

**SOLAPUR UNIVERSITY, SOLAPUR**  
**SCHOOL OF SOCIAL SCIENCES**  
**DEPARTMENT OF APPLIED ECONOMICS**  
**(Revised Syllabus)**  
**M. A. PART - I, SEMESTER- I**  
**(Credit and Grading System)**

Paper No	Title of the Papers	Marks
1	Micro Economic Analysis - I	100
2	Quantitative Techniques for Economic Analysis - I	100
3	Agricultural Economics	100
4	Indian Economic Policy	100
5	Writing, Communication Skills and Current Affairs	100
6	Practical/ Field Work	100
7	Seminar/ Study Tour Report/ Industrial Visit/ Book-Journal Review	25
	Total Marks	625

**Paper No:1****MICRO ECONOMIC ANALYSIS- I****Preamble**

*This paper analyses the economic behaviour of individuals, firms and markets. It is mainly concerned with the objective of equipping the students in a rigorous and comprehensive manner with the various aspects of consumer behaviour and demand analysis, production theory and behaviour of costs, the theory of traditional markets and equilibrium of firm in modern non-profit maximizing framework. The paper also deals with the micro and macro theories of distribution, welfare economics, and general equilibrium in closed and open systems and analysis of economic behaviour under uncertainty.*

**Unit-1. Introduction to Micro Economics**

- (A) An Overview of Micro Economics, Meaning of Micro Economics Analysis; Positive and Normative Economics;
- (B) Methodology of Positive Economics: Model Building and Theorization, Uses and Limitations of Microeconomic Theories, Uses of Microeconomic Theories, Limitations of Microeconomic Theories;
- (C) What is an Economy, How Economy Works, Basic Problems of Economy, How Market Mechanism Solves the Basic Economic Problems, Drawbacks of the Free Enterprise System, The Government and the Economy;

**Unit-2 Theory of Demand**

- (A) Theory of Consumer Behavior : The Cardinal Utility Theory, The Indifference Curve theory, The Revealed Preference Theory, The Consumer Surplus;
- (B) Derivation of Demand, Determinants Demand, Elasticities of Demand;
- (C) Recent Developments in theory of Market Demand- The Pragmatic Approach to Demand analysis;

**Unit-3. Theory of Production and Costs**

- (A) Production Function, Law of Production, Technological Progress and Production Function
- (B) Least cost combination of inputs; Multi-product firm; Elasticity of substitution; Euler's theorem;
- (C) Traditional and modern theories of costs;

**Unit-4. Price and Output Determination**

- (A) Perfect Competition – Meaning, Features, Short term Equilibrium, Long term Equilibrium
- (B) Monopoly- Demand and Revenue, Equilibrium of the Monopolist ( Short run and Long run), Bilateral Monopoly;

- (C) Monopolistic competition – general and Chamberlin approaches to equilibrium, equilibrium of the firm and the group

#### BASIC READING LIST

1. Kreps, David M. (1990), *A Course in Microeconomic Theory*, Princeton University Press, Princeton.
2. Koutsoyiannis, A. (1979), *Modern Microeconomics* (2<sup>nd</sup> Edition), Macmillan Press, London.
3. Layard, P. R. G. and A. W. Alters (1978), *Microeconomic Theory*, McGraw Hill, New York.
4. Sen, A. (1999), *Microeconomics: Theory and Applications*, Oxford University Press, New Delhi.
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10. Bain, J. (1958), *Barriers to New Competition*, Harvard University Press, Harvard.
11. Baumol, W. J. (1982), *Economic Theory and Operations analysis*, Prentice Hall of India, New Delhi.
12. Borch, K. H. (1968), *The Economics of Uncertainty*, Princeton University Press, Princeton.
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15. Da Costa, G. C. (1980), *Production, Prices and Distribution*, Tata McGraw Hill, New Delhi.
16. Diamond and Rothschild (Eds.) (1978), *Uncertainty in Economics*, Academic Press, New York.
17. Graff, J. De V. (1957), *Theoretical Welfare Economics*, Cambridge University Press, Cambridge.
18. Green, H. A. G. (1971), *Consumer Theory*, Penguin, Harmondsworth.
19. Green, H. and V. Walsh (1975), *Classical and Neo-classical Theories of General Equilibrium*, Oxford University Press, London.
20. Hansen, B. (1970), *A Survey of General Equilibrium Systems*, McGraw Hill, New York.
21. Healthfields and Wibe (1987), *An Introduction to Cost and Production Functions*, Macmillan, London.
22. Henderson, J. M. and R. E. Quant (1980), *Microeconomic Theory: A Mathematical Approach*, McGraw Hill, New Delhi.
23. Hirshleifer, J. and A. Glazer (1997), *Price Theory and Applications*, Prentice Hall of India, New Delhi.
24. Quirk, J. and R. Saposnik (1968), *Introduction to General Equilibrium Theory and Welfare Economics*, McGraw Hill, New York.
25. Weintrub, E. R. (1974), *General Equilibrium Theory*, Macmillan, London.

**Paper No: 2****QUANTITATIVE TECHNIQUES FOR ECONOMIC ANALYSIS - I****Preamble**

*The main objective of this paper is to train the students to use the techniques of mathematical and statistical analysis, which are commonly applied to understand and analyze economic problems. The emphasis of this paper is on understanding economic concepts with the help of mathematical methods rather than learning mathematics itself. Hence, in this paper a student will be initiated into various economic concepts, which are amenable to mathematical treatment. The paper also deals with simple tools and techniques, which will help a student in data collection, presentation, analysis and drawing inferences about various statistical hypotheses.*

**Unit - 1. Introduction:**

- A. Meaning and significance of Quantitative Techniques
- B. Types of Quantitative Techniques
- C. Limitations of Quantitative Techniques

**Unit - 2. Measures of Central Tendency:**

- A. Mean,
- B. Median,
- C. Mode,

**Unit - 3. Dispersion Analysis:**

- A. Range,
- B. Standard Deviation
- C. Coefficient of Variation.

**Unit - 4. Correlation Analysis:**

- A. Type of Correlation
- B. Karl Pearson's coefficient of correlation,
- C. Spearman's rank coefficient of correlation.

**Unit - 5. Regression Analysis:**

- A. Importance of regression techniques.
- B. Regression line of Y on X
- C. Regression line of X on Y

**BASIC READING LIST**

1. Allen, R. G. D. (1974), *Mathematical Analysis for Economists*, Macmillan Press and ELBS, London.
2. Chiang, A. C. (1986), *Fundamental Methods of Mathematical Economics*, McGraw Hill, New York.
3. Gupta, S. C. (1993), *Fundamentals of Applied Statistics*, S. Chand & Sons., New Delhi.
4. Handry, A. T. (1999), *Operations Research*, Prentice Hall of India, New Delhi.
5. Speigal, M. R. (1992), *Theory and Problems of Statistics*, McGraw Hill Book Co., London.
6. Taha, H. A., (1997), *Operations Research: An Introduction (6<sup>th</sup> Edition)*, Prentice Hall of India Pvt. Ltd., New Delhi.
7. Yamane, Taro (1975), *Mathematics for Economists*, Prentice Hall of India, New Delhi.
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9. Monga, G. S. (1972), *Mathematics and Statistics for Economists*, Vikas Publishing House, New Delhi.
10. Vygodsky, G. S. (1971), *Mathematics Handbook (Higher Mathematics)*, Mir Publishers, Moscow.
11. Mathur, P. N. and R. Bharadwaj (Eds.) (1967), *Economic Analysis in Input-Output Research*, Input-Output Research Association of India, Pune.
12. Hadley, G. (1962), *Linear Programming*, Addison Wesley Publishing Co., Massachusetts.
13. Kothari, C. R. (1992), *An Introduction to Operations Research*, Vikas Publishing House, New Delhi.
14. Mustafi, C. K. (1992), *Operations Research: Methods and Practice*, Wiley Eastern, New Delhi.
15. Chou, Y. (1975), *Statistical Analysis*, Holt, Reinhart and Winston, New York.
16. Croxton, Crowden and Klein (1971), *Applied General Statistics*, Prentice Hall of India, New Delhi.
17. Millar, J. (1996), *Statistics for Advanced Level*, Cambridge University Press, Cambridge.
18. Nagar, A. L. and R. K. Das (1993), *Basic Statistics*, Oxford University Press, New Delhi.
19. Goon, A. M., M. K. Gupta and B. Dasgupta (1993), *Fundamentals of Statistics, Vol. 1*, The World Press Ltd., Calcutta.
20. Hogg, R. V. and A. T. Craig (1970), *Introduction to Mathematical Statistics (3<sup>rd</sup> Edition)*, Macmillan Publishing Co., New York.
21. Sukhatme, P. V. and B. V. Sukhatme (1970), *Sampling Theory of Survey with Applications*, Iowa State University Press, Ames.

**Paper No: 3****AGRICULTURAL ECONOMICS****PREAMBLE**

*The objective of this course is to provide a detailed treatment of issues in agricultural economic to those intending to specialize in this area. Its objective is to familiarize students to analyze the issues related with agricultural and economic development, agricultural production function, agricultural demand and supply, marketing and prices, agricultural finance, using basic micro-economic concepts.*

**Unit 1: Introduction to Agricultural Economics:**

- A) Definition, nature and scope of agricultural economics,
- B) Difference between agriculture and industry,
- C) Nature of uncertainty in agriculture, role of agriculture in economic development.

**Unit 2: Economics of Agricultural Production:**

- A) Production Function: law of diminishing returns- stages of production, optimum use of inputs, new technology and shift in production function.
- B) Resource Combination: factor-factor relationship, substitute, compliments, optimum factor combination, expansion path.
- C) Product Combination: Product relationship, optimum product combination

**Unit 3: Demand for and Supply Response in Agriculture:**

- A) Demand for agricultural products: Different purpose of demand, factors-affecting demand, demand for resources.
- B) Elasticity of demand: price elasticity, income elasticity and cross elasticity
- C) Supply Response in Agriculture: Agricultural supply and its peculiarities, factor's affecting agricultural supply.

**Unit 4: Marketing and Prices of Agricultural Products:**

- A) Agricultural Marketing: Meaning, marketing functions, marketing structure, marketing channels,
- B) Major problems of agricultural marketing, measures for solving marketing problems,
- C) Agricultural prices: Significance of agricultural prices, nature of price fluctuations: seasonal, annual, cyclical and secular, consequences

**BASIC READING LIST:**

1. Agriculture in Economic Development (1964), Carl Eicher and Lawrence Wit, McGraw Hill Book Company, New York
2. Bilgram, S. A. R. (1996), Agricultural Economics, Himalaya Publishing House, Delhi.
3. Christopher Ritson (1977), Agricultural Economics - Principles and Policy, Czosby Luckwood Staples, London
4. Donald J. Epp & John W. Malone (1981), Introduction to Agricultural Economics, Mc-Million Publishing Company, Inc. New York.
5. Government of India (1976), Report of the National Commission on Agriculture, New Delhi.
6. Ghatak, S. and K. Ingerscent (1984), Agriculture and Economic Development, Select books, New Delhi.
7. Government of India, Five Year Plans, New Delhi.
8. Harold G. Halcrow, (1981), Economic of Agriculture, Mc-Graw Hill, International Book Company, Tokyo.
9. John W. Goodwin (1977), Agricultural Economics, Reston Publishing Company, Virginia.
10. John B. Penson, Oral Capps, C. Parr Rosson, (1999), Introduction to Agricultural Economics, Prentice Hall, New Jersey.
11. Martin Upton, (1976), Agriculture, Production Economics and Resource - Use, Oxford University Press, London
12. Meier, G. M. (1995), Leading Issues in Economic Development, Oxford University Press, New Delhi.
13. Peter Robb (ed), (1996), Meanings of Agriculture, Oxford University Press, Delhi.
14. Raj, K. N. et. al. (1988), Essays in Commercialization of Indian Agriculture, Oxford University Press, New Delhi.
15. Thamarajakshi, R. (1994), Intersectoral Relationship in a Developing Economy, Academic Foundation, Delhi.
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18. Soni, R. N. (1995), Leading Issues in Agricultural Economics, Arihant Press, Jalandhar.
19. Wanmali, S. and C. Ramasamy (Eds.) (1995), Developing Rural Infrastructure, Macmillan, New Delhi.
20. Vaidhanathan, A. (1995), The Indian Economy: Crisis, Response and Prospects, Orient Longmans, New Delhi.

**Paper No: 4****INDIAN ECONOMIC POLICY****Preamble**

*The objective of this Paper at the postgraduate level would be to sharpen the understanding of integrated approach to the functioning aspects of the Indian economy. Such an analysis is essential because the Indian economy is a unique amalgam of alternative competing and often conflicting theories and a proper understanding of its working is imperative if the student is to comprehend the ramifications that underlie most of the observed phenomena in the Indian economic set-up*

**Unit- 1. Economic Planning in India:**

- A) Economic Planning- Meaning, Need of Economic Plan, Objectives of Economic Planning, Necessary Conditions for the Success of Planning;
- B) Planning in India- Planning from Independence to the Establishment of Planning Commission, Administrative Organization, Process of Planning;
- C) Objectives and Strategy of Plan- Main Objectives, Overview of Achievements of Planning, Shortcomings of Plan, Strategy of First Five Year Plan to Eighth Five Year Plan, NGOs and pressure groups.

**Unit-2. The Agricultural Sector:**

- A) Land reforms in India and Technological change in agriculture – Green revolution, Pricing of agricultural inputs and output, farm subsidies on agricultural prices and production;
- B) Terms of trade between agriculture and industry; Agricultural finance policy; Agricultural Marketing and Warehousing;
- C) Issues in food security – Role of public distribution system, policies for sustainable agriculture.

**Unit-3. Industrial Sector:**

- A) Public Sector enterprises and their performance; Problem of sick units in India; Privatization and disinvestment debate;
- B) Growth and pattern of industrialization; Small-scale sector; Productivity in industrial sector; Exit policy.
- C) Issues in labour market reforms; approaches for employment generation.

**Unit- 4. Public Finances and Financial Sector Reform:**

- A) Fiscal federalism – Centre-State financial relations; Finances of central government; Finances of state governments; Parallel economy; Problems relating to fiscal policy; Fiscal sector reforms in India.
- B) Financial sector reforms; Interest rate policy; Review of monetary policy of RBI; Money and capital markets;
- C) Working of SEBI in India.



**BASIC READING LIST**

- 1) 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.
- 2) Bardhan, P. K. (9<sup>th</sup> Edition) (1999), The Political Economy of Development in India, Oxford University Press, New Delhi.
- 3) Bawa, R. s. and P. S. Raikhy (Ed.) (1997), Structural Changes in Indian Economy, Guru Nanak Dev University Press, Amritsar.
- 4) Brahmananda, P. R. and V. R. Panchmukhi (Eds.) (2001), Development Experience in the Indian Economy: Inter-State Perspectives, Book well, Delhi.
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- 6) Dantwala, M. L. (1996), Dilemmas of Growth: The Indian Experience, Sage Publications, New Delhi.
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- 9) Jain, a. K. (1986), Economic Planning in India, Ashish Publishing House, New Delhi.
- 10) Jalan, B. (1996), India's Economic Policy – Preparing for the Twenty First Century, Viking, New Delhi.
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- 12) Parikh, K. S. (1999), India Development Report – 1999-2000, Oxford University Press, New Delhi-8.
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- 15) Sen, R. K. and B. Chatterjee (2001), Indian Economy: Agenda for 21<sup>st</sup> Century (Essays in honour of Prof. P. R. Brahmananda), Deep & Deep Publications, New Delhi.
- 16) Haq, M. (1996), Reflections on Human Development, Oxford University Press, New Delhi.
- 17) Thirlwal, A. P. (1997), Economic Development in the Third World, Addison-Wesley, England.
- 18) United Nations Development Programme (1997), Human Development Report, Oxford University Press, New Delhi.
- 19) Byres, t. J. (Ed.) (1998), The Indian Economy: Major Debates Since Independence, Oxford University Press, New Delhi.
- 20) Chatopadhyaya, M., P. Matiti and M. Rakshit (Eds.) (1996), Planning and Economic Policy in India – Evaluation and Lessons for the Future, Sage Publications, New Delhi.
- 21) Government of India, Planning Commission (1999), Ninth Five Year Plan, 1997-2000, Vol. I & II, New Delhi.
- 22) Kabra, K. N. (1997), Development Planning in India, Sage Publications, New Delhi.
- 23) Brahmananda, P. R. and V. R. Panchmukhi (Eds.) (1987), The Development Process of the Indian Economy, Himalaya Publishing House, Bombay.
- 24) Chelliah, Raja J. and R. Sudarshan (1999), Income, Poverty and Beyond: Human Development in India, Social Science Press, New Delhi.
- 25) Dandekar, V. M. (1996), The Indian Economy, 1947-92, Vol. II, Sage Publications, New Delhi.
- 26) Hanumantha Rao, C. H. and H. Linnemann (Eds.) (1996), Economic Reforms and Poverty Alleviation in India, Sage Publications, New Delhi.
- 27) Subramanian, S. (Ed.) (1997), Measurement of Inequality and Poverty, Oxford University Press, Calcutta.

- 28) World Bank (2000), India: Reducing Poverty, Accelerating Economic Development, Oxford University Press, New Delhi.
- 29) Frederick, H. and A. M. Charles (1970), Education, Manpower and Economic Growth, New Delhi.
- 30) Government of India, Planning Commission (1999), Ninth five Year Plan, 1997-2002, Vol. II, New Delhi.
- 31) Tilak, J. B. C. (1993), Costs and financing of Education in India: A Review of Issues, Problems and Prospects (Mimeo), National Institute of Educational Planning and Administration, New Delhi.
- 32) Appu, P. S. (1996), Land Reforms in India, Vikas, New Delhi.
- 33) Joshi P. C. (1975), Land Reforms in India, Allied Publishers Pvt. Ltd., New Delhi.
- 34) Narain, D. (1988), Studies on Indian Agriculture, Oxford University Press, New Delhi.
- 35) Ahluwalia, I. J. (1985), Industrial Growth in India, Oxford University Press, New Delhi.
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- 46) Bhole, L. M. (2000), Indian Financial System, Ghugh Publications, Allahabad.
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- 55) Sen, S. (2000), Trade and Dependence: Essays on the Indian Economy, Sage Publications, New Delhi.
- 56) Verma, M. L. (1995), International Trade, Vikas Publishing House Private Ltd., Delhi.

**Paper No: 5****Writing, Communication Skill & Current Affairs****Writing skills: -**

Importance of writing skills, news paper writing, understanding the subject, vocabulary, words, different forms, fluency, collecting references.

**Communication skills: -**

Importance of communication skills, listening ability, barriers in effective listening, speech therapy, effective pronunciations, confidence, communication process, positive speaking, public speaking, Positive thinking, time management, stress management

**Current affairs: -**

- The focus of contemporary social, political, political, economic issues, discussion on current topics-local, regional, national, international.
- Background information, statistical data, reference clipping etc. list of concerned journals (like India Today Outlook, Business World, The Week, Sports Star, )
- Some issues always imp:UNO, World War I & II, Cold war, NAM, freedom struggle, Goa freedom struggle, Samyukta Maharashtra Movement, the Importance of panchyat raj & Zilla Parishad in Maharashtra, the role of legislative assembly
- New Economic Scenario after GATT, WTO, World Bank, International Monetary Fund, International Conference at Geneva, Uruguay, Doha, Seattle.
- Terrorism on International Level-Kashmir, Kandahar, Katmandu, World Trade Centre, Beslan Bail, Colombo, Mumbai. The mastermind organization behind these horrified incidents. Naxalism.

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**M. A. PART - I, SEMESTER- II**  
**(Credit and Grading System)**

Paper No	Title of the Papers	Marks
1	Micro Economic Analysis - II	100
2	Quantitative Techniques for Economic Analysis - II	100
3	Economics of Environment	100
4	Agri-Business	100
5	Computer Applications in Economics	100
6	Practical/ Field Work	100
7	Seminar/ Study Tour Report/ Industrial Visit/ Book-Journal Review	25
	Total Marks	625

**Paper No: 1****MICRO ECONOMIC ANALYSIS- II****Unit-1. Price and Output Determination**

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

**Unit-2. Alternative Theories of the Firm and Distribution**

- (A) Critical evaluation of marginal analysis; Baumol's sales revenue maximization model; Williamson's model of managerial discretion; Marris model of managerial enterprise; Full cost pricing rule; Bain's limit pricing theory ;
- (B) Neo-classical approach - Marginal productivity theory; Product exhaustion theorem;
- (C) Elasticity of technical substitution, technical progress and factor shares.

**Unit-3. General Equilibrium Theory**

- (A) Independence in the Economy-(circular flows of in two-sector economy)
- (B) The Walrasian System
- (C) Existence, Uniqueness and Stability of an Equilibrium (Stable, Unstable, Multiple equilibrium)

**Unit-4. Welfare Economics**

- (A) Criteria of Social Welfare- Growth of GNP, Bentham's criteria, A Cardinalist Criterion, The Pareto-Optimality Criterion, Kaldor-Hicks Compensation Criterion;
- (B) Maximization of Social Welfare- Derivation of the Grand Utility Possibility Frontier, Determination of the Welfare-Maximizing State;
- (C) Determination of the Welfare-Maximizing Output-Mix, Commodity Distribution and Resource Allocation

**BASIC READING LIST**

1. Mishan, E. J. (1969), Welfare Economics: An Assessment, North Holland, Amsterdam.
2. Archibald, G. C. (Ed.) (1971), Theory of the firm, Penguin, Harmondsworth.
3. Arrow, K. J. and M. D. Intrilligator (Eds.) (1981), Handbook of Mathematical Economics, Vol. I, North Holland, Amsterdam.
4. Bain, J. (1958), Barriers to New Competition, Harvard University Press, Harvard.

5. Baumol, W. J. (1982), *Economic Theory and Operations analysis*, Prentice Hall of India, New Delhi.
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18. Quirk, J. and R. Saposnik (1968), *Introduction to General Equilibrium Theory and Welfare Economics*, McGraw Hill, New York.
19. Weintrub, E. R. (1974), *General Equilibrium Theory*, Macmillan, London.

**Paper No: 2****QUANTITATIVE TECHNIQUES FOR ECONOMIC ANALYSIS - II****Unit- 1. Time Series Analysis:**

- A. Measurement of trend: Free hand/ Graphic Method,
- B. Semi-Average Method, Moving – Average Method, and
- C. Method of Least Square-fitting a straight line trend.

**Unit- 2. Growth Rates:**

- A. Growth Rates: Simple Growth Rate,
- B. Compound Growth Rate

**Unit-3. Index Numbers:**

- A. Price Index Numbers,
- B. Quantity Index Numbers,
- C. Value Index Numbers.

**Unit- 4. Diagrammatic Presentation of Data:**

- A. Line Graph:
- B. Bar Diagram:
- C. Pie Chart:
- D. Histogram:
- E. Frequency Polygon:
- F. Ogive Curve

**Unit- 5. Testing of Hypothesis:**

- A. Formulation of Null and Alternative hypothesis
- B. Hypothesis Testing based on t, z and  $X^2$ .

**BASIC READING LIST**

1. Allen, R. G. D. (1974), Mathematical Analysis for Economists, Macmillan Press and ELBS, London.
2. Chiang, A. C. (1986), Fundamental Methods of Mathematical Economics, McGraw Hill, New York.
3. Gupta, S. C. (1993), Fundamentals of Applied Statistics, S. Chand & Sons., New Delhi.
4. Handry, A. T. (1999), Operations Research, Prentice Hall of India, New Delhi.

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15. Chou, Y. (1975), Statistical Analysis, Holt, Reinhart and Winston, New York.
16. Croxton, Crowden and Klein (1971), Applied General Statistics, Prentice Hall of India, New Delhi.
17. Millar, J. (1996), Statistics for Advanced Level, Cambridge University Press, Cambridge.
18. Nagar, A. L. and R. K. Das (1993), Basic Statistics, Oxford University Press, New Delhi.
19. Goon, A. M., M. K. Gupta and B. Dasgupta (1993), Fundamentals of Statistics, Vol. 1, The World Press Ltd., Calcutta.
20. Hogg, R. V. and A. T. Craig (1970), Introduction to Mathematical Statistics (3<sup>rd</sup> Edition), Macmillan Publishing Co., New York.
21. Sukhatme, P. V. and B. V. Sukhatme (1970), Sampling Theory of Survey with Applications, Iowa State University Press, Ames.



**Paper No: 3****ECONOMICS OF ENVIRONMENT****Preamble**

*Due to the speedy growth of industries and population there is an increasing demand for the environmental resources. The free goods in the nature have now become the priced goods in the economy. The various types of pollutions have created the problems to the human beings as well as the biosphere. This paper highlights the causes of pollution, its economic impacts and the role of government, NGOs, in environment protection.*

**Unit-1 : Nature and Significance of Economics of Environment :**

- (A) Economic development and environmental problems - Depletion of common property resources and its impact -
- (B) Eco-systems - Loss of bio-diversity -
- (C) Sustainable development.

**Unit-2 : Industrial Development and Environmental Problems**

- (A) Water pollution - Air Pollution - Noise Pollution -
- (B) Depletion of ozone layer -Green House Effects -
- (C) Environment friendly size of firm - Limits to growth theory.

**Unit-3 : Agricultural Development and Environmental Problems :**

- (A) Technological changes in agriculture and its impact on environment - Excess use of water, fertilizers and pesticides - Concept of natural farming -
- (B) Economics of large sized dams and their impact -
- (C) Causes of forest depletion and its impact - Significance of social forestry.

**Unit-4 : Role of various sectors in environment protection and Environmental Policy**

- (A) Role of public, private and co-operative sectors in environment protection - Role of NGOs, WWF and Chipco Movement.
- (B) Cost benefit analysis and environment - Environment impact assessment Environmental audit. Economics of recycling - Types of energy - Energy production from waste - Pollution tax -
- (C) India's environmental Policy - Environmental Protection Laws in India, Pollution Control Boards and Their Functions.

**Project Reports/ Field Work/ Oral Examination: (30 Marks)**

Teaching : 04 Hours

Project : 04 Hours

**BASIC READING LIST**

- 1) Baumol, W. J. & W. E. (1997), *The Theory of Environmental Policy*, Prentice Hall, Englewood-Cliffs.
- 2) Bhardwaj, R. (1983), *Managing Limits to Growth*, Asian and Pacific Development Centre, Kuala Lumpur.
- 3) Dorfman, R. & N. Dorfman (Eds.) (1977), *Economics of the Environment*, W. W. Norton, New York.
- 4) Nijkamp, P. (Ed.) (1976), *Environmental Economics*, Vol. I & II, Martinus Nijhoff, Leiden.
- 5) Charles Peering (1987), *Economy and Environment* Cambridge University Press, New York.
- 6) Ali, S. A. (1979), *Resources for Future Economic Growth*, Vikas Publishing House, New Delhi.
- 7) Rathore, M. S. (Ed.) (1996), *Environmental and Development*, Rawat Publications, Jaipur.
- 8) Garge, M. R. (Ed.) (1996), *Environmental Pollution and Protection*, Deep and Deep Publications, New Delhi.
- 9) Lodha, S. L. (Ed.) (1991), *Economics of Environment*, RBSA Publishers, Jaipur.
- 10) Rajlakshmi N. and Dhulasi B. (1994), *Environomics*, Allied Publishers Ltd., New Delhi.
- 11) Singh, G. N. (Ed.) (1991), *Environmental Economics*, Mittal Publications, New Delhi.
- 12) Mehta, C. S. (1994), *Environment and Law*, RBSA Publishers, New Delhi.
- 13) Karpagam, M. (1993), *Environmental Economics*, Sterling Publishers, New Delhi.
- 14) World Bank Report on Human Development.
- 15) The Hindu Survey of Environment: Annual Reports.
- 16) R. N. Bhattacharya (2006), *Environmental Economics : An Indian Perspective*, Oxford University Press, New Delhi.
- 17) Ulaganathan, Sankar (2006), *Environmental Economics*, Oxford University Press, New Delhi.
- 18) Hanley, Shogren and White (2004), *Environmental Economics in Theory and Practice*, McMillan India Limited, Delhi.

**Paper No: 4**  
**AGRI-BUSINESS**

**PREAMBLE:**

*The purpose of this paper is to enable students to have an understanding various issues of agribusiness so that they would be able to comprehend and critically appraise current problem associated with agri-business in India.*

**Unit 1: Introduction of agriculture and agri-business**

- A) Nature of agriculture,
- B) Difference between farm and non-farm sector
- C) Meaning, Nature and scope of agri-business.

**Unit 2: Agricultural Technology and Irrigation:**

- A) Green Revolution- White Revolution (Dairy) - Blue Revolution (Fisheries),
- B) Use of Biotechnology and Mechanical Technology
- C) Sources of Irrigation – Progress of Irrigation in India

**Unit 3: Agricultural Marketing and Prices:**

- A) Regulated Marketing - Co-operatives Marketing -International Trade of Agricultural Produce - WTO and Agriculture.
- B) Agricultural Price Policy: its objectives, Price and Income Stabilization measures, minimum support price, CACP
- C) Terms of Trade between Agriculture and Non-agricultural sector.

**Unit 4: Agricultural Finance and Agro-industries:**

- A) Source of Agricultural Finance- Institutional System of Agricultural Finance. NABARD and Co-operative Credit for Agriculture Sector.
- B) Agro-industries: Role of Agro-industries in rural area, Problems of rural industry, measures for development of rural industry
- C) Agro- processing industries in India:
  - (a) Sugar Industries
  - (b) Textile Industries
  - (c) Horticulture, and Floriculture,

**BASIC READING LIST:**

1. Agriculture in Economic Development (1964), Carl Eicher and Lawrence Wit, McGraw Hill Book Company, New York
2. Bilgram, S. A. R. (1996), Agricultural Economics, Himalaya Publishing House, Delhi.
3. Christopher Ritson (1977), Agricultural Economics - Principles and Policy, Czosby Luckwood Staples, London
4. Donald J. Epp & John W. Malone (1981), Introduction to Agricultural Economics, Mc-Million Publishing Company, Inc. New York.
5. Government of India (1976), Report of the National Commission on Agriculture, New Delhi.
6. Ghatak, S. and K. Ingerscent (1984), Agriculture and Economic Development, Select books, New Delhi.
7. Government of India, Five Year Plans, New Delhi.
8. Harold G. Halcrow, (1981), Economic of Agriculture, Mc-Graw Hill, International Book Company, Tokyo.
9. John W. Goodwin (1977), Agricultural Economics, Reston Publishing Company, Virginia.
10. John B. Penson, Oral Capps, C. Parr Rosson, (1999), Introduction to Agricultural Economics, Prentice Hall, New Jersey.
11. Martin Upton, (1976), Agriculture, Production Economics and Resource - Use, Oxford University Press, London
12. Meier, G. M. (1995), Leading Issues in Economic Development, Oxford University Press, New Delhi.
13. Peter Robb (ed), (1996), Meanings of Agriculture, Oxford University Press, Delhi.
14. Raj, K. N. et. al. (1988), Essays in Commercialization of Indian Agriculture, Oxford University Press, New Delhi.
15. Thamarajakshi, R. (1994), Intersectoral Relationship in a Developing Economy, Academic Foundation, Delhi.
16. Papola, T. S. (1982), rural Industrialization in India, Himalaya Publishing House, Bombay.
17. Sadhu A. N. & Singh Amarjit, Fundamentals of Agricultural Economics, (1996), Himalaya Publishing House, Bombay.
18. Soni, R. N. (1995), Leading Issues in Agricultural Economics, Arihant Press, Jalandhar.
19. Wanmali, S. and C. Ramasamy (Eds.) (1995), Developing Rural Infrastructure, Macmillan, New Delhi.
20. Vaidhanathan, A. (1995), The Indian Economy: Crisis, Response and Prospects, Orient Longmans, New Delhi.

**Paper No: 5****COMPUTER APPLICATIONS IN ECONOMICS****Preamble**

*Economics being an empirical science, computers have emerged as the pivotal instruments of economic analysis, research and forecasting. Therefore, the students must be equipped with skills and tools based on computers, which, this course shall provide to them. This will not only enhance their employability but also prepare them for the challenges of the future.*

**Unit-1. Introduction to Computer System:**

- (a) Basic components of computer – CPU, Hardware and Software,
- (b) Input Devices, Output Devices, Secondary Storage Devices,
- (c) Operating System and Internet

**Unit-2. Application of Microsoft Excel:**

- (a) Excel Main Menu,
- (b) Worksheet structure,
- (c) Excel Commands.

**Unit-3. Descriptive Statistics, Correlation and Regression:**

- (a) Arithmetic Mean, Median, Mode, Range, Standard Deviation and Coefficient of Variation
- (b) Karl Pearson's Coefficient of Correlation
- (c) Regression Equations of Y on X and X on Y

**Unit-4. Time Series Analysis, Growth Rates and Graphical Presentation:**

- (a) Time Series Analysis: Method of Least Square-fitting a straight line trend.
- (b) Growth Rates: Simple Growth Rate, Compound Growth Rate
- (c) Graphical Presentation of Data: Line Graph, Bar Diagram, Pie Chart,

## PRACTICAL COURSE

### Practical Examination (30 Marks)

- 1) Practical examination will be conducted before the commencement of the theory examination.
- 2) Practical examination shall be of 1 hour duration carrying **30 marks**. Three/Four Statistical Problems shall be set for the practical examination.
- 3) To pass in the practical examination the student shall have to get minimum 40 per cent out of a total of 30 marks (that is, 12 marks out of 30).

### Theory Examination (70 Marks)

Theory Examination will be of 70 marks of 3 hours.

Teaching Workload	: 04 Hours
Practical Workload	: 06 Hours (for each batch)
Minimum Passing:	: 28 out of 70 : Theory Examination 12 out of 30 : Practical Examination

### BASIC READING LIST :

- 1) Elhance, D. N. (1962), Fundamentals of Statistics, Kitab Mahal, Allahabad.
- 2) Gupta, S. C. (1981), Fundamentals of Statistics, Himalaya Publishing House, Bombay.
- 3) Gupta, S. C. (1993), Fundamentals of Applied Statistics, S. Chand & Sons., New Delhi.
- 4) Handry, A. T. (1999), Operations Research, Prentice Hall of India, New Delhi.
- 5) Kothari, C. R. (1992), An Introduction to Operations Research, Vikas Publishing House, New Delhi.
- 6) Mathur, P. N. and R. Bharadwaj (Eds.) (1967), Economic Analysis in Input-Output Research, Input-Output Research Association of India, Pune.
- 7) Monga, G. S. (1972), Mathematics and Statistics for Economists, Vikas Publishing House, New Delhi.
- 8) N. M. Downie and R. W. Heath (1970), Basic Statistical Methods, Harper and Row, New York.
- 9) Rajaram, V. (1996), Fundamentals of Computers, Prentice Hall of India, New Delhi.
- 10) Sanders, D. H. (1988), Computer Today, McGraw Hill, New York.
- 11) Sinha, P. K. (1992), Computer Fundamentals, BPB Publications, New Delhi.
- 12) Speigal, M. R. (1992), Theory and Problems of Statistics, McGraw Hill Book Co., London.
- 13) Taha, H. A., (1997), Operations Research: An Introduction (6<sup>th</sup> Edition), Prentice Hall of India Pvt. Ltd., New Delhi.
- 14) Yamane, Taro (1973), Statistics, An Introductory Analysis, Harper and Row (India) and John Weatherhill Inc., Tokyo.