

MJP ROHILKHAND UNIVERSITY BAREILLY



NEW SYLLABUS
FOR POST GRADUATION IN ECONOMICS
AS PER THE GUIDLINES PROVIDED
BY
THE GOVERNMENT
FOR THE IMPLEMENTATION OF
THE NEW EDUCATION POLICY 2020

PREPARED BY

BOARD OF STUDIES OF ECONOMICS

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AUGUST, 2022

MJP ROHILKHAND UNIVERSITY, BAREILLY

NEW SYLLABUS FOR POST – GRADUATION

IN ECONOMICS

Presently, it is expected that a student after successfully completing Post-Graduation in Economics, would be well equipped to dwell deeper to generate knowledge as researcher, understand the advancements in economic theories and application and the knowledge-based decision making. Hence, this Programme of Post-Graduation in Economics has a strong theoretical and quantitative focus with an emphasis on empirical applications.

The Programme of Post-Graduation in Economics is spread over two years. Each year is divided into two Semesters. The Programme requires students to take a combination of Core Courses (Major), Electives (Minor) and Industrial Training/Survey/Research Project. A student is required to complete a minimum of 100 Credits (52 Credits in 1st year and 48 Credits in 2nd year) for the completion of the Programme and the award of the Master of Arts in Economics degree. The entire Programme is based on CBCS system.

In brief, the entire Programme of Post-Graduation in Economics has been organised into Four Semesters. In 1st Semester, there are Four Core – Compulsory papers, each carry 5 Credits. In the 2nd Semester, there are Three Core – Compulsory papers and One Optional paper is to be selected from a set of four different papers. Each of these Four papers, carry 5 Credits. Besides, students will have to select a Minor paper from Other Faculty, carrying 4 Credits, either in the 1st or 2nd Semester.

Again, in the 3rd Semester, there are Three Core – Compulsory papers and One Optional is to be selected from a set of Four different papers. Each of these Four papers will carry 5 Credits. In 4th Semester, there are Two Core – Compulsory papers and Two Optional papers, to be selected from two different sets of papers.

Besides, in each Semester, each student will have to undergo Industrial Training or Dissertation, carrying 4 Credits per Semester. At the end of each year, students will have to submit detailed Project Reports or Dissertation. Each year the Project Report or Dissertation will be evaluated through Viva – Voce jointly by the Supervisor and the External Examiner.

Guidelines for Industrial Training or Dissertation

In each year of the Programme of Post-Graduation in Economics (i.e., during both the Semesters) students will have to opt either Industrial Training Project or Dissertation. It will carry 4 Credits in each Semester (or 8 Credits during the year).

The purpose of undertaking a project is to conduct a systematic study related to any operation issues, arising in a business firm and communicate the findings. The entire project will be guided by a Faculty Member as well as by a Firm's Official. Students are advised to work in areas that would be of importance to the business organisation and provide policy recommendations for improvement. For this, students will have to take a minimum of 4 hours per Week training at the concerned business Firm during each Semester. They will submit a Progress Report at the end of 1st Semester and 3rd Semester and a Detailed Final Report at the end of 1st year (2nd Semester) and 2nd year (4th Semester). This Detailed Final Report will be evaluated through a Viva – Voce, jointly by the Supervisor and the External Examiner.

As regards the option for Dissertation, through this, students will undertake an original research work based on the area of his/her research interest. The Dissertation work will be carried out under the guidance and supervision of a Faculty Member who will monitor the progress of the work. Students will have to give an interim presentation before a panel of Faculty during each Semester. At the end of the year, students will submit a complied Dissertation and it will be evaluated through the Viva – Voce, jointly by the Supervisor and the External Examiner.

COURSE PROGRAMME

SEMESTER – I

04 Core – Compulsory papers + 01 Minor Elective from Other Faculty (to be selected either in Semester I or II) + 01 Programme of Industrial Training / Dissertation.

ECOCC I – Microeconomics – I	05 Credits
ECOCC II – Macroeconomics – I	05 Credits
ECOCC III – Economics of Growth & Development	05 Credits
ECOCC IV – Quantitative Methods	05 Credits
ECOMEL I – Minor Elective – Minor from Other Faculty (To be selected either in Semester I or II)	04 Credits
ECORP I – Research Project I – Industrial Training / Dissertation	04 Credits
Total Credits during Semester I	24/28

SEMESTER – II

03 Core – Compulsory papers + 01 Core Elective + 01 Minor Elective from Other Faculty (to be selected either in Semester I or II) + 01 Programme of Industrial Training / Dissertation.

ECOCC V – Microeconomics – II	05 Credits
ECOCC VI – Macroeconomics – II	05 Credits
ECOCC VII – Research Methodology	05 Credits
ECOCEL I – Core Elective I (Any One from...)	05 Credits
ECOCEL I (i) – Demography	
ECOCEL I (ii) – Industrial Economics & Entrepreneurship	
ECOCEL I (iii) – Economics of Infrastructure	
ECOCEL I (iv) – Advanced Statistics	
ECOMEL I – Minor Elective – Minor from Other Faculty (To be selected either in Semester I or II)	04 Credits
ECORP I – Research Project I – Industrial Training / Dissertation	04 Credits
Total Credits during Semester II	24/28
Total Credits during 1 st Year	52

SEMESTER – III

03 Core – Compulsory papers + 01 Core Elective + 01 Programme of Industrial Training / Dissertation.

ECOCC VIII – Public Economics	05 Credits
ECOCC IX – Indian Economic Policy	05 Credits
ECOCC X – History of Economic Thought	05 Credits
ECOCEL II – Core Elective II (Any One from...)	05 Credits

- ECOCEL II (i) – Labour Economics
- ECOCEL II (ii) – Economics of Social Sector & Environment
- ECOCEL II (iii) – International Regional Economic Cooperation
- ECOCEL II (iv) – Econometrics

ECORP II – Research Project II – Industrial Training / Dissertation	04 Credits
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Total Credits during Semester III	24
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SEMESTER – IV

02 Core – Compulsory papers + 02 Core Elective + 01 Programme of Industrial Training / Dissertation.

ECOCC XI – Financial Institutions & Markets	05 Credits
ECOCC XII – International Economics	05 Credits
ECOCEL III – Core Elective III (Any One from...)	05 Credits

- ECOCEL III (i) – Operations Research
- ECOCEL III (ii) – Agriculture Economics
- ECOCEL III (iii) – Environmental Economics
- ECOCEL III (iv) – Gender Economics

ECOCEL IV – Core Elective IV (Any One from...)	05 Credits
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- ECOCEL IV (i) – Rural Development
- ECOCEL IV (ii) – Natural Resource Economics
- ECOCEL IV (iii) – India's Foreign Trade
- ECOCEL IV (iv) – Economics of Education & Health

ECORP II – Research Project II – Industrial Training / Dissertation	04 Credits
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Total Credits during Semester IV	24
Total Credits during 2 nd Year	48
Total Credits during the Programme	100

**SEMESTER I – PAPER ECOCC I
MICRECONOMICS – I**

Objectives

This paper analyses the economic behaviour of individuals, firms and markets. It is mainly concerned with the objective of equipping the students with the various aspects of consumer behaviour and demand analysis, production theory and behaviour costs, the theory of traditional markets and equilibrium of firms in modern markets.

UNIT I: Introduction and Basic Concepts

12 Hours

Basic economic problem, Choice and scarcity, Static and Dynamic Economics, Micro and Macro Economics: Economic Models.

UNIT II: The Theory of Consumer Behaviour

14 Hours

Marginal utility analysis, Indifference curve analysis, Price, Income and Substitution effects – Hicks & Slutsky approach and applications, Derivation of demand curves and consumption curves from Indifference curve, Marginal revenue, Average revenue and Total revenue, Elasticity of demand, Revealed preference theory.

UNIT III: Theory of Production and Cost

18 Hours

Production function – Short period and long period: Law of variable proportions and returns to scale: Isoquants – Least Cost combination of inputs: Expansion Path: Elasticity of substitution: Euler's Theorem: Cobb-Douglas and CES production functions, Theories of Cost: Derivation of cost functions from production function: Derived demand for factors.

UNIT IV: Price and Output Determination

18 Hours

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, Monopoly control and regulations.

UNIT V: Monopolistic Competition

18 Hours

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.

Suggestive Readings (Please refer to the Latest Editions)

1. Ahuja, H.L. (Hindi & English), Advanced economic theory
2. Hicks, J.R., Value and Capital
3. Jhingan, M.L., (Hindi & English), Microeconomic theory
4. Jain, T.R. & Ohri, V.K. (Hindi), Vyshti Arthashastra Ke Siddhant
5. Koutsoyiannis, A. Modern microeconomics
6. Leftwich, R.H., The price system and resource allocation
7. Richard, A. Bilas, Microeconomic theory
8. Samuelson, Paul A., Economics

SEMESTER I – PAPER ECOCC II
MACROECONOMICS – I

Objectives

The objective of this paper is to familiarize the students with the basic concepts, theories and approaches to understand the behaviour of macroeconomic aggregates and policies.

UNIT I – Macroeconomics

16 Hours

Meaning and significance; Macro Economic Development: An Overview; National Income – Concept, Measurement and Accounting problem, Circular flow of Income in two- three and four Sector Economy; Different forms of National Income Accounting - Social Accounting, Input- Output Accounting, Flow of Funds Accounting and Balance of payment Accounting.

UNIT II – Consumption Function

16 Hours

Keynes' Psychological law of consumption; Short run and long run Consumption Function; Empirical Evidence on Consumption Function; Income – Consumption Relationship: Absolute Income, Relative Income, Life Cycle and Permanent Income Hypothesis.

UNIT III – Investment Function

16 Hours

Marginal Efficiency of Investment and Level of Investment; Marginal Efficiency of Capital and Investment-Long run and short run; The Accelerator and Investment Behaviour: Impact of Inflation; Influence of policy Measures on Investment.

UNIT IV – Theory of Employment

16 Hours

Classical Theory of Employment – Say's law of market, Relevance of Classical theory and Keynes' Criticism; Keynesian theory Of Employment, Concept of Effective Demand, Applicability of Keynes' Theory of Employment in Developing Economies.

UNIT V – Multiplier and Accelerator Principle

16 Hours

Multiplier and Accelerator Principle; Foreign Trade Multiplier; The Multiplier – Accelerator Interaction; Inflation - Concept and Types, Demand Pull and Cost Push Inflation, Methods to control Inflation; Philips Curve; Stagflation.

Suggestive Readings (Please refer to the Latest Editions)

1. Ackley, G. Macro Economic Theory and Policy.
2. Branson, W.A., Macro Economic Theory and Policy
3. Dornbusch, R. & Stanley, F., Macro Economics
4. Seth, M.L, Macroeconomics
5. Ahuja, H.L., Uccharar Samashti Arthashastra
6. Jhingan, M.L., Samashti Arthashastra
7. Sethi, T.T., Maudrik Arthashastra

**SEMESTER I – PAPER ECOCC III
ECONOMICS OF GROWTH & DEVELOPMENT**

Objectives

This paper aims to introduce the students to know and understand the theoretical concepts of economic growth and development.

UNIT I – Economic Growth and Development

16 Hours

Concept of Economic Growth and Development, Factors affecting Economic Growth: Capital, Labour and Technology, Obstacles to Economic Development; Vicious Circle of Poverty; Changing Notions of Development: Traditional Economic Measures, The New Economic view of development; Indicators of Economic Development; Sustainable Development; Concept and Goals.

UNIT II – Economic Growth - I

16 Hours

Classical Growth theory: Adam Smith, Ricardo, Marxian model; Neo- classical Growth Theories; Models of Solow, Meade, Mrs. Joan Robinson and Kaldor; Rostow's stages of Economic Growth; Balanced and Unbalanced Growth. Schumpeter's Model; The Harrod-Domar Models.

UNIT III – Economic Growth - II

16 Hours

Lewis' Theory of Unlimited supply of labour; Ranis and Fei Model; Nelson's Low Level Equilibrium Trap; Rosenstein Rodan's Theory of Big-push; Leibenstein's Critical Minimum Effort Thesis; Models with Endogenous Growth: One sector Growth Model- The A.K Model, Learning by Doing and Knowledge Spillover.

UNIT IV – Sectoral Aspects of Development

16 Hours

Role of Agriculture in Economic Development; Rationale and Pattern of Industrialization in Developing Countries; The Choice of Techniques and Appropriate Technology and Employment; Terms of Trade Between Agriculture and Industry; Infrastructure and its Importance; Labour Markets and their functioning in Developing Countries.

UNIT V – Macro Economic Policies and Development

16 Hours

Role of Monetary and fiscal policies in Developing Countries; External Resources; MNC's Activities in developing countries; IMF and World Bank policies in Developing Countries.
Review of Indian plan Models and planning; NITI Ayog.

Suggestive Readings (Please refer to the Latest Editions)

1. Adelman I., Theories of Economic Growth and Development
2. Kindleberger, C.P., Economic Development.
3. Rostow. W.W., Theories of Economic Growth.
4. Jhingan M.L, The Economics of Development and planning
5. Sinha, V.C., Arthik Samridhhi Avam Vikas
6. Jhingan, M.L., Vikas Ka Arthashastra Avam Ayojan
7. Singh, S.P., Arthik Vikas Avam Niyojan
8. Mishra, J.P., Samridhhi Avam Vikas Ka Arthashastra

SEMESTER I – PAPER ECOCC IV QUANTITATIVE METHODS

Objective

The main objective of this paper is to train students to use the techniques of mathematical and statistical analysis which are applied to analyse economic problems.

UNIT I - Limits, Derivatives and Economic Applications

16 hours

Limits, Continuity, Derivatives and Functions. Rules of Differentiation, Partial and Higher order Derivatives. Concept of Maxima/Minima in functions, Convexity/ Concavity in Functions. Application of Mathematics in Economic Theory: Demand, Supply, Revenue and Cost Functions and Marginal Concepts; Market Equilibrium Concepts, Effects of Tax and subsidy on Equilibrium Price and Quantity.

UNIT II - Integration, Determinants and Matrices

16 hours

Concept, Rules and Application of Integration in Economics: Consumer and Producer Surplus. Matrix-Concept, Types, Algebra/ Basic Operations, Inverse and Rank of a Matrix. Determinants- Basic Properties, Solution of Simultaneous Equations through Cramer's Rule. Input-output Analysis- Concept and mathematical solutions.

UNIT III - Basic Statistics, Central Tendency and Dispersion

16 hours

Data- Primary/ Secondary; Sampling- Simple random, Stratified and Systematic Random Sampling Methods; Tabulation and Frequency Distribution, Graphical Representation of Data. Measures of Central Tendency- Mean, Median, Mode; Measures of Dispersion- Range, Quartile deviation, Mean Deviation, Standard Deviation; Lorenz Curve; Coefficient of Variation; Skewness and Kurtosis.

UNIT IV - Correlation and Regression Analysis

16 hours

Correlation: Concept and Scope, Coefficient of correlation-Karl Pearson and Rank Correlation, Partial and Multiple Correlation Analysis. Regression Analysis- Estimation of regression line in bivariate distribution- Least square methods, interpretation of regression coefficients, Standard error of estimate.

UNIT V - Time Series and Index Numbers

16 hours

Analysis of Time Series, Components of Time Series-Trend, Seasonal, Cyclical and Irregular Variations; Estimation of Trend Values; fitting of Straight Lines by Least Squares method. Index numbers- Construction of Index Numbers; Laspeyres', Paasche's and Fisher Ideal Index Numbers. Limitations of Index Numbers, Tests for Ideal Index Numbers.

Suggestive Readings (Please refer to the Latest Editions)

1. Allen, R.G.D (1974) *Mathematical Analysis for Economists*, Macmillan Press and ELBS, London.
2. Bose, D (2003): *An Introduction to Mathematical Economics*, Himalaya publishing House
3. Chiang, A.C. (2000): *Introduction to Mathematical Economics*, Tata McGraw Hill, New York
4. Edward, T Dostling (1992): *Introduction to Mathematical Economics*, Schaum's Outline Series Tata McGraw Hill, New Delhi.
5. Veerachamy, R. (2002): *Quantitative Methods for Economists*, New Age International Publishers, Bangalore.
6. Elhance, D. N. et al (1996) *Fundamentals of Statistics*, Kitab Mahal, Allahabad
7. Gupta, S.P. (1983) *Statistical Methods*, S. Chand and Company, New Delhi
8. Yogish, S.N. (2008) *Statistical Methods for Economists*, Mangla Deep Publication, Jaipur
9. Monga, G.S. (1972) *Mathematics and Statistics for Economists*, Vikas Publishing House, New Delhi.
10. Yamane, Taro (1975) *Mathematics for Economists*, Prentice Hall of India, New Delhi.

**SEMESTER II – PAPER ECOCC V
MICRECONOMICS – II**

Objectives

The objective of this paper is to make the students aware of the micro and macro theories of distribution, welfare economics, general equilibrium in closed and open economy system and analysis of economic behaviour under uncertainty.

UNIT I: Theory of Distribution

12 Hours

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.

UNIT II: General Equilibrium

14 Hours

Partial and general equilibrium, Walrasian excess demand and Input output approaches to general equilibrium, Existence, Stability and Uniqueness of equilibrium and General equilibrium, Coalition and Monopolies: Production without consumption – One sector model – Homogenous function, Income distribution.

UNIT III: Classical Welfare Economics

18 Hours

The principle of compensating variation, Hicksian type of consumer's surplus, Slutsky's approach to measurement of consumer surplus, Concepts and conditions of Pareto Optimality, Pareto optimality in the General equilibrium system, Compensation criteria, Hicks and Kaldor, Scitovsky's criterion.

UNIT IV: New Welfare Economics

18 Hours

Social optimum, Community indifference map, Samuelson's utility possibility curve, Bergson's concept of welfare and its measurement, Social welfare function.

UNIT V: Problems of Non-market Interdependence

18 Hours

Externalities in production and consumption, External economies and diseconomies, Problems of public goods and negative spillovers, problem of market failure, uncertainty and non-existent and incomplete markets, theory of Second Best – Arrow's impossibility theorem, Rawls' theory of justice, Equity Efficiency trade off.

Suggestive Readings (Please refer to the Latest Editions)

1. Ahuja, H.L. (Hindi & English), Advanced economic theory
2. Hicks, J.R., Value and Capital
3. Jhingan, M.L., (Hindi & English), Microeconomic theory
4. Jain, T.R. & Ohri, V.K. (Hindi), Vyshti Arthashastra Ke Siddhant
5. Koutsoyiannis, A. Modern microeconomics
6. Leftwich, R.H., The price system and resource allocation
7. Richard, A. Bilas, Microeconomic theory
8. Samuelson, Paul A., Economics
9. Joshi, J.M., Theory of value, distribution and welfare economics
10. Surhone, L.M., Tenncce, M.T., & Henssonow, S.F. (Eds.), Welfare Economics
11. Varian, Hal R., Intermediate Microeconomics: A Modern Approach
12. Chaudhary, Sunil (Eds.), Global Encyclopedia of Welfare Economics

**SEMESTER II – PAPER ECOCC VI
MACRECONOMICS – II**

Objectives

The objective of this paper is to familiarize the students with the basic concepts, theories and approaches to understand the behaviour of macroeconomic aggregates and policies.

UNIT I - Demand for Money

14 Hours

Classical Approach to Demand for Money - Quantity Theory Approach, Fisher's Equation, Cambridge Equation of Quantity Theory of Money; Keynes' Liquidity Preference Approach.

UNIT II - Supply of Money

16 Hours

Money supply: Definitions and determinants, A Behavioural Model of Money Supply Determination; A Demand Determined Money Supply Process; RBI Approach to Money Supply; High Powered Money and Multiplier; Budget deficits and Money Supply; Money Supply and Open Economy, Control of Money Supply.

UNIT III - Neo-Classical and Keynesian Synthesis

18 Hours

Neo- classical and Keynesian views on Interest; The IS-LM Model; Extension of IS-LM Model with Government Sector; Relative Effectiveness of Monetary and Fiscal Policies; Extension of IS-LM Model with Labour Market and Flexible prices.

UNIT IV - Post Keynesian Demand for Money

18 Hours

Post Keynesian Approaches to demand for money- Patinkin and the Real Balance Effect; Approaches of Baumol and Tobin; Friedman and the Modern Quantity Theory, Crisis in Keynesian Economics and the Revival of Monetarism; Objectives and Instruments of Monetary Policy.

UNIT V - Business Cycles

14 Hours

Theories of Schumpeter, Kaldor, Samuelson and Hicks; Goodwin's Model Control of Business Cycles- Relative Efficiency of Monetary and Fiscal Policies.

Suggestive Readings (Please refer to the Latest Editions)

1. Ackley, G. Macro-Economic Theory and Policy.
2. Branson, W.A., Macro Economic Theory and Policy
3. Dornbusch, R. & Stanley, F., Macro Economics
4. Seth, M.L., Macroeconomics
5. Ahuja, H.L., Uccharat Samashti Arthashastra
6. Jhingan, M.L., Samashti Arthashastra
7. Sethi, T.T., Maudrik Arthashastra

**SEMESTER II – PAPER ECOCC VII
RESEARCH METHODOLOGY**

Objectives

The purpose of this paper is to familiarise students with the full research process. The major objective is to make the principles and procedures of research clear to the students and to prepare them to create a research proposal.

UNIT I: Introduction to Research **14 Hours**

Research - Concept, Meaning, Objectives, Significance, Types, Stages and Approaches; Difference between Social Science Research and Physical Science Research, Research Problem - Selection, Need, Techniques Involved - An Illustration

UNIT II: Research Design and Research Proposal **14 Hours**

Research Design - Meaning, Need, Function, Types, Techniques - An Illustration, Formulation of a Research Proposal - An Illustration, Literature Review and Reference Collection

UNIT III: Data Collection and Sample Design **16 Hours**

Data Collection Methods - Observation, Interview, Questionnaire, Schedules; Sampling Design - Criteria of Selecting a Sample, Characteristics of a Good Sample, Types of Sample Design - Probability & Non-Probability Sampling, Random & Non-Random Sampling, Sample Size and its Determination – Various Approaches, Collection of Secondary Data, Case study.

UNIT IV: Hypothesis and Hypothesis Testing **18 Hours**

Formulation of Hypothesis, Null and Alternative Hypothesis, Testing of Hypothesis- Basic Concepts, Procedure for Hypothesis Testing, Important Parametric Test Z, t, F and Chi-square test, Analysis of Variance (ANOVA) and co-variance (ANCOVA), Co-efficient of Determination.

UNIT V: Report Writing and Data Sources **18 Hours**

Report Writing - Significance, Steps Involved, Layout of Research Report; Ethical Issues in Research and Plagiarism, Data Sources - National Sample Surveys (NSSO), National Account Statistics (NAS), Indian Public Finance Statistics, Government of India Statistics - Data on Agriculture, Annual Survey of Industries, Census of India, RBI Bulletin and Publications, Data on International Trade, CMIE Data, Transport and other statistics, NFHS Surveys, Important International Data - UNO, WHO, IMF, World Bank, UNDP etc.

Suggestive Readings (Please refer to the Latest Editions)

1. Gupta, S.P., Statistical Methods, S. Chand & Sons, New Delhi.
2. Kevin, S., Research Methodology for Social Sciences, Ane Books, New Delhi.
3. Kothari, C.R. and Garg, G., Research Methodology: Methods and Techniques, New Age International Publishers (Fourth edition), New Delhi.
4. L.N. Koli, L.N., Research Methodology, Y.K. Publications, Agra.
5. Mishra, R.P., Research Methodology: A Handbook, Concept Publishing, Delhi.
6. Murthy, C., Research Methodology, Vrinda Publications, Delhi.

SEMESTER II – PAPER ECOCEL I (i)
DEMOGRAPHY

Objectives

The main objective of this paper is to make the students aware of the importance of population in economic development and the growth of population in a country.

UNIT I - Population and Development **16 Hours**

Meaning and Scope of Demography; Components of Population Growth and their Inter-Dependence, Population and Economic Development, Theories of Population; Malthusian Theory, Optimum Theory, Demographic Transitional Theory.

UNIT II – Demographic Measurements **16 Hours**

Concept, Importance and Measurement of Fertility, Mortality, Morbidity and Nuptiality

UNIT III – Structure of Population **16 Hours**

Population Trends in the twentieth Century; Population Explosion; Determinants of age and sex structure, Age pyramids and projections, Life Table; International Aspects of population Growth and Distribution; Migration; Urbanization: Growth and Distribution of Rural and Urban Population in Developed and Developing Countries.

UNIT IV – Demographic Database in India **16 Hours**

Study of Census in India; Growth and Distribution of Population in India, Growth of Population in India: Inter-State Variations; India's Current Population Policy; Family Welfare Programme in India.

UNIT V - Latest Issues in Demography **16 Hours**

Qualitative Demography; Man Power Planning; Population and Human Capital Formation; Demographic Dividends; Population, Environment and Economic Development; Population Education and Health Education.

Suggestive Readings (Please refer to the Latest Editions)

1. Agarwala, S.N., India's Population Problem
2. Choubey, P.K., Population policy in India.
3. Simon, J.L., Population and Development in Poor Countries.
4. Agnihotri, S.B., Sex Ratio in Indian Population: A Fresh Exploration.
5. Seth, M., Women and Development: The Indian Experience.
6. Mishra, J.P., Janankiki
7. Pant, J.C., Janankiki
8. Sharma, R.K., Demography and population problems
9. Sinha, V.C., Janankiki

SEMESTER II – PAPER ECOCEL I (ii)
INDUSTRIAL ECONOMICS & ENTREPRENEURSHIP

Objectives

In the changing world scenario with globalisation and liberalisation more and more attention is being given to Industry and Entrepreneurship. The main aim of this course is to provide knowledge to the students on the basic issues such as industrial and entrepreneurship development of India.

UNIT I – Introduction**16 Hours**

Meaning, need, scope and significance of Industrial Economics; Definition and Concept of Industry, Entrepreneur, Entrepreneurship; Importance of Industrial development, types and functions of Entrepreneur; Impact of Industrialization; Industrial Structure – Importance and future of private sector, small scale industries, cottage industries.

UNIT II – Indian Industrial Growth and Pattern**16 Hours**

Growth and changing pattern of Industrial development, Industrial Policy in India since 1991; Role of public, private sectors and MNCs in Indian economy; Liberalization and privatization; Barriers and responsible factors in entrepreneurship and Industrial Development in India; Entrepreneurship and economic development in India; Relationship between Industry and Economic Development in a Developing Economy with reference in India.

UNIT III – Industrial and Entrepreneurship Finance and Development Agencies **16 Hours**

Meaning, scope and importance of Industrial finance; Sources of industrial finance- private, public and co-operative sector etc. Importance of institutional finance (IDBI, IFCI, ICICI, SIDBI SIDC, and Commercial banks etc.) Role of central and state government in promoting entrepreneurship and industry; Role of Entrepreneurship development in India (EDI); DICs; SSIs NEDB, and MSME Government of India policy.

UNIT IV – Entrepreneurship & Industrial Development Theories**16 Hours**

Theories of Industrial location, Factors influencing location of industries; Weber's theory; Knight's Risk Theory, Alfred Marshall's Theory, Joseph Schumpeter's Innovation Theory; Intellectual Property Protection; Patents, Trademarks and Copyrights; Types and importance for startups.

UNIT V – Economic Policies and Challenging Issues in Industrial Sector**16 Hours**

Industrial Sector in Pre-reforms period and post-reform period; Concept of Micro, Small, Medium Enterprises; Industrial sickness; Industrial legislation; Industrial relations; Problems of regional imbalance and regional industrial growth in India; Need for balanced regional development of industries; Issues in industrial proliferation and environmental preservation; Pollution control policies.

Suggestive Readings (Please refer to the Latest Editions)

1. Kapila Uma, "Perspective on Indian economy", Academic foundation, New Delhi.
2. Mishra & Puri, "Indian Economy", Himalaya pub. New Delhi
3. Dutt & Sundaram, "Indian economy", S.Chand Pub. New Delhi
4. Cherunilam, F. "Industrial Economics in Indian Perspective", Himalaya Publishing House, Mumbai.
5. Jalan, B (1996) -India's Economic Policy, Viking, New Delhi
6. Singh & Sadhu -Industrial Economics, Himalaya Publishing House
7. Desai, B. (1999), "Industrial Economy in India", Himalaya Publishing House, Mumbai.
8. Kuchhal, S.C., "Industrial Economy of India", Chaitanya Publishing House, Allahabad
9. Doliinger, M. J.: Entrepreneurship: Strategies and Resources, PrenticeHall.
10. Gupta, C.B.: Entrepreneurship Development in India. Sultan Chand and Sons.
11. Hisrich, R., Peters, P.M. & Shepherd, D., Entrepreneurship, Tata Mc. Graw Hill, New Delhi.
12. Holt, D.H.: Entrepreneurship: New venture creation. Prentice-Hall.
13. Khanka, S.S.: Entrepreneurial Development. Sultan Chand and Company Limited, New Delhi.
14. S.P. Singh, Industrial Economics (HINDI Edition).

**SEMESTER II – PAPER ECOCEL I (iii)
ECONOMICS OF INFRASTRUCTURE**

Objectives

The infrastructural facilities play a very important role in the socio-economic development of the country. Lack of adequate infrastructure has been held as a major obstacle to growth. The contents of this paper expose the students wholly to issues involved in development of infrastructure in developing countries like India. It is necessary to know costing and price of infrastructure services for students of economics. The Present course is theoretical showing economic aspects of development and investment in infrastructure.

UNIT I – Introduction

14 Hours

Infrastructure and Economic Development Linkages; Infrastructure as Public Good; Physical and Social Infrastructure; Dual principles of controversy; Characteristics of Public Utilities; The Peak-Load, Off-Load Problem; Issues in Privatisation of Infrastructure.

UNIT II – Physical Infrastructure: Transport & Communication

16 Hours

Transport: Rail, Road, Air, Waterways, and Port; Progress and Pricing of transport infrastructure; The structure of Transport cost and location of economic activities; Technological Advancement and Challenges; New policies and programmes related to each mode of Transportation and Telecommunication in India; Privatisation of Telephone industry, Mobile and Internet services; Growth of Information technology.

UNIT III – Social Infrastructure: Education and Health

16 Hours

Education and Economic Growth; Approaches to Educational Planning; Universalization of Primary Education; Performance and Challenges of Secondary, Technical, Professional and Higher Education; New Education Policy; Human Resources and Human Capital Development; Health Services: Economic Dimensions of Health Care facilities; Health Policy.

UNIT IV - Energy, Power and Water Supply

18 Hours

Primacy of energy in the process of Economic Development; Factors determining demand for energy; An overview of power sector in India; Electricity and Power Generation, Problems and prospects of distribution and Pricing of power; Conventional & Non- Conventional Sources of Energy, (Solar and Wind Energy) Growth and present status; Energy crisis in India; Energy Conservation; Urban and Rural Water Supply; Programmes of Indian Government for sanitation; Swachh Bharat.

UNIT V – Economic Policy for Infrastructure Growth

16 Hours

Rakesh Mohan Committee report on Infrastructure Development in India; Public Private Partnership growth in India; Five-year plan and infrastructure investment; FDI in infrastructure growth in India; Urban Infrastructure; Smart Cities.

Suggestive Readings (Please refer to the Latest Editions)

1. Crew, M. A. and P. R. Kleindorfer (1979), “Public Utility Economics”, Macmillan, London.
2. Bary R.U. (1998) Private Health Care in India
3. Becker, G.S. (1974), “Human Capital”.92nd Ed.)
4. Das, K., ‘Lopsided Infrastructure’, in Alternative Survey Group (Ed.), Alternative Economic Survey, India: Two Decades of Neoliberalism, Daanish Books, Delhi, pp. 195-209.
5. Derman, P. and Khan, M.E. (1993), “Paying for Indian Health Care”, Sage Publications, New Delhi.
6. Garfick P.j. and W. Lovjoy (1964), “Public Utility Economics”, Prentice-Hall, Eglewood Cliff.
7. Goel, M.M., “Economics of Human Resource Management in India”, VK Global Publications, New Delhi.

8. Govt. of India (2000,2003,2004) Economic Survey Ministry of Finance, New Delhi.
9. Government of India, The India Infrastructure Report,
10. India 2020, Planning Commission, A white Paper on Infrastructure, Planning Commission, New Delhi
11. McMohan , W.W. (1999), “ Education & Development : Measuring Social benefits”, Oxford University Press, Oxford.
12. Morris, S. (2007), ‘Infrastructure’, in Kaushik Basu (Ed.), The Oxford Companion to Economics in India, Oxford University Press, New Delhi.
13. Padnanabhan C.B. (1984) Financial Management in Education, Select Book, New Delhi.
14. Pancharukh, P.R. (1980), Economics of Health: A Trend Report in ICSSR, A Survey of Research in Economics, Vol. VI, Infrastructure, Allied, Delhi.
15. Parikh K.S. (1999) India Development rep/t 1999-2000, Oxford, New Delhi.
16. Raghuram, G., R. Jain, S. Morris, P. Pangotra and S. Sinha (Eds.) (1999), Infrastructure Development and Financing: Public Private Partnership, Macmillan India Ltd, New Delhi.
17. Tilak, J.B.G., “Education for Development in Asia”, Sage Publications, New Delhi.

SEMESTER II – PAPER ECOCEL I (iv)
ADVANCED STATISTICS

Objectives

This course will familiarize students with statistical theory and its application as foundations for data analysis.

UNIT I - Theory of Probability

15 Hours

Sample space, Events and probability of Events, definitions, Theorems, conditional probability, Independent Events, Bayes Theorem. Random Variable: Discrete, continuous; Probability functions/ distributions; expectations, Variance, Probability Density Functions, Multivariate Distribution, Marginal Distribution, Conditional Distribution.

UNIT II - Mathematical Expectation and Functions of Random Variables

15 Hours

Expected Value of a Random Variable, Moments, Chebyshev’s Theorem, Law of Large Numbers, Central Limit Theorem Moment Generating Function, Product Moments, Moments of Linear Combination of Random Variables, Conditional Expectation. Distribution Function Technique, Transformation Technique: one variable/ several variables.

UNIT III - Theoretical Distributions

15 Hours

Distributions of discrete random variables: Binomial, Poisson, Negative Binomial Distributions; Distribution of continuous random variables: Normal, Uniform and Gamma distributions; in each case probability model, moment generating function and characteristic function; Bivariate Normal Distribution and its properties.

UNIT IV - Sampling and Estimation

20 Hours

Sampling: Concepts, Types; Properties of simple random sampling with/without Replacement (SRSWR/SRSWOR). Standard Sampling Distributions: Z, t, chi-square, F distributions and their properties. Estimation of parameters: concepts-parameter and statistics; estimator and estimate, sampling distribution, sampling Distributions, sampling variance and mean squared error, properties of an estimator-unbiasedness, consistency, efficiency, sufficiency; maximum likelihood estimation, Cramer-Rao Inequality, point and interval estimations.

UNIT V - Testing of Hypothesis and Non-parametric Tests

15 Hours

Type I and II errors, level, size and power of a test, MP, UMP, UMPU, testing of hypothesis about mean, variance, proportion. Non-parametric tests- sign test, Signed-rank test, run test, rank correlation test, Wilcoxon rank sum test, Kruskal-Wallis test.

Suggestive Readings (Please refer to the Latest Editions)

1. Rohtagi, V.K., An Introduction to Probability Theory and Mathematical Statistics
2. Mood, A.M., F. A. Graybill, D.C. Boes, Introduction to Theory of Statistics
3. Elhance, D. N. et al, Fundamentals of Statistics, Kitab Mahal, Allahabad
4. Gupta, S.P., Statistical Methods, S. Chand and Company, New Delhi
5. Fruend, John E., Irwin Miller, Marylees Miller., Mathematical Statistics with Applications, 8/e, Pearson Education Limited, Harlow.
6. Goon A. M. and Gupta M.K., Fundamentals of Statistics, Kitab Mahal, Allahabad.
7. Gupta, B.N., Statistics Theory and Practice, Sahitya Bhavan, Agra.
8. Gupta S.C., Fundamentals of Statistics, Himalaya Publishing House Private Limited, Mumbai.

**SEMESTER III – PAPER ECOCC VIII
PUBLIC ECONOMICS**

Objectives

The main objective of this paper is to provide an understanding of concepts and theories of public Economics and to impart to students a thorough understanding of significance and implications of governments' activities for growth in a modern economy.

UNIT I – Market Failure and the Role of Government **15 Hours**

Nature, scope and significance of Public Economics. The Role of Government, Functions of Government: Allocative, Distributive and Stabilization Function. Market Failure: Decreasing Costs; Public Goods; Externalities; Informational Asymmetry; Theory of Second Best. Functional and Compensatory Finance.

UNIT II - Public Expenditure and Public Revenue **20 Hours**

Public Expenditure: Objectives, Structure and Growth of Public Expenditure, Wagner's Law of Increasing State Activities, Wiseman-Peacock Hypothesis. Criteria for Public Investment: Social Cost Benefit Analysis. Expenditure evaluation; Reforms and Zero-Base Budgeting, Public Revenue: Sources of Public Revenue, Efficiency and Equity in Taxes, Benefit and Ability to pay Approaches in Taxation, Incidence of Taxation: The Concentration, Diffusion and Modern Theories of Incidence and Musgrave's Concept of Incidence, Effects of Taxation and Taxable Capacity.

UNIT III - Budget, Debt and Fiscal Policies **15 Hours**

Budget and Budget processes: Significance and Techniques of Budgeting; Zero Base Budgeting. Public Debt: Source, Effects, Burden, Management; Deficit Financing: Objectives, Modes, Advantage and Risks; Fiscal Policy: Objectives, Instruments, Implications and Limitations. Stabilization through Fiscal Policy.

UNIT IV - Indian Public Economics **16 Hours**

Indian Tax System: structure and Reforms, Goods and Services Tax (GST), Government Expenditures- Centre and State Government (U.P.); Budget- Latest Centre and State Budgets: Analysis and its Implications; Deficits and Public Debt of Centre and State Governments (U.P.); Fiscal Policy and Deficit Financing Policy of India. Recent Stimulus Packages and Fiscal policy strategy in aftermath of Pandemic Outbreak.

UNIT V - Federal Finance **10 Hours**

Fiscal federalism in India, NITI Aayog, Finance Commission and Their Recommendations. Policy Measures to enhance efficiency of Government Spending, New Guidelines for reforms in Public Procurement and Project Management.

Suggestive Readings (Please refer to the Latest Editions)

1. Herber, B.P. (2004), Modern Public Finance, AITBC Publishers, New Delh
2. Jha, H. (1998), Modern Public Economics, Routledge, London
3. Lekhi, R.K. (2000), Public Finance, Kalyani Publishers, New Delhi
4. Musgrave, R.A. (1959), The Theory of Public Finance-A Study in Public Economy, McGraw Hill Book Co., New Delhi
5. Musgrave, R.A. and P.B. Musgrave (1989), Public Finance-Theory and Practice, McGraw Hill Book Co., New Delhi.
6. Stiglitz, J.E. (2000), Economics of Public Sector, W.W. Norton and Co., New York
7. Bhatia, H.L. (2022), Public Finance/ Lokvitt, 5/e, Vikas Publishing House, New Delhi.
8. Hajela, T.N. (2000). 'Rajasv ke Siddhant'
9. Pant, J.C., Lokvitt, Laxmi Narain Agarwal Publications,
10. Singh, S.K., Public Finanace, S.K. Chand Publishing Co., New Delhi

11. Economic Survey, Government of India available at indiabudget.nic.in
12. 'State Finance: A Study of Budgets', RBI, <https://rbi.org.in> and www.nipfp.org.in
13. Annual Report, Ministry of Finance, Government of India available at <https://dea.gov.in>
14. Public Finance Statistics, Government of India, available at <https://dea.gov.in>
15. RBI Handbook of Statistics on Indian Economy available at <https://rbi.org.in>
16. RBI Handbook on State Government Finance available at <https://rbi.org.in>
17. State Development Monitor, Monthly Issues, PHD Chamber, New Delhi at www.phdcci

SEMESTER III – PAPER ECOCC IX INDIAN ECONOMIC POLICY

Objectives

The objective of this paper is to sharpen the analytical faculty of the student by highlighting an integrated approach to the functioning aspects of the Indian Economy. The emphasis of the paper is on the overall social, political and economic environment influencing policy decisions.

UNIT I – Planning in India 10 Hours

Objectives and strategy of planning, failures and achievements of plans, Developing grass-root organisation for development – Panchayats, NGOs and pressure groups.

UNIT II – Demographic features and population policy 10 Hours

Broad demographic features of Indian population, Rural – Urban migration, Urbanisation and civic amenities, Poverty and inequality, India's population policy, Census in India.

UNIT III – Agricultural policy in India 12 Hours

An overview of agricultural policy in India, New agricultural policy, Agricultural price policy of India, Public distribution and food security in India, pricing of agricultural inputs and outputs, agricultural finance policy, agricultural marketing.

UNIT IV – Industrial Policy of India 12 Hours

An overview of Industrial policy in India, New Industrial policy, Micro small and medium enterprises in India, Cottage industry in India, Privatization and disinvestment debate, approaches for employment generation.

UNIT V – Commercial policy in India 12 Hours

India's foreign trade policy, Trends and composition of India's balance of payment, foreign capital in India, Policy of India regarding FERA & FEMA

UNIT VI – Environmental & energy policy in India 10 Hours

Environmental issues in India, Development of environmental policy in India, Development of energy policy in India

UNIT VII – Monetary and Fiscal policy of India 14 Hours

Role and objectives of monetary policy in India, Instruments of monetary policy in India, Monetary policy of India post 1991, Monetary policy and inflation in India, Interest rate policy in India, Money and capital markets in India, Fiscal policy in India.

Suggestive Readings (Please refer to the Latest Editions)

1. Bawa, R.S. & Raikhy, P.S. (Eds.) Structural changes in Indian economy
2. Jalan, B., India's economic policy – Preparing for the 21st century
3. Sen, R.K. & Chatterjee, B., Indian economy
4. Sandesara, J.C., Industrial policy and planning
5. Guha, R., Environmentalism: Global history
6. Chand, R., India's agricultural challenges: Reflections on policy, technology and other issues
7. Beder, S., Environmental principles and policies: An interdisciplinary introduction
8. Ahuja, A., Agricultural and rural development in India
9. Dutt & Sundaram, Indian economy
10. Misra & Puri, Indian economy

SEMESTER III – PAPER ECOCC X HISTORY OF ECONOMIC THOUGHT

Objectives

To learn and discuss at an advanced post graduate level, how the economic thoughts has evolved over time. Comparative and critical study of economic main schools. To introduce the Indian Economic Thinkers and their contribution in economic policies of the country.

UNIT I - Pre-Scientific Thoughts **16 Hours**

Mercantilism- Leading Ideas; their balance of trade; doctrine; the specific flow mercantilism.
Physiocracy- The natural order; the net product; Circulation of wealth; Trade and Taxation.

UNIT II - Classical School **16 Hours**

Adam Smith's Theory of Value; Distribution and growth: Ricardo's theory of value; Distribution and growth of international trade; Malthus theory of population and gluts; Say's Law of markets; J.S Mill; and A. Nassan Senior.

UNIT III - Critics of Classical Economics **16 Hours**

Rise of Socialist Ideology; Scientific and Utopian Socialism (Sismondi, St. Simon, Charles Fourier, Louis Blanc, Proudhon); Marx's Scientific Socialism; Lenin's Contribution to the growth of Scientific Socialism.

UNIT IV – Neo Classicism **16 Hours**

Keynesian Ideas on Employment and Income; Influence of Keynesian Ideas; Post Keynesian development in Economics thought

UNIT V - Modern Indian Economic Thought **16 Hours**

Economic Thoughts of Naroji; Gokhle; Gandhi; Ranade; R.C. Dixit; M. Visvesvaraya and J.K. Mehta

Suggestive Readings (Please refer to the Latest Editions)

1. Dasgupta, A.K.(1985), Epochs of Economic Theory, Oxford university Press Delhi.
2. Ekelund, R.B. and R. Herbett (1983), A History Economic Theory and Method. Mc Graw Hill, London.
3. Gide, Cand G. Rst(1956)m, A History of Economics Doctrines George G., Harrap and Co., London.
4. Hajela, T.N.(1980), History of Economic Thought Shivalal Agarwala and Co., Agra
5. Gray, A(1978), Development of Economic Doctrine, Longman Group, London
6. Aarthik Vicharon ka Itihas- Pant, J.C. and Seth, M.L. , Lukshmi Narayan Agarawal , Agra
7. History of Economic Thought, Chaturvedi, Dr. Mahesh Chandra and Dr. Mithlesh Chandra, Sahitya Bhawan, Agra

SEMESTER III – PAPER ECOCEL II (i)
LABOUR ECONOMICS

Objectives

The main objective of this paper is to provide knowledge to the students of P.G. class the theoretical aspects well as empirical issues relating to the labour market, employment situation, Indian labour problems, wage policy, labour reforms and their role in economic development.

UNIT I – Introduction

16 Hours

Meaning, Concept, Significance and Peculiarities of Labour; Nature, Scope and Importance of Labour Economics; Characteristics of Indian Labour Market; Paradigms of labour market analysis (Classical, Neo-classical and Dualistic Economy); Characteristics of Industrial Labour in India and Migratory nature; Contact labour.

UNIT II – Employment and Economic Development

16 Hours

Role of Employment and Economic Development; Indian labour problems; Approaches to Labour Migration Trends & Effects of Migration; Analysis of Educated Unemployment; Absenteeism to Industrial Labour in India, causes, effects and remedies.

UNIT III – Wages Determination

16 Hours

Marginal Productivity Theory, Theory of Collective Bargaining, Modern Theory of Wages; Minimum Wage and Fair Wage; Wage Determination in- Organised-and Unorganised Sector; Evolution and Features of Wage Policy in India.

UNIT IV – State and Labour

16 Hours

Concept and need of Social Security; Social assistance and social insurance; Problems of Child labour, Women labour, Discrimination and Gender bias in treatment of labour; Workers Compensation Act. Maternity Benefit Act and Employees state Insurance Scheme.

UNIT V – Labour Reforms

16 Hours

Labour Unions in India (Growth, and Achievements); Industrial Relations; Causes of Industrial Disputes & their settlement and prevention mechanism; labour legislation in India; ILO; Labour policy in India. Child Labour Policy in India; Problems and Policy of Female Workers in India; Labour Relations in India.

Suggestive Readings (Please refer to the Latest Editions)

1. Lester, R.A. (1964) Economics of Labour (2nd Ed.), Macmillan, New York. Pepola, Ghosh and A.N.Sharma (1993) Labour Employment and Industrial Relations in India B.R. Publishing House, New Delhi
2. Datt, G. (1966), Bargaining Power, Wages and Employment: An Analysis of Agricultural, Labour: Markets in India; Sage Publishers, New Delhi.
3. Hajela, P.D. (1998) , Labour Restructuring in India : A Critique of the New Economic Policies , Commonwealth Publishers, New Delhi.
4. Jhabvala, R.and R.K. Subrahmanya (Eds.) (2000), The Unorganised Sector: Work Security and Social Protection; Sage Publications, New Delhi
5. Kannapon, S., “Employment Problems & Urban labour markets in Developing Countries”, University of Michigan, Ann Arbor
6. Lester, R.A. (1964) , Economics of Labour (2nd Edition), Macmillan, New York.
7. McConnell, C.R. And S.L. Brue (1986) , Contemporary Labour Economics , McGraw –Hill , New York.
8. Memoria, C.B., “Labour Problems & Social Welfare in India”, Kitab Mahal, Allahabad.

9. Papola, T.S.P.P. Ghosh and A.N. Sharma (Eds.) (1993), Labour, Employment and Industrial Relations in India , B.R. Publishing Corporation, New Delhi.
10. Rosenberg M.R. (1988) , Labour Markets in Low Income Countries in Chenery , H.B. and T.N. Srinivasan (Eds.) The Handbook of Development Economics North- Holland, New York.
11. VenkataRatnam, C.S. (2001) , Globalization and Labour – Management Relations : Dynamics of Changes , Sage Publications/Response Books , New Delhi.

SEMESTER III – PAPER ECOCEL II (ii)
ECONOMICS OF SOCIAL SECTOR AND ENVIRONMENT

Objectives

Environment and social development are the major issues in present times. Economic development can be achieved only through the development of social sectors. And along with the development of social sector, environment also plays an important role in economic development. Keeping this view in mind the objective of this paper is to provide students some insights into the application of economic theory in the design and implementation of public policy related to the management of the social sectors and environment. This course will be also help to understand the nexus between environment and economic development.

UNIT I – Welfare Economics, Social Sectors and Environment **14 Hours**

Pareto Optimality and competitive of welfare equilibrium; Fundamental theorems of welfare economics; Defining Environmental Economics; Scope and Significance Environmental economics; Significance of Environmental balance, Nexus between Economy and Environment; Indicators of Social development.

UNIT II – Natural Resources and Associated Problems **14 Hours**

Natural resources and economic development, land resources, food resources, soil erosion, water resources, forest resources, mineral resources, energy (Coal, Natural Oil and Gas) resources, Climate change and pollution, environment issues for sustainable development, Environmental laws and their implementation.

UNIT III – Social Sectors, Infrastructure and Economic Development **18 Hours**

Transport system and communication in India, Industrial development during the planning period, Small and Cottage Industries, Industrial policy, Industrial sickness in India. Trends of educational development and expenditure, Privatization of education, Education and Economic growth, Education Policy, Concept, definition and scope of economic health, Health developing country, health dimensions of development, economic dimensions of healthcare, Institutional issues of healthcare delivery, Health policy and health schemes of Government of India.

UNIT IV – Social Sectors and Human Development **18 Hours**

Definition of human resources and Human Development, Essential components of Human Development, Human Development Index, PQLI, Gender inequality and Issues of Gender Empowerment, Issues of women and child development, Gender Literacy, Status of women and welfare schemes in India with special reference in Uttar Pradesh State, Gender Inequality Index, Human Development Report, Issues of Human Capital. Concept of poverty, Indian Multi-dimensional poverty, Poverty alleviation programmes in India.

UNIT V – Welfare aspects of Labour force **16 Hours**

Occupational structure in India, Urbanization, Labour force in India, labour in organized and unorganized sector, Women economic participation, I.L.O., labour welfare concept and provisions, Characteristics of India's labour, Social security in India, health and safety of worker and labour legislation in India.

Suggestive Readings (Please refer to the Latest Editions)

1. Blaug, M., “Introduction to Economics of education”, penguin, London.

2. Bromely, D.W., "Handbook of Environmental Economics", Blackwell, London.
3. Cohn, E. And T. Gaske, "Economics of Education", Pergamon press, London.
4. Fukkuda-Par & Shiv Kumar (2002): Readings in Human Development, The World Bank.
5. Fisher, A.C., "Resource and Environmental Economics", Cambridge University press, Cambridge
6. Pearce, D.W. and R. Turner, "Economics of Natural Resource Use and Environment", Johan Hopkins University Press, Baltimore.
7. Sankar, U., "Environmental Economics", Oxford University Press, New Delhi.
8. Kerr, J.M. et. Al. (Eds.), "Natural resource Economics: Theory and Applications in India" , oxford and IBH publication Co. Pvt. Ltd., New Delhi.
9. Kolstad, C.D., "Environmental Economics"
10. Mishra, V.K. & Puri, "Indian Economy" (Hindi Edition), Himalaya pub. New Delhi.
11. R.N. Bhattacharya, "Environmental Economics: An Indian Perspective", oxford University Press, New Delhi.
12. V.K. Tiwari, "Environmental Studies", Himalaya pub. New Delhi.

SEMESTER III – PAPER ECOCEL II (iii)
INTERNATIONAL REGIONAL ECONOMIC COOPERATION

Objectives

The best way to study the level of economic development over a period of time is to analyse economic growth. It is natural therefore to find the analysis of regional economic growth to be the most popular field in the regional economics. Hence the main purpose of this course for the post graduate students of economics. It is of significance to understand functioning of regional economics and cooperation as well as regional development at the international level.

UNIT I – Introduction

16 Hours

Regional Economic Cooperation: Importance & Scope, Trade, etc. Bilateral Trade Agreement, Zipf's Law and Gravity Equation, Revealed Comparative Advantage Model.

UNIT II – International trade agreements

16 Hours

Preferential Trading: Free Trade Agreements: Definition, Scope and Importance, SAFTA, ASEAN.

UNIT III – International economic groupings

16 Hours

Preferential Trading, Economic Integration and Regional Groupings. Theories of Customs Union: Partial Equilibrium Approach, The General Equilibrium Approach, The Viner Model. India and European Union.

UNIT IV – International negotiations platforms

16 Hours

Combination and International Negotiations: G-20 and G-33. New International Economic Order, North-South Debate, Non-Aligned Movement.

UNIT V - Regional Integration and Global Assessment of Recent Economic Development **16 Hours**

Market integration vs Policy Integration, Institutional Aspects of Economic Integration, Stages of Economic Integration, Dynamics of the Integration Process, Outlook and related risk, Fiscal and Monetary developments, Liberalization of services, Labor market integration.

Suggestive Readings (Please refer to the Latest Editions)

1. Bo Sodersten & Geoffrey Reed, International Economics, MacMillan Press Limited, Hampshire & London.
2. D. Salvatore, International Economics, New York, John Wiley.
3. H. G. Mannur, International Economics, Vikash Publishing House, New Delhi.

4. Kushwaha G. S., Regional. Economic Cooperation in South East Asia.
5. M. C. Vaish & Sudama Singh, International Economics, Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
6. Marrewijk, C. V., International Economics-Theory, Applications, and Policy, Oxford University Press, New Delhi.
7. Nayyar, D., Trade and Globalization, Oxford Collected Essays, Oxford University Press, New Delhi.
8. Nayyar, D. (Ed.), Trade and Industrialization, Oxford University Press, New Delhi.
9. Rana & Verma, International Economics, Vishal Publishing Co., Jalandhar, India.
10. Rizvi Syed, SAARC-Challenges Ahead, Kilaso Books, New Delhi.
11. S. Kindleberger, International Economics, Traveller Book Sell, New Delhi.
12. Volz, Ulrich (Ed.), Regional Integration, Economic Development and Global Governance, Edward Elgar Publishing.
13. Schiff, Maurice, Winters, L. Alan. 2003. Regional Integration and Development. Washington, DC: World Bank and Oxford University Press. World Bank.

SEMESTER III – PAPER ECOCEL II (iv)
ECONOMETRICS

Objectives

The econometric theory helps in understanding applied economic relationships and provide meaningful and robust solutions to economic problems. It equips students with basic theory of Econometrics and relevant application of the methods. However, the course assumes that students have basic understanding of mathematical and statistical methods used in Economics.

UNIT I - Introduction and the Classical Linear Regression Model **20 hours**

Objectives, Nature and Scope of Econometrics, Data- Cross Section and Time Series Data Methodology of Econometrics- Simple and Multiple Regression Model- Assumptions- Estimation- Properties of Estimates- Gauss Markov Theorem (BLUE)-Normality Assumptions-Statistical Inference- Testing Hypothesis. General Linear Regression Model-Assumptions- Estimation and Testing- Fitness of the Model: R² and Adjusted R²- Concept and Analysis of Variance and its Application in Regression Analysis

UNIT II - Violation of the OLS Assumptions **20 hours**

Regression through origin- Scaling and units of measurement- Functional forms of Regression models and their Uses. Nature, Tests, Consequences and Remedial Steps for the Problems of Heteroscedasticity, Auto-correlation and Multicollinearity; Problems of Specification Error-Errors in Measurement.

UNIT III - Simultaneous Equation Models **12 Hours**

Introduction to Simultaneous Equation Models- Problems of Identification and Consequences of Ignoring Simultaneity-Estimation Procedures: Indirect Least Squares, 2SLS, 3SLS

UNIT IV - Qualitative/ Dummy Variables **12 hours**

Dummy Variable Regression- Techniques and Uses- Models with Qualitative Dependent variables- Linear Probability Model (LPM)-Applications and problems with LPM; Application and Estimation of Logit, Probit and Tobit Models.

UNIT V - Time Series Analysis and Forecasting **16 Hours**

Stationarity and Non-stationarity, Detection of Non-Stationarity-correlogram, unit roots; Dickey Fuller test, cointegration; Spurious Regression; White Noise Process; Random Walk model; Approaches to Economic Forecasting, ARIMA modelling and forecasting- Box-Jenkins Methodology.

Suggestive Readings (Please refer to the Latest Editions)

1. Gujarati, D.N. (2004). Basic Econometrics, 4th Edition, Tata McGraw Hill Publishing Company Limited, New Delhi.
2. Koutsoyiannis, A. (2006). Theory of Econometrics, 2nd Edition, Palgrave New York.
3. Ramanathan, Ramu (2002). Introductory Econometrics with Applications, 5th Edition, Cenage India Learning Private Ltd. New Delhi
4. Maddala, G.S. and K. Lahiri (2009), Introduction to Econometrics, John Wiley and Sons, New York.
5. Pindyck R.S. and D.L. Rubinfeld (2000), Econometric Models and Economic Forecasts, Mcgraw Hill-KigackUsha, Tokyo.
6. Theil, H. 1981. Introduction to Econometrics, Prentice Hall of India, New Delhi.
7. Gujarati, Damodar (2011), Econometrics By Example, Palgrave MacMillan, New York.

SEMESTER IV – PAPER ECOCC XI
FINANCIAL INSTITUTIONS & MARKETS

Objectives

Keeping in mind the positive and significant role of financial institutions and markets in the process of growth and development, it becomes essential that the students of economics should be well aware of the theory and practice of different financial institutions and markets to understand and analyse the interconnections between the monetary forces and real forces, their developmental role and limitations in shaping and influencing the monetary and related policies both at the national and international levels.

UNIT I: Nature & Role of Financial System and Structure of Interest Rates **18 Hours**

Money and finance, Money and Near Money, Financial Intermediation and Financial Intermediaries, The structure and Functions of Financial System, Financial System and Economic Development, Indicators of Financial Development, Theories of Interest Rate Determination – Long and Short Period Rates – Term Structure of Interest Rates – Appropriate Interest Rate Policy.

UNIT II: The Central Bank, Commercial Bank and NBFIs **18 Hours**

Functions of Central Bank, The Aims and Objectives of Monetary Policy, Credit Control, Functions of Commercial Bank and Credit Creation, Non-Banking Financial Intermediaries (NBFIs) and their role in Economic Development, Development Banking & Merchant Banking – Introduction.

UNIT III: Financial Markets **16 Hours**

Role and Structure of Money Market, Capital Market, Call Money Market, Treasury Bill Market, Commercial Bill Market, Primary Market and Secondary Market, Infrastructure Financing.

UNIT IV: Role, Structure and Functions of SEBI & IRDA **12 Hours**

UNIT V: International Financial Markets **16 Hours**

Nature, Organisations & Participants, Exchange Rates – Devaluation & Depreciation, Currency Convertibility – Indian Experience.

Suggestive Readings (Please refer to the Latest Editions)

1. Bhole, L.M., Financial Institutions and Markets
2. Hanson, J.A., Financial Institutions and Markets
3. Machiraju, H.R., International Financial Markets in India
4. Jain, T.R., Trehan, Mukesh & Trehan, Ranju, Indian Financial System
5. Jaiswal, Bimal, Venkatraman, Bhuvana, & Banerjee, Richa, Financial Markets, Institutions & Financial Services
6. Khan, M.Y., Indian Financial System
7. Patni, R.L. (Hindi), Financial Institutions & Markets
8. Sharma, F.C. (Hindi), Financial Market Operations
9. Sinha, V.C. & Sinha, Pushpa (Hindi), Banking and Financial Institutions

**SEMESTER IV – PAPER ECOCC XII
INTERNATIONAL ECONOMICS**

Objectives

The course provides a deep understanding about the broad principles and theories which tend to govern the free flow of trade in goods, services and capital – both short term and long term – at the global level. Besides, preparing the students about the relevance and limitations of these principles, the contents of the paper spread over different modules, lay stress on the theory and nature of the subject which, in term, will greatly help them to examine the impact of the trade policies followed both at the national and international levels.

UNIT I – Theories of International Trade **16 Hours**

Classical theories of trade, opportunity cost and trade theories, empirical testing of theory of comparative cost, Heckscher – Ohlin theory, theorem of factor price equalization, Leontief’s Paradox, Stopler-Samuelson theorem, Product cycle theory, Imitation gap theory.

UNIT II – Measurement and Gains from Trade **16 Hours**

International trade and growth, measurement of gains from trade and their distribution, offer curves and theory of reciprocal demand, Terms of trade – Concept, uses and limitations, Hypothesis of secular deterioration of terms of trade, Immiserising growth, technical progress and international trade.

UNIT III – Balance of Payments **16 Hours**

The current account, Capital account, Balance of Payments equilibrium and dis-equilibrium, Adjustment mechanism in the Balance of Payments – Direct and Indirect mechanisms, Mundell – Fleming Model, Marshall – Learner conditions, Depreciation and Devaluation

UNIT IV – Foreign Exchange Markets and Exchange Rates **20 Hours**

Flexible and Fixed Exchange rates, Spot and Forward rates, Pegged and Hybrid exchange rates, foreign exchange risks and Hedging and Market, Interest, Arbitrage and Efficiency of Foreign Exchange Markets, Exchange rate determination – Purchasing power parity, Foreign Trade Multiplier, Crisis and Exchange rate, Currency convertibility.

UNIT V – Contemporary Issues in International Trade **12 Hours**

East Asian crisis, Global melt down, BREXIT, Trade war.

Suggestive Readings (Please refer to the Latest Editions)

1. Bhagwati, J. International trade.
2. Dominick, Salvatore, International economics: Trade and Finance
3. Kindleberger, C.P., International economics
4. Johnson, H.G., International trade and economic growth
5. Mannur, H.G., International economics
6. Vaish, M.C. & Singh, Sudama, International economics
7. Swami, K.D., Antrastraya Arthashastra
8. Rana, K.C. & Varma, K.N. Antrastraya Arthashastra
9. Banerjee, B.J. International finance: Theory and practice

SEMESTER IV – PAPER ECOCEL III (i)
OPERATIONS RESEARCH

Objectives

Students will learn about the theoretical foundations of operations research models in this course. The goal of the course is to give students a thorough grasp of OR methodology and how it is used in various sectors to make wise decisions.

UNIT 1: Introduction to Operations Research **12 Hours**

Brief history – stages of development – definitions – OR tools.

UNIT 2: Linear Programming **16 Hours**

Fundamentals of L P models - Graphic solutions of LP models – feasible solutions – infeasible solutions – unbounded solutions – Maximization of Objective Functions - Minimization of Objective Functions - Simplex Method with two variables- Simplex Method with more than two variables

UNIT 3: Transportation Problems **14 Hours**

Transportation algorithm- Basic feasible solution of TP - North West Corner Rule- Least Cost method - Vogel's Approximation Method – Optimality test - Stepping Stone method – Modi method

UNIT 4: Net Work Models **14 Hours**

PERT / CPM Determination of Earliest Expected and Latest Allowable Times - Determination of Critical path – PERT Cost - Scheduling of a project - Application of PERT - Critical Path Method Problems

UNIT 5: Inventory Management Models **12 Hours**

Basic Features of inventory decisions – EOQ - Quantity discounts - EPQ models - ABC Analysis

UNIT 6: Game Theory **12 Hours**

Basic concepts – definition - managerial applications - two-person's zero-sum games

Suggestive Readings (Please refer to the Latest Editions)

1. Ackoff R.L. and Saienni M.W., Fundamentals of Operations Research, Wiley, New York.
2. Baumol, W.J., Economic Theory and Operations Analysis, Englewood Cliff, Prentice Hall, NJ.
3. Hadley, G.F., Linear programming, Addison Wiley, Massachusetts.
4. Kothari, C.R., Quantitative Techniques, Vikas Publications, New Delhi.
5. Morse, P. M., Queeing, Inventory and maintenance, Wiley, New York.
6. Srivastava, U.K., Shenoy, G.V., and Sharma S.C., Quantitative Techniques for Management Decisions: Concepts, Illustrations and Problems, Wiley Eastern, New Delhi.

SEMESTER IV – PAPER ECOCEL III (ii)
AGRICULTURE ECONOMICS

Objectives

To provide detailed understanding regarding the issues in agricultural economics to those intending to specialize in this area. To familiarize students with policy issues that is relevant to agricultural economics and enables them to analyse these issues.

UNIT I – Agriculture and Economic Development **16 Hours**

Interrelationship between agriculture and industry, approaches to agriculture development – Schultz, Mellor, Boserup, Lewis and Rannis – Fei, Interregional disparities in growth of output and productivity in Indian agriculture.

UNIT II – Marketing Structure **16 Hours**

Agricultural marketing, E-NAM, Price spread, Behaviour of agricultural prices, Marketed and marketable surplus, terms of trade between agriculture and industry – their impact on agriculture and change since independence, Price trends, Role of subsidies, Agricultural price policy in India, Cobweb theorem.

UNIT III – Strategy of Agricultural Growth & Technological Progress **16 Hours**

Capital formation in Indian agriculture, Public and Private investment, Type and measurement of technical changes, Nature and pattern of technical changes, Agricultural production function, Farm size, Measures of Farm Efficiency.

UNIT IV – Conventional Farming to Sustainable Farming **16 Hours**

Approaches to sustainable agriculture, Growth and composition of output in agricultural and allied activities in India, Trends in overall agricultural growth as well as of pulses, food and non-food items, Demand and supply of agricultural commodities including plantation and horticultural produce, Demand availability and future prospects of livestock, poultry and fishery in India.

UNIT V – Current Issues in Indian Agriculture **16 Hours**

Pattern of change in Exports and Imports of agricultural commodities, composition of Exports and Imports of Agricultural commodities and recent trends, WTO agreement on agriculture – tariffication, AMS, Exports subsidies, Market access clause, Safeguard provisions, Sanitary and phytosanitary measures.

Suggestive Readings (Please refer to the Latest Editions)

1. Alag, Y.K., Globalisation and agriculture crises in India.
2. Bilgrami, S.A.R., An introduction to agricultural economics.
3. Kumar, Sanjeev, Crop diversification and food security in India.
4. Mishra, Roli, Agricultural growth and terms of trade in India since 1951.
5. Sadhu, A.N. & Singh, Amarjit, Fundamentals of agricultural economics.
6. Soni, R.N. & Malhotra, S., Leading issues in agricultural economics.
7. Prasad, Keshav, Adhunik Bharat Mein Krishi Arthashastra
8. Muzzamil, Mohammad, Krishi Arthashastra.
9. Mishra, J.P., Krishi Arthashastra

SEMESTER IV – PAPER ECOCEL III (iii)
ENVIRONMENTAL ECONOMICS

Objectives

Environment is a major issue in today's times. This paper helps to understand the nexus between environment and economic development.

UNIT I – Introduction

16 Hours

Environmental Economics: Meaning, Nature, Scope and Significance; Inter-linkages between ecology and economics; Environmental Costs of Economic Growth, Limits to Growth; Environmental Kuznets Curve; Economy of Natural Resources: Renewable and non-renewable resources, Theories of Optimal Use of Exhaustible and Renewable Resources.

UNIT II – Environment and Sustainable Development

14 Hours

Environment and Sustainable Development: Concept and sustainability of economic development; Policy approach of sustainable development; Macroeconomic policies and management of sustainable development and institutions; Green Accounting.

UNIT III – Environmental Pollution

14 Hours

Definition, Cause, effects and control measures, Climate change, global warming, ozone layer depletion, Green House Effect, nuclear accidents and holocaust; Consumerism and waste products, Role of an individual in prevention of pollution.

UNIT IV – Environment Management Techniques

18 Hours

Cost Benefit Analysis, Environmental Impact Assessment, Environmental Audit Theory of Environmental Policy Environmental regulations- promoting Coasian markets; Pigouvian taxes; command and control verses market-based instruments; Effluent and emission taxes verses tradable permits;

UNIT V – Environmental policy in India

18 Hours

Role of state in environmental conservation; Environmental legislation in India; Environmental Governance; Ecological Footprint Analysis; Policy instruments for controlling water and air pollution and forestry policy; Environment and human health; Poverty and Environment Degradation; Role of environmental education in India.

Suggestive Readings (Please refer to the Latest Editions)

1. Fisher, A.C.: Resource and Environmental Economics, Cambridge University Press, 1981
2. Jadhav, H & Bhosale, V.M. Environmental Protection and Laws. Himalaya Pub. House, Delhi.
3. Jhingan ML & Sharma, Chandra K. Environmental Economics- Theory Management and Policy, Vrinda Publication, Delhi
4. Rabindara, N. B.. Environmental Economics - An Indian Perspective. Oxford University Press, New Delhi
5. Charles S. P. Economics and Global Environment. Cambridge University Press, Cambridge.
6. Kolstad, C.D. Environmental Economics. Oxford University Press, New Delhi.
7. Sankar, U. Environmental Economics. Oxford University Press, New Delhi. Rajeev, Aarthik Paryavaran, SBPD Publication, Agra
8. Rajlakshmi N. And Dhulasi B., Environomics, Allied publishers Ltd., New Delhi.
9. TraSingh, G. N., Environmental Economics, Mittal Publications, New Delhi.

SEMESTER IV – PAPER ECOCEL III (iv)
GENDER ECONOMICS

Objectives

This course is motivated to familiarize students with the key theoretical concepts, approaches and views related to the role of women in the achievement of development.

UNIT I – Concepts of Gender Economics

14 Hours

Concept, Types of Gender, Importance and Methods of Gender Economics; Gender Statistics; Economic issue of Gender Discriminations, Gender based division of work; Gender and development (GAD); Neoliberal approaches.

UNIT II – Women and Work

18 Hours

Concept and Analysis of Women's Work- Classification based on economic factors, Socially Productive work, Classification of Work in Indian Census and NSSO -Main Workers, Marginal Workers, Non-workers - Non-Recognition of Women's Work in National Income Accounting - Measuring Women's Contribution to National Income; Gender Discrimination, Impact of gender equality on economic development.

UNIT III – Gender Indicators

16 Hours

Policy and Approach: Gender Inequality indicators; Gender related development indices; Measuring gender empowerment; Gender and Economic planning; recent Government initiatives for Women Empowerment; Gender planning techniques; Gender Policy: National and regional; Gender Budgeting.

UNIT IV – Gender and Social Sector

16 Hours

Women as human capital; Significance of Women's education; Policies and Programmes for promoting women's education; Impact of technological development on Women Empowerment; Emergence and Growth of Women Entrepreneurs; Gender dimension of national health policies and programmes.

UNIT V – Women, Poverty and Environment

16 Hours

Deprivation and marginalization of women; Feminization of poverty: extent, causes and consequences; Women and environment. Paradigm shifts from Welfare-oriented Programmes to empowerment-oriented programmes.

Suggestive Readings (Please refer to the Latest Editions)

1. Ahlawat Neerja, Gender Discrimination and Development Paradox, Rawat Publications, Jaipur
2. Chattopadhyay S.K., Gender Socialization and the Making of Gender in the Indian Context, Sage
3. Menon Nivedita, Seeing like a Feminist, Penguin
4. Misra. Roli, Rethinking Gender (ed) by Rawat Publications, Jaipur
5. Arputhamurthy, S. (1990), Women Work and Discrimination, New Delhi: Ashish Publishing House.
6. DevasiaLeelamma Empowering Women for Sustainable Development, Ashish Publishing House, New Delhi.

**SEMESTER IV – PAPER ECOCEL IV (i)
RURAL DEVELOPMENT**

Objectives

The Programme designed to reveal the students about the rural life, the problem prevailing in rural area and their solutions. India is a land of villages; rural economy is the backbone of Indian economy. The rural development programme makes students to understand the socio-economic conditions of rural folk.

UNIT I – Rural Development **16 Hours**

Nature and Structure of Rural Sector in India; Principles of Rural Development; Planning the Rural Sector Development.

UNIT II – Agricultural and Rural Development **16 Hours**

Agriculture its Nature, Type of Agriculture, Reforms in Agricultural; Subsistence and Commercial Agriculture; Rural Horticulture, Dairying; Agricultural Marketing.

UNIT III – Land Use **12 Hours**

Land Holding Pattern in India; Land Reforms;

UNIT IV – Rural Poverty **18 Hours**

Nature, magnitude, causes and remedies of Poverty; Employment Pattern and Problems of Unemployment; Agricultural labour; Government Initiatives.

UNIT V – Agricultural Finance **18 Hours**

Nature of Agricultural Finance; Sources of Agricultural Finance; Role of Financial Institution in Agriculture Finance; NABARD.

Suggestive Readings (Please refer to the Latest Editions)

1. Narton R.D. Agricultural Development Policy: Concepts and Experiences
2. S.S Acharya. Indian Agricultural Policy at the cross roads
3. A.N. Agarwal, Indian Economy
4. Rudra Dutt, Indian Economy
5. Mishra &Puri, Indian Economics

**SEMESTER IV – PAPER ECOCEL IV (ii)
NATURAL RESOURCE ECONOMICS**

Objectives

The overall objective of this course is to provide students with conceptual insight, problem-solving skills, and general knowledge needed to better analyze and solve natural resource and environmental issue.

UNIT I – Natural Resources **16 Hours**

Types and availability in Nature; Natural Resources and Economic Development; Vision of the future; Theories of Optimal Use of exhaustible and renewable resources.

UNIT II – Microeconomic Concepts of Resource Economics **16 Hours**

Microeconomic Concepts Applied to Natural Resources; Resource supply and scarcity; Economic Efficiency and Risk; Criteria for Resource and Environmental Policy.

UNIT III – Natural Resource Problems & Market **16 Hours**

Property Rights, Externalities and Natural Resource Problems, Market failures; Institutional framework; Valuation of Natural Resources; Benefit Cost Analysis; Non-Market Valuation.

UNIT IV – Non-renewable Resources **14 Hours**

Economics of Non-renewable Resources; Optimal rate of extraction; Hotelling's rule;

UNIT V – Economics of Land, Water, Minerals and Forestry **18 Hours**

Economics of Land, Water, Minerals and Forestry, The maximum sustained yield; The Single Rotation, The Multiple Rotation; Economics of Fisheries and Wildlife, The Yield Effort-Function; Population as a Natural Resource.

Suggestive Readings (Please refer to the Latest Editions)

1. John C. Bergstrom and Alan Randall., Resource Economics: An Economic Approach to Natural Resource and Environmental Policy Edward Elgar Publishing Company.
2. Puri, V.K. & Mishra, S.K., Indian Economics- Himalaya Publishing House, New Delhi
3. Ram Prasad Sen Gupta , Ecology and Economics, Oxford New Delhi
4. Pearce, David and et al, Sustainable Development: Economics and Environment in the Third World, Edward Elgar Publishers Ltd.
5. Edward B, Barbier, Natural Resources and Economic Development, Cambridge University Press.
6. Amrinder Das, Environment, Natural Resources & the Indian Economy, New Century Publication.

SEMESTER IV – PAPER ECOCEL IV (iii)

INDIA'S FOREIGN TRADE

Objectives

Nature and trends of India's foreign trade has been playing an important role in influencing the direction and pace of economic development in the country. Hence, it becomes imperative that students of Economics must be aware of the concept, features, composition, direction and volume of India's Foreign Trade. This knowledge would help them in analyzing the problems and possible solutions concerned with India's Foreign Trade.

UNIT I: Foreign Trade **18 Hours**

Concept, Definitions & Types, Feature of Foreign Trade and Its Advantages, Foreign Trade & Foreign Investment, Trading in Changing World – Views of Hicks, G. Haberler, Prebisch-Singer, Gunnar Myrdal.

UNIT II: India's Foreign Trade **16 Hours**

Composition & Direction (since Independence), Sources and Nature of Trade Data in India, Indian Trade Clarification based on Harmonized System (ITC – HS).

UNIT III: India's Foreign Trade Policy **16 Hours**

India's Foreign Trade Policy since Independence, Institutional infrastructure for Export Promotion, EXIM Bank, ECGC, Export Promotion Council and Boards, STC, ITPO, FTZs, SEZs, EOUs, Deemed Exports.

Unit IV: India's Balance of Payments **16 Hours**

Trends and Magnitude (since Independence), Components and Importance, Balance of Trade – Trends, Current Account Deficits.

UNIT V: Exchange Rate Management in India **14 Hours**

FERA, FEMA, Issues of Full Convertibility, Use of Derivatives in FOREX Management.

Suggestive Readings (Please refer to the Latest Editions)

1. Dutt & Sundharam, Indian Economy, S. Chand & Company Pvt. Ltd., Ramnagar, New Delhi.
2. Misra & Puri, Indian Economy, Himalaya Publishing House, New Delhi.
3. Stiglitz, J. E. & Charlton, A., Fair Trade for All-How Trade Can Promote Development, Oxford University Press, New Delhi.
4. Nair, Deepak, India's Export Potential.
5. Mishra, J.P. & Singh, Satyapal (Hindi), India's Foreign Trade
6. Jain, R.K., Foreign Trade Policy & Handbook of Procedures.

SEMESTER IV – PAPER ECOCEL IV (iv) ECONOMICS OF EDUCATION AND HEALTH

Objectives

The application of microeconomic ideas to the fields of education and health is known as economics of education and health. Education and health are the two main factors that influence the conversion of a population into human capital. This paper offers an overview of the fundamental ideas behind these theories, which can be used to advance the nation's health and education systems.

UNIT I: Economics of Education

16 Hours

Concept, importance and indicators, Education as an Instrument of Economic Growth, Demand for Education - Private and Social Demand, Cost of Education - Private and Social Cost, Waste and Stagnation, Benefits of Education - Direct and Indirect, Private and Social Benefits, Cost-benefit Model, Education Production Function, Education, Productivity and Income.

UNIT II: India's Educational System

16 Hours

Problems and Suggestions - Primary, Secondary and higher level, Education and Earnings, Human Development - Concept and Measurement, Human Development Index of India, Human Capital in India, New National Policy on Education, Financing of Education in India, Expenditure on Education during Post-reform Period, National Education Policy 2020

UNIT III: Health Economics

16 Hours

Concept, Scope and Importance, Health Indicators, Determinants of Health Status, Economic Dimensions of Health Care - Demand and Supply of Health Care, Disease Burden and its Measurement, Economic Appraisal in Health Care - Cost benefit, Cost effectiveness and Cost minimisation approaches, Environment and Health, Poverty and Health

UNIT IV: India's Health Care System

16 Hours

Public Health Scenario in India - Burden of Diseases, Infant and Child Mortality Rates, Maternal Health & Mortality, Infectious and Parasitic Diseases, Life Style Diseases, Morbidity and Physical Disability; Health Care Infrastructure in India - Primary, Secondary and Tertiary level; Health Care Expenditure in India; National Policies on Health

UNIT V: Health Care Markets

16 Hours

Concept, Types and Importance, Health Insurance, Information Asymmetries in Health Insurance Markets, Externalities in Health Care Markets, Hospitals and the Theory of Non-Profits, Technological Change and Health Care, International Health Organizations - WHO and other UN Agencies

Suggested Readings (Please refer to the Latest Editions)

1. Ainyemi, Samuel, The Economics of Education, Strategic Book Publishing, Houston, TX.
2. Anand, N.K. and Goel, Shikha, Health Economics, AITBS Publishers, India.
3. Blaug, Mark, An Introduction to Economics of Education, Penguin, London.
4. Brewer, D.J. and Patrick, J.M., Economics of Education, Elsevier.
5. Glied, S. and Smith, P.C. (Eds.), The Oxford Handbook of Health Economics.
6. Henderson, J.W., Health Economics and Policy, Cengage Learning, Boston, Massachusetts.
7. Klarman, H.E., The Economics of Health, Columbia University Press, New York.

Reports

1. Human Development Reports, United Nations Development Programme
2. Human Capital Index Reports, World Bank
3. Economic Surveys, Government of India
4. Government of India Budget
5. National Human Development Report
6. India Development Reports
7. World Health Organisation Reports on Health
8. National Family Health Survey (NFHS) Surveys of various rounds
9. Recent Bulletin of Sample Registration System (SRS), Census of India
10. National Sample Survey (NSS) Rounds Report
11. Lancet Health Journal

Evaluation and Assessment Procedure

1. Continuous Internal Evaluation: 30 marks.

There will be continuous internal assessment of students through mid-term examination and they will be awarded marks in each paper by concerned Professor/Teacher out of 30 marks:

Suggested continuous evaluation method:

(i) Test/Assignment/Seminar: 30 marks.

2. End Semester Examination: 70 marks.

There will be end-semester exam for each paper, that will be conducted by the University as per the following pattern:

Suggested Question Paper Pattern for end-semester examination

Time: 3 hours. **M/M 70**

Note: Attempt any five questions. All questions carry equal (14) marks.

Important Points Assessment Criteria

Type of paper	Assessment Criteria
Core	30 marks (Internal) + 70 marks (External) = 100 marks
Minor & Elective	30 marks (Internal) + 70 marks (External) = 100 marks
Research Project/Survey/Industrial Training Report & Viva	Jointly by the college teacher (internal examiner) & the teacher appointed by the University (external examiner)
Dissertation	50 marks (Internal) + 50 marks (External) = 100 marks

Note: The Dissertation will be assessed internally by the college Teacher/Supervisor (50 marks) and further it will be sent to University to be assessed externally (50 marks).