DETAILED SYLLABUS OF M.A. ECONOMICS

There are twenty papers spread over four semesters.

4 Semester x 4 Papers (3 Compulsory + 1 Optional) = 16 Papers in 4 Semesters

1 Practical in each Semester along with Viva-Voce

Maximum Marks for M.A. = 2000 (4x100+1x100 in each Semester)

Semester Ist	I II III IV V	Micro Economics I : Theory of Product Pricing Macro Economics I Statistical Methods for Economic Analysis Optional Paper PRACTICAL (Research Methodology)
Semester IInd	VI VII VIII IX X	Micro Economics II: Theory of Distribution & Welfare Economics. Macro Economics II Economics of Growth Optional Paper PRACTICAL (Computer Application in Economic Analysis)
Semester IIIrd	XI XII XIII XIV XV	Public Finance Economics of Development & Planning Indian Economic Policy Optional Paper PRACTICAL (Assignment: at least of 3000 words handwritten on current economic issues)
Semester IVth	XVI XVII XVIII XIX XX	International Economics Indian Public Finance Financial Institution & Markets Optional Paper VIVA-VOCE (Dissertation in at least of 5000 words and Viva-Voce)

LIST OF OPTIONAL PAPERS

Semester Ist	A	Elementary Mathematics For Economic Analysis
	В	Demography
	C	Regional Economics
	D	History Of Economic Thought
Semester IInd	E	Agricultural Economics
	F	Indian Economic Thought
	G	Environmental Economics
H	Н	Gender Economics
Semester IIIrd	I	Industrial Economics
	J	Economics Of Infrastructure
	K	Economics Of Health & Education
	L	Economics Of Insurance

Contd.....

Semester IVth M Econometrics

N Labour Economics

O Economics Of Law

P International Economic Institutions

M. A. - I SEMESTER

PAPER I: MICRO ECONOMICS-I: THEORY OF PRODUCT PRICING

- **UNIT 1 :** Introduction and Basic concepts-Basic Economic Problem-Choice and Scarcity; Deductive and Inductive Methods of Analysis; Positive and Normative Economics; Economic Model.
- UNIT 2: The theory of Consumer's Behaviour- Properties of indifference curve; Price, Income and Substitution effects-Hicks and Slutsky Approach and Applications, Derivation of demand curves and income-Consumption curves from indifference curves, Substitution and Complimentarity, Elasticity of demand, Relation between elasticity, Marginal revenue, Average revenue and total revenue, Revealed Preference Theory.
- UNIT 3 :Theory of Production and Cost-Production function-short period and long period; law of variable proportions and returns to scale; Isoquants-Least cost combination of inputs; Expansion Path, Concepts of product line-Isocline and ridge line, Multiproduct firm; Elasticity of substitution; Euler's theorem; Cobb-Douglas and CES Production Functions, Theories of costs; Derivation of cost functions from production functions; derived demand for factors.
- **UNIT 4:** Price and Output Determination-Perfect competition-short run and long run equilibrium of the firm and industry, price and output determination, supply curve; Monopoly-short run and long run equilibrium, price discrimination, welfare aspects, monopoly control and regulation.
- UNIT 5:Monopolistic competition-general and Chamberlin approaches to equilibrium, equilibrium of the firm and the group with price variation, product differentiation and selling costs, excess capacity under monopolistic and imperfect competition, criticism of monopolistic competition; Oligopoly-Non-collusive (Cournot, Bertrand, Edgeworth, Chamberlin, kinked demand curve and Stackelberg's solution) and collusive (Cartels and mergers, price leadership and basing point price system)models; Price and output determination under monopsony and bilateral monopoly.

Reading List:

1. Gould &Lajear Micro Economics

2. Richard A. Bilas Micro Economic Theory

3. Paul. A. Samuelson Economics

4. R. H. Lelftwich The Price system and Resource Allocation.

5. A. Koutsoyiannis Modern Micro Economics

6. Joseph E. Stiglitz Economics

6. J. R. Hicks Value and Capital

Milton Friedman
 W. J. Baumol
 Price Theory – A Provisional Text.
 Economic Theory & Operations Analysi
 Joan Robinson
 The Economics of Imperfect Competition.

10. W. J. L. Ryan Price Theory

11. K. E. Boulding Economic Analysis, Volume I.12. A. E. A. Readings in Price Theory.

13. E. H. Chamberlin The Theory of Monopolistic Competition

PAPER II: MACRO ECONOMICS I

- UNIT 1: Nature & Technique of Macro-economics, Macro-Statics & Macro-dynamics. (a) National Income Concepts, Components, Measurements & Problems in Measurements. (b) Fiscal policy- Objectives and Instruments; Fiscal Policy in Developed and Developing Economics, (Mundell-Fleming open economy model.)
- **UNIT 2:** Inflation: Concept, Types and Theories of inflation (Demand Pull and Cost-Push Inflation), Phillips Curve.
- **UNIT 3:** Classical Theory of Employment-Say's Law of markets, Price-wage flexibility of full-employment; Keynesian Theory of Income and Employment.
- **UNIT 4:** Consumption Function: The Absolute Income Hypothesis, the Relative Income Hypothesis, the Permanent Income Hypothesis and other factors influencing consumption, Investment Multiplier, Savings-Investment Equilibrium, Investment and its determinants.
- **UNIT 5:** New Classical Macroeconomics-The new classical critique of micro foundations, the new classical approach; Policy implications of new classical approach-empirical evidence.

Reading List:

1. G. Ackley Macro Economic Theory

2. Martin Baley National Income and Price Level

3. Edward Shapiro Macro Economics

4. J. M. Keynes The General Theory of Employment, Interest and Money.

5. K. C. Rana and K. N. Verma Macro-Economic Analysis

6. P.C. Bhattachary Central Banking in a Developing Economy.
7. H. G. Muller Readings in Macro-economic Theory.

8. G. N. Halm Monetary Theory
9. Joseph E. Stiglitz Economics,
10. Samuelson & Nordhaus Economics

11. Errol D'Souza Macro Economics

PAPER III: STATISTICAL METHODS FOR ECONOMIC ANALYSIS

- UNIT 1: Index Number: Meaning and importance of index number, construction of index numbers, Problems involved, Laspeyer's and Fisher's Index Numbers. Factor Reversal and time Reversal Test. Circular Test of Consistency. Fixed base and Chain base Index Numbers. Base shifting and splicing of Index Numbers, Time Series: Components of Time series, Measurement of trend by moving average method and the method of least squares. Curve fitting by mathematical equations.
- **UNIT 2 :**Correlation and Regression : Meaning , assumptions and limitations of simple correlation and regression analysis; Pearson's product moment and Spearman's rank correlation coefficients and their properties; concept of the least squares and the lines of regression; Standard error of estimate; Partial and multiple correlation and regression (applications only).
- **UNIT 3 :** Elementary Sampling Theory: Basic concept of sampling-random and non-random sampling; simple Random Sampling, Stratified Sampling, p.p.s. Sampling.
- **UNIT 4:** Probability: Definition and importance, various concepts of events, the addition theorem, the multiplication theorem, conditional probability and Baye's theorm, mathematical expectation, Bernouli's Theorem.
- **UNIT 5:** Theoretical Frequency Distribution: Properties of Binomial, Normal and Poisson distribution. Tests of significance- 't', chi-square and z-test.

Reading List:

Chiang, A. C.
 Monga, G. S.
 Mustafi, C. K.

4. Nagar, A. L. and R. K. Das

5. D. N. Elhance 6. S. P. Gupta

7. Sukhatme, P. V. and

8. Allen, R.G.D.9. Yamane, Taro10. Hadley, G.

11. Yule & Kendall

12. A. L. Bowley

13. Dixon and Massey14. Knut Sydsaeter &

Peter J. Hammond

Fundamental Methods of Mathematical Economic

Mathematics and Statistics for Economists, Operations Research: Methods and Practice,

Basic Statistics.

Fundamentals of Statistics.

Statistical Methods

Sampling Theory of Survey with Applications

Mathematical Analysis for Economists,

Mathematics for Economists.

Linear Programming,

An Introduction to the Theory of Statistics.

Elements of Statistics.

Introduction to Statistical Methods. Mathematics for Economic Analysis,

M. A. - II SEMESTER

PAPER VI : MICRO ECONOMICS-II : THEORY OF DISTRIBUTION AND WELFARE ECONOMICS

- **UNIT 1:** Distribution- Determination of rent, wages, interest and profit; Neo-classical approach-Marginal productivity theory; Elasticity of technical substitution, technical progress and factor shares; Theory of distribution in imperfect product and factor markets; Product exhaustion theorem; Macro theories of distribution-Ricardian; Kalecki and Kaldor's.
- **UNIT 2:** General Equilibrium-Partial and general equilibrium, Walrasian excess demand and inputoutput approaches to general equilibrium, existence, stability and uniqueness of general equilibrium, coalitions and monopolies; Production without consumption-one sector model, homogeneous functions, income distribution.
- **UNIT 3 :** Classical Welfare Economics : The principle of Compensating variation, Hicksian types of consumer's surplus, Slutsky's approach to measurement of consumer's surplus, The concept and the conditions of Pareto Optimality, Pareto optimality in the General Equilibrium system. Compensation criteria, contributions of barone, Hicks and Kaldor, Scitovsky's criterion.
- **UNIT 4:** New Welfare Economics: Social Optimum, Community indifference map, Samuelson's utility possibility curve, Begrson's Concept of Welfare and its Measurement, Social Welfare Function.
- UNIT 5: Problems of non-market interdependence, externalities in production and consumption, External economics and diseconomies, Problems of Public Goods and negative spillovers, The Problem of Market Failure, uncertainty and non-existent and incomplete markets; Theory of Second Best-Arrow's impossibility theorem, Rawl's theory of justice, equity-efficiency trade off.

Reading List:

Gould & Lagear Micro Economics
 Richard A. Blas Micro Economic Theory
 Paul, A. Samuelson Economics

4. J. R. Hicks Value and Capital

5. R. H. Lelftwich
 6. W. J. Baumol
 7. Joan Robinson
 The Price system and Resource Allocation.
 Economic Theory & Operations Analysis
 The Economics of Imperfect Competition.

8. A. E. A. Readings in Price Theory.

9. E. H. Chamberlin The Theory of Monopolistic Competition

10. J. M. Joshi Theory of Value, Distribution and Welfare Economics.

11. Milton Friedman Price Theory – A Provisional Text.

12. W. J. L. Rvan Price Theory

13. K. E. Boulding Economic Analysis, Volume I.14. A. Koutsoyiannis Modern Micro Economics

15. Joseph E. Stiglitz Economics, W.W. Norton & Company, New York, London.

PAPER VII: MACRO ECONOMICS II

- **UNIT 1:** Evaluation of money: Evolution and classification of money, Functions of money, Monetary Standards.
- **UNIT 2:** Demand for Money: Flow and Stock Equilibrium, Stock and Flow of Funds Accounts and their uses for Macro-Economic Analysis, Transaction, Cash-Balance versions, Keynesian Approach, Theories of M. Friedman, Patinkin, Baumol and Tobin.
- **UNIT 3 :** Supply of Money: Components and determinants, High powered money, Money multiplier, Money supply in India.
- **UNIT 4:** Commercial Banking: Origin, functions, Types of banks, Credit creation, New trends in commercial banking, Banking sector reforms in India.
- **UNIT 5:** Monetary Policy and Central Banking : Objective and Instruments of Monetary Policy, Central bank functions, credit control and its methods.

Reading List:

1. Edward Shapiro Macro Economics

2. J. M. Keynes The General Theory of Employment, Interest and Money.

3. G. N. Halm Monetary Theory

4. P.C. Bhattachary Central Banking in a Developing Economy.

5. Samuelson & Nordhas. Economics

6. Gupta, S. B. Monetary Economics – Institutions theory and policy, .

7. H. G. Muller Readings in Macro-economic Theory.

8. Joseph E. Stiglitz Economics.

9. Crowther Geoffrey An Outline of Money, .

10. Sayers, R. S. Modern Banking: Seventh Edition,

PAPER VIII: ECONOMICS OF GROWTH

- UNIT 1: Concepts of Economic Growth & Economic Development, Measurement of Economic Growth; Stationary State and Steady State Growth; Determinants of Economic Growth; Basic Requirements for Economic Growth; Vicious Circle of Poverty, Circular causation, International Trade as Engine of Growth.
- **UNIT 2 :** Choice of Techniques and appropriate Technology, Capital intensive versus Labour intensive techniques, Elementary Idea of Cost-Benefit Analysis, Technical Progress Hicksian view, the capital controversy.
- **UNIT 3 :**Theories of Economic Growth: Classical growth theory; Marxian model; Schumpeter's Theory; The Harrod-Domar analysis and Mahalonobis growth model. (4-sector)
- **UNIT 4:** Neo-classical growth theories: Models of Solow and Meade; Models of Mrs Joan Robinson and N. Kaldor.
- **UNIT 5:** Rostow's stages of Economic Growth, Balanced verses Unbalanced Growth.

Reading List:

Lewis, W. A. Theory of Economic Growth.
 Meier & Baldwin Economic Development

3. Meir, Gerald M. Leading Issues in Economic Development

4. Higgins, B. Economic Development.

5. Leibenstein, H. Economic Backwardness & Economic Growth.

6. Rostow, W. W. Theory of Economic Growth.

7. Goel R. L. Economics of Development and Planning.

8. Gylfason Principles of Economic Growth.

9. Chopra, Kanchan Operationalising Sustainable Development. 10. Mishra, S. K. & Puri, V. K. Economics of Development and Planning.

11. Debraj Ray Development Economics,

12. Bakul H. Dholakia& Theory of Economic Growth and Technical Progress:

13. Nurkse, R. Problems of Capital Formation in under-developed Countries.

14. Kindlebrger, C. P. Economic Development.

15. Solow, Robert M. Growth Theory

16. Kaushik Basu Analytical Development Economics,

17. Joseph E. Stiglitz Stability with Growth,

M. A. – III SEMESTER

PAPER XI: PUBLIC FINANCE

- UNIT 1: Public Finance: Nature and scope of Public Finance. Positive vs. Normative public Finance. Concept of Market failure, Role of Government in the Economic Activity Allocation, Distribution and Stabilisation, Public, Private and Merit Goods, Recent Development in Public Goods Theory.
- **UNIT 2 :** Public Expenditure: Objectives, Allocation, Distribution and Stabilization; Wagner's Law of increasing state activities; Peacock-Wiseman Hypothesis. Pure theory of public expenditure. Effects of public expenditure on production, growth, distribution and stabilization.
- **UNIT 3 :** Public Revenue: Principles of taxation; Effects of taxation on production, growth, distribution and allocation of resources. Incidence of taxation, Trade-off between equity and efficiency, Benefit and ability to pay approaches in taxation, Taxable capacity, Double taxation.
- **UNIT 4:** (a) Fiscal Policy: Fiscal policy for stabilisation- automatic vs. discretionary stabilisation, Alternative measures of resource mobilization and their impact on growth, distribution and prices, Balanced budget multiplier, Compensatory finance; Functional finance.
 - (b) Public Debt: Taxes versus loans, Sources of public debt, Effects of public debt on economic growth, Burden of public debt, Public debt management.

UNIT 5: Federal Finance: Theory and problem of federal finance; Division of functions and resources.

Reading List:

1. R. A. Musgrave The Theory of Public finance

2. R. A. Musgrave & Public Finance in Theory and Practice.

Peggy B. Musgrave

3. A. R. Prest4. R. J. ChelliahPublic Finance in Theory and PracticeFiscal Policy in underdeveloped countries

5. R. N. Bhargava The Theory and Working of Union Finance in India

6. P. K. Bhargava Centre-State Resource Transfers in India.

7. A. K. Jain Taxation of Income in India 8. BaidyaNathMisra Economics of Public Finance.

9. Inu Jain Resource Mobilization and Fiscal Policy in India.10. M. Srivastava Fiscal Policy and Economic Development in India.

11. P. K. Bhargava India's Fiscal Crisis

12. S.K. Singh Public Finance in Theory & Public.

13. J. F. Due Government Finance

14. John Cullis& Philip Jones Public Fance& Public Choice.

15. Harvey S. Rosen Public Finance,

PAPER XII: ECONOMICS OF DEVELOPMENT & PLANNING

- **UNIT 1:** Theories of Development and Development Process, Lewis' Theory of Unlimited Supply of Labour, Ranis-Fie Model; Leibenstein's Critical Minimum Effort Thesis; Nelson's Low Level Equilibrium Trap; Rosenstein Rodan's Theory of Big-Push; Myrdal's-Backwash Effects, Boeke's Dualism and Arrow's Learning by Doing.
- **UNIT 2 :** Sustainable Development: Meaning; objectives and issues (valuing resources and the future) environmental, natural resources & other related issues; Natural capital and equity.
- **UNIT 3:** Economic Planning: Theory of economic planning; types of planning; problem of allocation of resources in a planned and mixed economy; uses and limitations of planning models; Problems of resource mobilization and price stability.
- **UNIT 4 :** Objectives of Planning: Objectives, approaches, priorities and problems; Trade off between growth and social justice; Conflicts between policy objectives and their reconciliation.
- **UNIT 5:** Process of Planning: Planning machinery-the structure and organisation of the planning commission, National Development council, State Planning Boards; Process of plan formulation.

Reading List:

W. A. Lewis Development Planning
 A. Rudra Indian Plan Models

3. B. A. Chansarkar Models for Planning in India

4. P. B. Desai Planning in India

5. AlakGhosh New Horizons in Planning

6. Pranab Mukherjee Beyond Survival-Emerging Dimensions of the Indian Economy

7. Ashoka Rudra Indian Plan Models

8. TarlokSingh India's Development Experience

9. Charan D. Wadhva (ed) some Problems of India's Economic Policy

10. P. K. Bhargava Essays in Indian Economic Planning

11. Anil Kumar Jain Economic Planning in India.

12. Rudder Dutt& K. P. M. Indian Economy

Sundaram

13. P. R. Brahmananda Planning for a Futureless Economy14. Planning Commission Five Year Plans (different plans)

15 A.P. ThirlwallEconomic Development16 M.TodaroEconomic Development17 Meier and TanejaEconomic Development

PAPER XIII: INDIAN ECONOMIC POLICY

- **UNIT 1**: Basic features of the Indian Economy, Basic Economic indicators and their Importance. Planning: Objectives, approaches, priorities and problems, Problems of resource mobilization and price stability.
- **UNIT 2:** National Income: Growth and composition; Contribution of different sector & growth pattern Poverty in India- concepts, incidence & extent of poverty in India, Inequality and Social Justice; Human Development Index, Gender Development Indices.
- **UNIT 3:** Agriculture: Land relations and land reforms; technological aspects, rural credit; pricing of agricultural produce; Rural Development Programmes in India. New Agricultural strategy.
- **UNIT 4:** (a) Industry: Industrial policy: Growth and pattern of industrialisation; small-scale sector; Productivity in industrial sector, Public Sector enterprises and their performance; Problem of sick units in India; Privatisation and disinvestment debate.
 - (b) Labour and employment: Progress of Industrial relations in India, Employment Policy, unemployment scenario, Labour market reforms.
- **UNIT 5:** Foreign Trade: Salient features of India's foreign trade; Trends in foreign trade in the recent past, Balance of payment, Trade Reforms, Foreign investments.

Reading List:

 C. D. Wadhva (ed.)
 J. N. Bhagwati&
 Alakh Ghosh
 Some Problems of India's Economic Policy Planning for Industrialization Padma Desai Indian Economy-Its Nature and Problems.

4. A. K. Jain Economic Planning in India

5. Bimal Jalan The Indian Economics Crisis: The Way Ahead.

6. Bawa, R. S. and Structural Changes in Indian Economy.

Raikhy (Ed.)

7. V. M. Dandekar Agriculture Volume I & II.

8. I.M.D. Little and Joshi India: Macroeconomics and Political Economy.

9. Report on currency and Finance (Annual Publication), RBI

10. Economic Survey (Annual)-Government of India.

11. India Year Book (Annual)-Government of India.

12. Statistical Outline Tata Services

13. UNDP Report (Annual)

M. A. – IV SEMESTER

PAPER XVI: INTERNATIONAL ECONOMICS

- **UNIT 1:** International Trade: Interregional and International trade, International trade and growth, Production Possibility Curve, Community Indifference Curves, Offer Curves.
- **UNIT 2 :** Absolute and Comparative Advantage, Theory of comparative Cost Advantage, Theory in terms of Opportunity Costs, The Hechscher-Ohlin Theory, The Leontief's paradox, The Rybczynski Theorem, Trade and Imperfect Competition.
- **UNIT 3:** Reciprocal Demand, Terms of Trade, Gains from Trade, Factors affecting terms of trade. Terms of Trade and Economic Development, Singer and Prebisch thinking on terms of trade and underdeveloped economies.
- UNIT 4: (a) Determination of rate of exchange under conditions of inconvertible paper currencies-Purchasing power parity and balance of payment theories. Traditional, Absorption and monetary approaches for adjustment in the balance of payments, Foreign Trade Multiplier, Fixed versus Flexible exchange rates; fluctuations in exchange rates-causes and consequences. (b) International Reserves, Optimum Currency Areas Theory (Mundell &) and impact in the developed and developing countries.
- **UNIT 5:** Free trade versus Protection. Theory of tariff: effects of tariff in terms of partial equilibrium and general equilibrium approaches. Concepts of effective tariff and optimum tariff. Quotas: effects of quotas, dumping, State trading. A general theory of customs union. Tariff versus quotas.

Reading List:

Charles P. Kindleberger
 Bo Sodersten
 P. T. Ellsworth
 Wesserman&Hultman
 International Economics
 The International Economy
 Modern International Economics.

5. H. G. Johnson International Trade and Economic Growth

6. H. G. Mannur International Economics 7. M. C. Vaish and International Economics.

Sudama Singh

8. Pilbeam, Keith (1998) International Finance.

9. Lawerence, W. Towle International Trade & Commercial Policy. 10. Salderstan Introduction to International Economics.

11. D. Salvator International Economics.
 12. Von meerhaeghe International Economics.
 13. Paul Krugman International Economics

PAPER XVII: INDIAN PUBLIC FINANCE

- UNIT 1: Public Expenditure: Expenditure on revenue account and capital account; Development and non-development expenditure; Plan and non-plan expenditure; General trend of Government of India expenditure; Expenditure of State Governments; Fiscal Responsibility and Budget Management Act 2003 (key features); Key features of State finances.
- **UNIT 2:** (a) Union Government Taxes: Direct and Indirect Taxes; Sufficiency Issue; The problems of tax compliance and tax evasion, The effect of unaccounted money on social and economic system.
 - (b) State Government Taxes: Sources of state revenues, Value Added Tax (VAT), Central Sales Tax (CST) and Goods and Services Tax (GST), Major trends of State Revenue.
- UNIT 3: Local Finance in India: Local bodies in India; Powers of Municipal Corporation; Functions of municipal corporations; Powers and functions of Village Panchayats, Panchayat Samitis and Zila Parishads; State Finance Commissions and Local Finance.
- **UNIT 4 :** Deficit Financing : Various concepts of deficits, Why deficit financing, Advantages and risk of deficit financing, Modes of deficit financing; and deficit financing in India-present policy.
- **UNIT 5:** Indian Federal Finance: Federal financial structure after Independence, Division of functions, Division of resources between Centre and States; Financial imbalance mechanism of financial adjustments; Gadgil Formula; Pranab Formula; Finance Commissions (FCs) and their recommendations (last 3 FCs); Review of Centre State financial relations in India.

Reading List:

1. Bagchi, A.

'Readings in Public Finance'

- 11. R.B.I. Bulletin, R.B.I., Mumbai.
- 12. 'Reports on Currency and Finance', R.B.I., Mumbai.
- 13. R.B.I. Hand Book on Indian Economy, R.B.I., Mumbai.
- 14. R.B.I. Handbook on State Government Finance, R.B.I., Mumbai.
- 15. Public Finance Statistics, Government of India.

PAPER XVIII: FINANCIAL INSTITUTION AND MARKETS

- **UNIT 1**: Nature and Role of Financial System, Money and finance, Financial Intermediaries, The structure of the financial system, Functions of the financial sector, Financial system and economic development, Equilibrium in Financial Markets, Risk and financial assets, types of risks, risk-return trade-off, Valuation of Securities.
- UNIT 2: Theories of interest rate Level of interest rates-The Classical Theory, The Loanable Funds Theory, The Keynes Theory, Theories of Term-structure of Interest rates- The Expectation Theory, Liquidity Premium Theory, Market Segmentation Theory, Determinants of General Structure of Interest Rates, Important concepts related to interest rates.
- **UNIT 3:** Banking Institutions Commercial Banks Growth and structure of commercial banks, Assets and liabilities of banks, Volume and types of credit, Concept of lending and portfolio choice, Cooperative banks Features, types, structure and growth of cooperative banks, Central bank and banking institutions.
- UNIT 4: Non-banking financial Intermediaries Definition and types provident funds, insurance companies, mutual funds, housing finance companies, merchant banks, venture capital funds, credit rating agencies and their growth in India, effects of NBFCs on the economy, Measures taken to promote and regulate their operations.
- UNIT 5: Financial Market Role and structure, Money Market and Capital Market their instruments such as Call Money Market, Treasury Bills Market, Commercial Bills market, Commercial Papers and Certificate of Deposits, Discount market, Government Securities Market, Industrial Securities Market Primary and Secondary Securities markets, Markets for shares, debentures, derivatives, futures and options, Important Institutions SEBI, IRDA, Stock Exchanges, etc.

Reading List:

Bhole, L. M.
 Goldsmith, R. W.
 Financial Institutions and Markets
 Financial Structure and Development

3. Khan, M. Y. Indian Financial System

 4. Prasad. K. N.
 5. Machiraju, H. R.
 Development of India's Financial System. International Financial Markets in India

6. Shaw, E. S. Financial Deepening in Economic Development 7. Rangaranjan, C. Indian Economics: Essays on Money and Finance

8. RBI Functions and Working of RBI

9. Sayers, R. S. Modern Banking

10. Bhatt, R. S.
11. Chandler L. V. and S. M. Goldfeld
Unit Trust of India and Mutual Funds
The Economics of Money and Banking

12. RBI Report of The Committee to Review the Working of the

Monetary System

13. Brahmananda, P. R. IMF Loan and India's Economic Future

14. Kindleberger, C. P. A History of Financial Crisis Manias, Panics and Crashes

OPTIONAL PAPERS

M. A. – Ist SEMESTER

PAPER A: ELEMENTARY MATHEMATICS FOR ECONOMIC ANALYSIS

- **UNIT 1 :** Basic Mathematics: Elementary Concepts of algebra, trigonometry and analytical & coordinate geometry.
- **UNIT 2 :** Differentiation :Concept of function and types of functions; Limit, continuity and derivative; Rules of differentiation, Interpretation of revenue, cost, demand, supply functions; rules of partial differentiation and interpretation of partial derivatives; Problems of maxima and minima in single and multivariable functions; Simple problems in market equilibrium.
- **UNIT 3 :** Integration : Concept of integration; simple rules of integration; Definite integrations application to consumer's surplus and producer's surplus.
- **UNIT 4:** Determinants and Matrices: Basic properties of determinants. Solution of simultaneous equations through Cramer's rule; concept of matrix-their types, simple operations on matrices, matrix inversion and rank of a matrix, Concept of vector-its properties; concept of quadratic forms- Eigen roots and Eigen vectors; Introduction to input-output analysis.
- UNIT 5: Linear Programming: Basic concept, Formulation of a linear programming problem Its structure and variables; Nature of feasible, basic and optimal solution; Solution of linear programming through graphical and simplex method; Statement of basic theorems of linear programming; Formulation of the dual of a programme and its interpretation; Concept of duality and statement of duality theorems.

Reading List:

1. Allen, R.G.D. Mathematical Analysis for Economists.

2. Chiang, A. C. Fundamental Methods of Mathematical Economics.

3. Yamane, Taro Mathematics for Economists.

4. Monga, G. S. Mathematics and Statistics for Economists.

5. Hadley, g. Linear Programming.

Peter J. Hammond

6. Dorf, C. Ruchard Matrix algebra: a programmed introduction.

7. Mustafi, C. K. Operations Research: Methods and Practice

8. Knut Sydsaeter& Mathematics for Economic Analysis.

COURSE B: DEMOGRAPHY

- UNIT 1: Theory of optimum population; Stages of demographic transition. Population and Economic Development: Inter-relationship between population and economic development; population growth and unemployment; population and human capital formation.
- UNIT 2 : Demographic Measurements: Mortality measures; infant mortality; measurement of fertility, gross and net reproduction rates.
- UNIT 3 : Population Projection: Life-table; logistic curve; components methods; Naptiality and its measurement.
- UNIT 4: International aspects of Population: World population; unequal distribution of population and world resources.
- UNIT 5: Demographic Profile in India: Sources of population data in India, census, 1991 population census in India. Growth rate of population; birth and death rates; life expectancy; density; rural-urban ratio; sex ratio; literacy; fertility patterns; mortality; poverty profile. Growth of population in India-Inter-State variations; migration trend. Population explosion and India's population policy. Family welfare programmes in India.

Reading List:

1. G. W. Barcley
2. Kingslay Davis
Population of India and Pakistan
The State of Population Analysis

3. P. M. Hamfer et al.
4. M. Spiegelmen
5. J. J. Spenglar, et al.
6. A. Bose, et al.
The Study of Population
Introduction to Demography
Demographic Analysis
Studies in Demography

7. A. Bose Studies in India's Urbanisation8. S. N. Agarwal India's Population Problems

9. Ashok Mitra India's Population: Problem of quality and Control 10. World Bank India's Population Policy: History and Future.

PAPER C: REGIONAL ECONOMICS

- UNIT 1: Basic Concepts and Location of Firms: Why Regional Economics? What is a region? Different types of regions; Regional Income; Problems of estimation; Indicators of regional development. One market one input case; More generalized versions; Locational interdependence; Hotelling phenomena; General equilibrium; Uncertainty; Maximising vs. satisficing.
- **UNIT 2 :** (a) Spatial Price Theory : Price equilibrium in geographically separated and interlinked markets; Market area boundaries; Reilly's law; Models of pricing under free entry; Spatial monopoly and Price discrimination; Spatial monopolistic competition.
 - (b) Spatial Macro Economics: Inter-regional income models; Inter-regional business cycles; Interregional trade and factor movements; Regional balance of payments; Export base models; Demand growth models; Regional multiplier.
- **UNIT 3 :** (a) Regional Growth : Neo-classical growth models Cumulative causation model; Centerperiphery model; Growth pole analysis; Convergence and divergence of disparities in per capita regional income.
 - (b) Techniques of Regional Analysis: Regional and interregional input-output analysis; Attraction model; Gravity model; Shift-share analysis; Impact studies.
- **UNIT 4:** Regional Policy: People prosperity versus place prosperity; Formulation of interregional objectives; Consistency between national and regional objectives; Alternate regional policy measures; Historical evidence.
- **UNIT 5:** (a) Inter-regional Differentials in India's Development: Agriculture, Industry, Physical infrastructure, Social Sector. (b) Regional Policy in India: The pre-1970 era identification of backward regions; Concerted policy measures; Liberalization and regional policy.

Reading List:

1. Chand, M. and V.K. Puri Regional Planning in India.

2. Hoover, E.M. An Introduction to Regional Economics.

3. Isard, W. Methods of Regional Analysis.

4. Nair, K.R.G. Regional Experience in a Developing Economy.

5. Richardson, H.W. Regional Economics.

6. Brahmananda, P.R. and Development Experience in the Indian Economy: Inter-State

V.R. Panchmukhi (Eds.) Perspectives.
7. Beckman, M. Location Theory.

8. Bhalla, G.S. and Y.K. Alagh Performance of Indian Agriculture: A District-wise Study,

Sterling, New Delhi.

9. Dholakia, R.H. Regional Disparity in Economic Growth in India.

10. Friedman, J. and Regional Policy, Readings in Theory and

W. Alonso (Eds.) Application.

11. Glasson, J. An Introduction to Regional Planning: Concepts, Theory and

Practice

12. Hansen, N.M. Public policy and Regional Economic Development; the

Experience in Nine Western Countries.

13. Lefeber, L. Allocation in Space.14. National Bureau of Regional Income

Economic Research Princeton.

15. Rao, H. Regional Disparities and Development in India, Ashish

Publishing House, New Delhi.

16. Richardson, H.W. Input-Output and Regional Economics, Weidenfield and

Nicolson, London.

17. Richardson, H.W. Regional Growth Theory, John Wiley, New York.

18. Seth, V.K. Industrialisation in India: A Spatial Perspective, Commonwealth

Publishers, New Delhi.

19. Siebert, H. Regional Economic Growth: Theory and Policy, International

Textbook Company, Scranton.

20. Williamson, J.G. 'Regional Inequality and the Process of National Development,'

Economic Development and Cultural Change, Vol. 13, No.4,

part II, July.

PAPER D: HISTORY OF ECONOMIC THOUGHT

- UNIT 1: Early Period: Economic thought of Plato and Aristotle Doctrines of Just cost and Just price
 Mercantilism: main characteristics; Thomas Mun Physiocracy: natural order, primacy of agriculture, social classes, Tableau Economique, taxation, Turgot Economic ideas of Petty, Locke and Hume.
- UNIT 2: The Classical System: Adam Smith- Division of labour, Theory of value and distribution; David Ricardo- Theory of value and distribution, T.R. Malthus- Theory of population and the theory of Glut, J.S. Mill-Laissez faire and protection, J.B.Say- The law of markets, K.Marx-Theory of value; Theory of capitalist competition.
- UNIT 3: The historical schools: Subjectivism and Marginalism: H.H. Gossen; W.S. Jevons; G. Cassel, The Austrian School: K. Menger; Bohm-Bawerk. L. Walras: General equilibrium analysis, The Mathematical School: A. Cournot; F.V.Edgeworth; I.Fisher, The American contribution: J.B. Clark; A. Walker; J.A. Schumpeter.
- **UNIT 4:** Neo classicism and After: A. Marshall and his system of equilibrium, K. Wicksell& the Swedish School, Economics of welfare: A.C. Pigou, A.P. Learner, V. Pareto. J. M. Keynes & his policies; Post-Keynesian and Neo-Keynesian approaches, Neo Walrasian approach to general equilibrium.
- UNIT 5: Indian Economic Thought: Early economic ideas: Kautilya, Valluvar; Moden economic ideas: Naoroji, Ranade, R.C. Dutt and M.N. Roy; Economic ideas of Gandhi: Village, Swadeshi, place of machine and labour, cottage industries, trusteeship; Early approaches to planning (The national planning committee); Gadgil: co-operation as a way of life and strategy of development; J.K. Mehta: Wantlessness.

Reading List:

1. Smith, A. An Enquiry into the Nature & Causes of the Wealth of Nations.

2. Ricardo, D. Principles of the Political Economy and Taxation.

3. St. Clair, O. A Key to Ricardo.

4. Saraffa, P. (ed) Works of David Ricardo.

5. Wicksteed Commonsense of Political Economy.
6. Roll, E. A History of Economic thought
7. Schumpeter, J.A. A History of Economic Analysis
8. Meek, R.L. The Economics of Physiocracy.
9. Walras, L. Elements of Pure Economics.
10. Robert Lekachman A History of Economic Ideas.

11. P.N. Ghosh& R. Ghosh12. D.H. TaylorConcise History of Economic Thought.A History of Economic Thought.

13. Lewis H. Haney A History of Economic Thought (Macmillan).

14. Charles Gide & Charles Rist A History of Economic Doctrines.

15. Phillip Charles Newman The Development of Economic Thought (Prentice Hall).

16. Frank A. Neft Economic Doctrine (McGraw Hill).

17. William A. Scott. The Development of Economics (Application Century- Crifts).

18. Alexander Gray
 19. Edmund Whittaker
 The Dev. of Economic Doctrines (Longmans).
 A History of Economic Ideas (Longman Green).

20. John M, McConnel Basic Teaching of the Great Economist (Berns and Boole).
21. S. Howard Patterson (ed.) Readings in the History of Economic Thought (McGraw Hill).

22. H.W. Spiegel (ed.)

The Development of Economic Thought.

History of Economic Doctrines. A History of Economic Thought. Hind Swaraj History of Economic Thought 23. E. Heimann 24. J.F. Bell

25. M.K. Gandhi

26. P.N. Hajela

M. A. – II SEMESTER

PAPER E: AGRICULTURAL ECONOMICS

- **UNIT 1:** (a) Agricultural Economics: Meaning, Nature and Scope, Role of agriculture in economic development.
 - (b) Agricultural Inputs: Seeds, Fertilizers, Irrigation, Agricultural credit-sources in India and their comparative importance.
- **UNIT 2:** (a) Agricultural Production: Laws of returns in relation to agriculture; Technological changes and green revolution; Mechanization of agriculture and green revolution in India, Blue revolution & white revolution in India.
 - (b) Supply Function: Response of production to prices and non-price incentives; Cobweb models; Nature of supply curves.
- **UNIT 3 :** Agricultural Prices: Relation between cost and price, Profit maximization in agricultural, Agricultural price policy in India and the role of Commission for Agricultural Cost & Prices, Dual Prices; Agricultural taxation and subsidies in India.
- **UNIT 4:** Farm size and productivity-returns to scale and size of farm, small v/s large farms, relationship between farm size and productivity, Pattern of holdings in India and Farm-size policy, Agricultural marketing.
- **UNIT 5:** (a) Changes in agriculture at international level, New Agricultural Policy, Capital Formation and Infrastructural changes in Indian agriculture.
 - (b) Agriculture and External Sector: International trade in agricultural commodities, The World Trade Organisation and its effects on Indian agriculture, Issues in liberalization of domestic and international trade in agriculture, Role of MNCs.

Reading List:

1. R. L. Cohon	Economics of Agriculture
2. E. O. Heady	Economics of Agriculture
3. C. B. Mamoria	Agricultural Problems in India
4. J. W. Mellor	The Economics of Agricultural Development
5. P. C. Joshi	Land Reforms in India-Trends and Perspectives.
6. R. N. Soni	Agricultural Economics.
7. A. S. Kahlon and	Agricultural Price Policy in India.
D. S. Tyagi	
8. G. S. Bhalla (Ed.)	Economic liberalization and Indian agriculture.
9. G. D. Agarwal&	Economic Problems of Indian Agriculture
P. C. Agarwal	
10. A. N. Agarwal	Indian Agriculture (latest edition)
11. Lekhi, R.K &J.Singh	Agricultural Economics, Kalyani Publishers
12. T. W. Schultz	Transforming Traditional Agriculture
13. C. H. HanumanthaRao	Technological changes and distribution of gains in Indian

agriculture
14. Govt. of India Five-year-plans.

15. APJ Abdul Kalam INDIA 2020, Penguin Books India, New Delhi.

PAPER F: INDIAN ECONOMIC THOUGHT

A detailed study of the economic ideas of the following Indian thinkers:

- (i) Kautilya
- (ii) Mahatma Gandhi.
- (iii) J. K. Mehta.
- (iv) V. K. R. V. Rao.
- (v) Amratya Sen.

PAPER G: ENVIRONMENTAL ECONOMICS

- **UNIT 1:** Welfare Economics, Social Sectors and Environment: Pareto optimality and competitive equilibrium; Fundamental theorems of welfare economics; Externalities and market inefficiency—externalities as missing markets; property rights and externalities, non-convexities and externalities; Pareto optimal provision of public goods—Lindahl's equilibrium, preference revelation problem and impure and mixed public goods, common property resources. Introduction to Kuznet Curve.
- UNIT 2: Measurement of Environmental Values: Use values, Option values and non-use values; Valuation methods—Methods based on observed market behaviour; Hedonic property values and household production models (travel cost method and household health production function), Methods based on response to hypothetical markets, contingent valuation methods.
- UNIT 3: The Theory of Environmental Policy: Environmental externalities—Pigouvian taxes and subsidies, marketable pollution permits and mixed instruments (the charges and standards approach), Coase's bargaining solution and collective action; informal regulation and the new model of pollution control, Monitoring and enforcement of environmental regulation, Environmental institutions and grass root movements; Global environmental externalities and climatic change—Tradable pollution permits and international carbon tax, Trade and environment in WTO regime. Introduction to Kyoto Protocol.
- **UNIT 4:** Economics of Natural Resource Management and Sustainable Development: Theories of optimal use of exhaustible and renewable resources; Environmental and development trade off and the concept of sustainable development; Integrated environmental and economic accounting and the measurement of environmentally corrected GDP; Macroeconomic policies and environment.
- UNIT 5: Environmental and Natural Resource Problems in India: Mechanism for environment regulation in India; Environmental laws and their implementation; Policy instruments for controlling water and air pollution and forestry policy; People's participation in the management of common and forest lands; The institutions of joint forest management and the joint protected area management; Social forestry rationale and benefits.

Reading List:

1. Baumol, W.J. and The Theory of environmenta Policy, (2nd Edition) Cambridge University Press, Cambridge. W.E.Oates 2. Bromely, D.W. (Ed.) Handbook of Environmental Economics, Blackwell, London. Environmental Economics in Theory and Practice, Macmillan. 3. Hanley, N., J.F. Shogern And B.White 4. Hussen, A.M. Principles of Environmental Economics, Routledge, London. Environmental Economics, Oxford University Press, New Delhi. 5. Kolstad, C.D. 'The Organization of Economic Activity: Issues Pertinent to 6. Arrow, K.J. Choice of Market versus Non-market Allocation' in Public Expenditure and Policy Analysis, (Ed.), Haveman, R.H. and J.

Margolis, Markham, Chicago.

7. Baland, J.M. and Halting Degradation of Natural Resources: Is There a J.P. Role for Rural Communities, Oxford University Press, Oxford.

8. Bhattacharya, R.N. (Ed.) Environmental Economics: An Indian Perspective, Oxford

University Press, New Delhi.

9. Chopra, K. Valuation of Bio-diversity within Protected Areas: Alternative Approaches and a Case Study, Institute of Economic Growth, Delhi.

10. Chopra, K. and S.C. Gulati Migration and the Management of Common Property Resources : A Study in Western India, Sage, New Delhi. 11. Crones, R. and T. Sandler The Theory of Externalities and Public Goods, Cambridge University Press, Cambridge. Economic Theory and Exhaustible Resources, Cambridge 12. Dasgupta, P.S. and G.M. Heal University Press, Cambridge. 13. Fisher, A.C. Resource and Environmental Economics, Cambridge University Press, Cambridge. 14. Jeroen, C.J.M. Handbook of Environmental and Resource Economics, Edward van den Bergh Elgar PublishingLtd., U.K. 15. Larsen, B. and A. Shaw Global Tradable Carbon Peermits, Participation Incentives, and Transfers, Oxford Economic Papers, Vol. 46. 16. Markandya, A. and Cleaning up the Ganges: Cost-Benefit Analysis of Ganga Action M.N. Murty Plan, Oxford University Press, New Delhi. 17. Mehta, S.S. Mundle Controlling Pollution: Incentives and Regulation, SAGE, New Delhi. and U.Sankar 18. Oastrom, E. Governing the Commons: The Evolution of Institutions for Collective Actions, Cambridge University Press, Cambridge. 19. Pearce, D.W. and Economics of Natural Resource Use and Environment, Hopkins University Press, Baltimore. John R. Turner Environmental Economics, Oxford University Press, New Delhi. 20. Sankar, U. (Ed.) 21. Schultz, T.W. Investment in Human Capital, Free Press, New York. Ecology and Economics: An Approach to Sustainable 22. Sengupta, R.P. Development, Oxford University Press, New Delhi. 23. Smith, V.Kerry Estimating Economics Values for Nature : Mathods for Nonmarket Valuation, Edward Elgar, Cheltenham, U.K. Environmental Economics and Policy, Harper Collins, New 24. Tietenberg, T. York. 25. United Nations Integrated Environmental and Economic Accounting, United Nations, New York. 'The International Incidence of Carbon Taxes,' in Tietenberg, 26. Whalley, J. and R. Wigle T.(Ed.) Economics of Global Warming, 1997, Edward Elgar, U.K.

PAPER H: GENDER ECONOMICS

- UNIT 1: (a) Introduction to Gender Studies: Importance and concepts of women studies Women in patriarchal and matriarchal societies and structures, patrilineal and matrilineal systems and relevance to present day society in India; Economic basis and functioning of patriarchy in developed and LDCs, particularly India; Gender bias in the theories of value, distribution, and population.
 - (b) Demographic Aspects: Demography of female population: Age structure, mortality rates, and sex ratio Causes of declining sex ratios and fertility rates in LDCs and particularly India Theories and measurement of fertility and its control; Women and their access to nutrition, health, education, and social and community resources, and their impact on female mortality and fertility, economic status, and in work participation rate.
- **UNIT 2:** (a) Women in Decision Making: Factors affecting decision making by women; property rights, access to and control over economic resources, assets; Power of decision making at household, class, community level; Economic status of women and its effect on work-participation rate, income level, health, and education in developing countries and India; Role of kinship in allocating domestic and social resources.
 - (b) Conceptualization of Women's Work: Concept and analysis of women's work: Valuation of productive and unproductive work; visible and invisible work; paid and unpaid work; economically productive and socially productive work Economic status, private property, and participation of women in pre-industrial and industrial societies Female contribution to National Income.
- **UNIT 3:** (a) Women and Labour Markets: Factors affecting female entry in labour market; Supply and demand for female labour in developed and developing countries, particularly India; Studies of female work participation in agriculture, nonagricultural rural activities, informal sector, cottage and small-scale industries, organized industry, and services sector; Wage differentials in female activities; Determinants of wage differentials; gender, education, skill, productivity, efficiency, opportunity; Structures of wages across regions and economic sectors.
 - (b) Women, Technology and Environment: Impact of technological development and modernization on women's work participation in general and in various sectors such as agriculture, non-agriculture rural activities, small and cottage industries and organized industry Female activities and ecological and environmental concerns: the two way relationship Role of new technologies for helping women Provision of information and training for simple harvesting of economic services.
- UNIT 4: Social Security and Social Protection for Women: Social security of women: entitlements, ensuring economic independence and risk coverage, access to credit and insurance markets; Role of voluntary organizations, self help groups in providing social security; Labour market biases and gender discrimination; effectiveness of collective bargaining; Review of legislation for women's entitlements, protection of property rights, social security Schemes for safety net for women; Need for female labour unions; affirmative action for women and improvement in their economic and social status.

UNIT 5: Gender Planning, Development Policies and Governance: Gender and development indices; Mainstreaming gender into development policies; Gender planning techniques; Gender sensitive governance; Paradigm shifts from women's well being to women's empowerment; Democratic decentralization (panchayats) and women's empowerment in India.

Reading List:

1. Boserup E. Women's Role in Economic Development, George Allen and Unwin, London. 2. Desai, N. and M.K. Raj. (Eds.) Women and Society in India, Research Centre for Women Studies, SNDT University, Bombay. 3. Government of India Towards Equality — Report of the Committee on the Status of Women in India, Department of Social Welfare, Ministry of Education and Social Welfare, New Delhi. 4. Krishnaraj, M., Gender Population and Development, Oxford University Press, R.M. Sudarshan and A. Shariff New Delhi. 5. Srinivasan K. and A. Shroff India Towards Population and Development Goals, Oxford University Press, New Delhi. Environment, Development and the Gender Gap, Sage 6. Venkateswaran, S. Publications, New Delhi. The Gender Gap in Basic Education: NGOs as Change Agents, 7. Wazir, R. Sage Publications, New Delhi. 8. Kabeer, N. and R. Institutions, Relations and Outcomes: A Framework and Case Studies for Gender-aware Planning, Kali for Women, New Subrahmanyam (Ed.) Delhi. 9. Mies, M. Patriarchy and Accumulation on a World Scale: Women in the International Division of Labour, Zed books, London. Sex ratio in Indian Population: A Fresh Exploration, Sage 10.Agnihotri, S.B. Publications, New Delhi. 11. Gupta, J.A. New Reproductive Technologies, Women's Health and Autonomy, Indo Dutch Studies on Development Alternatives, Sage Publications, New Delhi. 12. Young K., et. al. (Eds.) Serving Two Masters, Routledge & Kegan Paul, London. 13. Dwyer, D. and A Home Divided: Women and Income in the Third World, J. Bruce (Eds.) Stanford University Press, Stanford. 14. Redcliff, N. and E. Beyond Employment: Household, Gender and Subsistence, Basil Blackwell, Oxford. Mingione, (Eds.) 15. Sen. A.K. 'Gender and Cooperative Conflicts' in Tinker (Ed.) Persistent Inequalities: Women and World Development, Oxford University Press, New York. Gender and Employment in India, Publishing House, New Delhi. 16. Papola, T.S. and A.N. Vikas Sharma (Eds.) 17. Baud, I.S.A. Forms of Production and Women's Labour: Gender Aspects of Industrialization in India and Mexico, Sage Publications, New 18. King M. and M.A. Womens' Education in Developing Countries: Barriers, Benefits Hill (Eds.) and Politics, John Hopkins, Baltimore. 19. Dantwala, M.L., H. Sethi Social Change through Voluntary Action, Sage Publications, and P. Visaria New Delhi. 20. Narasimhan, S. Empowering Women: An Alternative Strategy from Rural India,

Sage Publications, New Delhi.

The Empowerment of Women in India: Grassroots Women's Networks and the State, Sage Publications, New Delhi.

21. Purushothaman, S.

M. A. – III SEMESTER

PAPER I: INDUSTRIAL ECONOMICS

- **UNIT 1 :** Industrialization and its importance; problems of industrialization in the developed and developing economies.
- **UNIT 2 :** Location of Industry: Different theories of location; factors affecting location of an industry; localization and decentralization of industries; diversification and integration of industrial units.
- **UNIT 3 :** Project Appraisal: Cost-benefit analysis; net present value and internal rate of return criteria.
- **UNIT 4:** Industrial Finance: Types of finance-equity debentures, public deposits, loans from banks and institutional finance. The financial ratios and their analysis.
- **UNIT 5 :** Indian Experience: Industrial policy; industrial progress under the Plans; growth of public enterprises; problems of management; efficiency and pricing in public enterprises; industrial finance; problems of small scale and cottage industries; growth of concentration and monopoly; multinationals; industrial sickness; industrial relations; workers' participation in management.

Reading List:

S. C. Kuchhal The Industrial Economy of India.
 B. N. Dutta Economics of Industrialization.

3. J. S. Bain Industrial Organizations

4. Alak Ghosh Indian Economy-Its Nature and Problems

5. C. N. Vakil (ed.) Industrial Development of India.6. J. N. Bhagwati Planning for Industrialization.

7. R. R. Barthwala Industrial Economics.

8. P. J. Devine, et al. An Introduction to Industrial Economics.

9. L. C. Gupta the Changing Structure of Institutional Finance in India.
 10. Dalip S. Swamy Multinational Corporations and the World Economy.

11. V. B. Singh Multinational Corporations and India.

COURSE J: ECONOMICS OF INFRASTRUCTURE

- UNIT 1:Introduction: Infrastructure and economic development Infrastructure as a public good; Social and physical infrastructure; Special characteristics of public utilities. The peak-load, Off-Load Problem, Dual Principle Controversy; Economics of scale of Joint supply; Marginal Cost Pricing vs. Other methods of pricing in public utilities; Cross-subsidization free prices, equity and efficiency.
- **UNIT 2:** Transport Economics: The structure of Transport Costs and Location of Economic Activities. Demand for Transport. Models of Freight and Passenger Demand. Model Choice; Cost Functions in the Transport Sector. Principle of Pricing. Special Problems of Individuals Modes of Transport; Inter-modal condition in the Indian Situation.
- **UNIT 3:** Communications: Rate-making in Telephone Utilities. Principles of Decreasing Costs in Telephone Industry. Characteristics of Postal Services. Criteria for Fixation of Postal Rates. Measurement of Standards of Service in Telephone and Postal Utilities.
- **UNIT 4:** Energy Economics: Primacy of Energy in the Process of Economic Development. Factors Determining Demand for Energy; Effects of Energy Shortages. Energy Conservation. Renewable and Non-conventional Sources of Energy. The Search for an Optimal Energy Policy in the Indian Context.
- UNIT 5: (a) Electricity, Gas and Water Supply: Bulk Supply and Pricing of Electricity. The Relative Economics of Thermal, Hydel and Nuclear Power Plants. The Case for a National Power Grid. Financing Water Utilities. Urban and Rural Water Supply. The Exploitation of Natural Gas. Pricing Problem. (b) Social Infrastructure: 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.

Public Utility Economics, McMillan, London

Equality, Quality and Quantity, Allied Publisheers, Bombay.

Reading List:

13. Naik, J.P.

1. Crew, M.A. and P.R.Kleindorfer

Tuone etinty Economics, withman, Eondon
India Infrastructure Report: Policy Implications for
Growth and Welfare, NCAER, New Delhi.
India Development Report — 1999-2000, Oxford, New Delhi.
Marginal Cost Pricing in Practice, Prentice-Hall, Englewood-Cliff.
s.) Prices: Issues in Theory, Practice and Public Policy,
University of Pennsylvania Press, Philadelphia.
Transportation Economic Analysis, Lexington, Torouts.
On Fixing Prices for Postal Services in India, National Institute
of Public Finance and Policy, New Delhi.
Report of the Committee on Power (Rajadhyaksha Committee),
New Delhi.
Energy Policy for India, Macmillan Co. of India, New Delhi.
Water Resource Development, Harvard University Press,
Cambridge.
Electricity Economics, John Hopkins University Press,
Baltimore.
Public Enterprises, Indian Institute of Public Administration,

New Delhi.

COURSE K: ECONOMICS OF HEALTH & EDUCATION

- **UNIT 1:** Economics of Health: Concept, dimensions and indicators; Determinants of health status; Disease burden and its measurement; Economic appraisal in health care-Cost benefit and cost effectiveness approaches; Environment and health; Human capital and health, The demographics of health: aging, obesity, and disability.
- UNIT 2: India's Health care system: Health care Reform, Public and Private expenditure on health, Health planning and management; National policy on Health; Health programmes and infrastructure, Financing of health programmes in India, Primary health care and health for all; Community health care. Expenditure on health during post-reform period; Health, poverty and economic growth in India; International health organizations-WHO and other United Nations agencies.
- **UNIT 3:** Health Care markets: Uncertainty and the welfare economics of Medical Care, Health Insurance, Hospitals and the theory of non-profits, Employer provision of health care, uninsurance: Causes and Consequences; Technological change and Health Care, Information asymmetries in health insurance markets, Externalities in health care markets.
- UNIT 4: Concept of Economics of education: Educational production function; Education, productivity and income; Educational indicators; Education and economic development; Human development concept and measurement; Educational costs and benefits-Educational cost functions, cost-benefit model; Educational planning and manpower; NGOs and Human Resource Development.
- **UNIT 5 :** India's educational system : Problems and suggestions; Human capital in India; National policy on education; Financing of education in India; Expenditure on education during post-reform period.

Reading List:

1. Mark Blaug Economics of Education: Selected Readings, vol. I & II

2. Schultz, T.W. Investment in Human Capital

3. Ritzen, J.M.M. Education, Economic Growth and Income Distribution.

4. Folland, Goodman, and Stano The Economics of Health and Health Care.

Thomas E. Getzen
 Mahbub-ul-Haq
 Martha Nussbaum & AmartyaSen
 Health Economics.
 Quality of Life.
 Quality of Life.

8. Park and Park Textbook of Preventive and Social Medicine.

9. Human Development Reports

10. Phelps Health Economics, 3rd edition.

11. National Human Development Report

12. Report on National Commission on Macroeconomics and Health

13. Economic Survey

COURSE L : ECONOMICS OF INSURANCE

- **UNIT 1:** Introduction: Economic security; Human quest for economic security through time; Exposure to losses; Role of insurance; Definition of insurance; Risk pooling and risk transfer; Economic and legal perspectives, Social vs. private insurance; Life vs. nonlife insurance; Classification of life, health and general insurance policies.
- UNIT 2: Risk and Risk Management: Fundamentals of uncertainty and risk; Pure risk and speculative risk; Expected utility and decision making under uncertainty; Expected utility and the demand for insurance; Moral hazard and insurance demand; Concept of risk management; Essentials of risk management; Elements of risk management Risk assessment; Risk control and risk financing.
- **UNIT 3:** Insurance and Economic Development: Risk management and insurance in economic development, Insurance institutions as financial intermediaries; Insurance institutions as investment institutions; Insurance institutions in Indian capital market; Regulations governing investments of insurance institutions in India; IRDA rules in this regard.
- **UNIT 4:** (a) Essentials of Life and Health Insurance: Fundamentals of life and health insurance; Functions of life and health insurance; Selection and classification of risks; Basics of premium construction; Valuation and distribution of surplus; Individual health insurance; Uses, Types of evaluation; Principles of underwriting of life and health insurance; Group insurance and superannuation (pension) schemes; Set-up and management of insurance companies.
 - (b) Essentials of General Insurance: Definition of general insurance; Types of general insurance; Importance of general insurance in a country's economic development; Concept of short-term risk; Fundamentals of the following concepts Common law, Equity, Proposal/Accedence, Indemnity, Insurable interest, Contribution subrogation, Representation; Utmost good faith, Material fact, Physical hazard, Moral hazard; Policy endorsements conditions/warranties; Selection of risks; Inspection of risks; Rating and calculation of premiums; Tariffs and non-tariffs; Marketing of general insurance; Technology development and general insurance.
- UNIT 5: (a) Planning for Wealth Accumulation and Retirement Needs: Wealth accumulation planning; Life cycle planning; Planning for accumulation, objectives; Purchase of insurance and accumulation planning; Investments Tax-advantaged and tax non-advantaged; Essentials of individual retirement planning; Analysis of retirement; Income needs; Retirement planning strategies; Investing for retirement, Pension plans; Basic principles of pension plans; Pension plans in India; Estate Planning; Process of estate planning; Estate planning tools; Life insurance for estate liquidity.
 - (b) Regulation of Insurance: Regulation of insurance; Purpose of government intervention in markets; Theories of regulation; Insurance regulation in India; Insurance Regulation and Development Authority (IRDA).

Reading List:

1. Bailey, R. (Ed.)

2. Bhole, L.M.

3. Black, K. Jr. and H.D. Skipper Jr.

Underwriting in Life and Insurance, LOMA, Atlanta, Ga. The Indian Financial System, Tata McGraw Hill, New Delhi. Life and Health Insurance, Prentice Hall, Upper Saddle River, New Jerssey.

4. Finsinger, J. and M.V. Pauly (Eds.)

5. Head, G.L. and S. Horn II

6. Tacchino, K.B. and D.A. Little

7. Yaari. M.E.

8. Williams Jr., C.A. M.L. Smith and P.C. Young (1995)

9. Wu, C. and P. Colwell

10. Outreville, J.F.

11. United Nations Conference on Trade and Development

12. Black, K. Jr. and H.D. Skipper Jr.

13. Insurance Institute of India

14. Government of India

15. Ivers, J.I. III and E.T. Johnson (Eds.)

16. Insurance Regulation and Development Authority

17. Meier. K.J.

18. Peltzman, S.

19. Stigler, G.J.

The Economics of Insurance Regulation : A (1986) Cross National Study, Macmillan, London.

Essentials of Risk Management, Volume I, Insurance Institute of America, Malvern, Pa.

Planning for Retirement Needs, The American College, Bryn. 'Uncertain Life Time, Life Insurance and the Theory of

Consumer,' Review of Economic Studies, Volume 32.

Risk Management and Insurance, McGraw Hill, New York.

'Moral Hazard and Moral Imperative,' Journal of Risk and Insurance, Volume 55, No. 1.

The Economic Significance of Insurance Markets in Developing Countries, The Journal of Risk and Insurance, Volume 57, No. 3.

The Promotion of Risk Management in

Developing Countries, UNCTAD, Geneva.

Life and Health Insurance, Prentice Hall, Upper Saddle River, New Jersey.

General Insurance (IC-34), Mumbai.

Old Age and Income Security (OASIS) Report (Dave Committee Report), Government of India, New Delhi.

Readings in Wealth Accumulation Planning, The American College, Bryn Mawr, Pa.

IRDA Regulations, New Delhi.

The Political Economy of Regulation : The Case of Insurance, The State University of New York Press, Albany, N.Y.

Towards a More General Theory of Regulation, Journal of Law and Economics. Vol. 19, No. 2.

The Theory of Economic Regulation, Bell Journal of Economics, Vol. 7.

M. A. – IV SEMESTER

COURSE M: ECONOMETRICS

UNIT 1: Meaning, Objectives, Nature and Scope of Econometrics, Relationship with Mathematical

Economics, Economics and Statistics. The raw material of Econometrics-time series and cross-section data. Methodology of Econometrics.

- **UNIT 2:** The Theory of Classical Least Squares: The OLS method, Assumptions of the OLS. Desirable properties of the estimates, Properties of the OLS estimates, Best, Linear, Unbiased estimates, Standard errors of the OLS estimates, Tests or significance of these estimates, Coefficient of Determination and test of its significance.
- UNIT 3: Problems of the Single Equation Model: i) Misspecification in variables-Specification bias. ii) Errors in variables, concept of Dummy variable and proxy variable. iii) Heteroscedasticity. iv) Multicollinearity, its consequences, Methods to detect multicollinearity, solutions. v) Autocorrelation, its consequences, Testing the inter-dependence of regression disturbances-Durbin Watson Test, Treatment of the first order Markov-Scheme. vi) Problems of lagged variables-Distributed lag model.
- **UNIT 4:** Simulataneous Equations Model: a) Jointly dependent variables, simultaneous equation bias, predetermined variables, structural form, reduced form and final form. b) The identification problem: Rank and order conditions of identifiability (without proof) c) Methods of estimation with properties, reduced form estimation and indirect least squares, two stage least squares, An informal introduction to the methods of limited information and full information maximum likelihood, comparison of alternative estimation methods.

UNIT 5: Econometric Models-Problems involved in construction, Interpretation and forecasting.

Reading List:

Tinbergen Econometrics
 Tintner Econometrics
 Goldberger Econometric Theory

4. Hood & Koopmans Studies in Econometric Methods

5. Koutsoyiannis Theory of Econometrics.

6. Maddala, G.S. Introduction to Econometrics, Wiley India Pvt. Ltd., New Delhi.

7. Gujarati, Damodar N. Basic Econometrics, McGraw-Hill Publication.

8. J. Johnston Econometric Methods

9. Klein L. R. A Text book of Econometric Methods10. Christ Econometric Methods and Models

11. Dilip M. Nachane Econometrics, Oxford University Press, New Delhi.
12. Greene, William H. Econometric Analysis, Pearson Education Pte. Ltd., Delhi.

13. Wooldridge Introductory Econometrics: A Modern Approach,

Thomson South-Western.

Note: At least 50% of the questions shall be based on numerical problems. Use of calculators is permitted.

PAPER N: LABOUR ECONOMICS

- **UNIT 1:** Labour: Characteristics of labour, role of labour in economic development employment and unemployment mobility of labour. Methods of recruitment and placement; the role of Employment service organisation.
- **UNIT 2:** Productivity: Meaning and measurement; factors affecting productivity. Rationalization.
- **UNIT 3:** Wages: Theories of wage rate determination; methods of wage payment; minimum wage; living wage and fair wage; wage differentials; wages and wage boards; bonus systems; profit sharing; National wage policy; co-ordination of price, incomes and wage policy in India.
- **UNIT 4:** (a) Industrial Relations: Industrial disputes and industrial peace; methods of settlement and prevention of industrial disputes; industrial relations in India; workers participation in management. (b) Trade Unions: collective bargaining and wage theory; Trade union movement in India; problems and limitations.
- **UNIT 5 :** (a) Social Security: Meaning and evolution; social assistance and social insurance; social security and labour welfare in India. (b) Labour Policy: Labour policy in India and need for manpower planning.

Reading List:

1. R. A. Lester Economics of Labour

2. J. T. Dunlop (ed.) The Theory of Wage Rate Determination

3. J. R. Hicks
4. G. C. Hallen
5. I. L. O.
6. I. L. O.
7. Problems of Wages.
8. Dynamics of Social Security
8. Approaches to Social Security
9. Problems of Wage policying Asia.

7. T. N. Bhagoliwala Economics of Labour and social Welfare.

8. S. C. Pant Indian Labour Problems.

9. Report of the National Commission on Labour (1969).

10. Indian Labour Journal (Monthly).

PAPER O: ECONOMICS OF LAW

- **UNIT 1:** Introduction: Economic analysis of law Introduction to legal reasoning, Efficiency; Markets and efficiency; Market failure; Coase theorem and related ideas, welfare economics; Compensation principles; Social welfare function; Maximization problem; Nature of economic reasoning; Economic approach to law — History and criticism.
- UNIT 2: (a) An Introduction to Law and Legal Institutions: The Civil Law and the Common Law Traditions; The institutions of the federal and State Court systems; The nature of legal dispute, how legal rules evolve. (b) Law Relating to Consumer Activities: Bargain theory; Economic role of contract; Economic theory of contract; Remedies as incentives, formation, defences and performance excuses; Duress; Bargaining power and unconscious ability; Defining tort law, economics of tort liability; Tort liability and economic models; Economics of accidents, fault, victim; fault and strict liability; Function of damages; Consumer protection; Consumer courts.
- **UNIT 3:** Law of Business Organizations: Structure of firm Kinds, Corporations, Corporate vest, Capital, Shares, Debentures, Insiders' trading, Antitrust, RBI, IRDA, MRTP, Role of SEBI, Economics of mergers, Amalgamations and takeovers.
- **UNIT 4:** Macroeconomics and Law: Law and distribution of income and wealth; Inequality; Contract theory of Distributive justice; Economic and social costs of poverty; Wealth distribution by Liability Rules; Taxation and efficiency; Personal and corporate taxation; Progressive principle; Economics of federalism; Freedom of Inter-state trade and commerce; National and global environmental problems and international environmental agreements — their legal and economic implications; Economics of social sector, disinvestment in PSUs.
- UNIT 5: International Aspects: GATT/WTO TRIPS and TRIMS; Export-import policy; Custom duties; MNCs and Direct foreign investment; FEMA.

11. Ayres, I. And R. Gevtne

Reading List:				
1. Bouckaert, B. and G. De Geest (Ed.)	Encyclopedia of Law and Economics, (Volume I to V), Edward			
	Elgar Publishing Ltd., U.K.			
2. Cooter, R.D. and T.S. Ulen,	Law and Economics, (3rd Edition), Addison Wesley, New York.			
3. Dan-Schmidt, K.G. and T.S. Ulen (Ed.) Law and Economic Anthology, Addison Wesley, New York.				
4. Oliver, J.M.	Law and Economics, George Allen and Unwin, London.			
5. Posner, R.A.	Economic Analysis of Law, (5th Edition), Little Brown, Boston.			
6. Coase, R.H.	'The Problem of Social Cost,' Journal of Law and Economics,			
	Vol. 3, Chicago.			
7. Posner, R.A.	'Values and Consequences : An Introduction to the Economic			
	Analysis of Law,' Chicago Law and Economics Working Paper.			
8. Samuels, W.J.	'Interrelations Between Legal and Economic Process,' Journal of			
	Law and Economics, Vol. 14, Chicago.			
9. Zerbe, R.O.	Economic Efficiency in Law and Economics, Edward Elgar			
	Publishing Co., U.K.			
10. Spitzer, M. and E. Hoffma	'A Reply to Consumption Theory, Production and (1999)			
	Ideology in the Coase Theory,' S. California Law Review, Vol.			

'Filling Gaps in Incomplete Contracts: An Economic Theory of

Default Rules,' Yale Law Journal, Vol. 99.

12. Lando, H. 'An Attempt to Incorporate Fairness into an Economic Model of Tort Law,' International Review of Law and Economics, Vol. Inflation and the Enforcement of Contracts, Edward Elgar 13. Renner, S. Publishing Ltd., U.K. State Liability in India: Retrospect and Prospect, Deep and Deep 14. Verma, G.P. Publications, New Delhi. Environmental Law and Policy in India, (2ndEdition), Oxford 15. Divan, S. and A. Rosencronz University Press, New Delhi. Report of Disinvestment Commission, New Delhi. 16. Government of India 17. Gupta, K.R. (Ed.) World Trade Organization (Successor to GATT) and India, Atlantic Publishers and Distributors, New Delhi. Economics 205 18. Apte, P.G. International Financial Management, (2nd Edition), Tata McGraw Hill Publishing Co. Ltd., New Delhi. Intellectual Property: Patents, Copyrights, Trade Marks and 19. Cornish, W.R. Allied Rights, (2nd Edition), Universal Law Publishing Co. Pvt. Ltd., Delhi. Indian Patents Law, Taxmann Allied Services Pvt. Ltd., New 20. Mittal, O.P.

Intellectual Property Rights in the WTO and Developing 21. Wattal, J.

Countries, Oxford University Press, New Delhi.

PAPER P: INTERNATIONAL ECONOMIC INSTITUTIONS

- UNIT 1: Bretton Woods Institutions: i) International Monetary System: Pre and Post Washington consensus, Bretton Wood System, Regional cooperation, IMF, its origin, purpose; The IMF's Lending Resources; The Establishment of special Drawing Rights; Allocation of special Drawing Rights; Second Amendment to the Fund Articles; International Liquidity; Conditionality and Fund Landings; IMF and Developing Countries. ii) IBRD & its affiliates (IDA & IFC): Objectives and functions; IBRD and Developing Countries.
- **UNIT 2:** WTO: Historical background, GATT, Uruguay round and WTO, Structure, Objectives, Functions. Trade policy, WTO and Economic Reforms in India.
- **UNIT 3 :** Economic Integration : European union, Origin, organization and objectives, The European Snake and formation of Euro, EEC and Developing Countries, Rationale and economic progress under custom union and FTAs (SAARC/SAPTA and ASEAN regions), European Common Market.
- **UNIT 4:** ADB: Origin, membership, objectives, functions, ADB and India.
- **UNIT 5 :** Other international economic fora (OECD, OPEC, UNCTAD, ECOSOC) : Structure and functions.

Reading List:

1. Brahmananda, P.R. IMF Loan and India's Economic Future, Himalaya Publishing

House, Bombay.

2. Crocker, A. International Money: Issues and Analysis, TheEnglish Language

Book Society, Nelson, London Economics

3. Mackinnon, R.J. Money in International Exchange, Oxford University Press,

Oxford.

4. Niehans, J. International Monetary Economics, John Hopkins University

Press, New York.

5. Sharma, K. K. International monetary system, Meenakshi Prakashan, Meerut.

6. Tew, Brian International monetary corporation

7. Fleming, J. Marcus The I.M.F, its form and functions, Published by the IMF.

8. Fratianni, Michele One Money for Europe, London.

9. Herbin, J. Flexible Exchange Rates and Stablization Policy.

10. Magnifico, G. European Monetary Unification, London.

11. Sharma, K.K. Recent Development in the International Monetary System.
12. Tew, Brain Evolution of International Monetary System 1945-77.

13. Yeager, L.B. International Monetary Relations: Theory, History and Policy,

Harper and Row, New York.

14. Hirsch, Frea "Is there a New International Economic Order."
15. Hirsch, Hrea Hirsch Alternatives to Monetary Disorder, New York.
16. Shuster, M.R. The Public International Law of Money.
17. Tew, Brain International Monetary Cooperation, London.

18. Triffin, Robert The Evolution of International Monetary System.

PRACTICAL & VIVA-VOCE

M. A. – I SEMESTER

PAPER V: PRACTICAL: RESEARCH METHODOLOGY

PREAMBLE This practical paper is designed to make the student well conversant with entire process of research work. The main aim is to clarify concepts like formulations of a research proposal and to equip the student with appropriate tools for correct interpretation.

- **UNIT 1:** Meaning and Significance of Social Science Research, Difficulties in Social Research, Difference between Social Research and Research in Physical Sciences, Scientific Methods.
- **UNIT 2 :** Research Process and Formulation of a Research Proposal.
- **UNIT 3 :** Data Collection: Nature of Data (primary & secondary data), Methods of Primary data Collection: observation, interview techniques and questionnaire.
- **UNIT 4 :** Concepts of Hypothesis; Null and Alternative Hypothesis; Elementary Sampling Theory: Basic concept of sampling-random and non-random sampling; simple Random Sampling, Stratified Sampling.

UNIT 5: Report writing.

Reading List:

1. Lundberg. George A Social Research.

2. Karmel and Polasek Applied Statistics for Economists.

3. Kumar, Ranjeet Research Methodology.

4. Tandon, B.C. Social Research.

5. Goode & Hatt Methods in social Research.6. Mishra, R.P. Research Methodology.

7. Ranjeet Kumar Research Methodology: A step by step guide for Beginners

8. Young, P.V. Scientific Social Surveys and Research.

M. A. – II SEMESTER

PAPER X: PRACTICAL: COMPUTER APPLICATION IN ECONOMIC ANALYSIS

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

- UNIT 1: Introduction to Computer And Peripherals: (a) Definition and their applications, characteristics (speed, accuracy, versatility, Power of Remembering no feeling no IQ), Evaluation and generations, Basic Computer organization (Input Unit, Output Unit, Storage Unit ALU, CU, CPU), System Concepts, Input/output Devices: Keyboard, Mouse, Scanner, Optical Scanner Sand Reader with MI Character, Recognization/Printers & its types, Plotters, Video display(Alphanumeric Graphic & Light Pen VTDS) (b) Primary and Secondary Storage Devices: Ranking criteria for any storage unit, Storage Location, Addresses, Capacity, Primary Storage Devices CRAM, ROM, and PROM, EPROM, Cache Memory, Registers Definitions and their functions, Definition of Sequential and Random Access Storage Device and their names, Magnetic Disk, Floppy Disk, Optical Disk. Basic concepts of MS Office.
- UNIT 2: Computer Fundamentals and Concepts: Definitions of Hardware, Software, Firmwares; Relationship between Hardware and Software and its description; Definition of operating System and its function with diagrammatic description, Computer Programmer and Languages: Purpose Programme planning, Algorithm (Characteristics, Example), Flow chart (Definition and Description, Symbols, Rules, Example, Advantage of the limitations in brief); Definitions of code, coding, Programme, Input, Output; Computer Languages: Short Notes on Machine, Assembly & High Level Languages with Descriptions, Advantages and Limitations, Characteristic of good Language; Brief Study of System Software e.g. Compilers, Interpreters, Assemblers.
- UNIT 3: Data Processing Concept: Data Processing & Hierarchy: Definition of (Data, Information, Processing, Field, Record, File); File Organization (sequential Files:- Definition, Advantages and Disadvantages), Direct Files, Indexed Sequential Files) File Utilities with names of all operations. Database Management System [DBMS Definition (including DDL & DML), Database System Applications, Database Structuring Techniques (study of List, Tree, Network, Relational Structures]; Advantages and Limitations of Database System, Short notes on Entity Relation Model, Database Users, Database Administrator; Computer Networking.
- **UNIT 4:** Statistical Processing Techniques and Methods: Entering & tabulating data in MS Excel and other softwares such as SPSS, Minitab, Systat etc. Use of software packages in analyzing data, obtaining results and presenting them in meaningful and interpretable forms. The application must include use of the softwares for time and frequency series.
- **UNIT 5 :** Application in Economic Analysis: Regression methods and techniques; Regression analysis; Data validation; Trends and cycle city forecasting; System modeling and description; System equation; Specification; Error and correction strategies, Statistical modeling and descriptive statistics; Distribution functions; Regression statistics.

Reading List:

Sanders, D.H.
 Sinha, P.K.
 Computers Today, McGraw Hill (3rd Edition), New York.
 Computer Fundamentals, BPB Publications, New Delhi.

3. Rajaraman, V. Fundamentals of Computers, Prentice Hall of India, New Delhi.

Theory and Problems of Data Processing, Schwar's Outline.

4. Lipschultz, M.M. and S.Lipschultz Theory and Problems of Data Processing, Schum's Outline

Series, McGraw Hill, New York.

5. Levin, R.I. and C.A. Kirkpatrick Quantitative Approaches to Management (3rd Edition), McGraw

Hill.

6. Mirsky, L. Introduction to Linear Algebra, Oxford University Press.

7. Ingtrilligator, M.D. Econometric Models, Techniques and Applications, Prentice

Hall, Englewood Cliffs, NJ.

8. Wood, M.B. Introducing Computer Security, Broadman Associates, Delhi.

M. A. – III SEMESTER

PAPER XV: PRACTICAL (Assignment: at least of 3000 words handwritten on current issues in consultation with the faculty of department)

M. A. – IV SEMESTER

PAPER XX: VIVA-VOCE (Dissertation in consultation with the faculty of department in at least of 5000 words and Viva-Voce)