

**REVISED SYLLABUS IN ECONOMICS (Approved  
by the 70<sup>th</sup> Meeting of the ACADEMIC COUNCIL, NEHU)  
FOR B.A. (Pass & Honours)**

The Board of Undergraduate Studies (BUGS) in Economics, NEHU, Shillong introduced a few changes in the syllabus in Economics for the B.A. (Pass & Honours) students in order to revise and update the contents of the courses. These courses had been revised in the light of the proposed UGC Model Curriculum (Economics) 2001 circulated by the University Grants Commission, New Delhi.

There have been several changes in the world economy in general and Indian economy in particular which significantly affects the economy theory and policy in recent time. Keeping these issues in mind, the Department of Economics had already revised the post-graduate syllabus in Economics and had implemented it from the first semester beginning August 2003. All these necessitated undertaking this exercise and calling for reorganization of the curricula. Therefore, attempt had been made to revise the content of the courses in order to include the latest developments in respective fields and bridge the gap between U.G. and P.G. revised syllabus.

While carrying out this exercise, the basic course structure and number of papers to be offered at P.G. and U.G. level had been kept unchanged. This syllabus was prepared in consultation with many subject experts from the various colleges and within the Department of Economics, NEHU, Shillong and the Model Curriculum prepared by the UGC for both UG and PG levels. The syllabus takes into account of the requisite topics for various competitive examinations.

**Course Structure:**

Compulsory Papers

- Paper-I: Micro-Economics (First year)  
Paper-II: Macro-Economics (Second year)  
Paper-III: Indian Economy  
Paper-IV: Money, Banking and Public Finance:  
Money and Banking  
Public Finance  
Paper-V: Advanced Economy Theory:  
Advanced Microeconomic Theory  
Advanced Macroeconomic Theory  
International Trade  
Paper-VI: Quantitative Techniques:  
Mathematics  
Statistics  
Paper-VII: Development and Environmental Economics

Optional Papers: Paper-VIII (Third year):

- History of Economic Development of UK., USSR and India  
The U.K. (from Industrial Revolution to 1939)  
The USSR (1855-1950)  
India (1857 to 1956)  
Mathematics for Economists  
Advanced Statistical Methods  
Advanced Monetary Theory

Mathematical Economics  
History of Economic Thought

**PAPER-I**  
**(First Year)**  
**MICRO-ECONOMICS**

**Unit-I**

**Definition and Scope of Economics:** Definitions by A. Smith, A. Marshal and L. Robbins, P. Samuelson and their critical examination. Nature and scope of Economics. Micro-economics in relation to other branches of Economics.

**Unit-II**

**Consumer's Behaviour:** Law of Demand, Elasticity of demand - price, income and cross, concepts and measurement. Marshallian theory of consumers' behaviour and its critical examination. Indifference curve analysis. Price, income and substitution effects. Giffen goods. Engel curve.

**Unit-III**

**Theory of Production and Cost:** Concept of Production Function. Isoquants. Law of variable proportions. The concepts of firm and industry. Revenue and cost curves - short and long run. Equilibrium of the firm.

**Unit-IV**

**Market Structure:** Definition of market. Concepts of product and factor markets. Different types of market (e.g. perfect competition, monopoly, imperfect competition, monopolistic competition and oligopoly). Demand and Supply schedules. Expansion, contraction and shift in these schedules. Price determination under perfect competition in long and short run. Price determination under monopoly. Discriminating monopoly.

**Unit-V**

**Factor Pricing:** Theories of rent - Ricardian and modern. Concept of Quasi-rent. Rent and price. Theories of Wages - Subsistence; Wage fund and Marginal productivity theory. Theories of interest - Abstinence theory, loanable fund theory, liquidity theory and marginal productivity theory of interest. Theories of profit – risk-taking and uncertainty bearing. Justification of profit.

**Unit-VI**

**International Trade:** Why nations trade, concepts of absolute and comparative advantages.

**Basic Reading List**

1. Baumol, W.J. (1982). *Economic Theory and Operations Analysis*, 3<sup>rd</sup> edition, Prentice Hall of India, New Delhi.
2. Boulding, K.E. (1955). *Economic Analysis*, Harper & Brothers, New York.

3. Henderson J.M. and R.E. Quandt (1980), *Microeconomic Theory: A Mathematical Approach*, McGraw Hill, New Delhi.
4. Koutsoyiannis, A. (1990). *Modern Microeconomics*, Macmillan, London.
5. Lancaster, K.J. (1969). *Introduction to Modern Microeconomics*, Rand McNally & Co., Chicago.
6. Lipsey, R.G. and K.A. Chrystal (1999). *Principles of Economics*, 9<sup>th</sup> Edition, Oxford University Press, Oxford.
7. Marshall, A. (1961). *Principles of Economics*, 8<sup>th</sup> edition, ELBS & Macmillan, London.
8. Samuelson, P.A. and W.D. Nordhaus (1998), *Economics*, Tata McGraw Hill, New Delhi.
9. Stonier, A.W. and D.C. Hague (1972). *Text Book of Economic Theory*, ELBS & Longman Group, London.
10. Varian, H.R. (2000). *Intermediate Microeconomics: A Modern Approach*, 5<sup>th</sup> Edition, East-West Press, New Delhi.

**PAPER II**  
**(Second Year)**  
**MACRO ECONOMICS**

**Unit-I**

- 1.1 Macro-economics:** Meaning, Macro-economic Policy and Its Objectives and Instruments.
- 1.2 National Income and Social Accounting:** Concepts, components, and measurement. Basic circular flow of income model. National Income identities with Government expenditure and International Trade. Incorporation of Environmental Concerns in National Accounts.
- 1.3 Pre-Keynesian income and employment theory:** The classical economics. Quantity theory of money, Fisher and Cambridge equations. Saving, investment and the rate of interest in the pre-Keynesian framework.
- 1.4 Keynesian income and employment theory:** Keynesian Economics of consumption, savings and investment. Theory of Multiplier.
- 1.5 National income fluctuations:** features of the trade cycle. Theories of trade cycles (Hawtrey's, Hayek's Interaction Models). Stabilization Policy.
- 1.6 Inflation:** causes, types, effects and control.

**Unit-II**

- 2.1 Money and Banking:** Commercial and Central Banks, Credit creation, monetary policy and tools.
- 2.2 Public finance:** Public and private finance, sources of public finance. Public debt: concept, causes, burden and redemption of public debt. Public expenditure: concept, causes of increase in public expenditure.
- 2.3 Balance of payments:** Items in the balance of payments account, equilibrium in the balance of payments. Adjustment process.

**Note:** **Unit-I** will have four questions and **Unit-II** will have two questions. In all three questions have to be answered at least one from each part.

**Basic Reading List**

1. Ackley, G. (1978). *Macroeconomics: Theory and Policy*, Macmillan Publishing Company, New York.
2. Gupta, S.B. (1994). *Monetary Economics*, S. Chand & Co., New Delhi.
3. Heijdra, B.J. and F.V. Ploeg (2001). *Foundations of Modern Macroeconomics*, Oxford University Press, Oxford.
4. Kindleberger, C.P. (1973). *International Economics*, R.D. Irwin, Home Wood.
5. Lewis, M.K. and P.D. Mizan (2000). *Monetary Economics*, Oxford University Press, New Delhi.

6. Lipsey, R.G. (1971). *An Introduction to Positive Economic Analysis*, English Language Book Society, London.
7. Mukherjee, Sampat (1990). *Modern Economic Theory*, Wiley Eastern Ltd., New Delhi.
8. Musgrave, R.A. and P.B. Musgrave (1976). *Public Finance in Theory and Practice*, McGraw Hill, Kogakusha, Tokyo.
9. Samuelson, P.A. and W.D. Nordhaus (1998). *Economics*, Tata McGraw Hill, New Delhi.
10. Shapiro, E. (1996). *Macroeconomic Analysis*, Galgotia Publications, New Delhi.
11. Stonier, A.W. and D.C. Hague (1972). *A Textbook of Economic Theory*, ELBS and Longman Group, London.

## PAPER-III INDIAN ECONOMY

### Unit-I

**Basic feature of Indian economy during British period and at the time of Independence:**

National income — trends and compositions. Sources of capital formation and savings. Sectoral growth. Demographic trends in India and its effect on economic development. Occupational structure of the labour force.

### Unit-II

**Agriculture:** Problems of agricultural development — trends in products and productivity of food and non-food crops. Land reforms, agricultural finance and marketing. Green revolution, its features and economic implications. Public distribution of food-grains. Co-operation — its role in Indian economy, its achievements and weaknesses.

### Unit-III

**Industry:** Industrial development during the planning period. Industrial policy of 1948, 1956, 1977 and 1991. Industrial licensing policy – MRTP Act, FERA and FEMA. Growth and problems of small-scale industries. Role of Public sector enterprises in India's industrialization. Impact of economic reforms on Indian industrial sector after 1991.

### Unit-IV

**External Sector:** Role of foreign trade. Trends in exports and imports. Composition and direction of India's foreign trade. Balance of payments crisis and the New economic reforms – Export promotion measures and the new trade policies. Foreign capital – FDI, aid: Multinational corporations (MNCs).

### Unit-V

**Important Areas of Concern:** Poverty and inequality. Unemployment. Rising prices. Industrial relations.

### Unit-VI

**Economy of NER:** Basic characteristics of the economy of North Eastern Region. Major agricultural practices, cropping pattern and problems of agriculture. Industrial structure and causes of industrial backwardness.

### Basic Reading List

1. Agrawal, A.N. *Indian Economy — Problems of Developmental Planning*, Wiley Eastern Ltd., Calcutta (latest edition).
2. Ahluwalia, I.J. and I.M.D. Little (eds.) (1999). *India's Economic Reforms and Development: Essays in honour of Manmohan Singh*, Oxford University Press, New Delhi.

3. Alam, K. (ed.) (1993). *Agricultural Development in North East India: Constraints and Prospects*, Deep & Deep Publications, New Delhi.
4. Choudhuri, Primit. (1975). *Aspects of Indian Economic Development*, Lord George Allen & Unwin Ltd., London.
5. Dutt, R.C. (1950). *The Economic History of India Under Early British Rule*, Low Price Publications, Delhi.
6. Dutt, Ruddar and K.P.M. Sundaram (2001). *Indian Economy*, S. Chand & Co. Ltd., New Delhi
7. *Economic and Political Weekly*, Bombay (Relevant Issues).
8. Gadgil, D.R. (1971). *The Industrial Evolution in India in Recent Times, 1860-1939*, Oxford University Press, Bombay.
9. Gopalakrishnan, R. (1995). *The North East India: Land Economy and People*, Har Anand Publications, Delhi.
10. Government of India, *Economic Survey* (Annual). Economic Division, Ministry of Finance, New Delhi.
11. Jalan, B. (1992). *The Indian Economy, Problems and Prospects*, Viking, New Delhi.
12. Misra, S.K. and V.K. Puri (2001). *Indian Economy – Its Development Experience*, Himalaya Publishing House, Mumbai.
13. North-Eastern Council (2000). *Basic Statistics of North-Eastern Region*.
14. Shetty, S.L. (1978). “Structure Retrogression of Indian Economy Since Mid Sixties”, *Economic and Political Weekly*, Annual No. Feb.
15. Singh, V.B. (ed.) (1965). *Economic History of India, 1857-1956*, Allied Publishers Private Limited, Bombay.
16. Wadhwa, C.D. (ed.), *Some Problems of Indian Economic Policy*, Tata McGraw Hill, New Delhi (latest edition).

**PAPER IV**  
**MONEY, BANKING AND PUBLIC FINANCE**

Total Marks: 100

**Unit-I**  
**Money and Banking**

Marks: 50

- 1.1 Basic Concepts:** Money. Functions and Classifications. Role of money in capitalist, socialist and mixed economies. Monetary standards – Metallic and Paper System of Note Issue.
- 1.2 Value of Money and Inflation:** Quantity Theory of Money – Cash transaction and Cash balance approaches, the Keynesian Approach. Inflation, Deflation and Reflation – Definition, Types. Demand pull and Cost push inflation. Measures to control inflation. Trade off between Inflation and Unemployment.
- 1.3 Commercial Banks:** Functions of Commercial Banks: The process of credit creation – purpose and limitations, Liabilities and assets of Banks. A Critical Appraisal of the Progress of Commercial Banking after Nationalisation. Recent Reforms in Banking Sector in India.
- 1.4 Central Banking:** Functions, Instruments of Monetary and Credit Control – Quantitative and Qualitative. Objectives and Limitations of Monetary Policy with special reference to India.

**Unit-II**  
**Public Finance**

Marks: 50

- 2.1 Nature and Scope of Public Finance:** Meaning and Scope of Public Finance. Public goods vs. Private goods. The Principle of maximum social advantage. Market failure. Role of the Government.
- 2.2 Public Expenditure:** Meaning. Classification and Principle of Public Expenditure. Canons and Effects of Public Expenditure.
- 2.3 Taxation:** Sources of Public Revenue. Taxation – Meaning. Canons and Classification of Taxes. The benefit and ability to pay approaches. Impact and incidence of taxes. Taxable capacity. Effects of taxation.
- 2.4 Public Debt and Financial Administration:** Sources of public borrowing. Effects of public debt. Methods of debt redemption. Growth of India's public debt. The public budget – kinds of budget. Economic and functional classification of the budget, Preparation and passing of budget in India.

**Basic Reading List**

1. Ackley, G. (1978). *Macroeconomics: Theory and Policy*, Macmillan Publishing Co., New York.
2. Bhargava, R.N. (1971). *The Theory and Working of Union Finance in India*, Chaitanya Publishing House, Allahabad.
3. Government of India, *Economic Survey* (Annual), New Delhi.

4. Gupta, S.B. (1994). *Monetary Economics*, S. Chand & Company, New Delhi.
5. Houghton, E.W. (ed.) (1988). *Public Finance*, Penguin, Baltimore.
6. Jha, R. (1998). *Modern Public Economics*, Routledge, London.
7. Mithani, D.M. (1981). *Macroeconomic Analysis and Policy*, Oxford & IBH, New Delhi.
8. Mithani, D.M. (1998). *Modern Public Finance*, Himalaya Publishing House, Mumbai.
9. Musgrave, R.A. and P.B. Musgrave (1976). *Public Finance in Theory and Practice*, McGraw Hill, Kogakusha, Tokyo.
10. Reserve Bank of India (1983). *The Reserve Bank of India: Functions and Working*, Bombay.
11. Reserve Bank of India, *Report on Trend and Progress of Banking in India* (various years), Mumbai.
12. Reserve Bank of India. *Report on Currency and Finance* (Annual), Mumbai.
13. Shapiro, E. (1996). *Macroeconomic Analysis*, Galgotia Publications, New Delhi.

**PAPER-V**  
**ADVANCED ECONOMIC THEORY**

Total Marks: 100  
40 + 20 + 40

**Unit-I**  
**Advanced Microeconomic Theory**

Marks: 40

- 1.1 Economics of Consumption:** Slutsky theorem; derivation of law of demand; Slutsky and Hicks on decomposition of price effect, Revealed preference Analysis.
- 1.2 Economics of Production:** Concept of factor substitution, Isoquants and price opportunity line. Concept of Production function, Cobb-Douglas Production function. Derivation of cost functions from production functions.
- 1.3 Welfare Economics:** Problems of measuring welfare. Classical welfare Economics. Pareto Criteria. Value Judgement. Concept of a Social Welfare Function. Compensation Principle of Kaldor and Hicks.

**Unit-II**  
**Advanced Macroeconomic Theory**

Marks: 20

- 2.1 Investment function:** Investment function, Marginal efficiency of capital and its determinations. Relationship of interest. Concept of acceleration.
- 2.2 Saving and Investment:** Equilibrium of saving and investment. General equilibrium IS and LM curves. Income determination explanation of underemployment equilibrium.
- 2.3 Theories of Trade cycle:** Samuelson-Hicks Interaction model.

**Unit-III**  
**International Trade**

Marks: 40

- 3.1 Heckscher-Ohlin Theory of Trade** – Its main features, assumptions and limitations, Leontief's Paradox.
- 3.2 Gains from Trade:** Gains from trade – their measurement and distribution. Trade as an engine of economic growth. Concepts of terms of trade and their importance in the theory of trade. Doctrine of reciprocal demand – Its importance and limitations in the theory of trade.
- 3.3 Tariffs and Quotas:** Types of tariffs and quotas: their impact in partial equilibrium analysis. Free trade and policy of tariffs in relation to economic growth with special reference to India. Concept of optimum tariff.
- 3.4 Devaluation, Financial and Trade Organizations:** Relative merits, demerits and limitations of devaluation. Concept and implications of foreign trade multiplier. Functions of IMF, World Bank and GATT/WTO; Reform of the international monetary system and India.

**Note:** **Unit-I** and **Unit-III** will have four questions each and **Unit-II** will have 2 questions. In all five questions have to be attempted two each from **Unit-I & Unit-III** and one from **Unit-II**.

**Basic Reading List**

1. Ackley, G. (1978). *Macroeconomics: Theory and Policy*, Macmillan Publishing Company, New York.
2. Baumol, W.J. (1982). *Economic Theory and Operations Analysis*, 3<sup>rd</sup> edition, Prentice Hall, New Delhi.
3. Hanson, A.H. (1953). *A Guide to Keynes*, McGraw Hill, New York.
4. Henderson, J.M. and R.E. Quandt (1980). *Microeconomic Theory: A Mathematical Approach*, McGraw Hill, New Delhi.
5. Kenan, P.B. (1994). *The International Economy*, Cambridge University Press, London.
6. Kindleberger, C.P. (1972). *International Economics*, D.B.T. Sons & Co. Pvt. Ltd., Bombay.
7. Koutsoyiannis, A. (1990). *Modern Microeconomics*, Macmillan, London.
8. Krugman, P.R. and M. Obstgeld (1994). *International Economics: Theory and Policy*, Glenview, Foresman.
9. Lancaster, K.J. (1972). *Consumer Demand: A New Approach*, Columbia University Press, New York.
10. Lipsey, R.G. and K.A. Chrystal (1999). *Principles of Economics* (9<sup>th</sup> Edition), Oxford University Press.
11. Marshall, A. (1961). *Principles of Economics*, 8<sup>th</sup> edition ELBS & Macmillan, London.
12. Salvatore, D.L. (1997). *International Economics*, Prentice Hall, Upper Saddle River, N.J.
13. Samuelson, P.A. and W.D. Nordhaus (1998), *Economics*, Tata McGraw Hill, New Delhi.
14. Shapiro, E. (1996). *Macroeconomic Analysis*, Galgotia Publications, New Delhi.
15. Sodersten, Bö (1991). *International Economics*, Macmillan Press Ltd., London.
16. Stonier, A.W. and D.C. Hague (1972). *Text Book of Economic Theory*, ELBS & Longman Group, London.
17. Varian, H.R. (2000). *Intermediate Microeconomics: A Modern Approach* (5<sup>th</sup> Edition), East-West Press, New Delhi.

**PAPER-VI**  
**QUANTITATIVE TECHNIQUES**

Total Marks 50+50 = 100

The course has been designed to give an idea to the undergraduate students of Economics about the application of quantitative techniques to economic problems.

**Unit-I**  
**MATHEMATICS**

Marks 50

- 1.1 Basic Concepts:** Variables, Sets, Functions, Equations, Identities, Systems of Equations, Application of Straight line System, Slope of the Line, Homogeneous function.
- 1.2 Calculus:** Concepts of Limit and Continuity and Derivative Rules of Differentiation. Maxima and Minima. Elasticities. Equilibrium of a firm and consumer. Inter-relationships among total, marginal and average costs and revenues. Integration of a function (introduction only).
- 1.3 Matrix and Determinants:** Various types of Matrices. Determinants. Inverse of a Matrix. Cramer's Rule.

**Unit-II**  
**STATISTICS**

Marks 50

- 2.1 Basic Concepts:** Population, Sample, Parameter, Frequency Distribution. Cumulative Frequency. Graphic and Diagrammatic Representation of Data. Techniques of Data Collection. Sampling vs. census, Primary and Secondary Data.
- 2.2 Central Tendency and Dispersion:** Measures of central tendency. Mean, Median, Mode, Geometric mean and harmonic mean. Measures of dispersion. Range. Mean Deviation. Standard Deviation, Coefficient of Variation, Quartile deviation, Lorenz curve, Skewness and Kurtosis.
- 2.3 Correlation and Regression:** Correlation – scattered diagram. Coefficient of correlation – Karl Pearson and Rank Correlation. Regression analysis – Least Squares method, Interpretation of regression coefficients (two variables only).
- 2.4 Time Series and Index Numbers:** Time series analysis – Concept and Components – determination of regular trend. Index numbers – Concept, price relative, quantity relative, value relative. Laspeyer's, Paasche's and Fisher's indices. Family budget method. Problems in the construction and limitations of index numbers. Tests for ideal index number.
- 2.5 Probability and Probability Distributions:** Probability: Concept, Rules of Probability (Addition and Multiplication); Random variables, Mathematical expectation. Theoretical distributions – Binomial, Poisson and Normal: their properties and uses.

**Basic Reading List:**

1. Allen, R.G.D. (1974). *Mathematical Analysis for Economists*, Macmillan Press, London.
2. Black, J. and J.F. Bradley (1973). *Essential Mathematics for Economists*, John Wiley and Sons.
3. Chiang, A.C. (1986). *Fundamental Methods of Mathematical Economics* (3<sup>rd</sup> Edition), McGraw Hill, New Delhi.
4. Croxton, F.E., D.J. Cowden and S. Klein (1973). *Applied General Statistics*, Prentice Hall, New Delhi.
5. Gupta, S.C. and V.K. Kapoor (1993). *Fundamentals of Applied Statistics*, S. Chand and Sons, New Delhi.
6. Mehta, B.C. and G.M.K. Madnani (1992). *Mathematics for Economists*, S. Chand and Co., New Delhi.
7. Monga, G.S. (1996). *Mathematics for Management and Economics*, Vikas Publishing House Pvt. Ltd., New Delhi.
8. Nagar, A.L. and R.K. Das (1976). *Basic Statistics*, Oxford University Press, Bombay.
9. Speigal, M.R. (1992). *Theory and Problems of Statistics*, McGraw Hill Book, London.
10. Taro, Yamane (1999). *Mathematics for Economists: An Elementary Survey* (Second Edition), Prentice Hall of India, New Delhi.

**PAPER VII**  
**DEVELOPMENT AND ENVIRONMENTAL ECONOMICS**

**Unit-I**

**Economic Development:** Meaning, measurement, characteristics of less developed countries. Measures of Development. Human Development Index and Physical Quality of Life Index.

**Unit-II**

**Theories of Economic Development:** Theories of Development: Karl Marx and Schumpeter.

**Unit-III**

**Approaches to Economic Development:** Partial theories of growth and development. Theory of unlimited supply and labour, big push, balanced growth, unbalanced growth, critical minimum effort thesis; Low income equilibrium trap – Dualism: Technical, behavioural and social, circular causation theory.

**Unit-IV**

**Planning and Development:** Need for planning – Democratic, decentralized and indicative planning. Micro level Planning. Review of Indian plan models.

**Unit-V**

**Environment and Ecology:** Environment-economy linkage. Environment as a necessity and luxury. Population-environment linkage. Environmental use and environmental disruption as an allocation problem. Market failure for environmental goods. Environment as a public good. The commons problem. Property right approach to environmental problem. Valuation of environmental damages. Land water, air and forest.

**Unit-VI**

**Pollution Control:** Prevention, control and abatement of pollution. Choice of policy instruments in developing countries. Concept of indicators of sustainable development.

**Basic Reading List**

1. Adelman, I. (1961). *Theories of Economic Growth and Development*, Stanford University Press, Stanford.
2. Behrman, S. and T.N. Srinivasan (1995). *Handbook of Development Economics*, Vol.1 to 3, Elsevier, Amsterdam.
3. Bhagwati, J. and P. Desai (1970). *India: Planning for Industrialisation*, Oxford University Press, London.
4. Boserup, E. (1991). *Population and Technological Change: A Study of Long Term Change*, Chicago University Press, Chicago.

5. Chakravarty, S. (1987). *Development Planning: The Indian Experience*, Clarendon Press, Oxford.
6. Chenery, H.B. et al. (eds.) (1974). *Redistribution with Growth*, Oxford University Press, New York.
7. Ehrlich, P., A. Ehrlich and J. Holden (1997). *Economics, Population, Resources, Environment*, W.H. Freeman, San Francisco.
8. Ghatak, S. (1986). *An Introduction to Development Economics*, Allen and Unwin, London.
9. GOI (2000). *India 2000*, Ministry of Information and Broadcasting, New Delhi.
10. Hayam, Y. (1997). *Development Economics*, Oxford University Press, New York.
11. Higgs, B. (1959). *Economic Development*, Norton, New York.
12. Kindeberger, C.P. (1977). *Economic Development*, 3<sup>rd</sup> edition, McGraw Hill, New York.
13. Kolstad, C.D. (1999). *Environmental Economics*, Oxford University Press, New Delhi.
14. Little, I.M.D. (1982). *Economic Development: Theory and International Relations*, Basic Books, New York.
15. Meier, G.M. (1995). *Leading Issues in Economic Development*, 6<sup>th</sup> edition, Oxford University Press, New Delhi.
16. Myint, Hla (1965). *The Economics of Underdeveloped Countries*, Preager, New York.
17. Pearce, D.W. and R. Turner (1991). *Economics of Natural Resource Use and Environment*, John Hopkins Press, Baltimore.
18. Shankar, U. (ed.) (2001). *Environmental Economics*, Oxford University Press, New Delhi.
19. Thirwal, A.P. (1999), *Growth and Development*, 6<sup>th</sup> Edition, Macmillan, London.

**PAPER VIII (3<sup>rd</sup> YEAR)**

**(OPTIONAL)**

**HISTORY OF ECONOMIC DEVELOPMENT OF UK., USSR, INDIA**

**Unit-I**

**The U.K. (from Industrial Revolution to 1939)**

- 1.1 Industrial Revolution:** Agriculture — The Growth of Capitalism in Agriculture; Enclosure System; The History of Agriculture during the period; Corn Law and Its Effect.
- 1.2 Commercial Revolution & Commercial Policy:** Event leading to the rise of Laissez Faire and Free Trade; Reaction against Free Trade and Protectionist Revival.
- 1.3 Labour conditions in England:** Factory Legislation and Trade Union; Movement Problems and Inter-war period (1918-39).
- 1.4** International Trade, Finance & Currency.

**Unit-II**

**The USSR (1855-1950)**

- 2.1 Economic Condition of Russia before 1917:** The institution of Serfdom — Emancipation of the peasants.
- 2.2 The Industrialisation Debate:** War Communism (1918-21); The New Economic Policy (1921-28); The Five Year Plans; Soviet Economy during War and Reconstruction; Organisation and Technique of Economic Planning; Soviet Financial and Budgetary Systems — The Turnover tax; Trade Unionism.

**Unit-III**

**India (1857 to 1956)**

- 3.1** British Colonialism and Its Impact on the Indian Economy.
- 3.2** Agriculture — Trends in output and productivity; Government Policies with regard to Irrigation; Famine and Credit Rural Indebtedness.
- 3.3** Population Growth and occupational structure; Decline of Handicrafts and de-industrialisation process.
- 3.4** Pattern of industrialization with special reference to tea, cotton, jute and steel.
- 3.5** Industrial Policy after Independence.
- 3.6** Infrastructure — Transport & Communication and Its Impact on Industrialisation Process.

**Basic Reading List**

1. Alex Nove (1972). *An Economic History of the USSR*, Penguin, London.
2. Ashorth, A. (1960). *An Economic History of England, 1970-1979*, Methuen, London.

3. Baykov, A. (1970). *The Development of the Soviet Economic System and Essay on the Experience of Planning in USSR*, Cambridge University Press, Cambridge.
4. Birnie, A. (1930). *An Economic History of Europe (1760-1939)*, Methuen, London.
5. Blyhin, G. *Agricultural Trends in India 1891-1947; Availability and Productivity*.
6. Dobb, M. (1966). *Soviet Economic Development since 1917*, Routledge & Kegan Paul Ltd., London.
7. Gadgil, D.R. (1971). *Industrial Evolution in India 1960-1939*, Oxford University Press, Delhi.
8. Kuznets, S. (1973). *Modern Economic Growth; Rate, Structure and Spread*, Yale University Press, New Haven.
9. Levkovsky, A.L. (1966). *Capitalism in India: Basic Trend in Its Development*, People's Publishing House, Bombay, 1966.
10. Southgate, G.W. (1970). *English Economic History*, J.M. Dent and Sons London.
11. Vinod Mehta (1978). *Soviet Economic Development and Structure*, Sterling Publishers Private Ltd., New Delhi.

**PAPER VIII**  
**(OPTIONAL)**  
**MATHEMATICS FOR ECONOMISTS**

**Unit-I**

**Number system:** Real and complex Numbers, Properties, Graphical Representation of Complex numbers, Argand Diagram.

**Unit-II**

**Elements of Trigonometry and Analytical Geometry:** Trigonometric Functions and numerical values; Functions of sums and difference of angles; Co-ordinates of Points, Lines and Circles, Conic sections.

**Unit-III**

**Linear Algebra:** Real and vector spaces, Vectors and Matrices, Matrix operation, Rank of Matrix, Inverse of Matrix, Solution of simultaneous Equations; Linear and Orthogonal transformations.

**Unit-IV**

**Differential calculus:** Rules of Differentiation, Partial and Total Differentiation, Maximization and Minimization of functions of more than one variables.

**Unit-V**

**Integration:** Rules of Integration, Methods of Integration, Integration by parts and Definite integrals.

**Unit-VI**

**Difference and Differential Equations:** Nature, Solution of First and Second Order Equations.

**Basic Reading List**

1. Allen, R.G.D. (1980). *Mathematical Analysis for Economists*, Mcmillan, London.
2. Chiang, A.C. (1974). *Fundamental Methods of Mathematical Economics*, McGraw Hill, Tokyo.
3. Hadley, G. (1973). *Linear Algebra*, Addison-Wesley Pub. Co., Tokyo.
4. Lewis, J.P. (1978). *Introduction to Mathematics for Students of Economics*, Macmillan, London.

5. Madley, G. (1974). *Linear Algebra*, Addison—Weseley, Reading, Mass.
6. Mehta, B.C. and Madnani, G.M.K. (1992). *Mathematics for Economics*, Sultanchand and Sons, N. Delhi.
7. Monga, G.S. (1972). *Mathematics and Statistics for Economists*, Vikas Publishing House, New Delhi.
8. Yamane, Taro (1975). *Mathematics for Economists*, Prentice Hall of India, New Delhi.

**PAPER VIII**  
**(OPTIONAL)**  
**ADVANCED STATISTICAL METHODS**

**Unit-I**

**Probability:** Classical, axiomatic and empirical approach; Theorems of probability; Multiplicative, additive, conditional, total and compound probability, concept of sample space, density function, distribution function.

**Unit-II**

**Probability distributions:** Binomial, Poisson, Normal, Multinomial and Hyper geometric distribution, Mathematical Expectation, Moment Generating functions.

**Unit-III**

**Correlation and regression:** bivariate and multivariate, fitting of regression by OLS Method, Partial and Multiple Correlation, Correlation ratios, Estimates of Variances of parameters (Non-linear equations and the estimation of the parameters), Growth curves, Logistic curves and their fitting.

**Unit-IV**

**Sampling Distribution:** Distribution of sample mean, and variances, t-distribution, F-distribution and  $X^2$ -distribution and their uses.

**Unit-V**

**Testing of hypothesis:** types of hypotheses, types of errors, Power of a test, application of t, F and  $X^2$ —tests. Analysis of covariance, two-factor and three-factor analysis.

**Unit-VI**

**Theory of sampling:** Simple Random Sampling (SRS), Stratified SRS, Systematic Sampling and Cluster Sampling estimation of totals. Means, variances of the study variables.

**Unit-VII**

**Design and Analysis of Variances:** R.B.D., R.B.D. with replications, L.S. design and ANOVA tests.

**Basic Reading List**

1. Bez, K. (1989). *Quantitative Techniques in Economics*, Kalyani, Ludhiana.
2. Chou, Y. (1975). *Statistical Analysis*, Holt, Reinhart, Winston, New York.

3. Cramer, H. (1970). *Mathematical Methods of Statistics*, Princeton
4. Croxton, Crowden and Klein (1971). *Applied General Statistics*, Prentice Hall of India, New Delhi.
5. Goon, A.M., M.K. Gupta and B. Dasgupta (1993). *Fundamentals of Statistics*, Vol.I, The World Press Ltd., Calcutta.
6. Gupta, S.C. and V.K. Kapoor (1993). *Fundamentals of Applied Statistics*, S. Chand & Sons, New Delhi.
7. Hoel, P.G. (1968). *Introduction to Mathematical Statistics*, Wiley & Sons.
8. Karmel, P.H. (1970). *Applied Statistics for Economists*, Pitman Publ.
9. Kendall, M.G. *et al.* *The Advanced Theory of Statistics*, Vol.I, II, III Griffin (latest edition).
10. Medhi, J. (1992). *Statistical Methods: An Introductory Text*, Wiley Eastern Ltd., New Delhi.
11. Nagar, A.L. and R.K. Das (1993). *Basic Statistics*, Oxford University Press, New Delhi.
12. Rao, C.R. (1965). *Linear Statistical Inference*, Wiley & Sons.

**PAPER VIII**  
**(OPTIONAL)**  
**ADVANCED MONETARY THEORY**

**Unit-I**

**Monetary Theory:** The nature and scope of Monetary Theory. Linkage between the Real and Monetary sectors; Dichotomy-Neutrality of money and Real Balance effect.

**Unit-II**

**Quantity Theory of Money:** The relation between Money, Nominal Income and Prices; Classical and Keynesian approach towards Quantity Theory of Money.

**Unit-III**

**Demand of Money:** Neo-Keynesian Portfolio Approach – Capital Theory applied to transaction demand for Money (Boumol-Tobin Model). Friedman's Demand for Money, function.

**Unit-IV**

**Supply of Money:** Definitions; Liquidity-creation of Money by Bank. Endogeneity and Exogeneity of Money Supply.

**Unit-V**

**Monetary Planning & Policy with reference to India:** Objectives of monetary planning; planned control of money supply; Conflicts and Limitations.

**Unit-VI**

**Credit:** Role in production and investment; Sources of Credit in India; Aggregate Supply of Bank Credit; Reserve Bank of India and Credit Planning.

**Basic Reading List**

1. Basu, S.K. (1976). *A Review of current Banking Theory and Practices*, Macmillan, New Delhi.
2. Clower, R.M. (ed.) (1973). *Monetary Theory*, Penguin Modern Economic Readings, Harmondsworth.
3. Coats, Warren and Khatkhate, Deena (1991). Money and Monetary Policy in Less Developing Countries in the 1990s, *Economic and Political Weekly*, June 22.
4. Friedman, M. (1973). Quantity Theory of Money – A Restatement, in Walters, A. (ed.), *Money and Banking*, Penguin Modern Economic Readings, Harmondsworth.

5. Gupta, Suraj B. (1981). *Monetary Planning in India*, Oxford University Press, New Delhi.
6. Johnson, Harry, G. (1978). *Selected Essays in Monetary Economics*, George Allen & Unwin, London.
7. Laider, D.E.W. (1972). *The Demand for Money: Theories and Evidence*, Allied Publishers, Bombay.
8. Patinkin, Don (1965). *Money, Interests and Prices*, Harper & Row, New York.
9. Patinkin, Don (1972). *Studies in Monetary Economics*, Harper & Row, New York.
10. Prasad, K. (1969). *The Role of Money Supply in a Developing Economy*, Allied Publishers, New Delhi.

**PAPER VIII**  
**(OPTIONAL)**  
**MATHEMATICAL ECONOMICS**

**Unit-I**

Role of Mathematics in Economics Analysis, Introduction to Static, Comparative Static and Dynamic Models.

**Unit-II**

**Theory of Consumers Behaviour:** Preference ordering, Axioms & Utility function, Revealed Preference Hypothesis.

**Unit-III**

**Existence and Maximisation of Utility:** Separative and Additive Homogeneous and Homothetic Utility Function, Demand Function, Substitution and Income Effects — Slutsky Equations. Revealed Preference—Axioms, Substitution Effects.

**Unit-IV**

**Theory of Firm:** Production Function, Properties Product Curves and Isoquants, Substitution Elasticities, Optimizing Behaviour, Cost Function — Short run and Long run.

**Unit-V**

**Linear Programming:** Basic concepts, solution of L.P. Problems — Graphic and Simplex, Duality.

**Unit-VI**

**Applications of Linear Programming to Economic Analysis:** Marginal Analysis vs. Linear Programming of the Firms, Input-Output Analysis. (Static open models only)

**Unit-VII**

**Period Analysis:** Cobweb and other simple Dynamic Models — Features, models with stock. Stability of Equilibrium.

**Unit-VIII**

**Multiplier and Accelerator:** Static and Dynamic Multiple Models. Harrod-Domar Growth Theory.

**Basic Reading List**

1. Allen, R.G.D. (1973). *Mathematical Economics*, Macmillan, London.
2. Baumol, W.D. (1970). *Economic Dynamics*, Macmillan, N.Y.
3. Baumol, W.J. (1985). *Economic Theory and Operations Analysis*, Prentice Hall, New Delhi.
4. Chiang, A.C. (1974). *Fundamental Method of Mathematical Economics*, McGraw Hill, N.Y.
5. Handerson, J.M. and Quandt, R.E. (1980). *Microeconomic Theory: A Mathematical Approach*, McGraw Hill, Tokyo.
6. Mukherji, B. and V. Pandit (1982). *Mathematical Method of Economic Analysis*, Allied Publishers, New Delhi.
7. Samuelson, P.A. (1971). *Foundations of Economic Analysis*, HYP, Cambridge.
8. Varian, H. (2000). *Intermediate Microeconomics: A Modern Approach* (5<sup>th</sup> Edn.). Affiliated East-West Press Pvt. Ltd., New Delhi.

**PAPER VIII  
(OPTIONAL)**

**HISTORY OF ECONOMIC THOUGHT**

**Unit-I**

**Early Period:** Economic thought of Plato and Aristotle – Doctrines of Just cost and Just price – Mercantilism: main characteristics. Thomas Mun – Physiocracy. Natural order, primary of agriculture, social classes. Tableau Economique, taxation, Turgot – Economic ideas of Petty, Locke and Hume.

**Unit-II**

**Classical Period:** Adam Smith – division of labour, theory of value, capital accumulation, distribution, views on trade, economic progress, David Ricardo – value, theory of rent, distribution, ideas on economic development and international trade. Karl Marx – dynamics of social change. Economic ideas of J.B. Say, J.S. Mill; Historical School – Senior, List.

**Unit-III**

**Marginalists:** The precursors of marginalism – Cournot, Thunen, Gossen – The marginalist revolution. Jevons, Walras and Menger – Fisher: the rate of interest – Wicksteed and Weiser: Distribution – Marshall as a great synthesizer: role of time in price determination, economic methods. Organization as a factor of production, nature of profits.

**Unit-IV**

**Keynesian Ideas:** The aggregate economy, Liquidity Preference Theory and Liquidity trap. Marginal Efficiency of Capital and Marginal Efficiency of Investment, Wage rigidities, underemployment equilibrium, role of fiscal policy: deficit spending and public works. Multiplier principle, cyclical behaviour of the economy. uncertainty and role of expectations, impetus to economic modeling.

**Unit-V**

**Indian Economic Thought:** Early economic ideas: Kautilya, Valluvar; Modern 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.

**Note:** Emphasis has to be given on economic thought rather than on theories.

**Basic Reading List**

1. Blackhouse, R. (1985). *A History of Modern Economic Analysis*, Basil Blackwell, Oxford.
2. Blaug, M. (1997). *Economic Theory in Retrospect: A History of Economic Thought from Adam Smith to J.M. Keynes*, (5<sup>th</sup> edition), Cambridge University Press, Cambridge.
3. Dasgupta, A.K. (1985). *Epochs of Economic Theory*, Oxford University Press, New Delhi.
4. Ganguli, B.N. (1977). *Indian Economic Thought: A 19<sup>th</sup> Century Perspective*, Tata McGraw Hill, New Delhi.
5. Gide, C. and G. Rist (1956). *A History of Economic Doctrine* (2<sup>nd</sup> Edition), George Harrop & Co., London.
6. Grey, A. and A.E. Thomson (1980). *The Development of Economic Doctrine* (2<sup>nd</sup> Edition), Longman Group, London.

7. Kautilya (1992). *The Arthashastra*, Edited, Rearranged, Translated and Introduced by L.N. Rangarajan, Penguin Books, New Delhi.
8. Roll, E. (1973). *A History of Economic Thought*, Faber, London.
9. Schumpeter, J.A. (1954). *History of Economic Analysis*, Oxford University Press, New York.
10. Seshadri, G.B. (1997). *Economic Doctrines*, B.R. Publishing Corporation, Delhi.