

M.A. ECONOMICS

(CBCS Semester Programme)

ORDINANCES

OBJECTIVES OF THE PROGRAMME:

1. Prepare Students with knowledge of basic economic theories, methods of economic theories and methods of economic analysis.
2. Training students in conventional economics and new developments in theories and economic policies.
3. Enabling students to understand analyze economic issues, ideas and problems correctly.
4. Covering the syllabus of important competitive examination to prepare students for competition.
5. Keeping pace with latest developments, approaches and policies in the field of economics.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

After the successful completion of the programme, the students

- PSO 1.** Would be able to prepare various competitive examinations such as— NET, JRF, UPSC, PCS, IES etc.
- PSO 2.** Would be able to find out respectable and rewarding job both in public and private sector.
- PSO 3.** Would be able to start its own business, career in academics, computer related services, consultation services etc.
- PSO 4.** Would be able to take admissions in quality institutions for research activities.
- PSO 5.** Would have better understanding and skill in policy formation, economic analysis and entrepreneurship.

Admission

- University offers full time M.A. Economics programme of 4 semesters.
- Admission to MA 1st year in Semester I will be made as per the rules prescribed by the University from time to time.

- The reservation policy as prescribed by the Central and the State Government or its directions regarding admission from time to time shall be adhered in the admission.
- If, at any time after admission, it is found that a candidate has not fulfilled all the requirements stipulated in the offer of admission or has committed some fraudulent act at any stage then the university reserves the right to revoke the admission of the candidate.

Eligibility For Admission

- A candidate shall be eligible for admission if he/she possess Bachelor's Degree under 3years pattern of education with Economics/Statistics/Mathematics as a **Major Course** in the third year of graduation and a minimum 40% marks in aggregate in graduation.
- The exact eligibility criteria for admission M.A. Economics programmes shall be as prescribed by the University from time to time and university has the power to repeal and modify the eligibility criteria for admission in future.

PROGRAMME DURATION

- The duration of the M.A. programme for the candidates admitted in semester I will be of two academic years (4 semesters).
- The duration of each semester will generally be 90 working days. There are two regular semesters in a year. The semester that begins in July (*July to December*) is known as *Odd Semester* and the semester that begins in Jan (Jan to June) is known as Even Semester.

EXAMINATION AND ASSESSMENT

- As prescribed by the University (as per common ordinance for examination and assessment)

PROGRAMME STRUCTURE

MA Economics (Choice Based Credit Semester System) will be a 100 **credit** course. Overall total 21 courses are well spread over 4 semesters. These courses are divided in to four categories- Core Courses (**5 credit each**), Discipline Specific Elective Courses (**5 credit each**), Minor (Open) Elective Course (**4 credit each**) and Industrial Training/Survey/Project Work (**4 Credit each**).

Number of Courses and Credits

S.N.	Types of course	Numbers of credit per course	Total Number of course Type	Total credit for the particular type
1	Core	5	12	60
2	Discipline Specific Elective	5	4	20
3	Minor (Open) Elective *	4	1	04
4	Industrial Training/Survey/Project Work	4	4	16

Total Credit 100

Semester wise Break-up of Courses

S.N.	Types of course	Semester I	Semester II	Semester III	Semester IV	Total
1	Core	3(15)	3(15)	3(15)	3(15)	12(60)
2	Discipline Specific Elective	1(5)	1(5)	1(5)	1(5)	4(20)
3	Minor (Open) Elective *	1(4)				1(04)
4	Industrial Training/Survey/Project Work	1(4)	1(4)	1(4)	1(4)	4(16)
Total		5+1(28)	4+1(24)	4+1(24)	4+1(24)	21(100)
		(52)		(48)		

Note:

- * Minor (Open) Elective course would be offered to the students of other faculty. Maximum Intake will be 80 students in I & II Semester each.
- Figures in brackets are credits.

Core Courses: These courses will be compulsory for all students. There will be 12 (Twelve) core courses in all Out of these, 3 (three) courses would be taught in each Semester.

Elective Courses: These courses are divided in to two categories - Discipline Specific Elective Courses (5 credits each) and Minor (Open Elective) Course (4 credits). Students would be required to elect any 1 (one) course from list of open elective of any other discipline in Semester I or Semester II.

For each course of 5 credits, there will be **5 sessions** in every week. Each session will be of 60 minutes duration. Out of 5 sessions per week, 4 sessions will be devoted to lectures and 1 sessions for tutorials for intensive teacher- taught interaction, exercise, **project work and seminar** in both core and elective courses.

Semeter wise Structure of the Programme

First Year: Semester I

<u>Core Courses</u>					
Course No.	Course code	Course Name	L	T	Credit
I	ECO-501	Fundamentals of Microeconomics	60	15	5
II	ECO-502	Theory of Public Economics	60	15	5
III	ECO-503	Indian Economy: Basic and Agricultural Issues	60	15	5
Discipline Specific Elective(Any One Course to be selected)					
IV	ECO-504	Fundamentals of Statistics	60	15	5
V	ECO-505	Industrial Economics	60	15	5
VI	ECO-506	Theory of Agricultural Economics	60	15	5
Minor (Open) Elective					
VIII	ECO-507/515	Indian Economy: Basic Features	45	15	4
	ECO-508	Industrial Training/Survey/Project Work			4

Total Credit = 28

First Year: Semester II

<u>Core Courses</u>					
Course No.	Course code	Course Name	L	T	Credit
I	ECO-509	Modern Microeconomics	60	15	5
II	ECO-510	Fiscal Policy and Federalism	60	15	5
III	ECO-511	Indian Industrial and External Sector: Issues and Policy	60	15	5
Discipline Specific Elective(Any One Course to be selected)					
IV	ECO-512	Probability Theory and Statistical Inference	60	15	5
V	ECO-513	Project Appraisal and Investment Planning	60	15	5
VI	ECO-514	Agricultural Reforms and Marketing	60	15	5
Minor (Open) Elective					
VIII	ECO-507/515	Indian Economy: Basic Features	45	15	4
	ECO-516	Industrial Training/Survey/Project Work			4

Total Credit = 24

Second Year: Semester III

<u>Core Courses</u>					
Course No.	Course code	Course Name	L	T	Credit
I	ECO-517	Fundamentals of Monetary Economics	60	15	5
II	ECO-518	International Trade Theory & Policy	60	15	5
III	ECO-519	Principles of Environmental Economics	60	15	5
Discipline Specific Elective(Any One Course to be selected)					
IV	ECO-520	History of Economic Thought	60	15	5
V	ECO-521	Basic Growth Models	60	15	5
VI	ECO-522	Demography	60	15	5
	ECO-523	Industrial Training/Survey/Project Work			4

Total Credit = 24

Second Year : Semester IV

<u>Core Courses</u>					
Course No.	Course code	Course Name	L	T	Credit
I	ECO-524	Financial Institutions and Policy	60	15	5
II	ECO-525	International Macroeconomic System and Policy	60	15	5
III	ECO-526	Dimensions of Environmental Economics	60	15	5
Discipline Specific Elective(Any One Course to be selected)					
IV	ECO-527	Advanced Growth Theory	60	15	5
V	ECO-528	Population Economics	60	15	5
VI	ECO-529	Econometrics: Theory and Practice	60	15	5
	ECO-530	Industrial Training/Survey/Project Work			4

Total Credit = 24

Abbreviation: L = Lectures, T = Tutorials,

Semester wise Syllabi of the Programme

ECO-501: Fundamentals of Microeconomics

Unit I	Equilibrium in Economics, Types of Equilibrium; Cobweb Model of lagged adjustments. Existence, Uniqueness and Stability of equilibrium; Demand Function, Elasticity of Demand; Analysis of Consumer Behaviour: Marginal Utility Theory, Indifference Curve Technique, Revealed Preference Theory	12 Lectures
Unit II	New Dimensions in Consumer Behaviour: Lancaster's Approach to Consumer Theory. Consumer Behaviour under uncertainty: St. Petersburg Paradox, N-M Utility Index, Friedman Savage Hypothesis, Markowitz hypothesis; Consumer's attitude towards Gamble & Insurance; Compensated Demand Function, Expenditure Function, Indirect Utility function: Leibenstein's consumer demand theory: Network externalities.	12 Lectures
Unit III	Theory of Production: Production Function: Properties, Cobb-Douglas, Constant Elasticity of Substitution (CES) production functions. Law of Production: Short-run and Long-run. Technical limit of production; producer's choice of optimum factor combination, Product lines & Expansion path of firm	09 Lectures
Unit IV	Theory of Value: Neo-Classical Theory of firm: Market of Perfect Competition: Industry ad firm in Short-run and long-run; Monopoly: Short-run and long-run analysis, Bilateral Monopoly, Price-Discrimination, Dead weight loss. Monopolistic Competition: Chamberlin's models, Theory of Excess Capacity, Non-Price Competition. Classical oligopoly models; Modern oligopoly: features & models.	15 Lectures
Unit V	Basic Concepts & terms of Theory of Games; Types of Strategies; Pure and Mixed Strategy Games Two-person zero sum game: Cooperative and Non-Cooperative Games; Prisoner's Dilemma model and its implications for market and business firms.	12 Lectures

Books Recommended:

- Henderson J, and R.E. Quandt: Microeconomic Theory: A Mathematical Approach , Mc Grow Hill, New Delhi
- Koutsoyiannis A: Modern Microeconomics: ELBS, Macmillan, Tokyo
- Varian, H.R.: Intermediate microeconomics: A Modern Approach, East West Press, New Delhi
- Hirshleifer, J and A Glazer: Price Theory and Applications, Prentice Hall of India, New Delhi
- Browning & Browning: Microeconomic Theory and Application, Kalyani Publications.
- Rubin field & Pindyck: Micro economics , Maxwell Macmillan.
- H.L. Ahuja: Advanced Economic Theory (Hindi & English)
- Mishra & Puri: Advanced Microeconomics, Himalaya Publishing House.
- M.L. Jhingan: Advanced Economic Theory, Vrinda Publications, Delhi
- P.K. Gupta & D.S. Hira: Operation Research, S. Chand & Company.

Course Outcomes

- CO 1.** Enables the student to understand the various behaviours of various economic units such as consumer, producer and firm.
- CO 2.** Enables the student to understand the decision making process of various economic units such as consumer, producer and firm.
- CO 3.** Enables the student to understand the price determination process of firm under different market conditions.

ECO-502: Theory of Public Economics

Unit I	Role of Government in Organized Society., Branches of Public Finance- Allocation, Distribution and Stabilization, Market Performance- Efficiency in Partial and General Equilibrium, Equity and Social Welfare function, Concept of Bliss Point, Government Intervention and Dead weight loss, Pareto Improvement. Pareto Potential Improvement, Double Edged Criteria, I M D Little Criteria and Theory of Second Best.	15 Lectures
Unit II	Externalities- Characteristics, Coase Theorem and its Problems, Public Sector solution to Externalities Problems, Externalities and Equity, Welfare gains From Alternative Interventions- Tax versus Regulation: efficiency Comparison and Public Choice rationale.	10 Lectures
Unit III	Concepts of Public Goods, Private Goods and Merit Goods; and nature of public goods-Non rival and Non Excludability Principles, Causes of Market Failure -- Imperfections, Decreasing costs, Theories of Social Goods- Samuelson Model, Musgrave's Budget Model, Political Process of Voting (Bowen Model, Black Theorem, Logrolling) for the Provision of Public Goods, Voting Paradox.	13 Lectures
Unit IV	Public Expenditure: Structure and Growth of Public Expenditure - Wagner's Law of Increasing State Activities, Wiseman- Peacock hypothesis. Public Expenditure in Relation to Economic Activity, Employment and Income Distribution. Evaluation of Public Expenditure: Cost Benefit Analysis, Public Revenue: Principles of taxation -- Benefit Theory of Taxation, Ability to Pay Theory of Taxation.	10 Lectures
Unit V	Theories of incidence- Elasticity, Cost condition and Incidence, Market Structure and Incidence, Tax Structure and Incidence, Excess burden- Marsallian and Hicksian approach, Indirect tax vs Direct Tax, Effects of taxation on Supply of Labour, Double taxation, Taxation and Incentives, Theory of Tax Structure, changes during economic development. Goods and Service Tax (GST).	12 Lectures

Books Recommended:

- Musgrave, R.A. and P.B. Musgrave, Public Finance in Theory and Practice, McGraw Hill, Kogakusha, Tokyo.
- Herber, B.P., Modern Public Finance, Richard D. Irwin, Homewood.
- Musgrave, R.A., The Theory of Public Finance: A Study in Public Economy, Tokyo, McGraw Hill Book Co. and Kogakusha Co., (International student Edition)
- Musgrave, R.A., Fiscal Systems.
- Houghton, R.W., Public Finance
- Cutt, James.,Taxation and Economic Development in India, Frederick A Praegar Publishers, New York.
- Gandhi, V.P., Some Aspects of India's Tax Struture, Vora and Company, Bombay.
- John Cullis & Philps John, Public Finance & Public Chioce: Analytical Perspectives, Oxford University Press, New York

Course Outcomes

- CO 1.** Enables the student to understand the concepts of social, private and merit goods importance of government in the allocation of resources in social good.
- CO 2.** Enables the student to understand the various aspects of public expenditure as well as the theory of public expenditure.
- CO 3.** Enables the student to understand the various aspects of taxation as well as theories of taxation.

ECO-503 : Indian Economy: Basic and Agricultural Issues

Unit I	National Income: Concept, Trends, Composition and Structural change, Sectoral growth, Income Distribution and Income Inequality, Regional Disparities.	12 Lectures
Unit II	Poverty in India: Absolute and Relative, Poverty indices- Poverty Ratio; Poverty Gap Index and Squared Poverty Index; Multi-dimensional Poverty index; Analysis of Poverty in India, Inclusive Growth, Unemployment- Unemployment Rates; Elasticity; Structure and Jobless Growth; Social Welfare Schemes; Interrelation between Population, Development and Environment.	18 Lectures
Unit III	Population: Labour Force and Occupational Distribution of Population, Population Growth, Population Problem, Latest Census, Population Policy. Planning in India: Objectives and Strategy of Planning; Achievements of Plans, Plan Models in India, NITI Aayog	8 Lectures
Unit IV	Resource Base and Infrastructure: Sources of Energy-Hydro, Thermal and Nuclear, Transport and Communication, Social infrastructure -- Education, Health and Environment, Sustainable Development	7 Lectures
Unit V	Agriculture Sector: Role of Agriculture, Interrelationship between Agriculture and Industry, Growth of Indian agriculture. Institutional aspects -- Land reforms, Green Revolution and Need for second revolution, Technological Change in Agriculture, Agriculture Price Policy of India, Agricultural Finance, Agricultural Marketing, Food Security.	15 Lectures

Books Recommended:-

- Datt, R. and K.P.M. Sundharam, Indian Economy, S. Chand & Company Ltd., New Delhi.
- Misra, S.K. and V.K. Puri, Indian Economy -- Its Development Experience, Himalaya Publishing House, Mumbai.
- Kapila, Uma., Indian Economy : Since Independence
- Agrawal, A.N., Indian Economy, New Edge International Pvt Limited, New Delhi.
- Government of India, Economic Survey (Annual), Economic Division, Ministry of Finance, New Delhi.
- Ahluwalia, I.J. and I.M.D. Little (Eds), India's Economic Reforms and Development (Essays in honour of Manmohan Singh), Oxford University Press, New Delhi.

- Jalan, B, India's Economic Policy -- Preparing for the Twenty-first Century, Viking, New Delhi.
- Parikh, K.S., India Development Report -- 1999-2000, Oxford University Press, New Delhi.
- Datt, R. (Ed.), Second Generation Economic Reforms in India, Deep & Deep Publications, New Delhi.
- Wadhawa, Charan, D., Some Aspects of Indian Economy
- Lucas and Papanek, The Indian Economy-Recent Development and Futre Prospects
- Uppal, J.S., India's Economic Problems
- Agrawal, A.N and S.P.Singh., The Economics of Under Development
- Myrdal, Gunnar, Asian Drama (Vols. I and II)
- Sen, A.K. Choice of Techniques
- Hicks, Mukherjee and Ghosh, The Economic Framework of the Indian Economy
- Ahluwalia, Isher, J. Industrial Growth in India
- Bhagwati, J.W. and Desai, Padma., India: Planning for Industrialisation
- Bagchi, A., The Political Economy of Under Development in India
- Dandekar, V.M. and N. Rath, Poverty of India

Course Outcomes

- CO 1.** Enables the student to understand the facts and various aspects of basic issues of Indian economy such as national income, poverty, unemployment, population, labour force etc.
- CO 2.** Enables the student to understand the planning process and resources base such as natural resources, physical infrastructure and social infrastructure of Indian economy.
- CO 3.** Enables the student to understand the situation, problems and prospects of agriculture sector of Indian economy.

ECO-504 : Fundamentals of Statistics

Unit I	Measures of Central Tendencies: Mean, Median, Mode, Quartiles and Percentiles. Measures of Dispersion: Mean, Standard Deviation and Lorenz Curve, Skewness, Moments upto fourth order and Kurtosis.	14 Lectures
Unit II	Correlation Analysis: Assumptions and Concept of Correlation, Karl Pearson's and Spearman's Rank Correlation Coefficients and their Properties, Partial and Multiple Correlations; Association of Attributes, Independence of Attributes, Coefficients of Association.	14 Lectures
Unit III	Analysis of Time Series: Components of a Time Series, Measurement of Trend, Fitting a Linear and Non-linear trend by Least Squares Method, Measurement of Seasonal Variations.	12 Lectures
Unit IV	Regression Analysis: Meaning and Uses, Regression Lines and Regression Equations, Regression Coefficients, Regression Equations by Least Squares Method;	10 Lectures
Unit V	Interpolation and Extrapolation: Concept, Assumptions and Uses of Interpolation and Extrapolation. Methods of Interpolation and Extrapolation -- Parabolic Curve method, Binomial Expansion, Newton's Formula and Lagrange's Method.	10 Lectures

Books Recommended:

- Mood, A.M. and P.A. Graybill: Introduction to the Theory of Statistics.
- Yule, G.U. and M.G. Kendall: An Introduction to the theory of Statistics.
- Gupta, S.C. and V.K. Kapoor: Fundamentals of Mathematical Statistics (eighth edition), S. Chand & Sons Publications, New Delhi.
- Gupta, S.C. and V.K. Kapoor: Fundamentals of Applied Statistics (third edition), S. Chand & Sons Publications, New Delhi.
- Gupta, S.C. and V.K. Kapoor: Elements of Mathematical Statistics (fourth edition), S. Chand & Sons Publications, New Delhi.
- Elhance, D.N.: Fundamentals of Statistics (Hindi Ed.)
- Agarwal, D.R.: Statistics for Economists, Vrinda Publications, New Delhi.
- Gupta, B.N.: Statistics (fourth edition), Sahitya Bhawan Publication, Agra (UP).
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Course Outcomes

- CO 1.** Enables the student to understand the various methods of statistical analysis such as measure of central tendency, measure of dispersion.
- CO 2.** Enables the student to understand the correlation analysis, Time series analysis and regression analysis.
- CO 3.** Enables the student to understand the techniques of Interpolation and Extrapolation.

ECO -505 : Industrial Economics

Unit I	Meaning and Scope of Industrial Economics, Basic Concepts of Industrial Economics -- Concept and Types of Firm, Concepts of Industry, Market, Market Structure, Market Power, Market Conduct and Market Performance. Profit maximizing Goals and Alternative Goals of a Firm.	15 Lectures
Unit II	Expansion and Growth of Firm: Concept, Types and Motives of Diversification, Vertical Integration, Merger and Takeover. Growth of Firm: Need for Growth of a firm, Theories of Growth of Firm – Downie, Penrose and Maris Model.	15 Lectures
Unit III	Market Innovation: Concept of Innovation Process -- Innovation, Invention and Imitation, Measurement of Innovation Activities, Determinants of Innovation Activities. Advertisement activity of Firm.	12 Lectures
Unit IV	Concept of Industrial Efficiency – Technical Efficiency, Factor Price Efficiency and Productive Efficiency. Factors Determining Industrial Efficiency, Concept and Measurement of Industrial Productivity.	12 Lectures
Unit V	Industrial Concentration – Concept, Types and Measurement of Industrial Concentration, Industrial Concentration in India.	6 Lectures

Books Recommended:

- Divine, P.J. and R.M. Jones et. al.: *An Introduction to Industrial Economics*, George Allen and Unwin Ltd., London.
- Hay, D. and D.J. Morris.: *Industrial Economics -- Theory and Evidence*, Oxford University Press, London.
- Bains, J.S.: *Industrial Organisation*, Cheltenham, U.K.
- Barthwal, R.R.: *Industrial Economics* (second edition), New Age International Pvt. Ltd., New Delhi.
- Martin, Stephen: *Industrial Economics – Economic Analysis and Public Policy*, Macmillan Publishing Company, London.
- Singh, A and Sadhu, A.N.: *Industrial Economics*, Himalaya Publishing House, New Delhi.
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Course Outcomes

- CO 1.** Enables the student to understand the various terms used in industrial economics such as firm, industry, market, market structure etc. It also enables the student to understand the various forms of firm that exist in an industrial society.
- CO 2.** Enables the student to understand the various conducts such as product differentiation, product diversification, vertical integration, merger, acquisition, takeover, innovation etc. performed by a firm to achieve its goal.
- CO 3.** Enables the student to understand the various problems such as industrial concentration, industrial inefficiency that may exist in an industrial society.

ECO -506 : Theory of Agricultural Economics

Unit I	Nature and Scope of Agricultural economics; Difference between agricultural economics and industrial economics; Agriculture in developing countries: Issues & Challenges	10 Lectures
Unit II	Role of agriculture in economic development; Economic growth with traditional agriculture; Economic theories of agriculture development: Lewis, Fei-Ranis and Mellor Theory.	12 Lectures
Unit III	Agriculture production functions: Concept and Types of Agricultural Production Function. Law of Variable Proportions, Returns to scale in agriculture, Production Decisions: Factor-Product Relationship, Factor-Factor Relationship, Product-Product Relationship,	18 Lectures
Unit IV	Economics of Farm size: Large Scale and Small Scale Farming, Relation between Productivity & Farm size, Agriculture productivity in developing Countries.	10 Lectures
Unit V	Unemployment and under employment in agriculture: Types, Problems and Solutions, Saving and capital formation in agriculture.	10 Lectures

Books Recommended:

- Khusro, A.M., Reading in Agricultural Development
- Eicher and Witt, Agricultural and Economics Development
- Sowth W. and Jhonston, Agricultural Development and Economics Growth
- Mellor, J.W., The Economics of Agricultural Development
- Scultz, T.W., Economics Growth and Agricultural.
- Heady, E.O., Economics of Agricultural Production and Resuorces Use.
- Shukla, Tara, Economics and Under-development Agriculture.
- Shukla, Tara, Capital Formation in Agriculture.
- Shephered, G.S., Agricultural Price Analysis
- Singh, Baljit, Whether Agriculture in India
- Sen, S.R., The Straegy for Agricultural Development
- Jain, S.C., Agriculture Policy in India

- Dwivedi, R.C., New Strategy of Agricultural Development in India

Course Outcomes

- CO 1.** Enables the student to understand the Nature and Scope of Agricultural economics, Problems of agriculture in developing countries and Agriculture productivity in developing Countries.
- CO 2.** Enables the student to understand the Concept and Types of Agricultural Production Function, Factor-Product Relationship, Factor-Factor Relationship, Product-Product Relationship.
- CO 3.** Enables the student to understand the Problems of Unemployment and under employment in agriculture sector; Saving and capital formation in agriculture.

ECO-507/515: Indian Economy: Basic Features

Unit I	Growth and Development: Distinguish between Growth and Development, Concepts, Measurement of National Income, Composition and Trends of National Income in India, Development Indicators.	10 Lectures
Unit II	Planning in India: A Brief History of Indian Five Year Plans, NITI Aayog, Self Reliance India.	06 Lectures
Unit III	Poverty and Unemployment: Concepts, Measurement and Status of Poverty in India; Unemployment- Concepts, Types, Causes, Unemployment Rates, Government Initiative for Employment Generation and Poverty Eradication.	09 Lectures
Unit IV	Indian Agriculture: Land Reforms, Green Revolution, Various Crops, Cropping Patterns, Irrigation Systems, Food Policy, Public Distribution System and Food Security.	07 Lectures
Unit V	Recent Policies: Tools and Recent Changes in Monetary and Fiscal Policy, New Trade Policy, Status of Balance of Payment in India.	06 Lectures
Unit VI	Environment and Sustainable Development: Environment-Economy Interrelationship, Environmental Externalities, Market Failure, Sustainable Development: Approach and Requirements.	07 Lectures

Books Recommended:

- Datt, R. and K.P.M. Sundharam, Indian Economy, S. Chand & Company Ltd., New Delhi.
- Misra, S.K. and V.K. Puri, Indian Economy -- Its Development Experience, Himalaya Publishing House, Mumbai.
- Kapila, Uma., Indian Economy : Since Independence
- Agrawal, A.N., Indian Economy, New Edge International Pvt Limited, New Delhi.
- Khusro, A.M., Reading in Agricultural Development
- Singh, Baljit, Whether Agriculture in India
- Sen, S.R., The Straegy for Agricultural Development
- Jain, S.C., Agriculture Policy in India
- Bagchi, A., The Political Economy of Under Development in India
- Dandekar, V.M. and N. Rath, Poverty of India
- R.N. Bhattachraya: Environmental Economics, Air India Perspective, Oxford University Press.
- Maya Maheshwari: Paryavarniya Arthshastra – Ek Bhartiya Paripeksha, Har Aanand Publications, New Delhi.

Course Outcomes

- CO 1.** Enables the student to understand the Problems of Unemployment and under employment in Indian Economy.
- CO 2.** Enables the student to understand the approaches of Sustainable Development and relation between Environment and Economy.
- CO 3.** Enables the student to understand the historical background of Planning in India.

ECO-508: Industrial Training/Survey/Project Work

ECO- 509: Modern Microeconomics

Unit I	Critique to Neo-Classical Theory of Firm, Modern Theories of Firm: Managerial Theories of Firm: Baumol, Marris and Williamson. Limit Price Theory, Pricing Strategies.	13 Lectures
Unit II	Micro Distribution Theories: General Theory of Factor Pricing, Classical and Modern theories of Rent, Theories of Profit – Knight and Shackle. IS-LM Curves and Interest Rate determination; Adding-up Problem.	12 Lectures
Unit III	Normative Approach to Economics: Old Welfare Economics: A.C. Pigou; New Welfare Economics: Pareto optimality Conditions and Its Violation, Kaldor-Hicks Criterion and Scitovsky Paradox; Social Welfare Function, Social Choice Theory: Arrow, Rawls Theory of Justice.	11 Lectures
Unit IV	Linear Programming Technique: Basic Terms, Problem Formulation. Solution of LPP: Graphical Method & Simplex Method. Primal & Dual Problems. Input-Output Problem: Nature and Utility; Input-output Model, Hawkins-Simon Conditions.	12 Lectures
Unit V	Economics of Information: Properties and Value of Information; Asymmetric Information: Adverse Selection; Insurance and Moral Hazard Problem; Market Signalling In labour market; Wage Efficiency Model; Principal-Agent Problem and Solution.	12 Lectures

Books Recommended:

- Henderson J, and R. E. Quandt: Microeconomic Theory: A Mathematical Approach, McGraw Hill, New Delhi.
- Koutsoyiannis A.: Modern Microeconomics: ELBS, Macmillan, Tokyo.
- Varian, H. R.: Intermediate Microeconomics: A Modern Approach, East West Press, New Delhi.
- Hirshleifer, J. and A. Glazer: Price Theory and Applications, Prentice Hall of India, New Delhi.
- Browning & Browning: Microeconomic Theory and Applications, Kalyani Publications.
- Rubin Field & Pindyck: Micro Economics, Maxwell Macmillan.
- H.L. Ahuja: Advance Economic Theory (Hindi & English)
- Mishra & Puri: Advance Microeconomic, Himalaya Publishing House.
- M.L. Jhingan: Advance Economic Theory, Vrinda Publications, Delhi
- P. K. Gupta & D. S. Hira: Operation Research, S. Chand & Company.

- Dr. Sandeep Kumar: Vayashti Arthshastra Me Naye Vikas, ASR Publications, Ghaziabad 201102

Course Outcomes

- CO 1.** Enables the student to understand the Alternative Theory of Firms, Input-Output Analysis and Linear Programming as well as Utility of Input-Output Analysis Linear Programming Technique in economic analysis.
- CO 2.** Enables the student to understand the Theory of Factor Pricing, Economic Welfare Criterion, Pareto Optimality Conditions, Social Welfare Function.
- CO 3.** Enables the student to understand the Theories of Search, Economics of Information, Asymmetric Information.

ECO-510: Fiscal Policy and Federalism

Unit I	Fiscal Policy: Objectives and Instruments, Types – Expansionary and Contractionary ,Compensatory Finance, Functional Finance, Effectiveness of tools of fiscal policies: closed and Open Economy, Interdependence of fiscal and monetary policies, Fiscal policy for developing economies, Concept of Crowding out Effect	18 lectures
Unit II	The Budget: Concept, Types, Budget Making and the Budgetary Process, Theory of Optimum Budget. Zero-base Budgeting system; Performance based budgeting system.	10 Lectures
Unit III	Deficits: Concept and Types, Deficit Financing, Public Debt: Concept, Nature and Management, Burden of Public debt, Methods of Redemption.:	13 Lectures
Unit IV	Fiscal Federalism: Multi Level Government, Importance, Principles & Problems, Optimal Community size, Optimal Services Level, Optimal Structure of Community and Service, Vertical and Horizontal fiscal imbalance,	12 Lectures
Unit V	Fiscal federalism in India, Union- /State Financial Relations in India, Reports of Finance Commission in India; Problems of states' resources and indebtedness, Problems of Local Finance.	7 Lectures

Books Recommended:

- Musgrave, R.A. and P.B. Musgrave, Public Finance in Theory and Practice, McGraw Hill, Kogakusha, Tokyo.
- Herber, B.P., Modern Public Finance, Richard D. Irwin, Homewood.
- Musgrave, R.A., The Theory of Public Finance: A Study in Public Economy, Tokyo, McGraw Hill Book Co. and Kogakusha Co. (International student Edition)

- Musgrave, R.A., Fiscal Systems.
- Houghton, R.W., Public Finance
- Cutt, James., Taxation and Economic Development in India, Frederick A Praegar Publishers, New York.
- Gandhi, V.P., Some Aspects of India's Tax Struture, Vora and Company, Bombay.
- John Cullis & Philips John, Public Finance & Public Chioce: Analytical Perspectives, Oxford University Press, New York

Course Outcomes

- CO 1.** Enables the student to understand the Nature and Management Public Debt, Budget Making and the Budgetary Process and various types of budgeting system such as Zero-base Budgeting, Performance based budgeting etc.
- CO 2.** Enables the student to understand the Nature and functioning of Fiscal Policy, Interdependence of fiscal and monetary policies.
- CO 3.** Enables the student to understand the Principles & Problems of Fiscal Federalism, Union- /State Financial Relations in India and Reports of Finance Commission in India.

ECO-511: Indian Industrial and External Sector: Issues and Policy

Unit I	Industrial Sector: Growth and Structure of Indian industries; Industrial productivity - measurement, partial and total trends; Industrial policy of India; Policies towards public sector enterprises -- Privatisation and Disinvestment Policy.	15 Lectures
Unit II	Concept and classification of SSIs, Role of SSIs in Indian Economy, Policy towards cottage and small-scale industries; Industrial sickness and problem of under utilisation of capacity.	5 Lectures
Unit III	Industrial labour and industrial relation, issues in labour market reforms, Exit policy.	10 Lectures
Unit IV	External Sector: Composition and direction of foreign trade of India; Balance of payments situation; Trade and exchange rate policies, FEMA; Inflow and outflow of foreign capital and MNCs in India.	15 Lectures
Unit V	Economic Reforms: Fiscal sector reforms, Financial sector reform; Globalisation of Indian economy, WTO and its impact on Indian economy; Issues in competition and safety nets in Indian economy.	15 Lectures

Books Recommended:-

- Datt, R. and K.P.M. Sundharam, Indian Economy, S. Chand & Company Ltd., New Delhi.
- Misra, S.K. and V.K. Puri, Indian Economy -- Its Development Experience, Himalaya Publishing House, Mumbai.
- Kapila, Uma., Indian Economy : Since Independence
- Agrawal, A.N., Indian Economy, New Edge International Pvt Limited, New Delhi.
- Government of India, Economic Survey (Annual), Economic Division, Ministry of Finance, New Delhi.
- Ahluwalia, I.J. and I.M.D. Little (Eds), India's Economic Reforms and Development (Essays in honour of Manmohan Singh), Oxford University Press, New Delhi.
- Jalan, B, India's Economic Policy -- Preparing for the Twenty-first Century, Viking, New Delhi.
- Parikh, K.S., India Development Report -- 1999-2000, Oxford University Press, New Delhi.
- Datt, R. (Ed.), Second Generation Economic Reforms in India, Deep & Deep Publications, New Delhi.

Course Outcomes

- CO 1.** Enables the student to understand the Different aspects and problems as well as policies of industrial sector of Indian economy.
- CO 2.** Enables the student to understand the Different aspects and problems as well as policies of external sector of Indian economy.
- CO 3.** Enables the student to understand the Process of Economic Reforms in India, globalization of Indian economy, Issues in competition and safety nets in Indian economy.

Course Outcomes

- CO 1.** Enables the student to understand the Different concepts of Probability and use of probability theory in statistical analysis, Sampling Theory and various methods of sampling.
- CO 2.** Enables the student to understand the various types of Theoretical Statistical Distribution such as Binomial Distribution, Poisson Distribution, Normal Distribution etc.
- CO 3.** Enables the student to understand the Statistical testing procedure.

ECO-513: Project Appraisal and Investment Planning

Unit I	Project Appraisal: Basic Concepts Related to Project Appraisal, Cash - Flow Analysis of a Project, Break - even - Point, Pay - back Period, Margin of Safety, Contribution, Profit - Volume Ratio.	10 Lectures
Unit II	Methods of Project Appraisal: Pay -back Period Method, Return on Capital Method, Cost-Benefit Analysis -- Net Present Value Method, Internal Rate of Return Method, Appraisal of Public Projects--Social Cost-Benefit Analysis.	16 Lectures
Unit III	Industrial Location analysis: Determinants of Industrial Location, Theories of Industrial Location -- Weber Theory, Sargent Florence Theory.	14 Lectures
Unit IV	Industrial Finance: Need and Nature of Industrial Finance -- Short-term, Medium-term and Long- term Finance, Debt and Equity Capital, Types of Shares -- Ordinary and Preferential Shares, Types of Debentures. Sources of Industrial Finance -- Internal and External Sources.	12 Lectures
Unit V	Sources of Industrial Finance in Indian Market – Money Market and Capital Market in India, Development of Financial Institutions and Capital Market in India.	8 Lectures

Books Recommended :

- Smith, D.M.: *Industrial Location -- An Economic and Geographic Analysis*, John Wiley, New York.
- Barthwal, R.R.: *Industrial Economics* (second edition), New Age International Pvt. Ltd., New Delhi.
- Prasanna and Chandra: *Project Appraisal and Investment Planning*.
- Singh, A and Sadhu, A.N.: *Industrial Economics*, Himalaya Publishing House, New Delhi.
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Course Outcomes

- CO 1.** Enables the student to understand the various aspects of Project Appraisal and different methods of Project Appraisal.
- CO 2.** Enables the student to understand the Process of determination of Industrial Location and theories of Industrial Location.
- CO 3.** Enables the student to understand the various aspects of Industrial Finance, different options of industrial finance available to an investor and various sources of Industrial Finance in Indian Financial Market.

ECO-514: Agricultural Reforms and Marketing

Unit I	Economics of land reforms; Land reforms and economic development; Types of Farming: Co-operative, Collective, Organic Farming and Sustainable Agriculture in India, Technological reforms: Various Technological Missions Green Revolution and Need of Second Green Revolution, Farm Machanisation; Use and Benefits of Modern Technique in agriculture, Irrigation System in India: Strength, Weakness, Opportunity and Potential.	15 Lectures
Unit II	Agricultural Marketing: Characteristics of agricultural marketing in India, Regulated Marketing; TRIFED, APEDA, & eNAM, Marketing efficiency, Marketing Channels, Functions and Problems, Cost-Price structure in agriculture.	10 Lectures
Unit III	Pricing of agriculture products; Price fluctuation of agricultural products, Price stabilization measures; Agricultural price policy in India. Market Intervention and Price Support Schemes.	10 Lectures
Unit IV	Agricultural finance; Role and Importance of agricultural finance, Financial Institutions; Financing through Co-operatives, NABARD, Commercial Banks and RRBs, Land Utilization Pattern; New agricultural strategy, Changes in agrarian structure in India; Cropping Pattern: Shift in Cropping Pattern and its Implications, Crop Insurance in India: Evolution, Issues and Way Forward.	15 Lectures
Unit V	Agricultural growth in India: Dimensions of Food Security, Food policy; Public distribution system, Agricultural Trade, State Trading in food grains.WTO and Indian agriculture	10 Lectures

Books Recommended:

- The Indian Society of agricultural Economics. Readings in Agriculture Economics. Comparative Experience of Agricultural development in Developing Countries.
- Khusro, A.M., Reading in Agricultural Development
- Eicher and Witt, Agricultural and Economics Development
- Mellor, J.W., The Economics of Agricultural Development

- Heady, E.O., Economics of Agricultural Production and Resources Use.
- Shukla, Tara, Economics and Under-development Agriculture.
- Shukla, Tara, Capital Formation in Agriculture.
- Shepherd, G.S., Agricultural Price Analysis
- Singh, Baljit, Whether Agriculture in India
- Sen, S.R., The Strategy for Agricultural Development
- Jain, S.C., Agriculture Policy in India
- Dwivedi, R.C., New Strategy of Agricultural Development in India
- N.C.A.E.R., A Strategy for Agriculture Planning.
- Planning Commission, Five Year Plans
- Planning Commission, Reports of the Committee of the Panel on Land Reforms U.N.O., Land Reforms Reports.

Course Outcomes

- CO 1.** Enables the student to understand the Agricultural reforms in India such as land reforms, Co-operative and Collective Farming, Technological reforms, Green Revolution etc.
- CO 2.** Enables the student to understand the various aspects of Agricultural Marketing Cost-Price structure in agriculture.
- CO 3.** Enables the student to understand the Pricing techniques of agriculture products and Agricultural price policy in India.

ECO-507/515: Indian Economy: Basic Features

Unit I	Growth and Development: Distinguish between Growth and Development, Concepts, Measurement of National Income, Composition and Trends of National Income in India, Development Indicators.	10 Lectures
Unit II	Planning in India: A Brief History of Indian Five Year Plans, NITI Aayog, Self Reliance India.	06 Lectures
Unit III	Poverty and Unemployment: Concepts, Measurement and Status of Poverty in India; Unemployment- Concepts, Types, Causes, Unemployment Rates, Government Initiative for Employment Generation and Poverty Eradication.	09 Lectures
Unit IV	Indian Agriculture: Land Reforms, Green Revolution, Various Crops, Cropping Patterns, Irrigation Systems, Food Policy, Public Distribution System and Food Security.	07 Lectures
Unit V	Recent Policies: Tools and Recent Changes in Monetary and Fiscal Policy, New Trade Policy, Status of Balance of Payment in India.	06 Lectures
Unit VI	Environment and Sustainable Development: Environment-Economy Interrelationship, Environmental Externalities, Market Failure, Sustainable Development: Approach and Requirements.	07 Lectures

Books Recommended:

- Datt, R. and K.P.M. Sundharam, Indian Economy, S. Chand & Company Ltd., New Delhi.
- Misra, S.K. and V.K. Puri, Indian Economy -- Its Development Experience, Himalaya Publishing House, Mumbai.
- Kapila, Uma., Indian Economy : Since Independence
- Agrawal, A.N., Indian Economy, New Edge International Pvt Limited, New Delhi.
- Khusro, A.M., Reading in Agricultural Development
- Singh, Baljit, Whether Agriculture in India
- Sen, S.R., The Straegy for Agricultural Development
- Jain, S.C., Agriculture Policy in India

- Bagchi, A., The Political Economy of Under Development in India
- Dandekar, V.M. and N. Rath, Poverty of India
- R.N. Bhattachraya: Environmental Economics, Air India Perspective, Oxford University Press.
- Maya Maheshwari: Paryavarniya Arthshastra – Ek Bhartiya Paripeksha, Har Aanand Publications, New Delhi.

Course Outcomes

- CO 1.** Enables the student to understand the Problems of Unemployment and under employment in Indian Economy.
- CO 2.** Enables the student to understand the approaches of Sustainable Development and relation between Environment and Economy.
- CO 3.** Enables the student to understand the historical background of Planning in India.

ECO-516: Industrial Training/Survey/Project Work

ECO-517: Fundamentals of Monetary Economics

Unit I	Definition of Monetary Economics; Nature and scope of Monetary Economics; significance of Monetary economics; money; Concept, Function, Types and significance, Degree of liquidity; Neutrality and non - neutrality of money; Money in closed and open economy; Monetary standard and principles of Note issue; Circular flow of Money.	12 Lectures
Unit II	Meaning of demand for money; Classical approach to demand for money; Keynes' approach to demand for money; Post Keynesian approach to demand for money (Buamol, Tobin, Friedman,); Pigou Effect, Patinkin's Real Balance Effect.	12 Lectures
Unit III	Measurement of value of money; Quantity Theory of Money, Keynes's Fundamental Equations, Income Theory and Wicksell's Approach, General Theory of Don Patinkin.	18 Lectures
Unit IV	Inflation-causes, types, effects and control, Classical, Keynesian and Monetarist approach to inflation; Structural theory of inflation; Open and suppressed Inflation, demand pull and cost push inflation; wicksell's theory of Price fluctuations; Phillips curve analysis; Samuelson and Solow's contribution- the natural rate of unemployment hypothesis; Tobin's modified Phillips curve; Adaptive expectations and rational expectations; Policy implications of Phillips Curve. Deflation-causes, types and control; Stagflation and Policies to control stagflation.	9 Lectures
Unit V	Theories of Interest rate determination: Classical, Keynesian and IS-LM Approach; Movement Path of Economy in Disequilibrium, Monetary Theories of Business cycle,	9 Lectures

Books Recommended:

- Keynes, J.M., Treatise on Money.
- Keynes, J.M., The General Theory of Employment Interest and Money
- Halm, G.N., Monetary Theory .
- Kurihara, K., Monetary Theory and Public Policy,
- Hansen, B., A Study in the Theory of Inflation ,
- Dillard, D.H., The Economics of J.M. Keynes

Course Outcomes

- CO 1.** Enables the student to understand the Nature, scope and significance of Monetary Economics, Neutrality and Non - neutrality of money and role of Money in closed as well as in open economy.
- CO 2.** Enables the student to understand the various theories of demand for money and Types and causes if inflation in any economy.
- CO 3.** Enables the student to understand the various methods of Measurement of value of money.

ECO-518: International Trade Theory & Policy

Unit I	Classical Theories of International Trade: Absolute Advantage and Comparative Advantage Theory, Theory of Reciprocal Demand, Evaluation of the Classical Theory. Neo-classical theories of Trade: Opportunity Cost Theory, Trade Equilibrium through Production Possibility Curve and Community Indifference Curve, Gains from Trade, Economic Growth and International Trade, Immizerising Growth.	13 Lectures
Unit II	Offer Curve Analysis, Trade Indifference Curve, Derivation of Offer Curve using Trade Indifference Curve, General Equilibrium in Trade. Terms of Trade – Concepts and Measurements, Determinants of Terms of Trade.	12 Lectures
Unit III	Factor Proportion Theory of Trade (H-O Theorem), Factor Price Equalisation Theorem, Leontief Paradox, Rybczynski Theorem, Effect of Change in Demand on Trade. Intra-industry Trade and Trade under Imperfect Competition. International Capital Movement – FDI and FPI.	13 Lectures
Unit IV	Commercial Policy: Free Trade vs Protection, Arguments for and against the Policy of Protection, Theory of Tariff, Stopler-Samuelson Theorem, Import Quota, Dumping and Most Favoured Nation Clause, Other Tools of Commercial Policy. International Trading Environment – GATT and WTO.	12 Lectures
Unit V	Economic Integration: Different Forms of Economic Integration, Theory of Customs Union, Effects of Custom Unions -- Static and	10 Lectures

	Dynamic Framework, Lipsey Model, Vanek Model, Some Examples of Economic Integration – EU, NAFTA and LAFTA.	
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Books Recommended:

- Sodersten, Bo and Reed, G.: *International Economics* (third edition), Macmillan, London.
- Krugman, P., Obstfeld, M and Melitz, M.J.: *International Economics – Theory and Policy* (ninth edition), Pearson Education Ltd, England.
- Salvatore, D: *International Economics* (seventh edition), John Wiley & Sons, New York.
- Kindleberger, C.P.: *International Economics* (eighth edition), Richard. D. Irwin Inc, Homewood.
- Kenan, P.B.: *The International Economy* (fourth edition), Cambridge University Press, UK.
- Mannuar, H.G.: *International Economics* (second edition), Vikas Publication House Pvt. Ltd., Noida (UP).
- Mithani, D.M.: *International Economics* (sixth edition), Himalaya Publication, New Delhi.
- Ohlin, B.: *Interregional and International Economics*, Oxford University Press, London.
- Ellsworth, P.T. and Leith, J.C.: *The International Economy* (sixth edition), Macmillan Publication, New York.
- Haberler, G.V.: *The Theory of International Trade*, W. Hodge & Company, London.

Course Outcomes

- CO 1.** Enables the student to understand the Various theories of international trade such as classical, neo-classical and H-O theories of international trade.
- CO 2.** Enables the student to understand the Different tools and effects various Commercial Policy such as Tariff, Quota and Dumping, International Trading Environment – GATT and WTO.
- CO 3.** Enables the student to understand the Theories of Economic Integration and different forms of Economic Integration and some specific economic blocks – EU, NAFTA and LAFTA.

ECO-519: Principles of Environmental Economics

Unit I	Basic Terms: Ecology, Environment, Ecosystems etc, Environmental Economics: Background, Nature, Definition, Environment- Development Trade off, Environmental Problems as Economic Problem, Environment- Economy Interrelationship: Neo- Classicals Approach, Ecological Economics Approach	12 Lectures
Unit II	Pareto Efficiency Conditions: Deviations from Efficiency in case of Environment; Market failure and its consequences; Rationale of Governmental Interventions. Social Optimum level of pollution; Reasons of changes in this level and results.	12 Lectures
Unit III	Methods of Environmental Regulation: Command and Control methods: Liability Laws, Property Rights Approach, Emission Standards. Market based instruments: Pollution Tax, environmental Subsidy, Pollution Permit System etc.	14 Lectures
Unit IV	Economics of Sustainable Development: Limits to Growth Issue as background; concept, components and approaches to Sustainable Development. Indicators of Sustainability: Strong & Weak, Sustainable National Income, Ecological Footprints	11 Lectures
Unit V	Economics of Climate Change: New Environmental Reality, Economic Analysis & International Policy. Economics of Biodiversity Conservation: Rationale, Economic Analysis & International Policy	11 Lectures

Books Recommended:

- Ehrlich, P., A. Ehrlich and J. Hilden, Economics, Population, Resources, Environment, W.H. Freeman, San Francisco.
- Hemple, Lamont C., Environmental Economics: The Global Challenge. First East West Press, Edinburgh.
- Ahmad M. Hussen: Principle of Environmental Economics. Pouledge and Taylor & Francis Group.
- R.N. Bhattachraya: Environmental Economics, Air India Perspective, Oxford University Press.
- Maya Maheshwari: Paryavarniya Arthshastra – Ek Bhartiya Paripeksha, Har Aanand Publications, New Delhi.
- Thomas & Callan: Environmental Economics.
- Nick Hanley, F. Shogran & J. Whitel: Environmental Economics Theory and 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.
- Nahoral Environmental Policy 2006, CSO, India.

Course Outcomes

- CO 1.** Enables the student to understand the Meaning and Scope Environmental Economics, Relation between Environment and Economy.
- CO 2.** Enables the student to understand the Environmental Quality as Public Good, Economics of Environmental Regulations, Limits to Growth and Sustainable Development.
- CO 3.** Enables the student to understand the Concept of Common Property Resources (CPR), Problem and Management CPR in Indian Context.

ECO-520: History of Economic Thought

Unit I	Pre classical Thoughts: Mercantilism, Physiocracy, Classical School of Thought: Adam Smith, David Ricardo, T. R. Malthus, J.S. Mill, Socialistic Critics of classical Economics: Saint Simon, Sismondi, Karl Marx.	12 Lectures
Unit II	Neo-Classical School of Thought: Contributions of Alfred Marshall; The Marginalist Revolution: Cournot, Jevons, Menger, Weiser, Fisher, Wicksell; Welfare Economics Thoughts: Pigou , Pareto & Arrow.	12 Lectures
Unit III	Institutional School of Thought : Old & New Institutionalism. The Stockholm or Swedish School of Thought: G. Cassel, B. Ohlin, Gunnar Myrdal, Friedman, Leontief & Nurkse.	12 Lectures
Unit IV	Economic Thoughts of J.M. Keynes: Consumption function , Liquidity preference , Deficit financing, Role of Fiscal Policy, Inflationary Gap, Modern Economists: Joan Robinson, J.R. Hicks.	12 Lectures
Unit V	Indian Economic Thoughts: Economic Thoughts of Kautiliya, Economic Thinking of M.K. Gandhi, Radha Kamal Mukherjee, Dada bhai Naraiji, J.K. Mehta, Economic Thoughts of Pt Deendayal Upadhyay.	12 Lectures

Books Recommended:

- Eric Roll: A History of Economic thought, Faber & Faber.
- Charles Guide & Charles Rist: A History of Economic Doctrines, George G. Harrap & Co.
- Lewis H. Haney: History of Economic Thought, Macmillan & Co.
- T.W. Hutchison: A Review of Economic Doctrine.
- Bell John Fred: A History of Economic Thought, The Ronald Press.
- Mark Blaug: Economic Theory in Retrospect.
- T.N. Hajela: History of Economic Thought, Ane's Student Edition, Ane Bookd Pvt. Ltd, New Delhi.
- H.L. Bhatia: History of Economic Thought, Vikas Publishing House Pvt. Ltd, New Delhi.
- Chaturvedi Mahesh Chandra: Aarthik Chintan Ka Itihaas , Chaturvedi Mithilesh: Sahitya Bhawan Publication, Agra.
- M.L. Jhingan, M. Girija & L. Shashikala: Aarthik Vicharon Ka Itihaas, Vrinda Publications Pvt. Ltd.

Course Outcomes

- CO 1.** Enables the student to understand the Economic Thoughts in Pre Classical Period, Idea of Subjectivism and Marginalism.
- CO 2.** Enables the student to understand the Economic Thoughts in Neo Classical Period, Idea of Institutionalism.
- CO 3.** Enables the student to understand the Economic Thoughts on Welfare Economics.

ECO-521: Basic Growth Models

Unit I	Concept and Determinants of Economic Growth, Growth Equilibrium -- Existence, Uniqueness and Stability (local and global), Steady State Growth Equilibrium. Classical Model of Economic Growth.	10 Lectures
Unit II	Post Keynesian Growth Models: Harrod Model and Domar Model.	10 Lectures
Unit III	Neo Classical Growth Models: Solow Model and Swan Model. Uzawa's Two-sector Model of Economic Growth.	10 Lectures
Unit IV	Economic Growth and Welfare: Problems of Optimum Growth-- General Formulation and its Solution, Keynes-Ramsey Rule, Phelps Model of Golden Rule.	15 Lectures
Unit V	Neo-Keynesian Growth Models: Kaldor, Pasinetti, Joan Robinson Model.	15 Lectures

Books Recommended:

- Jones, H.G.: An Introduction to Modern Theories of Economic Growth, McGraw – Hill Book Company, 1976.
- Sen, A.K., Growth Economics
- Jones, Charles: Introduction to Economic Growth, Second Edition, VivaBooks, New Delhi
- Hahn, F II., Readings in the theory of growth.
- Hicks, J.R., Capital and Growth
- Solow, R.M., Growth Theory -- An Exposition
- Hamberg, D., Models of Economic Growth
- Nell, E.J.(ed.), Growth-Profits and Productivity
- Barro R.E. Salaw- Martin; Euromic Growth
- Romer: Advanced Macroeconomics

Course Outcomes

- CO 1.** Enables the student to understand the Concept and determinants of economic growth and Problem of Economic Growth.
- CO 2.** Enables the student to understand the Role of capital formation in growth process of any society.

CO 3. Enables the student to understand the Condition of optimal situation in growth process of a society.

ECO-522: Demography

Unit I	Demographic Analysis: Concept, Scope, Subject Matter, Importance and Tools, Demographic Dividend, Population Pyramid, Age Structure and Population Density.	14 Lectures
Unit II	Demographic features and Trends in India: Inter-State Comparison, Demographic Features of Uttar Pradesh; National Population Policy.	10 Lectures
Unit III	Demographic Measurements: Meaning, Difference between Fertility and Fecundity, Determinants and Measurements- Fertility Rates: CBR, GFR, SFR, TFR, and Reproduction Rates: GRR & NRR; The World movements towards fertility control.	12 Lectures
Unit IV	Mortality and Morbidity and Health: Concepts Causes of Death, Importance and Measurement- CDR, ASDR, IDR, SDR, Correction Factor.	12 Lectures
Unit V	Life Table: Meaning, Types, Construction, Importance, Uses in Demography.	12 Lectures

Books Recommended:

- Bhende, A., and Kanitkar T. (1994). Principles of Population Studies, 5th Edition, Bombay: Himalaya Publishing House.
- Barclay, George (1958). Techniques of Population Analysis New York: John Wiley & Sons, Inc.
- Thompson, S.W. and T Lewis: Population Problems
- Srinivasan, K. (1998). Basic Demographic Techniques and Applications, New Delhi: Sage.
- Smith, Kenneth: The Malthusian Controversy
- Malthus, T.R.: An Essay on Population
- Cox, P.R.: Demography
- Bose, Ashish: Pattern of Population Change in India
- Joseph. J. Spengler and Dudley Ducan, Population theory and Policy
- Rawat, Ishwar Modi: Ageing and Human Development—Global Perspective
- Misra. B.D (1995). An Introduction to the Study of Population, Second Edition, New Delhi: South Asian Publishers Pvt. Ltd.
- Joseph. J. Spengler and Dudley Ducan, Population theory and Policy
- Pathak K.B and Fauzdar Ram (1992). Techniques of Demographic Analysis Bombay: Himalaya Publishing House.
- World Population Prospects 2006, Vol I and II, United Nation

- Warren S. Thompson, Population Problems
- Registrar General, India (1997): Civil Registration System in India, Office of the Registrar General, India, New Delhi.
- United Nations, (1998): Handbook on Civil Registration and Vital Statistics Systems, Management, Operation and Maintenance, New York.

Course Outcomes

- CO 1.** Enables the student to understand the Concept, Scope, Subject Matter and Important Tools of Demographic Analysis as well as Demographic Measurements.
- CO 2.** Enables the student to understand the Demographic features and Trends in India: Inter-State Comparison and Demographic Features of Uttar Pradesh.
- CO 3.** Enables the student to understand the Construction, Types, Importance and Uses of Life Table in Demographic Analysis.

ECO-523: Industrial Training/Survey/Project Work

ECO-524: Financial Institutions and Policy

Unit I	Financial Institutions - Components of financial System- Institutions, Instruments, Markets, and Services; Role and importance of financial economics in modern world; Functions of financial sector; Equilibrium in financial markets; Money market and its constituents, Capital market, Objectives of central banking; Function of Central Bank; The Reserve Bank of India; Function of Commercial Banks; Role of commercial bank in the economy; Different types of Commercial Banking Systems; policies and principles of commercial banking; Process of credit creation of commercial banks; Role of Non-banking companies in an Economy.	15 Lectures
Unit II	Money Supply : Exogenous and endogenous Money supply; theoretical and empirical concepts of money supply; different money stocks in India (M0,M1,M2,M3, M4);The Reserve Bank of India approach to measure money supply; High-powered money and money multiplier theory; Budget deficit and money supply; Money supply in open economy ; commercial banks and money supply	12 Lectures
Unit III	Monetary Policy: Meaning of monetary policy; Objectives of monetary policy; Types and tools of monetary policy; monetary policy and economic stabilization; Monetary policy and economic growth; Effectiveness of monetary policy and fiscal policy; Review of monetary policy of the Reserve Bank of India;	15 Lectures
Unit IV	Reforms: Banking and financial sector reforms; Financial Sector Reforms in India: Narsimhan Committee Report 1991 and 1998, Banking Sector Reforms in India with special reference to Prudential Norms: Capital Adequacy Norms- Basel Accord 1 and 2; income recognition norms, classification of assets and the issue of non-performing assets and their management;	9 Lectures
Unit V	International Monetary Institutions: Problem of International Liquidity; International Monetary Fund; Role of SDRs and Euro; Exchange rate and money market.	9 Lectures

Books Recommended:

- Keynes, J.M., Treatise on Money.
- Keynes, J.M., The General Theory of Employment Interest and Money..
- Halm, G.N., Monetary Theory .
- Kurihara, K., Monetary Theory and Public Policy, De Cock, M.N., Central Banking
- Basu, S.K., A Review of Current Banking Theory and Practice.,
- Shekhar & Shekhar, (1998): Banking Theory & Practice, Vikash Publishing House Pvt. Ltd.
- Jadhav Narendra (2006): Monetary Policy, Financial Stability & Central Banking, Macmillan
- Baye and Jansen(1996): Money, Banking and Financial Markets, ,AITB
- L M Bhole& Jitendra Mahakund, Financial Institutions and Markets, Tata McGraw.Hill Companies New Delhi

Course Outcomes

- CO 1.** Enables the student to understand the Objectives and Functioning of Monetary Institutions such as Central Bank, The Reserve Bank of India, Commercial Banks, Non-banking companies in an Economy.
- CO 2.** Enables the student to understand the Sources of Money Supply, Various concepts of money supply in India (M0,M1,M2,M3, M4), and Money supply in open economy.
- CO 3.** Enables the student to understand the Meaning, Objectives and Tools of monetary policy, Effectiveness of monetary policy and fiscal policy, Monetary policy of the Reserve Bank of India and Banking sector reform in India, International Monetary Institutions.

ECO-525: International Macroeconomic System and Policy

Unit I	Balance of Payment and Foreign Exchange: The Balance of Payment Accounts, Various Concepts of Balance in BoP, Concept of Disequilibrium in BoP. Foreign Exchange: Meaning of Foreign Exchange Rate, Foreign Exchange Market and its Operation, Balance of Payments Theory of Exchange Rate Determination, Fixed and Flexible Exchange Rate System.	10 Lectures
Unit II	Theories of Exchange Rate Determination – Exchange Rate Determination under Gold Standard, Purchasing Power Parity Theory of Exchange Rate Determination, Monetary Approach to Balance of Payments and Exchange Rate Determination, Asset Approach to Exchange Rate Determination. Exchange Control and Exchange Management.	15 Lectures
Unit III	National Income in an Open Economy, Foreign Trade Multiplier. BoP Settlement and Adjustment, Adjustment in Balance of Payments Accounts: Automatic Adjustment Process of BoP Disequilibrium. Alternative Mechanism of Adjustments in BoP Disequilibrium: Devaluation Method – Elasticity Approach and Absorption Approach.	10 Lectures
Unit IV	Macroeconomics Adjustment Policy in Open Economy: BoP Equilibrium in IS-LM Framework (BB Schedule), Simultaneous Equilibrium in Goods Market, Money Market and Balance of Payment, Effect of Fiscal and Monetary Policy on BoP, Meaning of Internal and External Balance, Fiscal and Monetary Policy for Internal and External Balance, Assignment Problem – Mundell Model, Swan Model.	15 Lectures
Unit V	International Monetary Systems: Concept and Problem of International Liquidity, Bretton Woods System, Collapse of Bretton Woods Systems, International Monetary Fund, Optimum Currency Area, Euro-currency and Euro-currency Market.	10 Lectures

Books Recommended:

- Sodersten, Bo and Reed, G.: *International Economics* (third edition), Macmillan, London.
- Krugman, P., Obstfeld, M and Melitz, M.J.: *International Economics – Theory and Policy* (ninth edition), Pearson Education Ltd, England.
- Salvatore, D: *International Economics* (seventh edition), John Wiley & Sons, New York.
- Kindleberger, C.P.: *International Economics* (eighth edition), Richard. D. Irwin Inc, Homewood.
- Kenan, P.B.: *The International Economy* (fourth edition), Cambridge University Press, UK.
- Mannuar, H.G.: *International Economics* (second edition), Vikas Publication House Pvt. Ltd., Noida (UP).
- Mithani, D.M.: *International Economics* (sixth edition), Himalaya Publication, New Delhi.
- Ohlin, B.: *Interregional and International Economics*, Oxford University Press, London.
- Ellsworth, P.T. and Leith, J.C.: *The International Economy* (sixth edition), Macmillan Publication, New York.
- Haberler, G.V.: *The Theory of International Trade*, W. Hodge & Company, London.

Course Outcomes

- CO 1.** Enables the student to understand the Various aspects of Balance of Payments Accounts as well as Foreign Exchange Market, Nature and causes of BoP Problems and Process of Determination of Exchange Rate.
- CO 2.** Enables the student to understand the Balance of Payments Accounts Adjustment Process such as Automatic Adjustment Process, Devaluation Method etc.
- CO 3.** Enables the student to understand the Macroeconomics Adjustment Policy in Open Economy, Effect of Fiscal and Monetary Policy on BoP, Use of Fiscal and Monetary Policy for Internal and External Balance.

ECO-526: Dimensions of Environmental Economics

Unit I	The Environmental and International Trade: Different Issues, Trade Distortion, WTO and Environment; Interrelationship of Population, Poverty and Environment: Context of developing nations, Environment & Tourism.	12 Lectures
Unit II	Framework for the economic appraisal of environmental projects: Cost-Benefit analysis; Environmental Impact Assessment.	12 Lectures
Unit III	Resource Economics: Resource Scarcity Problem, conservation methods, Common Property Resources: Tragedy of Commons, Importance of CPR, Management need and methods, Economic models of resource use: Renewable and Non-Renewable.	12 Lectures
Unit IV	Environmental Ethics, Sustainable Industrialisation & Corporate Management & Strategies, Environmental Demand Theory: Willingness to Pay, Compensated Demand, Expenditure Function, Restricted Demand	11 Lectures
Unit V	Valuation of Environmental Goods & Services: Use and Non-Use Value; Valuation Techniques: Market Price Approach, Hedonic Price Method; Household Production Method (Defensive Expenditure Technique and Travel Cost Method); Contingent Valuation.	13 Lectures

Books Recommended:

- Ehrlich, P., A. Ehrlich and J. Hilden, Economics, Population, Resources, Environment, W.H. Freeman, San Francisco.
- Hemple, Lamont C., Environmental Economics: The Global Challenge. First East West Press, Edinburgh.
- Lopez, R.E., Where Development Can Go or Can Not Go, The Role of Poverty-Environment Linkages, Annual World Bank Conference on Development Economics, World Bank, Washington D.C.
- Maler, K.G., Environment, Poverty in Economic Growth, Annual World Bank Conference on Development Economics, World Bank, Washington D.C.
- Mehrotra, S. and J. Richard, Development with a human Face. Oxford University Press, New Delhi.
- Ahmad M. Hussen: Principle of Environmental Economics. Poulledge and Taylor & Francis Group.

- R.N. Bhattacharya: Environmental Economics, Air India Perspective, Oxford University Press.
- Maya Maheshwari: Paryavarniya Arthshastra – Ek Bhartiya Paripeksha, Har Aanand Publications, New Delhi.
- Thomas & Callan: Environmental Economics.
- Nick Hanley, F. Shogran & J. Whitel: Environmental Economics Theory and 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.

Course Outcomes

- CO 1.** Enables the student to understand the Global Environmental Problems and International Policy.
- CO 2.** Enables the student to understand the Assessment of Worthiness of Environmental Projects: Social Cost-Benefit Analysis and Environment Impact Assessment.
- CO 3.** Enables the student to understand the Economic Valuation Process of Environment, Economics of Resources Use.

ECO-527: Advanced Growth Theory

Unit I	Technology and Growth: Concept of Technical Progress, Representation of Technical Progress, Factor Augmenting Technical Progress. Classification of Technical Progress: Hicks Classification, Harrod's Classification. Technical Progress in Growth Models: Technical Progress in Harrod Model, Technical Progress in Solow Model.	14 Lectures
Unit II	Endogenous Technical Progress: Kaldor's Technical Progress Function; Kennedy and Weizsacker's Invention Possibility Frontier. Idea of Vintage Capital, Phelp's 'New View' on Investment, Arrow's Learning by Doing.	10 Lectures
Unit III	Endogenous Growth Models: Idea as Sources of Innovation, Economics of Idea. Romar's Model of Endogenous Innovation,	12 Lectures
Unit IV	AK Model, Lucas Model of Human Capital. Convergence in Growth: Concept and Causes, Danny Quah's 'Twin-peaks' Concept.	12 Lectures
Unit V	Money and Growth: Tobin's Monetary Growth Model, Johnson's Model.	12 Lectures

Books Recommended:

- Jones, H.G.: An Introduction to Modern Theories of Economic Growth, McGraw – Hill Book Company, 1976.
- Sen, A.K., Growth Economics
- Jones, Charles: Introduction to Economic Growth, Second Edition, VivaBooks, New Delhi
- Hahn, F II., Readings in the theory of growth.
- Hicks, J.R., Capital and Growth
- Solow, R.M., Growth Theory -- An Exposition
- Hamberg, D., Models of Economic Growth
- Nell, E.J.(ed.), Growth-Profits and Productivity
- Barro R.E. Salaw- Martin; Euromic Growth
- Romer: Advanced Macroeconomics

Course Outcomes

- CO 1.** Enables the student to understand the Concepts Technique and Technological Progress, Types of Technical Progress, Implications of Technical Progress for Growth Theory.
- CO 2.** Enables the student to understand the Role of Technology and Human Capital in Growth Process through Endogenous Growth Theory.
- CO 3.** Enables the student to understand the Models of Optimum Growth, Role of Money in Growth Process.

ECO-528: Population Economics

Unit I	Population Economics: Concept, Scope, Subject Matter, Tools and Importance, Age Structure, Composition of Population.	8 Lectures
Unit II	Population Theories: Malthusian Theory, Optimum Theory, Herbert Spencer Theory, Logistic Curve Theory, Liebenstein's Theory of Population, Theories of Demographic Transition.	16 Lectures
Unit III	Occupational and Regional distribution, Population Projection, Population Growth and Economic Development, Economic Status and Employment, Population Debate.	14 Lectures
Unit IV	Migration: Meaning, Motives and Factors Encouraging Migration, Classification, Theories and Models (Lewis Model of Unlimited Supply of Labour, Todaro Model of Migration) International Migration of High Quality Man Power: Brain Migration; Urbanization, Cycle of an Urbanization; Urbanization in India; Population, Economy and Environment; Human Resources Development and Economic Development.	10 Lectures
Unit V	Demographic Trends in selected countries: India, USA, Japan and China; World Population Trends.	12 Lectures

Books Recommended:

- Bouge, D.J. (1971). Principles of Demography, John Wiley, New York.
- Harper, S. (2018). Demography: A Very Short Introduction, Cambridge University Press.
- Weinstein, J. & Pillai, V.K. (2015). Demography: The Science of Population. Rowman & Littlefield Publications.
- Harper, S. (2018). Demography: A Very Short Introduction. Cambridge University Press.
- Irudaya Rajan, S. & Summeetha, M. (Eds.). (2020). Handbook of Internal Migration in India. Sage Publications.
- Mukherji, S. (2013), Migration in India: Links to Urbanization, Regional Disparities, and Development Policies, Rawat Publication.
- Thompson, S.W. and T. Lewis, Population Problems (Fifth ed.)
- Smith, Kenneth, The Malthusian Controversy
- Malthus, T.R., An Essay on Population
- Cox, P.R., Demography
- Bose, Ashish, Pattern of Population Change in India
- Joseph. J. Spengler and Dudley Ducan, Population theory and Policy

- Cox P.R., Andendum to Demography
- Barclay, George, Techniques of Population Analysis
- Agrawal, S.N., Some Problems of India's Population
- Davis, Kingsley, Population of India and Pakistan
- U.N.O., Determinants and Consequences of Population Trends
- Coontz, S.I.I., Population Theories and Their Economic Interpretations
- Pathak, K.B. & Ram, F. (2016). Techniques of Demographic Analysis. Himalaya Publishing House.
- World Bank, World Development Report
- Weinstein, J. & Pillai, V.K. (2015). Demography: The Science of Population, Rowman & Littlefield Publications.
- Ghosh, B.N., Population Economics: An Analysis of Human Resource Development, Deep & Deep Publication House, New Delhi
- Todaro, Michael P. (1981): Economic Development in the Third world. New York: Longman, Chapter 3.
- Haq, Mahbulul (1996): Reflections on Human Development, Delhi: Oxford University Press. Chapters 1 & 2.
- United Nations Development Programme (2007): Human Development Report 2007/08, New Delhi: Palgrave Macmillan Technical Note 1. pp. 393-99.
- Ray, Debraj (1998): Development Economics. Delhi: Oxford University Press. Chapters 1, 2, 3 & 4.
- Coale A.J. and Hoover, E.M. (1958): Population Growth and Economic Development in Low Income countries, Princeton N. J.: Princeton University Press.
- Simon Julian. (1981): The Ultimate Resource, Princeton N.J.: Princeton University Press.
- United Nations (1973): The Determinants and Consequences of Population Trends, Volume 1, Chapters 3 & 7.
- Martin Philips L, (2004): Migration and Development: Towards Sustainable Solutions, Geneva: ILO.

Course Outcomes

- CO 1.** Enables the student to understand the Sources and Importance Demographic Data, Census.
- CO 2.** Enables the student to understand the Methods of Measurement of population growth and Population Projection.
- CO 3.** Enables the student to understand the Population Theories and Concept and Causes of Demographic Transition.
- CO 4.** Enables the student to understand the Population Debate, Occupational and Regional distribution, Measurement of population growth, Population Projection,

Population Growth and Economic Development, Economic Status and Employment, Population Debate, Population and Resource.

- CO 5.** Enables the student to understand the Population Policy of India, Meaning and Theories and Models of Migration and Demographic Trends in selected countries.

ECO-529: Econometrics: Theory and Practice

Unit I	Econometrics : Meaning , Nature & Scope , Relationship with Economics & Statistics , Assumptions of Simple Regression Analysis , The OLS Method , Properties of OLS estimates , Best Linear Unbiased Estimates , Standard Error of OLS estimates , Tests or Significance of these estimates.	10 Lectures
Unit II	Multiple Regressions with two explanatory variables , Partial & Multiple Correlation coefficients , General Linear Regression Model -- Estimation of Parameters , Mean & Variance, of the Estimate , Illustration of GLS Estimates as Best , Linear & Unbiased , R- Square , Adjusted R - Square , Akaike Information Criterion & Schwarz Criterion.	12 Lectures
Unit III	Heteroscedasticity & its consequences, Multicollinearity: its detection, Effects , Autocorrelation & its consequences , Testing the Inter - dependence of regression disturbance - Durbin - Watson Test , Treatment of first Order Markov - Scheme.	12 Lectures
Unit IV	Simultaneous Equations Model: Jointly dependent variables, Simultaneous equation bias, Structural, Reduced & Final forms, The Identification Problem: Rank & Order Conditions of identifiability, Methods of Estimation with Property, Indirect least squares, Two stage least squares.	14 Lectures
Unit V	Application of Econometric Method : Production Functions & Estimation - Cobb- Douglas & CES , Demand Analysis , Engle's Law , Demand Equations - Linear , Semi - Log & Log Linear forms , Systems of Demand Equation - Linear expenditure system, Aggregation & Data Problems in estimation.	12 Lectures

Books Recommended:

- Alpha C. Chiang : Fundamental Methods of Mathematical Economics , McGraw Hill International Book Company.
- Goldberger A.S. : Introductory Econometrics, Harvard University Press.
- Greene , William H : Econometric Analysis , Pearson Education
- Gujarati, D.N.: *Basic Econometrics* (fourth edition), McGraw Hill Hayashi Fumio : Econometrics , New Age Publications
- Henderson, James M. & Quandt, Richard E . : Microeconomic Theory: A Mathematical Approach, McGraw Hill , International Book Company.
- Intriligator , M.D.: *Econometric Models -- Techniques and Applications*
- Johnston J & John Dinardo: *Econometric Methods*, McGraw Hill
- Koutsoyiannis A : *Theory of Econometrics* Palgrave Macmillan
- Maddala, G. , Lahiri, K : *Introduction to Econometrics* , Wiley India Pvt. Ltd.
- Maddala G. S. : *Introduction to Econometrics* , Wiley India Pvt. Ltd.
- Nachane D . M. : *Econometrics: Theoretical Foundations & Empirical Perspectives*: Oxford University Press.
- Pindyck R. S. & Daniel L. Rubinfeld: *Econometrics Methods & Economic Forecast*, McGraw Hill International Book Company.
- Stock J. H. & M. W. Watson: *Introduction to Econometrics*, Pearson Publication.
- Wooldridge, Jeffrey: *Introduction to Econometrics : A Modern Approach*, Cengage Learning.

Course Outcomes:

- CO 1. Enables student to understand methodology of econometrics and various Tools of mathematical analysis of economic problems.
- CO 2. It develops quantitative analytical skill to solve economic problems of real worlds.
- CO 3. It develops skill to give practical quantitative estimates of production functions, demand, demand forecasting, etc.
- CO 4. It prepares students for mathematical treatments of economic issues in modern times.

ECO 530: Industrial Training/Survey/Project Work