheme of Studies and Examination
M.A (Economics) Semester II
Session 2018-19

Course Code	Course Name	Course Type	Marks				Examination time (in Hours)
			Total	Ext.		CA	
				L	P		
MECL-2171	Micro Economics-II	C	100	80	-	20	3
MECL -2172	Macro Economics-II	C	100	80	-	20	3
MECL -2453	Quantitative Methods for Economists-II	C	100	80	-	20	3
Optional Subjects							
MECL -2174 (OPT-__)	Option to be selected from Table below	E	100	80	-	20	3
MECL -2175 (OPT-__) / MECM-2125 (OPT- XI)	Option to be selected from Table below	E	100 100	80 50	- 30	20 20	3/ 3+3
	Total		**500**				

Note: (i) Any two of the options not already opted for in Semester I.
(ii) C- Compulsory Subject E –Elective

Sr. No.	Paper Title
OPT-I	Public Finance
OPT-II	Economics of Labour
OPT-III	Theory of Statistics
OPT-IV	Money, Banking and Finance
OPT-V	Industrial Economics
OPT-VI	History of Economic Thought
OPT-VII	Economics of Socialism
OPT-VIII	Econometrics
OPT-IX	Economics of Agriculture
OPT-X	Economics of Public Enterprises
OPT-XI	Computer Applications for Economists (Th.:50+ Pr.: 30+ Int. Ass.:20) = 100 Marks
OPT-XII	Operations Research
OPT-XIII	Economics of Environment and Demography
OPT-XIV	Economics of Infrastructure

M.A. (ECONOMICS) SEMESTER – I
Session 2018-19

Course Code: MECL-1171
Micro Economics–I

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section

UNIT – I
Basic Economic Problem – Choice and Scarcity; Deductive and Inductive Methods of Analysis; Role of assumptions in theory formulation; Positive and Normative Economics; Economic Models. Elasticities (Prices, cross, income) of demand – theoretical aspects and empirical estimation; elasticity of supply.

UNIT – II
Theories of demand – utility; indifference curve (income and substitution effects, Slutsky Theorem, Compensated Demand Curve) and their Applications; Revealed Preference Theory.

UNIT – III
Consumer's choice involving risk: describing risk, preference towards risk, the demand for risky assets; Consumer's behavior under asymmetric information; implications of asymmetric information, Market Signaling, moral hazard, managerial incentives in an integrated firm, Asymmetric information in labour markets–efficiency wage theory; Recent developments in Demand analysis (pragmatic approach and linear expenditure systems).

UNIT – IV
Production function: Short period and long period; law of variable proportions and returns to scale; Isoquants – Least cost combination of inputs; Returns to scale; Economies of scale; Multiproduct firm; Elasticity of substitution; Euler's theorem; Technical progress and production; Cobb–Douglas, CES, Translog production function and their properties; Traditional and modern theories of cost - Derivation of cost functions from production function; (C–D and CES).

Suggested Readings:

1. Koutsoyiannis, A. (1979), Modern Microeconomics, (2nd Edition), Macmillan Press, London.
2. Layard, P.R.G. and A.W. Walters (1978), Microeconomic Theory, McGraw Hill, New York.
3. Varian, H. (2000), Microeconomic Analysis, W.W. Norton, New York.
4. Henderson, J.M. and R.E. Quandit (1980), Microeconomic Theory: A Mathematical Approach, McGraw Hill, New Delhi.
5. Da Costa G.C. (1980), Production Prices and Distribution, Tata McGraw Hill, New Delhi.
6. Dominik Salvatore, Microeconomics: Theory and Applications, Oxford University Press.

M.A. (ECONOMICS) SEMESTER – I
Session 2018-19
Course Code: MECL-1172
Macro Economics–I

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:

Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section

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UNIT – I

National Income and Accounts: Concept of national income, Circular Flow of Income (four sector economy); Social Accounts and its uses. Classical and Keynesian Models of income determination.

UNIT – II

Consumption Function: Keynes psychological law of consumption; short–run and long–run consumption function; Empirical evidence on consumption function; income–consumption relationship–absolute income, relative income, life cycle and permanent income hypotheses.

UNIT – III

Investment Function: Inducement to invest – Marginal efficiency of investment and Marginal efficiency of capital criterion; the accelerator and investment behavior; Jorgenson's Model.

UNIT– IV

Money: Concept of money; A behavioral model of money supply determination, High powered money and money multiplier; control of money supply.

Classical and Keynesian approach to demand for money; Post–Keynesian approaches to demand for money – Patinkin and the Real Balances Effect, Approaches of Baumol and Tobin; Friedman and modern quantity theory.

Suggested Readings:

1. Beckerman, W.: An Introduction to National Income Analysis.
2. Ackley, G. (1978), Macroeconomics: Theory and Policy, Macmillan, New York.
3. Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd ed.), Harper and Row, New York.
4. Dombusch, R. and F. Star (1997), Macroeconomics, McGraw Hill, Inc., New York.
5. Romer, D.L. (1996), Advanced Macroeconomics, McGraw Hill Company Ltd., New York.
6. Shapiro, E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi.

M.A. (ECONOMICS) SEMESTER – I
Session 2018-19
Course Code: MECL-1453
Quantitative Methods for Economists–I

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:

Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section

.

Unit– I

Concept of function and its types ; Rules of differentiation; Application to revenue, cost, demand, supply functions; Elasticities and their types; production function; Rules of partial differential and interpretation of partial derivatives; homogeneous functions and Euler's theorem.

Unit– II

Problem of maxima and minima in single and multivariable (upto 3) functions; Unconstrained and constrained optimization in simple economic problems; Simple applications in market equilibrium; Concept of integration; Simple rules of integration; Application to consumer's surplus and producer's surplus.

Unit– III

Determinants and their basic properties; Solution of simultaneous equations through Cramer's rule, Concept of matrix–their types, simple operations on matrices, matrix inversion and rank of a matrix; Concept of quadratic form, Eigen roots and Eigen vectors; Introduction to input–output analysis.

Unit– IV

Linear Programming –Formulation and solution through graphical and simplex method. Statement of basic theorems of linear programming; Formulation of the dual of primal and its interpretation; Shadow prices and their uses; Concept of duality; Concept of a game; Strategies – simple and mixed; Value of a game; Saddle point solution; Simple applications.

Suggested Readings:

1. Allen, R.G.D. (1974), Mathematical Analysis for Economists, Macmillan Press and ELBS, London.
2. Chiang, A.C. (1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New York.
3. Yamane, Taro (1975), Mathematics for Economists Prentice Hall of India, New Delhi.
4. Vygodsky, G.S. (1971), Mathematical Handbook (Higher Mathematics), Mir Publishers, Moscow.
5. Kothari, C.R. (1992), An Introduction to Operations Research, Vikas Publishing House, New Delhi.
6. Mustafi, C.K. (1992), Operations Research : Methods and Practice, Wiley Eastern, New Delhi

M.A. (ECONOMICS) SEMESTER – II
Session 2018-19
Course Code: MECL-2171
Microeconomics-II

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the paper-setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section.

Unit I

Perfect Competition: Short run and long run equilibrium of the firm and industry, price and output determination, supply curve. Monopoly – short run and long run equilibrium, price discrimination, inter-temporal price discrimination and peak-load pricing, monopoly control and regulation; Monopolistic competition – General and Chamberlin approaches to equilibrium, equilibrium of the firm and group with product differentiation and selling costs, excess capacity under monopolist competition, criticism of monopolistic competition.

Unit II

Oligopoly – Non-collusive (Cournot, Bertrand, Edgeworth, Chamberlin, Kinked demand curve and Stackelberg's solution) and collusive (Cartels and Mergers, price leadership and basing point price system) models; Price and output determination under monopsony and bilateral monopoly.

Unit III

Baumol's sales revenue maximization model; Williamson's model of managerial discretion; Marris model of managerial enterprise; Full cost pricing rule, limit pricing theory. Game theory and competitive strategy : dominant strategies and nash equilibrium.
Neo-classical approach – Marginal productivity theory; Modern Theory of distribution.

Unit IV

Pigovian welfare economics; Measurement of social welfare, Pareto optimal conditions; Perfect competition and pareto optimality; Compensation principle; Social welfare function : Burgeson's criterion, grand utility possibility frontier and welfare function; market failure, externalities and property rights, public goods, incomplete information; Theory of Second Best, Arrow's impossibility theorem; Partial and General Equilibrium

Suggested Readings:

1. Koutsoyiannis, A. (1979), Modern Microeconomics, (2nd Edition), Macmillan Press,London.
2. Layard, P.R.G. and A.W. Walters (1978), Microeconomic Theory, McGraw Hill, New York.
3. Varian, H. (2000), Microeconomic Analysis, W.W. Norton, New York.
4. Dominik Salvatore, Microeconomics: Theory and Applications, Oxford University Press.

M.A. (ECONOMICS) SEMESTER – II
Session 2018-19
Course Code: MECL-2172
Macroeconomics-II

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note : Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section
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Unit– I

Neo–classical and Keynesian Synthesis: The IS–LM model; Extension of IS–LM model with government sector, labour market and flexible prices, General Equilibrium in Open Economy: Mundell–Fleming approach in fixed and flexible Exchange rate system, Shapes of IS-LM in open economy. Relative effectiveness of monetary and fiscal policies in closed and open economy.

Unit– II

Theory of Inflation : Classical, Keynesian and Monetarist approaches; Structuralist theory of inflation; Philips curve analysis – Short run and long run Philips curve; Natural Rate of Unemployment hypothesis; Tobin's modified Philips curve; Adaptive expectations and rational expectations; Policies to control inflation.

Unit– III

Business Cycles: Theories of Schumpeter, Kaldor, Samuelson, Hicks and Goodwin's model; Control of business cycles.

Unit– IV

New classical Economics: Rational Expectation Hypothesis, Random Walk, Real Business cycle theory.
New Keynesian Economics: Sticky wage prices, Efficiency Wage models, Insider-Outsider Model.

Suggested Readings:

1. Ackley, G. (1978), Macroeconomics : Theory and Policy, Macmillan, New York.
2. Blackhouse, R. and A. Salansi (Eds.) (2000), Macroeconomics and the Real World (2 Vols.), Oxford University Press, London.
3. Branson, W.A. (1989), Macroeconomic Theory and Policy, (3rd ed.), Harper and Row, New York.
4. Dombusch, R. and F. Star (1997), Macroeconomics, McGraw Hill, Inc., New York.
5. Hall, R.E. and J.B. Taylor (1986), Macroeconomics, W.W. Norton, New York.
6. Heljdra, B.J. and V.P. Fred clock (2001), Foundations of Modern Macroeconomics Oxford University Press, New Delhi.
7. Jha, R. (1991), Contemporary Macroeconomic Theory and Policy, Wiley Eastern Ltd., New Delhi.
8. Romer, D.L. (1996), Advanced Macroeconomics, McGraw Hill Company Ltd., New York.
9. Shapiro, E. (1996), Macroeconomic Analysis, Galgotia Publications, New Delhi.

M.A. (ECONOMICS) SEMESTER – II
Session 2018-19
Course Code: MECL-2453
Quantitative Methods for Economists-II

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section
.

Unit– I

Meaning, assumptions and limitations of a simple correlation and regression analysis; Pearson's product moment and Spearman's rank correlation coefficients and their properties; Concept of the least–square technique and the lines of regression; Standard error of estimate; Partial and multiple correlation and regression (applications only).

Unit– II

Analysis of Time Series : Definition, components of time series, measurement of trend by different methods, measurement of seasonal variations.
Methods of estimation of non–linear equations – parabolic, exponential, geometric, modified exponential, Gompertz and logistic, Growth rate and simple properties of time path of continuous variables.

Unit– III

Deterministic and non–deterministic experiments; Various types of events; Classical and empirical definitions of probability; Laws of addition and multiplication; Conditional probability and concept of independence; Baye's theorem and its applications; Elementary concept of random variable; Probability, mass and density functions; Expectation, moments and moment generating functions; Properties (without derivations) of binomial, Poisson and normal distributions.

Unit– IV

Basic concepts of sampling – random and non–random sampling; Simple random; Stratified random and p.p.s. sampling; Concept of an estimator and its sampling distribution; Concepts of statistical hypotheses – Null and alternative : level of significance; Type–1 and Type–2 errors; Confidence interval; Hypothesis testing in respect of means and proportions.

Suggested Readings:

1. Chou, Y. (1975), Statistical Analysis, Holt Reinhart, General Statistics, Prentice Hall of India, New Delhi.
2. Croxton, Crowden and Klein (1971), Applied General Statistics, Prentice Hall of India, New Delhi.
3. Millar, J. (1996), Statistics for Advanced Level, Cambridge University Press, Cambridge.
4. Nagar, A.L. and R.K. Das (1993), Basic Statistics, Oxford University Press, New Delhi.
5. Hogg, R.V. and A.T. Crag (1970), Introduction to Mathematical Statistics (3rd Edition), Macmillan Publishing Co. New York.
6. Sukhtame, P.V. and B.V. Sukhtame (1970), Sampling Theory of Survey with Applications, Iowa State University Press, Ames.

MA (Economics)
Session 2018-19
OPT-I: Public Finance

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:

Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section

.

Unit– I

Meaning and scope of Public Finance, Role of Public Finance in developing countries. Distinction between public, private and merit goods.

Public revenue : sources, taxation, tax elasticity and buoyancy, taxable capacity and tax effort; Theory of incidence; equity in taxation; principles of taxation; direct and indirect taxes; effect of taxation on production and distribution; major taxes in India; tax reforms in India.

Unit– II

Theory of public expenditure, structure and growth of public expenditure, reasons for growth in public expenditure; Wagner's law; Effects of public expenditure on production and distribution. Role of public expenditure in developing countries.

Unit– III

Public budgets: kinds of budget, programme budgeting and zero-base budgeting; different concepts of budget deficits, budget of Union Government in India.

Public debt: classification, significance and burden of public debt, principles of debt management, external debt servicing, Public debt in India.

Unit– IV

Fiscal federalism – theory and problems. Criteria for resource transfer from Union to States, Centre-State financial relations in India, recommendations of the latest Finance Commission.

Fiscal policy– objectives, interdependence of monetary and fiscal policies.

Suggested Readings:

1. Musgrave, R.A. (1959), The Theory of Public Finance, McGraw Hill, Kogakusha, Tokyo.
2. Musgrave, R.A. and P.B. Musgrave (1976), Public Finance in Theory and Practice, McGraw Hill, Kogakusha, Tokyo.
3. Shome, P. (Ed.) (1995), Tax Policy : Handbook, Tax Division, Fiscal Affairs Department, International Monetary Fund, Washington D.C.
4. Herber, B.P. (1967), Modern Public Finance, Richard D. Irwin, Homewood.
5. Chelliah, Raja J. (1971), Fiscal Policy in Underdeveloped Countries, George Allen and Unwin, London.
6. Srivastava, D.K. (Ed.) (2000), Fiscal Federalism in India, Har-Anand Publications Ltd., New Delhi.
7. Government of India (1992), Reports of the Tax Reforms Committee – Interim and Final (Chariman : Raja J. Chelliah).
8. Mundle, S. (1999), Public Finance Policy : Issues for India, Oxford University Press, New Delhi

MA (Economics)
Session 2018-19
OPT-II: Economics of Labour

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section
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Unit– I
Nature, scope and subject matter of labour economics; Labour Market : Concept, characteristics, nature and characteristics and growth of labour markets in India. Theories of Labour markets: Classical, Neo-classical, Dualistic Labour Markets.

Unit– II
Employment and Unemployment – Concept, types and measurements; nature of unemployment in India, Employment policy in five year plans, Casualisation of employment in India.
Wages: classical and neo-classical and bargaining theories of Wages. Concept of Wages – minimum wage, living wage and fair wages in India. Wages and productivity.

Unit– III
Trade Unions; Objectives and functions, Trade unions in India.
Industrial Relations in India. Industrial Disputes – Causes and extent. Dispute settlement Machinery in India in the framework of Industrial Disputes Act.

Unit– IV
Social Security – social assistance, social insurance and social security policy in India. Labour Welfare: State policies with respect to labour welfare in India. Labour market reforms in India exit policy and measures to make labour market flexible; Second National Commission on labour. Globalization and labour markets.

Suggested Readings:

1. Datar, B.N. : Labour Economics
2. Dobb, Maurice : Wages
3. Dunlop J.T. (ed) : Theory of Wages Determination.
4. Dunlop, J.T. : Wages Determination under Trade Unionism.
5. Dunlop, J.T. : Industrial Relations Systems.
6 . Government of India : Indian Labour Year Book, 1967. Labour Investigation Committee, Main Report, 1946. Report of the Fair Wages Committee, 1949, Report of the National Commission on Labour in India, 1969.
7. Hajela, P.D. (1998), Labour Restructuring in India : A Critique of the New Economic Policies, Commonwealth Publishers, New Delhi.
8. I.L.O. : Approaches to Social Society.
9. Lester, R.A. (1964), Economics of Labour, (2nd Edition), Macmillan, New York.
10. McConnell, C.R. and S.L. Brue (1986), Contemporary Labour Economics, McGraw-Hill, New York.
11. Pant, S.C. : Indian Labour Problems.
12. Papola, T.S. : Principles of Wages Determination.
13. Papola, T.S., P.P. Ghosh and A.N. Sharma (Eds.) (1993), Labour, Employment and Industrial Relations in India, B.R. Publishing Corporation, New Delhi.

14. Reynolds, L.G. : Labour Economics and Labour Relations.
15. Rothschild : Theory of Wages.
16. Rosenberg M.R. (1988), Labour Markets in Low Income Countries in Chenergy, H.B. and T.N. Srinivasan, (Eds), The Handbook of Development Economics, North-Holland, New York.
17. Sexena, S.R. : Labour Problems and Social Welfare.
18. Singh, V.B. : An Introduction to the Study of Labour Problems
19. Venkata Ratnam, C.S. (2001), Globalization and Labour-Management Relations : Dynamics of Change, Sage Publications/Response Books, New Delhi

MA (Economics)
Session 2018-19
OPT-III: Theory of Statistics

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section

Unit –I

Axiomatic definition of probability, Chebychev's inequality, Baye's inequality, meaning of theoretical probability distributions; derivation of main properties of binomial, poisson, normal, gamma and beta distributions.

Unit – II

Meaning of sampling distribution of a statistic; desirable properties of point estimators; internal estimation; derivation of main properties of χ^2, t and F distributions; maximum likelihood estimation (properties without derivation) and applications.

Unit – III

Basic concepts of hypotheses testing; tests of significance based upon Z, χ^2, t and F distributiosn.

Unit – IV

Non-parametric tests (without derivations; stress on numerical examples): Ordinary sign test, Wilcoxon's signed rank test, test of randomness, Wald-Wolforutz run test, Mann-Whitney test, Kruskel-Wallis test, Kendall's concordance test.

Suggested Readings:

1. Anderson, T.W. (1972), An Introduction to Multivariate Analysis, Wiley Eastern Pvt. Ltd., New Delhi.
2. Chou, Y. (1975), Statistical Analysis, Holt, Reinhart and Winton, New York.
3. Goon, A.M., Gupta, M.K. and Das Gupta, B. (1977), An Outline of Statistical Theory Vols. I & II, The World Press Ltd., Calcutta.
4. Gujrati Damoder, N. (1995), Basic Econometrics, (3rd Edition), McGraw Hills, New York.
5. Hoel, P.G., Introduction to Mathematical Statistics, IIIrd Edition, Asia Publishing House, New Delhi.
6. Hogg, R.V. and Graig, A.T. (1989), Introduction to Mathematical Statistics (4th Edition), Maxwell Macmillan International Edition.
7. Hogg, R.V. and Tanis, E.A. (2001), Probability and Statistical Inference (6th Edition), Pearson Education, Asia.
8. Kapur, J.N. and Saxena, H.C. (1997), Mathematical Statistics (11th Edition), S. Chand & Co., New Delhi.
9. Lind, D.A., Marshall, W.C. and Mason, R.D. (2002), Statistical Techniques in Business and Economics (11th Edition), McGraw-Hill, New York.
10. Lindeman, R.H., P.F. Merenda and R.Z. Gold (1980), Introduction to Bivariate and Multivariate Analysis, Scott Forseman.
11. Miller, J. (1996), Statistics for Advanced Level, Cambridge University Press, Cambridge.
12. Mood, A.M., Graybill, F.A., and Boes, C., An Introduction to Theory of Statistics, McGraw Hill, Kogakusha.
13. J.Wichern, Applied Multivariate Statistical Analysis.
14. Walpole, R.E., Myers, H., Myers, S.L. and Ye, K. (2002), Probability and Statistics for Engineers and Scientists (7th Edition), Pearson Education, Asia

MA (Economics)
Session 2018-19
OPT-IV: Money, Banking and Finance

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:

Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section

.

Unit– I

Money : Definition, functions, kinds of money, Inside and Outside money, Neutrality of money-Don Patinkin's, Meltzer's and Gurley and Shaw's analysis. Supply of money in India : concepts, Significance and Determinants, mechanics of money supply in India. Demand for Money: The traditional quantity theory; Fisher's equation of exchange; Cambridge cash balance approach. Keyensian, Friedman's and Neo-Keyensian theories of demand for money, empirical evidence.

Unit– II

Financial System : Commercial Banks: Systems, Theories of banking, Portfolio behaviour, Innovative banking, Credit creation, Role in economic development. Non-Bank Financial Intermediaries (NBFI's), Credit creation by NBFI's and monetary policy. Development banking and its lending activities with special reference to India;

Unit– III

Banking in India; Structure of Commercial Banks; Regional Rural Banks (R.R.B.'s); Cooperative Banks, Nationalisation of banks in India: Banking Sector reforms.
Central Banking: Functions with special reference to developing countries, Monetary policy: Objectives, Targets and Indicators. Transmission Mechanism, Lags in Monetary policy, Reserve Bank of India : limitations of RBI.

Unit– IV

Rate of Interest: Determination; Theories of the term structure of interest rates, Nature and Structure of interest rates in India. Money and Capital markets: Structure, Treasury Bills Market, Call money market and an Stock markets in India(Introductory), Mutual Funds (concept), Dichotomy in Indian money market. Interest rate policy in India; Recent developments. Financial sector reforms (recent developments).

Suggested Readings:

1. Thorn, Richard S., (1976), Introduction to Money and Banking, New York, Harper & Row.
2. Luckett, D.G., (1976), Money and Banking, McGraw Hill, New York.
3. Ritter, L.S. and Sibler, W.L., (1977), Principles of Money, Banking and Markets, Basic Books, New York, 3rd ed.
4. Laidler, D.E.W. (1972), The Demand for Money, Theories and Evidence, Allied Publisher, Delhi.
5. Bhole, L.M., (1998), Financial Institutions and Markets Structure, Growth and Innovations, 2nd ed.
6. Government of India, Economic Survey (various issues).
7. Reserve Bank of India (1985), Report of the Committee to review the working of the Monetary System.
8. Reserve Bank of India (1991), Report of the Committee on the Financial System (Narasimha Committee Report).

MA (Economics)
Session 2018-19
OPT-V: Industrial Economics

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section.

Unit– I

Framework and Problems of Industrial Economics:
Concept and organization of a firm – ownership, control and objectives of the firm; Passive and active behaviour of the firm.
Market Structure: Sellers' concentration**;** Product differentiation; Entry conditions; Economies of Scale; Market structure and innovation; Theories of industrial location – Weber and Sargent Florence; Factors affecting location.

Unit– II

Market Conduct: Product Pricing **-** Theories and evidence; Investment expenditure – Methods of evaluating investment expenditure; Mergers and Acquisitions; diversification.
Market Performance: Growth of the firm – Theory and evidence; Constraints on firm's growth; Productivity, efficiency and capacity utilization – Concept and measurement including evidence from Indian Economy.

Unit– III

Indian Industrial Growth and Pattern : Industrial Policy in India – evolution and paradigm shift; Recent trends in Indian industrial growth; MNCs, transfer of technology and issues related with TRIMS; Privatization: Forms and global and Indian evidence; Regional industrial growth and concentration in India and dispersal policy; economic concentration and remedial measures; Issues in Industrial proliferation and environmental preservation.

Unit– IV

Project Appraisal : Cost benefit analysis – Net Present Value (NPV) and internal rate of return (IRR) criteria – balancing private and social returns.
Industrial Labour : Structure of industrial labour; Globalization and labour; Exit Policy and safety nets.

Suggested Readings:

1. Hajela, F.D. (1998), Labour Restructuring in India : A Critique of the New Economic Policies, Commonwealth Publishers, New Delhi.
2. Jhabvala, R. and R.K. Subrahmanya (Eds.) (2000), The Unorganized Sector : Work Security and Social Protection, Sage Publications, New Delhi.
3. Lester, R.A. (1964), Economic s of Labour (2nd Edition), Macmillan, New York.
4. McConnel, C.R. and S.L. Brue (1986), Contemporary Labour Economics, McGraw-Hill, New York.
5. Papola, I.S., P.P. Ghosh and A.N. Sharma (Eds.) (1993), Labour Employment and Industrial Relations in India, B.R. Publishing Corporation, New Delhi.
6. Rosenberg, M.R. (1988), "Labour Market in Low Income countries", in H.B. Chenery and T.N. Srinivasan (eds.) The Handbook of Development Economics, North-Holland, New York.
7. Venkata Ratnam, C.S. (2001), Globalization and Labour Management Relations : Dynamics of Change, Sage Publications Response Books, New Delhi.
8. Chadha, V. and G.S. Bhalla (1999), Industrial Development in India: The Post-Reform Scene, Kalyanai Publishers, New Delhi.

MA (Economics)
Session 2018-19
OPT-VI: History of Economic Thought

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section

Unit – I

Mercantilism: Its origin and content - economic ideas of Petty, Cantillon, Locke and Hume.
Physiocracy: Natural order, primacy of agriculture, social classes and circulation of wealth.

Unit – II

The Classical System: Adam Smith- Division of Labour, theory of value and distribution, economic growth and international trade; David Ricardo- Theory of value and distribution, foreign trade, economic development and theory of rent; T.R. Malthus- Theory of Population, theory of gluts; J.S. Mill- Leissez faire and protection; J.B. Say- Law of Markets; Karl Marx: dynamics of social change, theory of value and surplus value, theory of capitalist competition.

Unit – III

The Marginalists and Neo-Classicism: Precursors to marginalism- Gossen, Jevons, Menger and Walras; The Austrian School- Wiser and Bohm-Bawerk: Theory of capital and distribution; K. Wicksell and the Swedish School; Wicksteed on laws of distribution; The American Contribution: Clark, Walker and Schumpeter on the theory of growth and business cycles; Marshallian Economics: Price determination and elasticites, consumer surplus, costs and economies, rent and profit.

Unit – IV

Keynes and Post Keynesian developments: Marginal efficiency of capital and investment, theory of wages and interest, underemployment equilibrium and the role of fiscal policy, theory of multiplier and business cycles; Post Keynesian developments in consumption function, quantity theory of money, inflation, business cycles and economic growth.

Suggested Readings:

1. Hanley, L.H. : History of Economic Thought, 1949.
2. Blaug, M. : Economic Theory in Retrospect, 1968.
3. Schumpeter, J.A. : History of Economic Analysis, 1954.
4. Spiegel, H.W. : The Growth of Economic Thought, 1971.
5. Roll, E. : A History of Economic Thought, 1956.
6. Friedman, M. : A Theory of Consumption Function, 1957.
7. Hicks, J.R. : A Contribution to the Theory of Business Cycles, 1960.
8. Domar, E. : Essays in the Theory of Economic Growth, 1957.
9. Gide, C. and C. Rist : A History of Economic Doctrines, 1948.

MA (Economics)
Session 2018-19
OPT-VII: Economics of Socialism

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two from each of four unit (I-IV). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each unit. The fifth question may be attempted from any unit.
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Unit – I

Economic system; meaning and features; Distinguishing features of different economic systems pre-capitalist, capitalism, socialism and mixed economy.

Unit – II

Marxian Theory of surplus value, crisis, breakdown and socialism, Pre-requisites, Problems and processes of socialist transformation, Economic problems of socialist economies.

Unit – III

Organizational forms of planning, indicators of planning, development priorities and resource allocations. Balance approach; inter-sectoral and inter-regional balances.

Unit – IV

Pricing, consumption, management of industry and agriculture, International economic relations between socialist and developing economies; breakdown of socialist system.

Suggested Readings:

1. Lavinge, M., Socialist Economies of Soviet Union and Europe.
2. Lange, O., Political Economy, Vols. I and II (relevant portions).
3. Leontive, L., A Short Course of Political Economy.
4. Willzynski, J., Economics Theory of Socialism.
5. Lange, O. & Taylor, F.M., Economics Theory of Socialism (1964, First Edition).
6. Nova, A., Soviet Economy (Third Edition).
7. Nova, A., Socialist Economies (1975), Nutti, D.M. (ed.).
8. Dobb, M., On Economics Theory of Socialism, 1965.
9. Halzman, F. (ed.), Readings in Soviet Economy.

MA (Economics)
Session 2018-19
OPT-VIII: Econometrics

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section.

Unit – I

Nature, meaning and scope of econometrics; Simple and general linear regression model – Assumptions, estimation (through OLS approach) and properties of estimators; Gauss-Markov's theorem; Concepts and derivation of R^2 and adjusted R^2.

Unit – II

Concept of analysis of variance approach and its applications in regression analysis. Nature, test, consequences and remedial steps of the problems of hetero-scedasticity and multi-collinearity.

Unit – III

Nature, test, consequences and remedial steps of the problem of auto-correlation; Concepts of stationarity, random walk model, unit roots (Dicky-Fuller test and Augmented Dicky-Fuller test), Cointegration, Causality analysis (Granger and Sim's test).

Unit – IV

Dummy variables technique: Alternative applications – Testing structural stability of regression models, comparing two regression equations, interaction effect, seasonal analysis; dummy dependent variable technique (probit and logit analyses).

Suggested Readings:

1. Gujarati, D.N. (1995), Basic Econometrics (2nd Edition), McGraw Hill, New Delhi.
2. Kmenta J. (1997), Elements of Econometrics (Reprint Edition), University of Michigan Press, New York.
3. Koutsoyiannis, A. (1997), Theory of Econometrics (2nd Edition), The Macmillan Press Ltd., London.
4. Krishna, K.L. (ed.) (1997), Econometric Applications in India, Oxford University Press, New Delhi.
5. Maddala, G.S. (Ed.) (1993), Econometric Methods and Applications (2 Vols.) Aldershot U.K.
6. Theil, H. (1981), Introduction to Econometrics, Prentice Hall of India, New Delhi.
7. Intrilligator, M.D. (1978), Econometric Methods : Techniques and Applications, Prentice Hall, Englewood Cliffs, New Jersey.
8. Johnston, J. (1991), Econometric Methods, McGraw Hill Book Co., London.
9. Chow, G.C. (1983), Econometrics, McGraw Hill, New York.
10. Pindyck, R.S. and D.L. Rubinfield (1976), Econometric Models of Economic Forecasts, McGraw Hill Kogakusha, Tokyo.
11. Franses, P.H. (1998), Time Series Models for Business and Economic Forecasting, Cambridge University Press, New York.
12. Anderson, T.W. (1958), Introduction to Multivariable Statistical Analysis, Chapman and Hall, London.
13. Greene (2000), Econometric Analysis, 4th Ed., Pearson Education, Delhi.
14. Dougherty, C. (2007), Introduction to Econometrics, 3rd Edition., Oxford University Press, New Delhi.
15. Stock, J.H. and M.W. Watson (2004), Introduction to Econometrics, Pearson Educatiion, New Delhi

MA (Economics)
Session 2018-19
OPT-IX: Economics of Agriculture

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section

Unit I

Basic Agricultural Economics – Production functions in agriculture; Input-input and product-product relationship; Inter-sectoral linkages of agriculture (Backward, forward, linkages and feed-back effect). Models of agricultural development – Lewis, FEI-Ranis, Gorgeuson's, Mellor, Schultz and Boserp's model.

Unit II

Basic Inputs – Irrigation, HYV seeds, mechanization, distribution mechanism of inputs; New agricultural strategy and its impact on employment and income distribution.
Food security and international trade, concept, threat, indicators and mechanism to food security.
Food assistance programme (Domestic and International).

Unit III

Institutional Structure – Nature of emerging agrarian structure – co-operative farming and its evaluation with reference to productivity, employment and income distribution, Environment and soil erosion, sustainable development.
Organic farming– meaning, techniques of organic farming and its scope in India.

Unit IV

Marketing and Prices – Nature of supply and demand for agricultural products; income and price elasticity of demand and supply, agriculture marketing in India, rationale for state intervention; agricultural price policy (recent).
Terms of trade between agriculture and industry.
Main features of International trade in Agri-products.
WTO – subsidies and Indian agriculture.

Suggested Readings:

1. Southworth, H.M. and Johnston, B.F. (ed.) (1967), Agricultural Development and Economic Growth.
2. Heady, E.O. (1952), Economics of Agricultural Production and Resources Use.
3. Schultz, T.W. (1964), Transforming Traditional Agriculture.
4. Mellor, J.W. (1960), The Economics of Agriculture Development.
5. Dasgupta, B. (1980), The New Agricultural Technology in India, Mcmillan.
6. Peter, Domo (1972), Land Reforms and Economic Development.
7. Kaur Rajbans, Agriculture Price Policy in Economic Development.
8. Dantwala, M.L. (1986), Agricultural Growth India, I.S.A.E.
9. Kahlon, A.S. (1984), Pricing Policy in India.
10. Bhalla, G.S. and Tyagi, D.S. (1989), Patterns in Indian Agricultural Development, RSID.
11. Bansal, P.C. (1981), Agricultural Problems of India.
12. Economic and Political Weekly, Regular Features on Review of Agriculture.

MA (Economics)
Session 2018-19
OPT-X: Economics of Public Enterprises

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section .

Unit– I

Role of Public Sector in economic development. Objectives, scope and growth of public sector in India. Cost-benefit analysis, shadow prices, social rate of discount, practical approaches in project selection.

Unit– II

Organisational Pattern of public enterprises. Management of Public enterprises. Personal Management in Public Enterprises, Financial management in Public enterprises.

Unit– III

Evaluation of performance of public enterprises, Measurement of efficiency in public enterprises, Pricing Policy of Public Enterprises.

Unit– IV

Accountability of Public Enterprises, Relationship with the government, Auditing of Public Enterprises. Role of Bureau of Public Enterprises, Special Committees in Public Enterprises.
Case study of public sector steel industry in India-growth performance, pricing and management.

Suggested Readings:

1. Institute of Public Enterprises, Pricing and Investment in Public Enterprises Lavinge, M., Socialist Economies of Soviet Union and Europe.
2. Khera, S.S., Management and Control in Public Enterprises.
3. Sinha, J.B.S., Some Problems of Public Sector Organisation.
4. Sharma, B.S., Financial Planning in Indian Public Sector.
5. Government of India, Annual Reports on the Industrial and Commercial Undertakings of Central Government.
6. Narayan Laxmi, Principles and Practices of Public Enterprises Management.
7. Aggarwal, G.C., Public Sector Steel Industrial in India

M.A. (Economics)
Session 2018-19
OPT- XI: Computer Applications for Economists

Time: 3 Hours **Max. Marks: 100**
Theory: 50
Practical: 30
CA: 20

Note: Instructions for the Paper-Setters :
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section

Unit– I

Introduction to Computers: What is Computer and its applications?
Computer Organization: Input/output unit, memory unit, control unit.
Input Unit: (Input devices and functions: Keyboard, Joystick, Mouse, Light Pen, Magnetic Tape, Magnetic Disks, Floppy Disk, OMR (Optical Mark Reader), Optical Character Reader (OCR), Punch Cards.
Output Unit: (Output devices and functions: Visual Display Unit (Monitor), LCD and LED, Plotters, Printers, CTD.

Unit– II

Data Representation: Introduction to Number System: Binary system, Octal number system, Hexadecimal number system, Decimal number system.
Converting from one number to another number: Converting to binary from octal, converting to octal from binary, converting to decimal from binary, octal, hexadecimal, converting to binary from hexadecimal, converting to hexadecimal from binary.
Floating Point Arithmetic: Addition, Substraction, Multiplication, Division of Floating Point.

UNIT -III

MS Word: Overview, Creating, Saving, Importing, Exporting and Inserting Files, Formatting pages, Paragraphs and Sections, Indents and Outdents, Creating lists and numbering, Heading, Styles, Fonts and font size, Editing, Positioning and Viewing texts, Finding and replacing text, Inserting page breaks, Page numbers, Book marks, Symbols and dates using tabs and tables, Header, footer and printing.
MS Excel: Worksheet Overview, Entering information, Worksheet Creation, Opening and Saving, Workbook, Formatting numbers and texts, Protecting cells, Producing Charts and Printing Operations.

UNIT -IV

Introduction to 'C' Language: 'C' character set, data types; Constants and variables, assignment statement; Expression.
Input-Output Statement :Scanf, printf, Library functions.
Control structures; Decision making and Loop statements.
Use of : Arrays, String and String functions.

Suggested Readings:

1. Gurvinder Singh, Rashpal Singh: P.C. Computing Kalyani Publishers.
2. BPB Publishers: Complete Reference M.S. Office.
3. Saxena: First Course in Computer.
4. K.S. Kahlon, Rashpal Singh, Gurvinder Singh: Programming in 'C' Kalyani Publishers.
5. Yashwant Kanitkar: Let us 'C'.
6. R.S. Salaria: Programming in 'C'.
7. Ravi Chandran: Programming in 'C'

M.A. (Economics)
Session 2018-19
OPT- XII: Operations Research

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section

Unit – I

Definition, significance, scope and limitations of operations research. Linear Programming: Assumptions, formulation and solution by graphic method, simplex and two phase simplex method.

Unit – II

Transportation Problems, Assignment Problems. Game Theory: Competitive games, Pure strategy, by Dominance, Mixed strategy (2x2, mx2 and 2xm), Two persons zero sum games, 'n' persons zero sum games, Solution of Game problems with Linear Programming.

Unit – III

Queuing Models: Characteristics Single channel Queuing models:
Model I (M/M/I) : (FCFS/¥/¥)
Model II (M/M/I) : (SIRO/ ¥/¥)
Model III (M/M/I) : (FCFS/N/¥) – (Finite Queue Length Model)
Model IV (M/M/I) : (FCFS/n/N) - (Limited Source Model)
Inventory Model with Deterministic Demand and Probabilistic Demand.

Unit – IV

Replacement models of items that deteriorate (money value constant and changes), For items that fail suddenly (Individual replacement policy and Group replacement policy) Project Scheduling by PERT and CPM

Suggested Readings:

1. Wagner, H.M. (1973), Principles of Operations Research with Applications to Managerial Decisions.
2. Levin, R.I. and Kirk Patrick, C.A., (1978), Quantitative Approaches to Management.
3. Hartley, R.V., (1976), Operations Research : A Managerial Emphasis.
4. Hardy, A. Taha, (1976), An Introduction to Operations Research, 2nd ed.
5. Gauss, F., Linear Programming.
6. Kambo, N.S., Mathematical Programming Techniques.

MA (Economics)
Session 2018-19
OPT-XIII: Economics of Environment and Demography

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section.

Unit – I

Environment-economy-population linkage, environment as a public good, common property resources. Environmental Economics and Ecological Economics Environmental benefits – use value and non-use values, methods of measurement, costs of environmental protection, environment and development trade-off, sustainable development, neo-classical and ecological views, integrated environmental and economic accounting.

Unit – II

Environmental policies, Pigouvian taxes and subsidies, marketable pollution permits, Coase theorem, environmental regulations – command and control, incentive based, promoting clean technology, energy policy. Global issues – poverty, population and environment, global agreements, trade and environment under WTO regime.

Unit – III

Demography and its concepts, population and economic development, theories of population – Malthus, optimum theory, theory of demographic transition. Factors affecting fertility, nuptiality-concept and analysis, mortality-concepts and factors affecting.

Unit – IV

Population policy in India – shift in population control to family welfare to women empowerment, population and human development issues, new population policy, tasks before National Population Commission.

Suggested Readings:

1. Kolstad, C.D. (1999), Environmental Economics, Oxford, New Delhi.
2. Goodstein, E.S. (2002), Economics and the Environment, John Wiley, New York.
3. Bhattacharya, R.N. (ed) (2001), Environmental Economics : An Indian Perspective, Oxford, New Delhi.
4. Sengupta, R.P. (2001), Ecology and Economics : An Approach to Sustainable Development, Oxford, New Delhi.
5. Kadekodi, G.K. (2004), Environmental Economics in Practice, Oxford, New Delhi.
6. Bogue, D.J. (1971), Principles of Demography, John Wiley, New York.
7. Novell, C. (1988), Methods and Models in Demography, Bellhaven Press, London.
8. Srinivasan, K. (1998), Basic Demographic Techniques and Applications, Sage, New Delhi.
9. Simon, J.L. (1992), Population and Development in Poor Countries, Princeton University Press.
10. Bose, A (1996), India's Basic Demographic Statistics, B.R. Publishing Corporation, New Delhi.
11. Agarwala S.N. (1972), India's Population Problem, Tata McGraw-Hill, Bombay.
12. Chaubey, P.K. (2000), Population Policy in India, Kanisha Publications, New Delhi.

MA (Economics)
Session 2018-19
OPT-XIV: Economics of Infrastructure

Time: 3 Hours **Max. Marks: 100**
Theory: 80
CA: 20

Note: Instructions for the Paper–Setters:
Eight questions of equal marks are to be set, two in each of the four Sections (A-D). Questions of Sections A-D should be set from Units I-IV of the syllabus respectively. Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each section. The fifth question may be attempted from any Section

Unit – I

Infrastructure and economic development – Infrastructure as a public good; Social and physical infrastructure; Special characteristics of public utilities. The peak-load, Off-peak load problem, Dual principle controversy; Economies of scale of joint supply.

Unit – II

The structure of transport costs and location of economic activities. Demand for transport models of freight and passenger demand. Cost functions in the transport sector. Principles of pricing. Special problems of individual modes of transport; Inter-model condition in the Indian situation. Rate-making in telephone utilities. Principles of decreasing costs in telephone industry.

Unit – III

Primacy of energy in the process of economic development. Factors determining demand for energy; Effect of energy shortages. Energy conservation, Renewable and non-conventional sources of energy, Energy modelling, Energy policy in the Indian context. Bulk supply and pricing of electricity. The relative economics of thermal, hydel and nuclear power plants. National power grid. Financing water utilities. Urban and rural water supply. The exploitation of natural gas. Pricing problem.

Unit – IV

Organization and financing of supply of social services. Private vs. public sector financing; Recent debate about the fixation of prices of social services. Development of social services in the successive Indian plans. Education and economic growth. Approaches to education planning. Social demand. Rate of return and manpower balance approaches. The case for universal and free primary education; Structure of higher education and problems of its financing in India; Human resources and human capital development. The issues in education policy; Health dimensions of development; Determinants of health – poverty, malnutrition, illiteracy and lack of information; Economic dimensions of health care – Demand and supply of health care; Financing of health care and resource constraints; Inequalities in health – class and gender perspectives; Institutional issues in health care delivery.

Suggested Readings:

1. Berman, P. and M.E. Khan (1993), Paying for India's Health Care, Sage Publications, New Delhi.
2. Centre for Monitoring Indian Economy (1996), India : Energy Sector, CMIE, Mumbai.
3. Eckstein, O. (1958), Water Resource Development, Harvard University Press, Cambridge.
4. Fariss, M.T. and R. Sampson (1975), Public Utilities, Houghton Mifflin, Boston.
5. Goyal, S.K. (Ed.) (1985), Public Enterprises, Indian Institute of Public Administration, New Delhi.
6. Jha, R., M.N. Murty and S. Paul (1990), On Fixing Prices for Postal Services in India, National Institute of Public Finance and Policy, New Delhi.
7. Indian Council of Social Sciences Research (ICSSR) (1976), Economics of Infrastructure, Vol. VI, New Delhi.

8. McMohan, W.W. (1999), Education and Development : Measuring the Social Benefits, Oxford University Press, Oxford.
9. National Council of Applied Economic Research (NCAER) (1996), India Infrastructure Report : Policy Implications for Growth and Welfare, NCAER, New Delhi.
10. Norton, H.S. (1971), Modern Transport Economics, C.E. Merrill, London.
11. Panchamukhi, P.R. (1980), Economics of Health : A Trend Report in ICSSR, A Survey of Research in Economics, Vol. VI, Infrastructure, Allied, Delhi.
12. Parikh, J. (Ed.) (1997), Energy Models for 2000 and Beyond, Tata McGraw-Hill, New Delhi.
13. Parikh, K.S. (Ed.) (1999), India Development Report – 1999-2000, Oxford, New Delhi.
14. Phillips, A. and O.E. Williamson (Eds.) (1967), Prices : Issues in Theory, Practice and Public Policy, University of Pennsylvania Press, Philadelphia.
15. Tilak, J.B.G. (1994), Education for Development in Asia, Sage Publications, New Delhi.
16. Turvey, R. and D. Anderson (1977), Electricity Economics, John Hopkins University Press, Baltimore.
17. Woodhall, M. (1992), Cost Benefit Analysis in Educational Planning, UNESCO, Paris.

M.A. (ECONOMICS)
Session 2018-19
OPT-XV: Dissertation*

Marks: 200