



**PROF. RAJENDRA SINGH (RAJJU BHAIYA) UNIVERSITY, PRAYAGRAJ**  
**Structure of Syllabus for the**  
**Program: M.A. Subject: Economics**

<b>Structure of Syllabus Developed by</b>			
<b>Name of BoS Convener/BoS Member</b>	<b>Designation</b>	<b>Department</b>	<b>College/ University</b>
Prof. Raj Kumar Gupta (Convener)	Professor	Dean Arts	Prof. Rajendra Singh( Rajju Bhaiya) University
Dr. Pradeep Kumar Tripathi	Assistant Professor and Head, Department of Applied Economics	Applied Economics	Prof. Rajendra Singh( Rajju Bhaiya) University
Dr. Sweta Kumari	Assistant Professor	Applied Economics	Prof. Rajendra Singh( Rajju Bhaiya) University
Prof. Kiran Singh	Professor & Head	Economics	University of Allahabad
Prof. Javed Akhtar	Professor	Economics	University of Allahabad
Prof. K.L. Aahuja	Professor	Economics	D.A.V. V. Indore
Dr. Anamika Chaudhary	Associate Professor	Economics	Dr. Shakuntala Mishra Lucknow
Dr. Krishna Pratap Singh	Associate Professor	Economics	P.G. College Patti Pratapgarh
Dr. Pankaj Singh	Assistant Professor	Economics	Mahamaya Rajkiya Mahavidyalay Dhanupur, Prayagraj
Anjali Kumari	Assistant Professor	Economics	Lala Laxmi Narayan Degree College Sirsa, Prayagraj

Course Code		Course Title	Credits	T/P	Evaluation	
					CIE	ETE
A	B	C	D	E	F	G
<b>SEMESTER I (YEAR I)</b>						
A080701T	CORE	Micro Economics I	5	T	25	75
A080702T	CORE	Macro Economics Analysis	5	T	25	75
A080703T	CORE	History of Economic Thought	5	T	25	75
A080704T	FIRST ELECTIVE (Select any one)	Agriculture Economics	5	T	25	75
A080705T		Industrial Economics				
A080706P	SECOND ELECTIVE (Select any one)	Project Presentation, on Problems of Economic Development in India	4	P	50	50
A080707P		Seminar Presentation on Macro Economic Problems in India				
<b>SEMESTER II (YEAR I)</b>						
A080801T	CORE	Micro economics II	5	T	25	75
A080802T	CORE	International Economics	5	T	25	75
A080803T	CORE	Statistical Methods	5	T	25	75
A080804T	THIRD ELECTIVE (Select any one)	Economics of Human Resource Development	5	T	25	75
A080805T		Demography				
A080806P	FOURTH ELECTIVE (Select any one)	Project Presentation on International Economics	4	P	50	50
A080807P		Project Presentation on Employment and Human Resource Development in India				
<b>SEMESTER III (YEAR II)</b>						
A080901T	CORE	Economics of Growth and Development	5	T	25	75
A080902T	CORE	Monetary Economics	5	T	25	75
A080903T	CORE	Public Finance	5	T	25	75

A080904T	FIFTH ELECTIVE (Select any one)	Mathematical Economics	5	T	25	75
A080905T		Rural Development				
A080906P	SIXTH ELECTIVE (Select any one)	Dissertations on Public Finance and Banking Reforms	4	P	50	50
A080907P		Project Presentation on Rural Development				
<b>SEMESTER IV (YEAR II)</b>						
A081001T	CORE	India's Foreign trade & International Institutions	5	T	25	75
A081002T	CORE	Economic development of Uttar Pradesh	5	T	25	75
A081003T	SEVENTH ELECTIVE (Select any one)	Infrastructure development of India	4	T	25	75
A081004T		Environmental Economics				
A081005R	RESEARCH PROJECT/ DISSERTATION	Major Research Project on : The Environment and Climate Change , green Economy, Financial Inclusion, MSME, Micro Finance , Gender Equality and Economic Development, Economic development of Uttar Pradesh	10	R	50	50

**NOTE:**

1. Do not mark any Code/Information in Column-A, it will be indorsed by the University.
2. T/P in Column-E stands for Theory/Practical.
3. CIE in Column-F stands for 'Continuous Internal Evaluation' and depicts the maximum internal marks. Respective examination will be conducted by subject teacher.
4. ETE in Column-G stands for 'External Evaluation' and depicts the maximum external marks. Respective Examination will be conducted by the University.
5. Column-B defines the nature of course/paper. The word **CORE** herein stands for **Compulsory Subject Paper**.
6. Column-D depicts the credits assigned for the corresponding course/paper.
7. **First Elective:** It will be a Subject Elective. Students may select one of the two subject papers under this category.

8. **Second Elective:**It will designate a Practical Paper or equivalently a Field Visit or Project Presentation. In case of Field Visit, student is required to submit a detailed report of the visit for the purpose of evaluation. The report should include the observational features and benefits of the visit. In case of Project Presentation, the student may be assigned to go for a survey/practical or theoretical project/assignment or seminar with presentation.
9. **Third Elective:**It will be a Subject Elective. Students may select one of the two subject papers under this category.
10. **Fourth Elective:**It will accommodate a practical paper or Industrial Training or Project Presentation. In case of Industrial Training, student may be allowed for the summer training and is required to submit a detailed training report including training certificate for the evaluation.
11. **Fifth Elective:**It will be a Subject Elective. Students may select one of the two subject papers under this category.
12. **Sixth Elective:**It will be a Practical Paper or equivalently a Project Presentation based on Survey/ Seminar/ Assignment. In case of Project Presentation, student has to submit an exhaustive report on respective topic and to face an open presentation for the evaluation.
13. **Seventh Elective:**It will be a Generic Elective. The student may study or receive training of the any subject of his interest (depends on the availability in his institution of enrollment).
14. **Master Research Project:**It will be a Major Research Project or equivalently a research-oriented Dissertation on the allotted topic. The student will have to complete his/her research project under any supervisor. The supervisor and the topic for research project shall be allotted in second semester. The student straight away will be awarded 05 credits if he publishes a research paper on the topic of Research Project or Dissertation.

## **SEMSTER I- (YEAR-1) PAPER I MICRO ECONOMICS I**

### **(COMPULSORY PAPER)**

**Learning Outcome:** On completion of this course, students will be able to:

- Explain the optimizing behavior of a consumer,
- Explicate the optimizing behavior of a producer,
- Apply the theories of consumption, production, cost and market structures in empirical observations.

### **Module I**

Economics: Meaning, nature, scope, methods of study, types of equilibrium, stability of equilibrium.

## **Module II**

Consumer behaviour: Cardinal Utility Analysis, Indifference Curve Analysis, Income Effect, Substitution Effect and Price Effect, Theory of revealed preference, Consumer Surplus and Elasticity of Demand.

## **Module III**

Production function: Law of variable proportion, Returns to scale, Cobb Douglas production function, Isoquants-producers equilibrium. Production under Uncertainty; Concepts of Costs: Traditional Cost Theories: Short-run and Long-run Costs, Envelope curve; Modern theory of Costs: Short-run and Long-run, L-shaped scale curve. Revenue and Revenue Curves. .

## **Module IV**

Theory of pricing: Perfect Competition: Short-run and Long-run Equilibrium; Supply curves of the Firm and Industry; Dynamic Changes and Industry Equilibrium. Monopoly: Short-run and Long-run Equilibrium; , Price Discrimination. Monopolistic Competitive Market: Product differentiation and Demand curve; Industry and Group; Chamberlin's model: with entry and price competitions and equilibrium of firms; Concept of Excess capacity. Non-collusive Oligopoly: Cournot's model, Edgeworth's Model Bertrand's model, Chamberlin's model, Stackelberg's model and Kinked demand Model of oligopoly.

## **Basic Reading List**

Koutsoyiannis, A., Modern Microeconomics, Macmillan.

Hicks, J.R., Value and Capital

Ryan, W.J.L; Price Theory, MacMillan and Co. Ltd. London.

Samuelson, P. A. And W.D. Nordhaus, Economics, Tata Mc Graw Hill, New Delhi.

Stonier, A.W. and D.C. Hague, A textbook of Economic Theory, ELBS & Longman Group, London.

Varian, H.R; Intermediate Micro Economics: A Modern Approach, east-west Press New Delhi.

Chamberlin, E.H.; Theory of Monopolistic Competition.

Robinson, J; Economics of Imperfect Competition.

Gould, J.P. and Edward, P.L. (1996), Microeconomic Theory, Richard, Irwin, Homewood.

Heathfield and Wibe (1987), An Introduction to Cost and Production Functions, MacMillan, London.

Henderson J. and R.E. Quandt, Micro Economic Theory: A Mathematics Approach, McGraw Hill, New Delhi.

## **SEMESTER I- (YEAR 1) PAPER II- MACRO ECONOMIC ANALYSIS**

### **(COMPULSARY PAPER)**

**Course Outcomes:** The student will be able to:

1. Understand the basic concepts and various approaches to macroeconomics.
2. Know the systematic facts and latest theoretical developments for empirical analysis.
3. Acquire a logical and consistent framework for understanding the main macroeconomic facts and events.
4. Evaluate economic models to assess the validity and relevance of various economic policies.

#### **Module-I**

National Income and Accounts: 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.

#### **Module-II**

Consumption Function: Keynes psychological law of consumption implications of law, short run, long run consumption function. Investment Function: Marginal efficiency of investment, marginal efficiency of capital and investment short run and long run.

#### **Module-III**

Post Keynesian Demand for Money: Patinkin's real Balance effect approaches Baumol and Tobin, Friedman Modern Quantity theory.

#### **Module IV**

Theory of Inflation and Business Cycles: Classical, Keynesian and modern approaches to inflation, theory of inflation, Phillips curve, policies to control inflation. Theories of trade cycle: Schumpeter, Kaldor and Hicks, Control of Trade Cycles.

#### **References:**

Ackley, G, macroeconomics: Theory and Policy, Macmillan, New York.

Dornbasch, R. And F. Stanley Macroeconomic, McGraw Hill. Inc, New York.

Heajdra, B.J. & V.P. Fredrick, Foundations of Modern Macroeconomics, Oxford, New Delhi

Jha, R. Contemporary, Macroeconomics Theory and Policy. Wiley Eastern Ltd. New Delhi.

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

Palinkin, D. Money, Interest and Prices, Harper and Row, New York.

Hicks, J.R. A Contribution to the theory of Trade Cycles, Clarendon Press, Oxford.

Gupta, S.B. Macroeconomic, Analysis

## **SEMSTER I- (YEAR-1) PAPER III HISTORY OF ECONOMIC THOUGHT**

### **(COMPULSORY PAPER)**

**Course outcome** - This course would enable the student to understand how contemporary Economics has taken the present shape. After completion of this course students shall be able to:

1. evaluate the contributions of main school of economics
2. Analyse the classical economic thought
3. Evaluate the historical school of thought
4. analyse the Neo Classical school of economic thought
5. understand economics of welfare and Keynesian and Post Keynesian development  
approache

#### **Module I:**

Pre Classical Thoughts: Mercantilism, Physiocrats , Classical Thoughts, Adam Smith, David Ricardo, T.R. Malthus, J.B.Say- The Law of Market Economic Ideas of J .S. Mill, N.W. Senior.

#### **Module II:**

The Socialistic Tradition: Sismondi, St. Simon, Karl Marx, The Historical School, American School of Thought, Institutionalism.

#### **Module III:**

Marginalism: Marshall, Leon Walras, W. S. Jevons, Carl Menger, Wieser

J. M. Keynes and his theories ,Post Keynesian and Neo Keynesian Approaches.

#### **Module IV:**

Modern Thought: Friedman, Tobin, Schultz. Solow, V. Pareto.

Indian Economic Thought: Dada Bhai Naoroji, Gandhi , B.R. Ambedkar, Rammanohar Lohia , J.K. Mehta, A. K. Sen. , Jagdish N. Bhagwati.

#### **References:**

- Smith, A, An Enquiry into the Nature & Causes of the Wealth of Nations, Modern Library, New York.
- Ricardo, D, Principles of the Political Economy and Taxation, Everymans Library, London.
- St. Clair, O, A Key to Ricardo, Routledge & Kegan Paul, London.
- Saraffa, P, (ed), Works of David Ricardo, The university Press, Cambridge.
- Wicksteed, Commonsense of Political Economy, Routledge, London.
- Roll, E, A History of Economic Thought, Oxford University Press, Kolkata.
- Schumpeter, J.A, A History of Economic Analysis, Allen and Unwin, London.
- Meek, R.L, The Economics of Physiocracy, Allen and Unwin, London.
- Walras, L, Elements of Pure Economics, Allen and Unwin, London.
- Lekachman, Robert, A History of Economic Ideas, Universal Book Stall, Delhi.
- P.N. Ghosh & R. Ghosh, Concise History of Economic Thought, Himalya Publ. House, Delhi.
- D.H. Taylor, A History of Economic Thought, McGraw Hill, New york.
- Haney, Lewis H, A History of Economic Thought, Macmillan, New Delhi.
- Charles Gide & Charles Rist, A History of Economic Doctrines, Oxford Univsty Press, Kolkata.
- Phillip Charles Newman, The Development of Economic Thought (Prentice Hall,New Delhi .
- Frank A. Neft, Economic Doctrine, McGraw Hill, London.
- William A. Scott, The Development of Economics (Application Century-Criffs).
- Alexander Gray, The Dev. of Economic Doctrines, Longmans, London.
- Edmund Whittaker, Schools and Streams of Economic Thought, Rand Mc Nally & Company,Chicago.
- John W, McConnel, Basic Teaching of the Great Economist, The New Home Library, NewYork.
- S. Howard Patterson (ed.), Readings in the History of Economic Thought, McGraw Hill, London.
- Spiegel, H.W.(ed.), The Development of Economic Thought, Prentice Hall, Englewood Cliff.

E. Heimann, History of Economic Doctrines, Oxford University Press, London  
Verma, N. M. P.- Economic Thought of Ambedkar.  
Ganguli, B.N.- Indian economic Thought Vol. I  
Datta, B- Indian Economic Thought Vol. I  
Hazela- A History of Economic Thought

## **SEMESTER I- (YEAR-1) FIRST ELECTIVE - AGRICULTURE ECONOMICS**

**Learning Outcomes:** On completion of this course, the students from different streams will be able to:

- Identify the factors influencing agricultural development in India,
- Assess the land reform policies, in India,
- Evaluate the efficiency of public distribution system in India, and
- Guide farmers in linking them with new market situations.

### **Module I:**

Introduction: Nature and Scope of Agriculture economics, Role of Agriculture in Economic Development, Interdependence between agriculture and industry. New Agricultural Strategy and Green Revolution.

### **Module II:**

Theories of Agriculture Development: Lewis, Fei-Ranis and Mellor's Theory, agriculture and India's Foreign Trade, WTO and Indian Agriculture.

### **Module III**

Land Reforms: Concepts, Progress, Sources of Rural Credit, Role of NABARD, Technical Change in Agriculture, Agriculture Marketing, Agriculture Price Policy, Public Distribution System.

### **Module IV**

Economics of Farm Size, Capital Formation in Agriculture, Production Function in Agriculture, Production Decision, factor- Product Relationship, factor- factor Relationship, Product- Product Relationship, Food Security.

### **Basic Reading List**

Mishra S.K. & V. K. Puri, Indian Economy, Himalayan Publications Mumbai

Prasad, C.S, Sixty years of Indian Agriculture , New Delhi, 2006

Mishra, Jai Orakash, Agriculture Economics, Sahitya Vhavan Publication, Agra, 2006.

Joshi, P.C. (1975), Land Reforms in India: Trends and Prospects, Allied Publishers, Bombay.

Bilgrami, S. A. R., Agriculture Economics, Himalaya Publishing House Delhi.

Dantwala, M.L. et. Al (1991), Indian Agriculture Development since Independence, Oxford & IBH, New Delhi.

Soni, R. N. , Leading Issues in Agriculture Economics

Agarwal, A. N., & M.K, Agarwal, Indian Economy, New Edge International Pvt. Ltd. New Delhi

Datt, R and K.P.M. Sundhram, Indian Economy, S Chand & Co. Ltd, New Delhi

Kapila, Uma, Indian Economic Survey (Annual), New Delhi.

## **SEMESTER I- (YEAR-1) FIRST ELECTIVE- INDUSTRIAL ECONOMICS**

**Learning Outcome:** On completion of this course, students will be able to:

- Set the goals for business organizations,
- Choose appropriate locations of industries,
- Assess the profitability of business organizations, and
- Measure the productive capacity of industries.

### **Unit-I**

Industrial Economics – Meaning, Nature and Scope, Concept and organization of the firm, ownership, control and objectives of the firm, passive and active behavior of the firm.

### **Unit-II**

Market Structure: Seller's concentration, product differentiation, entry conditions, economies of scale, market structure and profitability, and market structure and innovation; Theories of industrial location: Weber and Sargent Florence, factors affecting location; Industrial Finance in India.

### **Unit-III**

Market Conduct: Product pricing – theories and evidence; Investment expenditure- Theories and empirical evidence; and Merger and diversification. Market Performance: Growth, size, and profitability of the firm; and Constraints on firm's growth.

#### **Unit-IV**

Industrial Productivity: Concept and measurement, Capacity utilization – concept and measurement; Changes in Industrial structure and economic development; MNC's and transfer of technology; Small Scale Industries; Public policy and industrialization; Privatization – concept, scope and relevance; Trade Union, Social Security and Reforms in India.

**Transaction Mode:** Lecture, problem solving, discussion & case studies

#### **Suggested Readings:**

1. Bains, J. S. (1996). *Industrial Organization, Cheltenham, U.K. An Elgar Critical Writings Reader.*
2. Barthwal, R. R. (2010). *Industrial Economics: An Introductory Textbook.* New Delhi: New Age International Publishers.
3. Hay, D. A and Morris, D. J. (1991). *Industrial Economic: Theory and Evidence.* Oxford University Press.
4. Lee, N., Jones, R. M., and Tyson, W. J. (1985). *An Introduction to Industrial Economics.* London: Allen and Unwin.
5. Marshall, A. (2003): *Elements of Economics of Industry,* Simon Publications, UK
6. Marshall, A. and Marshall, M. P. (2012): *The Economics of Industry,* Ulan Press, UK

### **SEMESTER-II (YEAR-I) PAPER I- MICRO ECONOMICS II (COPULSARY PAPER)**

**Learning Outcome:** On completion of this course, students will be able to:

- Determine best price and output in various market structures,
- Determine the price of a commodity,
- Determine the optimal distribution of national income, and
- Find the best ways to maximize economic welfare.

#### **Module-I**

Collusive Oligopoly: Cartels; Joint Profit Maximization & Market sharing Cartels; Price

Leadership; Low Cost price leader, dominant firm price leader, Barometric price leadership. Criticism of Neo- Classical Theory of Firm, Modern Theories of firm- Baumol, Williamson, Marris Models, Bain's Limit Price Theory.

**Module- II** Factor pricing under different market condition. Marginal Productivity theory and its limitations. Elasticity of factor substitutions. Technical progress and income distribution, contributions of Kalecki and Kaldor. The 'Adding up' problem. Euler's product exhaustion theorem.

### **Module-III**

Theory of distribution: Theory of factor pricing, classical and Modern Theories of Interest. Theories of Rent, Wage and Profit.

### **Module - IV**

General Equilibrium and Welfare Economics Pigou, Pareto optimality, Kaldor- Hicks Compensation Criteria, Bergson's, Social Welfare Function, Arrow's Impossibility theorem and Theory of second Best.

### **Basic Reading List**

Koutsoyiannis, A, Modern Microeconomics, Macmillan.

Lipsey, R.G. and K. A. Chrystal (1999), Principales of Economics (9<sup>th</sup> Edition), Oxford University Press, Oxford.

Gould and Ferguson, Micro Economic Theory.

Ahuja, H. L., Advanced Micro Economic Theory

Mishra and Puri : Advanced Micro Economic Theory

Henderson, J. and R.E. Quandt, Micro Economic Theory: A Mathematical Approach, McGraw Hill New Delhi.

Samuelson, P.A. and W. D. Nordhaus, Economics, Tata Mc Graw Hill New Delhi.

Stonier, A. W. And D. C. Hague, A Textbook of Economic Theory, ELBS & Longman Group, London.

Gauld, J. P. and Edward P.L. (1996), Microeconomic theory, Richard Irwin Homewood.

Heathfield and wibe (1987), An Introduction to Cost and Production Functions, Macmillan, London.

Varian, H.R., International Micro Economics: A Modern Approach (5<sup>th</sup> Edition), East- west Press New Delhi.

## **SEMESTER II (YEAR-I) -PAPER II- INTERNATIONAL ECONOMICS**

### **(COMPULSORY PAPER)**

**Learning Outcomes:** On completion of this course, students will be able to:

- Explain the various concepts and approaches used in international Economics;
- Identify the various problems emerged in international trade;
- Distinguish the various approaches in Balance of payments;
- Analyze the previous and existing pattern of globalization;

#### **Module I:**

The Basis of International trade . Theories of International Trade: Theory of Absolute Advantage( Adam Smith ), Theory of Comparative Cost( Ricardo), J. S. Mill, Haberler Opportunity Costs Theory , Community Indifference Curve.

#### **Module II:**

Gains from Trade, Terms of Trade, Concept, Types, Factor Affecting Terms of Trade, Unfavourable Terms of Trade, Trade as engine of growth.

#### **Module III:**

Theory of Interventions: Tariffs, Quota, Non Tariff barriers, Effect of Tariffs under partial and general equilibrium, Free Trade and Protection.

#### **Module IV:**

Foreign Exchange rate: Fixed and Flexible Exchange Rate , Exchange Rate Determination , Monetary Approach and Asset Approach to Balance of Payments, Exchange control and Exchange Management .

#### **Basic Reading List**

Salvatore, D. (1997), International Economics, Prentice hall, Upper Saddle River, N.J.; New York.

Krugman, P.R. and M. Obstfeld (1994), International Economics: Theory and Policy, Glenview, Foresman

Kindleberger, C.P. (1973), International Economics, R.D. Irwin, Homewood.

Soderston, Bo (1991), International Economics, The Macmillan Press Ltd; London. Haberler, G. Von, International trade

Dana, M.S. (2000), International Economics: Study, guide and Work Book, (5<sup>th</sup> Edition), Routledge Publishers, London.

Dunn, R.M. and J.H. Mutti (2000), International Economics, Routledge, London. Reserve Bank of India, Reports on Currency and Finance

King, P.G. (1995), International Economics and International Economic Policy: A Reader. McGraw Hill International, Singapore.

Jhingan, M.L., International Economics, Vrinda Publication Ltd.

Datt, R, & K. P. M. Sundharam, Indian Economy, S. Chand & Co. Ltd.

## **SEMESTER II- (YEAR-I)-PAPER III- STATISTICAL METHODS**

### **(COMPULSARY PAPER)**

**Learning Outcome:** This course will help the students:

1. To know about the basic statistical tools.
2. To use the statistical tool in various economic problems.
3. To deal in approximation and prediction for future.
4. To develop an understanding in dealing with uncertain world.
5. Apply various techniques of correlation and regression,

#### **Module-I**

Descriptive Statistics: Collection, Organization and Presentation of Data, Measurement of central tendency and dispersion-mean, median, mode, mean deviation, standard deviation, correlation coefficients, Correlation and regression analysis. Measures of Skewness and Kurtosis.

#### **Module-II**

Sampling and Sampling Methods Sample and Population, Parameters and Statistics, Variable and Attributes, sampling and non-sampling errors, Types of samplings.

### **Module III**

Theory of Probability: Probability, distribution, events spaces, Joint marginal and conditional probability under conditions of certainty and uncertainty, Random variable: Expectation and Distribution. Addition and Multiplication Theorems, distributions: Binomial, Poisson, Normal, Chi-square, test. T-test and F-test.

### **Module IV**

Statistical Estimation and Testing of Hypothesis: Types of estimators and their properties, Sampling distribution for sample mean and proportion. Time Series: Nature and decomposition of a time series trends, Cyclical, seasonal and random components. Measurement of trends: Moving averages, least squares method, Index Numbers: Importance, Types, Whole Sale price Index.

### **Readings:**

Gupta, S.P, Statistical Methods, Sultan Chand, New Delhi.

Nagar and Das, Basic Statistics, Oxford University Press, Delhi.

Richard I. Levin, Statistics for Management, Prentice Hall of India, New Delhi.

Lewis, Methods of Statistical Analysis

Yamane, Statistics, An introductory analysis, Harper & Row, New York.

Unagi, Probability and Statistical Methods

Wonnacott & Wonnecott, Introductory Statistics for Business and Economics, McGraw Hill, London

Murray, R. Spiegel, Schaum's Series, Theory and Problems of Statistics, McGraw Hill, M1972

H.M. Blalock, Social Statistics, McGraw Hill, 1968.

Pillai , R.S.N. Statistical Methods, Sultan & Chand , New Delhi

Chou Y. (1975). Statistical Analysis, Holt, Reinhart, Winston, New York.

Croxton, Crowden and Klein (1971). Applied General Statistics, Prentice Hall of India, New Delhi.

## **SEMESTER II- (YEAR-I) THIRD ELECTIVE – ECONOMICS OF HUMAN RESOURCE DEVELOPMENT**

## **Course Outcomes:**

1. Understand the basic concepts of economics of human resource development.
2. Apply various theories of education and health economics to enhance human resource Development.
3. Analyze the current state of human resource development.
4. Evaluate the effectiveness of education and health policies in improving human capital.
5. Create reasoning skills among students to find ways to improve human resource Development

### **Module- I**

Human capital and signalling theories of education, Education facilities : Rural-Urban divide; Brain drain in India: Causes and solutions; Significance of vocational education; FDI in Education Industry; New Education Policy.

### **Module-II**

Human Development Index; India's educational system- Problems and suggestions; Problems and suggestions; Human capital in India; Supply and Demand and the Role of Government in Higher Education in India; Structure and Functions of Multi level Planning and Decision Making for Sustainable Development

### **Module-III**

Economics of Health-Concept, dimensions and indicators; Determinants of health status; Key health economics concepts; Food and nutrition in India; Affordability and access to health care facilities; Burden of disease;

### **Module-IV**

Sectoral composition of Indian Economy: Issues in Agriculture sector in India, Agriculture policies of India, Industrial development, small scale and cottage industries, industrial Policy, Public sector in India, service sector in India

#### **Basic Reading Books :**

Arrow. K.J (1963), "Uncertainty and the Welfare Economics of Medical Care", *The American Economic Review*; Vol. 53, No.5, pp. 941 –973

Berman.P.A and Khan.M.E (1995), *Paying for India's Health Care*, Sage Publications, New Delhi.

Blaug.M (1968), *Economics of Education: Selected, Readings*, Vol. I & II, Penguin Books, London

*Economic Survey*, The Department of Economic Affairs, Ministry of Finance, Government of India, New Delhi, various issues.

Folland. S, Goodman.A.C, and Stano. M (2012), *The Economics of Health and Health Care*, 7<sup>th</sup> edition, Prentice Hall, New Jersey.

Getzen.T.E (2012), *Health Economics and Financing*, 5th edition, Wiley.

Haq. M (1995), *Reflections on Human Development*, Oxford University Press.

*Human Development Report*, United Nations Development Programme (UNDP), various issues.

Datt, R and K.P.M. sundhram, Indian Economy, S. Chad & Co. Ltd. , New Delhi.

Agarwal, A. N. Indian Economy, New Edge International Pvt, Ltd, New Delhi

Mishra , S.K. and V.K. Puri, Indian Economy, Himalaya Publishing House, Mumbai.

Kapila, Uma, Indian Economy: Since Independence

Jalan, B, the Indian economy: Problems and Prospects, Viking, New Delhi

## **SEMESTER II- (YEAR-I) THIRD ELECTIVE - DEMOGRAPHY**

**Course Outcome:** Population studies not only in India but all over world have assumed great significance. These are drawing the attention not only of the social scientists but also of the planners, administrators & policy makers. After completing the course,

1. Students will develop theoretical understanding regarding various demographic changes and analyse the changes in population in India and the world.
2. Will demonstrate an understanding of population dynamics and the changes in mortality, fertility and migration.
3. Students will have better understanding of the relation between population growth and economic development and the way in which it affects the social, economic, cultural and political life of the people.
4. After the completion of the course the students will be able to describe the current status and trends in population size, composition and distribution.

### **Module- I**

Demography-Meaning Scope and Subject Matter, Demographic data- Methods of data collection, Census, Measurement of Population growth, Structure of population, Population Projection.

### **Module-II**

Theories of Population-The Malthusian Theory of Population, optimum Theory, Logistic curve Theory, Theory of demographic transition, Migration: Causes, factors, effects and Todaro model of rural urban migration.

### **Module –III**

Fertility: Total Fertility Rate, Gross Reproduction Rate, Net Reproduction Rate, Factors Affecting Fertility- Socio-economic factors, economic status, health, education, nutrition, Fertility Measurement, Fertility trends in India.

### **Module-IV**

Mortality and Morbidity- Concepts and Measurement, Life Table- Meaning, types and uses. Demographic trends in developed and developing countries, Population Policy of India.

#### **Basic Reading List:**

Agaewala S.N. (1972), India's Population Problem, Tata Mc Graw-Hill Co, Bombay.

Bose, A. (1996), India's Basic Demographic Statistic, B.R. publishing Corporation New Delhi

Bogue, D.J. (1971), Principles of Demography, John Willey , New York.

Chenery H. And T.N. Srinivasan (Eds.) (1989), Hand Book of Development economics, Vol 1 & 2 Elsevier , Amsterdam.

Coale A. J. and E.M. Hoover (1958), Population Growth and economic Development in Low Income Countries:A case Study of India's Prospects, Princeton University Press, Princeton.

Gulati, S.C. (1988), fertility in India: An Econometric Study of a Metropolis, Sage, New Delhi.

Simon, J.L. (1992), Population and Development in Poor Countries, Princeton University Press.

Srinivasan, K (1998), basic Demographic Techniques and Applications, sage, New Delhi.

Sinha, V.C. and Pushpa Sinha, Principles of Demography, MAyur Paperbacks, Noida.

Raj, Hans, Fundamentals of demography- Population studies with special reference to India, Surjeet Publication, Delhi.

## **SEMESTER-III-(YEAR-II)-PAPER-I ECONOMICS OF GROWTH AND DEVELOPMENT**

**(COMPULSARY PAPER)**

**Course Outcomes:** The students will be able to;

1. Understand the Indian Economic Problems.
2. Analyses the Regional variations and policy implication.
3. To understand the overall agricultural and Economic development.
4. Emphasis the overall social, political and economic environment influencing policy decisions.

## **Module-I**

Basic Issues: Economic Growth and Economic Development- Meaning, concept, Measurement and Development, Economic Growth and Social Justice: Kuznet's hypothesis, growth-Distribution Trade off. Basic needs approach, Hunger, Entitlement and capability, Human Development- HDI, HPI, Poverty Indices, Gender Index.

## **Module-II**

General Theories: Classical Theories: Adam Smith, Ricardo, Marx's theory of development, Theories of Schumpeter, Rostow, Harrod-Domar growth Models, Solow and Model of Joan Robinson.

## **Module-III**

Partial Theories: Theory of Big Push, Balanced and Unbalanced growth, social and Technological dualism, Lewis Model, Fie and Ranis Model, Trade and Development: Trade as engine of growth, static and dynamic gains from trade, Prebisch, Singer and Myrdal Thesis.

## **Module-IV**

Problem and Policy: Population and Development, Poverty and Developments, Environment and Development Capital formation and development Globalization and development of less developed countries. Investment Criteria, WTO and developing countries.

## **Basic Reading List**

Gillis, M, D.H. Perkins, M. Romer and D.R. Snodgrass (1992), economics of Development, (3<sup>rd</sup> Edition), W.W. Norton, New York.

Higgins, B (1959), Economic development, W. W. Norton New York.

Hogendorn, J. (1996), economic Development, Addison Wesley, New York.

Kahkonon, S and M. Olson (2000), A New Institutional Approach to Economic development ,  
vistaar.

Kindleberger, C.P. (1977), Economic Development, Mc, graw Hill, New York.

Todaro, M.P. (1996), (6<sup>th</sup> Edition), economic Development, Longman, London.

Thirwal, A.P. (1999), (6<sup>th</sup> Edition), growth and development, Macmillan, U.K. Jhingan M.L.  
Economic Development

Solow, R.M., growth theory- An Exposition

Hamberg, D, Models of Growth

### **SEMESTER III- (YEAR-II) PAPER II- MONETARY ECONOMICS**

#### **(COPULSARY PAPER)**

**Learning Outcome:** On completion of this course, students will be able to:

- Comprehend the theories of money supply
- Explain the theories of demand for money
- Assess the functioning of a financial system, and
- Evaluate the effectiveness of monetary policy in a country.

#### **Module-I**

Nature, Scope and Significance of Monetary Economics, Neutrality and Non- Neutrality of money, Classical and Keynesian Approach to Demand for money, Post- Keynesian Approach (Friedman, Baumol, Tobin), Keynesianism and Monetarism.

#### **Module –II**

Money Supply: Concepts of money supply, Different money stocks in India (Mo, M1, M3, M4), RBI Approach to money supply, High Powered Money and Money Multiplier.

#### **Module III**

Money Inflation: Concept, types, effects and theories of Money inflation, inflation and economic development, control of inflation, deflation, stagflation, Phillips curve.

#### **Module IV**

Monetary Policy: Objectives, tools, Credit control, Monetary Policy and growth, banking, sector reforms in India, Functions of Central Bank, International Monetary Institutions Role of SDR, Euro, and Problem of International Liquidity.

**Suggested Readings:**

- . Bhole, L. M. (2004). *Financial Institutions and Markets: Structure, Growth and Innovations*. India: Tata McGraw-Hill Education
- . Gautam, S.K. (2012): *Money, banking and finance*. Mumbai, Vakratund publishers.
- . Hajela, T.N (2009): *Money and banking: Theory with Indian banking*. New Delhi, Ane books Pvt. Ltd.
- . Hajela, T.N. (2015): *Money banking and public finance*, New Delhi, Ane Books Pvt. Ltd.
- . Iyenagar (2011): *Money matters: Macroeconomics and financial markets*, New Delhi, Sage publications
- . Mithani, D.M. (2013): *Money, Banking, international trade and public finance*, New Delhi, Himalaya publishing house
- . Poonia, V. (2012): *Money banking in India*. New Delhi, Srishti books distributors.
- . Popli, G. S., Jain, A. (2015): *Principles and Systems of Banking*, PHI Publishing.
- . Uppal, R.K (2011): *Money banking and finance: evolution and present structure*, New Delhi, new century publications .
- Zola, Emile (2014): *Money*, New Delhi, Oxford University press
- Gupta S.B, *Monetary Economics*, S Chand and Co., New Delhi, 2001
- Jadhav N, *Monetary policy, Financial Stability and Central Banking in India*, Macmillan India Ltd..
- Jadhav N, *Monetary Economics for India*, Macmillan India Ltd., 1994
- RBI, *Report on currency and finance (various issues)*
- Government of India, *Economic Survey (various issues)*
- Lewis MK and Mizen PD, *Monetary Economics*, Oxford University Press, London
- Honda J, *Monetary Economics*, Routledge, New York, 2000
- Tarapore S.S, *Issues in Financial Sector Reforms*, UBS Publishers' Distributors, New Delhi, 2000.
- Gurley and Shaw, *Money in a Theory of Finance*, Brooking Institution, Washington.

Sen S.W, Central Banking and Underdeveloped money market

Rangarajan C, Indian Economy: Essays on Money and Finance, UBS Publishers' Distributors, Delhi,

Kulkarni K G, Modern Monetary Theory, , Macmillan India Ltd., 1999

IMF, World Economic Outlook (various issues)

Jalan B, India's Economy in New Millennium: Selected Essays, UBS Publishers' Distributors, New Delhi.

Mishkin, F, Monetary Policy Strategy, Prentice Hall of India, New Delhi, 2007

Miskin, F, The Economics of Money: Banking and Financial Markets. Addison Wesley Longmate, New York.

Khan, M. Y, Indian Financial System. Tata McGraw Hill, New Delhi.

Crocker, A. (1982), International Money; Issues and Analysis, The English Language Book Society, Nelson, London

Niehans, J. (1994), International Monetary Economics, John Hopkins University Press, New York.

Rangarajan, C. (1997), Role of Monetary Policy, Economic and Political Weekly, 3325-3328.

Sen, K., & Vaidya, R. R. (1997), The process of financial liberalization in India, Oxford University Press,USA.

D.G. Pierce & Tysome, P.G., Monetary Economics, Butterworth's, London, 1985.

D.G. Pierce& D.M. Shaw, Monetary Economics: Theories and Evidence and Policy, Butterworths, London, 1994

Laidler, D.E.W., The Demand for Money: Theories and Evidence, Allied Publishers (P) Ltd., Gaddam Naresh Reddy, (2007), "Changing Pattern of Capital Markets in India: An Analytical Study, Cyber Tech Publications, New Delhi

David A. Dubofsky and Thomas W . Miller, JAR (2003) "Derivatives Valuation and Risk Management,Oxford University Press, New York

**SEMESTER III- (Year II)-PAPER III-PUBLIC FINANCE**

**(COMPULSARY PAPER)**

**Course outcomes:** This paper will benefit the students by:

1. Acquiring knowledge about efficiency in resource allocation and role of the state in public finance.
2. Making them aware about the political economy and the relevance of voting on budget.
3. Knowing the structure, prospects and progress of GST.
4. Having a knowledge about the structure and growth of public expenditure and the reforms initiated in it
5. Being aware of the analytical aspects of fiscal policy as well as fiscal federalism.

### **Module-I**

Introduction: Nature and Scope of Public Finance, role of Government in organized society, role in mixed economy, Public and Private Sector, Principle of Maximum Social Advantage.

### **Module –II**

Public Expenditure: Pure theory of Public expenditure, Structure and Growth of Public expenditure, Wagner's law of increasing state activities, Wiseman peacock hypothesis, Zero base budgetary, classification of public expenditure.

### **Module –III**

Taxation: Sources of Public revenue, canons of taxation, Direct and Indirect tax, Theories of incidence, Aitcrnature concept of incidence. Benefit and Ability to pay theories, Goods and service tax.

### **Module – IV**

Public debt: Classical view, sources of public debt, types burden of public debt, types of budget deficits, Fiscal deficits, Deficits Financing: concept, need, effects on economy, Fiscal Policy: Objectives, importance, and tools of fiscal policy, Fiscal policy in India.

### **Books Recommended:**

Buchanan, J.M., The Public Finance, Riohard D. Irwing, Homewood.

Goode, R, Government Finance in Developing Countries, Tata MC Graw Hill, New Delhi.

Jha, R, Modern Public Economics, London.

Musgrave, R.A. and P.B. Musgrave, Public Finance in Theory and Practice, Mc Graw Hill, Tokyo.

Shome, P. (Ed.), Tax Policy: Hand Book, Tax Divisions Fiscal Affairs, Department, International Monetary Fund, Washington D.C.

Chelliah, Raja, J, fiscal Policy in Under Development Countries, George Allen and Unwin, London.

Government of India, Long Term Fiscal Policy.

Bhargava, R.N., theory and Working of Union Finance in India, Chaitanya Publishing House, Allahabad.

Chelliah, Raja, J. et. A, Trends and Issues in India's Federal Finance, National Institute of Public Finance and Policy, New Delhi.

Bhargava, P.K. Centre State Resources Transfers in India, The Academic Press, Gurgaon.

### **SEMESTER-III (YEAR-II) FIFTH ELECTIVE- MATHEMATICAL ECONOMICS**

**Learning Outcome:** On completion of this course, students will be able to:

- Formulate and optimize economic functions,
- Find the time path of changes in economic variables,
- Deal with economic variables in larger dimensions, and
- Apply linear programming for best allocation of economic resources.

#### **Unit-I**

**Differentiation and Integration: Set Theory, Relation and Function,** Limit, Continuity, Differentiation of algebraic, exponential, logarithmic, trigonometric, and implicit functions; Partial Differentiations, Euler's theorem and total differentials; Maxima and minima with and without constraints; Indefinite and definite integrals, Applications of static optimization techniques; Economic applications of differentiation and integration.

#### **Unit-II**

**Differential and Difference Equations:** Differential and difference equations of first and second order; Applications for determining Market Equilibrium and other economic applications.

#### **Unit-III**

**Linear Algebra:** Concept of Vector; Matrix: Types, properties of determinants, rank and inverse of matrix; System of linear equations, Solution by Cramer's rule and matrix inverse method, Linear independence and dependence of vectors, characteristic roots and vectors, quadratic forms.

#### **Unit-IV**

**Linear Programming:** Formulation and solution of linear programming problem; simplex and graphical methods, Concept of Duality; Input-Output Analysis – Open and Closed Models; Game Theory & its Applications.

**Transaction Mode:** Lecture, tutorial, problem solving, discussion & demonstration

#### **Suggested Readings:**

1. Allen R.G.D (2016): *Mathematical analysis for econometrics*, New Delhi, Trinity press
2. Asano, Akhito (2013): *An introduction to mathematics for economics*. New Delhi, Cambridge university press
3. Chiang, Alpha C. and Wainwright, Kevin (2013): *Fundamentals methods of mathematical economics* (4th edition), New Delhi, Tata McGraw hill education.
4. Harrison, Michael, and Waldron, Patrick. (2011): *Mathematics for economics and finance*, London, Routledge10
5. Hoy, Michael and Others (2014): *Mathematics for economics*, (3rd edition), New Delhi, PHI learning, Pvt. Ltd.
6. Pemberton, Malcolm (2017): *Mathematics for economics. An introductory textbook*, New Delhi, Viva books Pvt. Ltd.
7. Sydsaeter, K., and Hammond, P. (2008). *Essential mathematics for economic analysis*. New Delhi: Pearson Education.
8. Vali, Shapoor (2014): *Principles of mathematical economics*, U.S.A., Atlantic press
9. Wang, Susheng (2015): *Mathematical Economics*, 2nd edition, New Jersey, World scientific.
10. Yamane, T. (2012). *Mathematics for Economists*. Literary Licensing, LLC

### **SEMESTER-III (YEAR-II) FIFTH ELECTIVE- RURAL DEVELOPMENT**

**Course Outcomes:** The students will be able to;

1. Know the basic concept of rural economics.
2. Understand the importance of principles and laws of economics in understanding the problems of rural areas.
3. Apply the theories of economics in knowing the dynamics of rural economy.
4. Critically review various policies of rural development.

5. Create the knowledge of rural economy that can be helpful in overall socioeconomic development.

### **UNIT I:**

Rural Economics; Concept, Scope, Objectives and Importance of Rural Economics. Characteristics of Rural Economy; Rural-Urban Linkages. Rural Economy of India; Size and Structure of Rural Economy. Approaches to Rural Development; Regional approach, PURA and PRIs.

### **UNIT II:**

Natural Resources and their importance in Rural Development. Diversification of Rural Economy; Rural Industrialization. Problems of Rural Economy; Poverty, Unemployment, Inequality, Rural Indebtedness and Farmers Suicide, Infrastructure and Rural Development

### **UNIT III:**

Strategies of Rural Development; Growth oriented strategy, Welfare strategy, Responsive strategy, Holistic strategy, Right-based strategy. Rural Development Programmes; Objectives and Appraisal (SJGSY and MGNREGS). Rural Economy; Diversification as strategy of Development..

### **Readings:**

1. Dandekar V.M. and Rath . N. – Poverty in India, Indian School of Political Economics, Bombay
2. Sharma Anju – Dynamics of Agriculture Development, Concept Pub, New delhi Government of
3. India – Evolution of Community Development Programme in India Desai, Vasant - Study of
4. Rural Economics, Himalaya Publishing Company , New Delhi. Krishnamurthy V.T. –
5. Community Development in India
6. Approved by BOS, Dept. Of Economics and Faculty of Soc. Sciences in its meetings held on 28.08.2019 and 31.08.2019 respectively.
7. Krishanaswamy D.R.. – Fundamentals of Co-operation
8. Mathur B.S. - Co-operation in India Parthasarathy – Green Revolution in India
9. Jain P.C. – Agricultural Reforms in India
10. Jain S.P. – Indian Rural Economics Vikas, New Delhi
11. Wadhawa C.D. – Regional Rural Banks R.B.I. Report on SFDA - R.B.I. Mumbai
12. R.B.I. Report on MFDL - R.B.I. Mumbai

13. Maheshwari S. – Rural Development in India
14. Shakuntala Devi – Rural Credit and Agricultural Development, Scrap & Sons, New Delhi 1996.
15. Patodiya Mohan S. - Rural Economics for C.A.I.I.B Part – I
16. Approved by BOS, Dept. Of Economics and Faculty of Soc. Sciences in its meetings held on 28.08.2019 and 31.08.2019 respectively.

**SEMESTER-IV (YEAR-II) PAPER-I INDIA'S FOREIGN TRADE & INTERNATIONAL INSTITUTIONS  
(COMPULSARY PAPER)**

**Learning Outcome:** On completion of this course, the students will be able to:

Comprehend the theories of international trade,  
Identify the emerging patterns of international trade,  
Examine the prospects of regional integration, and  
Elucidate the role of international investment.

**Module-I**

Theories of International Trade: Heckscher-Ohlin Theory, Factor Price Equalization theorem, Stolper- Samuelson theorem, Rybczynski theorem.

**Module -II**

Economic Integration: The theory of Custom Union, Effects of Custom Union- Static effect, Lipsey Model, Vanek Model. Trade Blocs and Regional Economic Cooperation ,SAARC ,ASIAN, NAFTA, EU .

**Module –III**

Balance of payments: Meaning Structure, Equilibrium and disequilibrium, Adjustment Mechanism of Balance of Payments- the Absorption Approach, Causes and Measures to correct Adverse Balance of payments.

**Module IV** Foreign Trade Policy in India. India's Foreign Trade Composition and Direction .International Institution , W.T.O, I. M.F., World Bank , and Asian Development Bank .

## **Basic Reading List**

1. Salvatore, D. (1997), International Economics, Prentice hall, Upper Saddle River, N.J.;NewYork.
2. Krugman, P.R. and M. Obstfeld (1994), International Economics: Theory and Policy,Glenview, Foresman.
3. Kindleberger, C.P. (1973), International Economics, R.D. Irwin, Homewood.
4. Soderston, Bo (1991), International Economics, The Macmillan Press Ltd; London. Haberler, G. Von, International trade.
5. Reserve Bank of India, Reports on Currency and Finance.
6. King, P.G. (1995), International Economics and International Economic Policy: AReader. McGraw Hill International, Singapore.
7. Jhingan, M.L., International Economics, Vrinda Publication Ltd.
8. Datt, R, & K. P. M. Sundharam, Indian Economy, S. Chand & Co. Ltd.Mithani, D. M. International Economics
9. Singhani, G. C. International Economics

## **SEMESTER-IV (YEAR-II) PAPER-II- ECONOMIC DEVELOPMENT OF UTTAR PRADESH (COMPULSARY PAPER)**

### **Unit I**

Basic features of economy of U.P., characteristics and issues for development, Demographic features, Agricultural Development in Uttar Pradesh, Pattern of Industrial Development of UP. Small scale and cottage Industries in U.P.

### **Unit-II**

Nature, Features, Demographic Profile, Status of Natural Resources, Major Factors affecting growth and development in Uttar Pradesh. Economic and non-economic factors in economic development of Uttar Pradesh.

### **Unit-III**

Sectoral growth pattern in Uttar Pradesh; Economic growth in Uttar Pradesh and Indian

economy: A comparison; Infrastructural development of Uttar Pradesh.

#### **Unit -IV**

Pattern of land-holding and irrigation; production and productivity in agriculture, Farm mechanization, Crop diversification, agricultural credit, Agricultural policy and strategies in Uttar Pradesh, Rural Development in Uttar Pradesh.

#### **Unit-V**

Problems and Policies. Major industries in Uttar Pradesh, Pattern of Industrial Development in Uttar Pradesh, Industrial Policy in Uttar Pradesh, Growth pattern of Services sector and Its linkages of other sectors of UP Economy. Micro, Small, Medium Enterprises (MSMEs) in Uttar Pradesh. One Product One District (OPOD).

#### **Books:**

1. Agarwal, M K (2009): Uttar Pradesh ka Arthik Vikas. New Royal Book Company
2. Annual Financial Statement (Budget) of the Government of Uttar Pradesh published in different years & the latest.
3. Annual Financial Statement (Budget) various years & Latest published by the Government of India.
4. Economic Surveys, Government of India (Hindi/English)
5. Deshpande, R.S., Performance of Indian Agriculture through Plan Periods
6. Malik . Jayanta Kumar (1997), Growth of Agriculture in Independent India: 50 Years and After, RBI Occasional Papers, Vol. 18, Nos. 2 & 3, Special Issue (June & Sept.), pp. 145-172 11.
7. Acharya, S. S. and Agarwal N. L. (1999), 3rd edition, Agricultural Marketing in India, Oxford and IBH Pub. Co. Pvt. Ltd., New Delhi

## **SEMESTER-IV (YEAR-II) SEVENTH ELECTIVE- INFRASTRUCTURE DEVELOPMENT OF INDIA**

**Course Outcome:** The students will be able to:

1. Know the role of infrastructure in growth and development of the country
2. Know the structure of demand and supply of transport ; structure of transport cost, etc
3. Understand the primacy of energy in economic development of a country
4. Understand the availability and shortage of energy
5. Generate new alternatives to overcome the crisis of energy

**Module-I:** Infrastructure: Meaning and Types, Infrastructure and Economic Development, Challenges of Infrastructure Development, Infrastructure As a Public Good, Peak Load and Offload Problem, Marginal Cost Pricing and Other Pricing Methods of Public Utilities.

**Module-II:** Social Infrastructure: Significance of Education to Economic Development, Expenditure on Education, Private Investment in Education, Health and Economic Development: Linkages and Impact, Education, Health and Human Resource Development, Role of Government and Private Sector in Health care in India, Public Private Partnership in Health Sector: Current Scenario and Problems.

**Module-III:** Transportation: Role of Transport in Economic Development, Growth of Road Network in India, Transport Policy of India, Rationale of Government Intervention in Management of Transport, Need for Privatization in Transport Infrastructure, Public Private Participation, Limitations of Privatization Policy.

**Module-IV:** A brief introduction and Development of Energy Sector and Telecommunication Sector, Importance of non Conventional Energy Sources, Energy crisis in India, Rural Infrastructure Development, Problems of Infrastructure Development in India.

### **References:**

1. India Infrastructure Report, Annual Issues, Govt. of India.
2. Pankh, K.S. (2012): India Infrastructure Report 2012, Oxford University Press, New Delhi.
3. Misra, S.K. and Puri, V.K. (2016). India Economy, Himalaya Publishing House.
4. A.N. Agarwal and M.K. Agarwal: Indian Economy, New Age International Pvt. Ltd. New Delhi, (Latest Edition).
5. Five Year Plans
6. Government of India, Economic Survey (For Different Years)
7. Uma Kapila, Indian Economy Since Independence, Academic Foundation, New Delhi.

## **SEMESTER-IV (YEAR-II) SEVENTH ELECTIVE-ENVIRONMENTAL ECONOMICS**

### **Course Outcome:**

1. To understand the basics of environment and environmental economics.
2. To find out the situations of market failure in case of environmental goods.
3. To study the techniques used for valuation of environmental quality.
4. To evaluate the sustainability aspect associated with natural resources.
5. To work out the ways through which environmental degradation can be controlled.
6. To create new alternatives to combat current environmental crisis

### **Module-I**

Environmental Economics: Meaning and Scope, Environment and Economy: Neo-classical and Ecological Economics Perspectives, Interlinkages, Material Balance Model, environment and Development Trade-off, Functions of Environment.

### **Module-II**

Deviation from economic efficiency, Pollution as Externality, Environmental Quality as Public Good, Case of Market failure, Social Optimum Level of Pollution and changes in it.

### **Module-III**

Economics of Environmental Regulations: Liability Laws, Allocation of Property rights, Emission Standards, Pollution Tax and Transferable Pollution Permit.

### **Module IV**

Limits to Growth: Malthusian Neo – classical and Ecological Economics Perspectives, Sustainable Development: Concept, Rules Approaches to sustainability and indicator, Common Property Resources: Problem and Management, Issue of Climate Change.

### **Books Recommended:**

Ehrlich, P.A. Ehrlich and J. Hiden, Economics, Population, Resources, Environment, W.H. Freeman, San Francisco.

Hemple, Lamont C, Environmental Economics: The Global challenge, first East West Press, Edinburg.

Ahmad, M. Hussen: Principle of Environmental Economics, Poulledge & Taylor & francis group.

R.N. Bhattacharya: Environmental Economics, Air India Perspective, Oxford University Press.

Thomas & Challan: Environmental Economics.

Nick Hanley, F. Shogran & J. Whitel: Environmental Economics, Theory & Practice, Oxford University Press.

K.V. Pavitran : A Text Book of Environmental Economics, New Age India Publications.

U. Sarkar: environmental Economics (edited)

Erach Bharucha: Environmental Studies, Orient Lorgman.

Karpagam, M.A. text Book of Environmental Economics, Sterling Publisher Home.