

DAV UNIVERSITY JALANDHAR



Course Scheme & Syllabus

For

**M.Sc. Economics
(Program ID-112)**

Ist TO 4th SEMESTER

Examinations 2016–2017 Session Onwards

Syllabi Applicable For Admissions in 2016

Scheme of Courses (Program ID)
M.Sc. Economics

Category of Course	No of Courses	Credit Per course	Total Credits
Core Discipline	12	4	48
Skill Enhancement Course (SEC)	1	4	04
Discipline Specific Elective (DSE)	7	4	28
Dissertation/Project	-	-	-
		TOTAL	80

- **Students can select any one optional (Discipline Specific elective) in semester I and any two optional in semester second, third and fourth from the given basket.**

Scheme of M.Sc. Economics

Semester 1

S. No	Paper Code	Course Title	L	T	P	Cr.	Course Type
1	ECO505	Microeconomic Theory	4	0	0	4	Core Discipline
2	ECO506	Macroeconomic Theory	4	0	0	4	Core Discipline
3	ECO507	Statistical Methods	4	0	0	4	Core Discipline
4		Discipline Specific Elective-I	4	0	0	4	
5	CSA552	Workshop on Business Computing	0	0	4	4	Skill Enhancement Course (SEC)
(Optional Subjects for Semester I)						20	
1	ECO508	History of Economic Thought	4	0	0	4	Discipline Specific Elective (DSE)
2	ECO515	Demography	4	0	0	4	Discipline Specific Elective (DSE)

Semester 2

S.No	Paper Code	Course Title	L	T	P	Cr.	Course Type
1	ECO509	Public Economics	4	0	0	4	Core Discipline
2	ECO510	Money and Banking	4	0	0	4	Core Discipline
3	ECO511	Quantitative Techniques	4	0	0	4	Core Discipline
4		Discipline Specific Elective-I	4	0	0	4	
5		Discipline Specific Elective-II	4	0	0	4	
(Optional Subjects for Semester II)						20	
1	ECO512	Environmental Economics	4	0	0	4	Discipline Specific Elective (DSE)
2	ECO513	Labour Economics	4	0	0	4	Discipline Specific Elective (DSE)
3	ECO516	Advanced Microeconomic Theory	4	0	0	4	Discipline Specific Elective (DSE)
4	ECO517	Advanced Macroeconomic Theory	4	0	0	4	Discipline Specific Elective (DSE)

S.No	Paper Code	Course Title	L	T	P	Cr	Course Type
1	ECO601	Development Economics	4	0	0	4	Core Discipline
2	ECO602	Indian Economy	4	0	0	4	Core Discipline
3	ECO603	Basic Econometrics	4	0	0	4	Core Discipline
4		Discipline Specific Elective-I					
5		Discipline Specific Elective-II					
(Optional Subjects for Semester III)						20	

1	ECO604	Agricultural Economics	4	0	0	4	Discipline Specific Elective (DSE)
2	ECO605	Economics of Infrastructure	4	0	0	4	Discipline Specific Elective (DSE)
3	ECO612	Punjab Economy	4	0	0	4	Discipline Specific Elective (DSE)
4	ECO613	Operational Research	4	0	0	4	Discipline Specific Elective (DSE)

Semester 4

S. No	Paper Code	Course Title	L	T	P	Cr	Course Type
1	ECO606	International Economics	4	0	0	4	Core Discipline
2	ECO607	Financial Market and Institutions	4	0	0	4	Core Discipline
3	ECO608	Economics of Planning	4	0	0	4	Core Discipline
4		Discipline Specific Elective-I					
5		Discipline Specific Elective-II					
(Optional Subjects for Semester IV)						20	

1	ECO609	Industrial Economics	4	0	0	4	Discipline Specific Elective (DSE)
2	ECO610	Health Economics	4	0	0	4	Discipline Specific Elective (DSE)
3	ECO614	Optimisation Techniques	4	0	0	4	Discipline Specific Elective (DSE)
4	ECO615	Time Series Analysis	4	0	0	4	Discipline Specific Elective (DSE)

Course Title: Microeconomic Theory
Course Code: ECO505

L	T	P	Credits	Marks
4	0	0	4	100

Unit I

Consumer Analysis: Budget Constraint, Preferences, Ordinal Utility and Indifference Curve Analysis, Price Decomposition – Hicks and Slutsky method, Consumer Surplus; Price Elasticity of Demand.

Production and Cost Theory: Technology and Production Functions, Cost Concepts, Firm and Industry Supply; Objective of Firms - Cost Minimization, Profit Maximization and Sales Maximization.

Unit II

Market Forms: Perfect Competition – Short Run and Long Run Equilibrium, Supply Curve of a Firm; Monopoly – Degrees of Price Discrimination, Relationship between Marginal Revenue, Average Revenue and Price Elasticity of Demand, Significance of Elastic Portion of Demand Curve; Monopolistic Competition – Differentiated Products and Selling Costs, Product Group, Excess Capacity, Short Run and Long Run Equilibrium; Deadweight Loss.

Unit III

Oligopoly: Non-Collusive Oligopoly Models such as Cournot's Duopoly and Paul Sweezy's Kinked Demand Curve Analysis; Collusive Oligopoly and Price Leadership Models.

Equilibrium and Efficiency: Properties of Competitive Equilibrium, Edgeworth's Box and Contract Curves, Production Possibility Curve.

Unit IV

General Equilibrium Analysis: Partial versus General Equilibrium, Walras Law.

Market Failures and Externalities: Free Rider Problem, Nature and Types of Externalities, Theory of Second Best.

Suggested Readings:

1. Varian, Hal. R. *Intermediate Microeconomics: A Modern Approach*, Ninth Edition, W. W. Norton & Company, New York, 2014.
2. Salvatore, Dominick. *Principles of Microeconomics*, Fifth Edition (International version), Oxford University Press, 2009.
3. Koutsoyiannis, A. *Modern Microeconomics*. Palgrave Macmillan, Second Edition, 2003
4. Lipsey, G. and K.A. Chrystal. *Economics*. Oxford University Press. 2004.
5. Mankiw, N. Gregory. *Principles of Economics*. Worth Publishers. 2007.

Course Title: Macroeconomic Theory
Course Code: ECO506

L	T	P	Credits	Marks
4	0	0	4	100

Unit 1

Overview of Macroeconomics: Objectives, Scope, Importance and Limitations of Macroeconomics.

National Income: Concepts, Methods and Problems in the Measurement of National Income, Real vs. Nominal GDP, Deflating GDP by a Price Index, Measuring Economic Activity: GDP as the Yardstick of an Economy's Performance.

Consumption Function: Keynesian Consumption Function; The Consumption Puzzle: Absolute Income Hypothesis, Relative Income Hypothesis, Permanent Income Hypothesis, Life Cycle Hypothesis.

Unit II

Theories of Investment: Meaning and Determinants of Investment. Classical Theory of Investment; Keynesian Theory of Investment; Accelerator Theory of Investment; Neo-Classical Theory of Investment.

Hicks IS-LM Model: The IS Curve and Goods Market Equilibrium: Derivation and Interpretation of Slope, Shift and Elasticity of the IS function; The LM Curve and Money Market Equilibrium: Derivation and Interpretation of Slope, Shift and Elasticity of the LM function. Determination of Equilibrium; Effectiveness of Monetary and Fiscal Policy in IS-LM Model.

Unit III

Application of IS-LM Model: Mundell-Fleming Model.

Business Cycles: Features; Models of Trade Cycle: Keynes; Schumpeter; Kaldor; Samuelson and Hicks Model. Control of Trade Cycle.

Inflation: Meaning, Types, Causes, Consequences and Cures.

Unit IV

Theories of Inflation: Keynesian; Monetarist View; Modern Theory of Inflation: Demand Pull and Cost Push Inflation; Inflation – Unemployment Trade Off, Natural Rate of Unemployment.

Recent Developments: New-Classical Macro Economics, Rational Expectations Revolution, Real Business Cycle Theory and New Keynesian Macroeconomics.

Suggested Readings:

1. Ackley, G. *Macro Economics Theory and Policy*. Macmillan Publishers. 1978.
2. Branson, William H. *Macro-Economic Theory and Policy*. Indian Edition.
3. Dornbush, R., S. Fisher and R. Startz. *Macro Economics*. Tata McGraw Hill. 2004.
4. Gordon, R. J. *Macroeconomics*. PHI Learning. 12th Edition. 2012.
5. Mankiw, N.G. *Macroeconomics*. Worth Publishers. 2010. Seventh Edition
6. Samelson, P.A. and W. D. Nordhaus. *Macroeconomics*. Tata McGraw Hill. 2012. 19th Edition.
7. Shapiro, Edward. *Macroeconomic Analysis*. Galgotia Publications. 1999. Indian Edition.

Course Title: Statistical Methods
Course Code: ECO507

L	T	P	Credits	Marks
4	0	0	4	100

Unit I

Correlation and Regression: Meaning, Assumptions and Limitations of Simple Correlation and Regression–analysis; Pearson’s Product Moment and Spearman’s Rank Correlation Coefficients, and Their Properties; Partial and Multiple Correlation. Simple Regression–basic Idea About least–Squares Principle, Lines of Regression and Properties of Regression Co–efficient.

Unit II

Elements of Probability: Deterministic and Non–deterministic Experiments, Various Types of Events. Classical and Empirical Definitions, Laws of Addition and Multiplication of Probability, Conditional Probability and the Concept of Independence of Events, Element and Concept of a Random Variable,

Unit III

Probability Mass and Density Function; Expectations, Moments and Moments Generating Function of a Random Variable.

Theoretical Distributions: Derivation, Properties and Applications of Binomial Distribution, Poisson and Normal Distributions (Emphasis on Numerical Applications).

Unit IV

Sampling: Concepts Uses in Sampling, Difference between Random and Non-random Sampling, Simple Random Sampling, Stratified Random Sampling and P.P.S. Sampling. Concept of a Statistic and its Sampling Distribution. Elementary Tests based upon the Distribution of Z, t, χ^2 and Statistics.

Suggested Readings:

1. Chou Ya-Lun, *Statistical Methods for Business and Economics*, Elsevier, New York, 1989.
2. Gupta S.C. and V. K. Kapoor, *Fundamentals of Applied Statistics*, Sultan Chand&Sons2007.
3. Miller, Jane, *Statistics for Advanced Level*, Cambridge University Press (1996).
4. Spiegel, M. R, *Theory and Problems of Statistics*, McGraw Hill, New Delhi, 1989.
5. Hogg, R. V. and Craig. A.T., *Introduction to Mathematical Statistics (3rdEd.)*, Macmillan, Publishing Co. New Delhi, 1989.
- 6 Hogg, R.V. and Tanis, E.A. *Probability and Statistical Inference (6th Edition)*, Pearson.2001.
- 7 Prem, S Mann, *Introductory Statistics*, Wiley Publication, New Delhi, 2013.

Course Title: History of Economic Thought

Course Code: ECO508

L	T	P	Credits	Marks
4	0	0	4	100

Unit-I

Nature and Importance of Economic Thought: The Relativist and Absolutist Approaches to Economic Thought and History of Economic Analysis.

Mercantilism: Views on Trade, Growth and Employment.

Physiocracy: Natural Order, Net Product, Economic Policy on Consumption, Trade and Taxation, Physiocracy and Underdeveloped Countries.

Unit-II

The Classical School: Adam Smith: Theories of Economic Growth, Value and Distribution, Adam Smith and Underdeveloped Countries.

Malthus: The Principle of Population, Effective Demand and Malthus Theory of Growth and Underdeveloped Countries.

Ricardo: Theory of Distribution, Value and Growth, J.S.Mill: Theory of Growth, Classical Stationary State with Special Reference to Mill's Views

Unit-III

Marxian Economics: Historical Materialism, Theory of Value, the Surplus Theory, the Falling Rate of Profits, Marx and Underdeveloped Countries. Veblen's Theory of Leisure Class, Essential Features of Marginalism.

The Neoclassical School: Jevons Theory of Value, Walras Theory of General Equilibrium: A General Overview of Marshall's Contribution.

Unit-IV

Development of Modern Macroeconomic Thought: Keynesian Macroeconomics, Features of Neo-Classical Economics and its Critique.

Indian Economic Thought: Ancient Economic Thought, Dadabhai Naoroji Theory of Drain, Gandhi and Marx on Socialism, Amartya Sen's Identification of poverty: Conventional Approach.

Suggested Readings:

1. A.K.Dasgupta ,*Epochs of economic theory*, Oxford University press, New delhi,1986.
2. Harry Landreth, David C. Colander, *History of economic thought*,4th Edition,2000.
3. E.K. Hint, *History of economic thought :A Critical Perspective*, 2nd Edition, 2002.
4. H.L.Bhatia, *History of economic thought*,4th Revised Edition, 2015.
5. R.R.Paul, *History of economic thought*, Kalyani Publishers 7th Edition, 2013.

Course Title: Demography
Course Code: ECO515

L	T	P	Credits	Marks
4	0	0	4	100

Unit I

Demography: Meaning and its Scope, Population and Economic Development: Interdependence among Population, Development and Environment. Demography and Related Concepts: Macro-micro Dynamics of Population.

Social Structure its Components and Influence on Demographic Factors; Migration, Meaning, Causes and Consequences for Economic Development.

UNIT II

Population Theories: Malthusian Theory of Population, Post Malthusian Transition, Optimum Theory of Population, Theory of Demographic Transition, Salder's theory (Laws of population). Mortality: Death rate, Infant, Mortality Rate, Factors for Decline in Mortality in Recent Past, Methods of Population Projection.

UNIT III

Changing Characteristics of Population in India: Population Growth Rates and Trends, Density of Population, Age Structure, Life Expectancy, Sex Ratio and Occupational Structure of Population, Population Policy of India and its Evaluation, Legislative Measures for Controlling Population.

UNIT IV

Migration: Concepts, Measurement, Migration selectivity, Causes and Consequences of Migration. Migration in India; Causes and trends. Migration Differentials in India: Rural Urban, Male female Domestic and International:

Population Policy in India: Evolution of Population Policy in India – The Shift in Policy From Population Control to Family Welfare, to Women Empowerment; Family Planning Strategies and their Outcomes; Reproductive Health, Maternal Nutrition and Child Health Policies;

Suggested Readings:

1. Srinivasan K, *Basic Demographic Techniques and Applications*, Sage, New Delhi. 2007
2. Simon, J.L *Population and Development in Poor Countries*. Princeton University Press. 1992
3. Novell. C, *Methods and Models in Demography*, Bellhaven Press, London, 2005.
4. Choubey, P .K. (2000), *Population Policy in India*, Kanishka Publications, New Delhi. 2000.
5. Bogue, D.J(1971) *Principles of Demography*, John Wiley, New York.
6. Dutt Ruddra and Sundram K.P.M., *Indian Economy*, S. Chand, New Delhi, 2015.

Course title: Public Economics
Course code: ECO509

L	T	P	Credits	Marks
4	0	0	4	100

Unit I

Introduction: Meaning and Scope of Public Economics; Positive versus Normative Analysis, Approaches: Traditional, Public Choice and Behavioral; Meaning Of Public Policy.

Public Economics and Efficiency: Efficiency Of Competition, Pareto Optimality; Public Sector: Need and Functions; Market versus Public Provision.

Unit II

Collective Decision Making: Meaning of Social Optimality, Social Choice from Individual Values – Unanimity, Majority Rule; Social Welfare Function, Arrow’s Impossibility Theorem and its Significance.

Principles of Taxation: Fiscal Neutrality, Equity, Certainty, Evidence, Administrative Efficiency, Objective of Taxation, Principles of Taxation in Developing Economies.

Unit III

Tax Incidence and Excess Burden: Incidence of Taxes in Product and Factor Markets (Partial and General Equilibrium analysis); Administration and Compliance Cost, Tax Distortions (Partial and General Equilibrium).

Public Debt: Meaning, Need and Sources, Public Debt Management, Redemption, Public Debt in India.

Unit IV

Fiscal Federalism: Concept, Issues, Economics Aspects (including Vertical and Horizontal Fiscal Imbalances), Fiscal Federalism in India.

Institutional Mechanism: Fourteenth Finance Commission – Terms of Reference, Approach, Current Status of Union and State Finances.

Suggested Readings:

1. Hindriks, Jean and Gareth D. Myles. *Intermediate Public Economics*. The MIT Press, England, 2006/2013.
2. Musgrave, R. A. and P. B Musgrave. *Public Finance in Theory and Practices*. McGraw-Hill International Editions, 1989.
3. Gruber, Jonathan. *Public Finance and Policy*. Worth Publishers, Fourth Edition.
4. Cullis, John and Philip Jones, *Public Finance and Public Choice*. Oxford University Press, Third Edition (Indian), 2010.
5. Myles, G. *Public Economics*. Cambridge University Press, New York, 1995.

Course Title: Money and Banking
Course Code: ECO510

L	T	P	Credits	Marks
4	0	0	4	100

Unit-I

Money: Evolution and Definition, Classification and Functions; Money and Near Money.
Demand for Money: Classical Theory: Fisher, Cambridge; Keynesian Liquidity Preference Approach and Friedman Theory.
Supply of Money: Money Creation by Banking System, Ordinary and High Powered Money, Money Multiplier Process.

Unit-II

Theories of Interest: Classical Theory, Loanable Funds Theory and Liquidity Preference Theory.
Commercial Banking: Role and Functions of Commercial Banks, Credit Creation Process. Commercial Banking in India since Independence, Cooperative Banks in India, Difference between Banks and Non-Banks Financial Intermediaries, Control and Regulations of NBFIs by RBI.

Unit-III

Central Banking: Origin and Evolution, Role and Functions, Techniques of Credit Control with special reference to India, Credit Policy in India, Central Bank influence on Money Supply.
Monetary Policy: Objectives, Targets and Indicators. Transmission Mechanism, Lags in Monetary Policy.

Unit IV

Interest Rates in India: Nature, Structure and Factors affecting Interest Rates in India.
Money Demand and Money Supply in India: Significance and Determinants, Measures of Money Supply in India, Influence of Money Supply on Interest Rates, Empirical Evidence on Demand for Money.
Monetary Policy: Objectives and Limitations of Monetary Policy in India.
Nationalization of Commercial Banks: Objectives, Performance and Evaluation of Commercial Banks in India.

Suggested Readings:

1. Abel, B. Andrew and Ben. Bernake. *Macroeconomics*. Pearson Education. 2011.
2. Benette, T. Mccallum, *International Monetary Economics*. Oxford University Press, Oxford. 1996.
3. D.N. Dwivedi. *Macroeconomics: Theory and Policy*. Tata Mcgraw Hill, New Delhi. 2010.
4. F. S. Mishkin, *Economics of Money, Banking and Financial Markets*. The Business Edition 4th, 2015.
5. Government of India, *Economic Survey* (Various issues).
6. Misra, S. Puri. *Indian Economy*. Himalaya Publishing House. 2015.
7. Paul, R.R. *Monetary Economics*. Kalyani Publishers. 2005.
8. Kapila, Uma, *Indian Economy since Independence*. Academic Foundation, New Delhi. 2016.

Course Title: Quantitative Techniques
Course Code: ECO511

L	T	P	Credits	Marks
4	0	0	4	100

Unit I

Matrices: Review of Adjoint and Inverse of Matrices; Rank of Matrix; Linear Independence and Dependence of Vectors/Matrices; Solutions of Equations (upto three) by Matrix Inverse and Gauss elimination Methods; Consistency of Equations; Quadratic Forms – Types and Properties. Simple Economic Applications.

Unit II

Differentiation: Review of Simple Differentiation; Partial and Total Derivatives; Homogenous Function; Euler's Theorem, Maxima and Minima of a function of Two Independent Variable; Constrained Optimization; Lagrange's Method.

Application of Derivatives in Economics: Elasticity of Demand; Average and Marginal Functions; Partial Elasticities; Competitive and Complementary Commodities; Optimization Problems in Cost, Revenue etc.

Unit III

Differential and Difference Equations: Differential and Difference Equations of First and Second Order and their Applications

Unit IV

Linear Programming: Formulation of L.P.P.: Simplex and Graphical Methods, Two-phase Simplex Method and Dual Simplex Method. Concept of Duality

Suggested Readings:

1. Hoy, Michael et.al. *Mathematics for Business and Economics*, PHI Learning, New Delhi, 2012
2. Kandoi, B, *Mathematics for Business and Economics with Applications Volume-1*, Himalaya Publishing House, New Delhi, 2011.
3. Kandoi, B, "*Mathematics for Business and Economics with Applications Volume-1I*", Himalaya Publishing House, New Delhi. 2011.
4. Yamane, T, *Mathematics for Economists*, Prentice Hall of India, New Delhi, 2001
5. Monga, G.S., *Mathematics and Statistics for Economics*, Vikas Publication, New Delhi, 2009
6. Chiang, A, "*Fundamental Methods of Mathematical Economics*" Tata McGraw-Hill Education, New Delhi, 2005

Course Title: Environmental Economics
Course Code: ECO512

L	T	P	Credits	Marks
4	0	0	4	100

Unit I

Introduction: Interactions between Economy and Environment, Scope of Environmental Economics, Different Environmental Perspectives,

Role of Markets: Characteristics and Classification of Goods, Values of Environmental Good; Conditions of Market Efficiency, Concept of Externalities and Markets Failure.

Unit II

Theory of Environmental Regulation and Policy: Socially Optimal Level of Pollution and Pigouvian Tax; Coase Theorem (Property Rights); Standards (such as Ambient, Technology-Based, Performance-Based); Command and Control Approach; Market Instruments (such as Pollution Charges, Subsidies, Deposit/ Refund Systems, Pollution Permit Trading Systems).

Unit III

Environmental Valuation Methods: Revealed and Stated Preferences; Revealed Preference Techniques (such as Market-based and Surrogate Markets Based); Stated Preference Techniques – Contingent Valuation and the Concept of Constructed Markets, Components of a Contingent Valuation Study.

UNIT IV

Sustainable Economic Growth and Development: Concept of Weak and Strong Sustainability; Environmental Kuznets Curve; Pollution Haven Hypothesis; International Trade and Environmental Protection; Green National Income Accounting.

Suggested Readings:

1. Kolstad, Charles D. *Intermediate Environmental Economics*. Oxford University Press. 2011.
2. Callan, Scott J. and Janet M. Thomas. *Environmental Economics & Management: Theory, Policy and Applications*, Sixth Edition, South-Western, Cengage Learning, 2013.
3. Haque, A. K. Enamul, M. N. Murthy and Priya Shyamsundar (ed.), *Environmental Valuation in South Asia*, Cambridge University Press, India, 2011.
4. Hanley, Nick, Jason F Shorogen and Ben White, *Environmental Economics in Theory and Practice*, Second Edition, MacMillan, 2006.
5. Compendium of Environment Statistics published by Government of India, latest edition.

Course Title: Labour Economics

Course Code: ECO513

L	T	P	Credits	Marks
4	0	0	4	100

Unit - I

Introduction: Scope and Importance of Labour Economics, Concepts (such as Workforce Participation Rate, Labour Absorption Rate).

Human Capital: Meaning, Human Capital Investment, Human Capital Formation in India.

Unit – II

Demand and Supply of Labour: Marginal Productivity Theory – Value of Marginal Product, Marginal Revenue Product, Marginal Expense of Input, Derivation of Firm's and Industry Demand Curve for Labour; Substitution Effect, Output Effect and Profit Maximizing Effect; Backward Bending and Upward Sloping Supply Curve, Non-Labour Income and Wage Rate –Impact on Choice of Work Hours.

Unit – III

Labour Market: Equilibrium and Market Forms, Labour Market Flexibility, Labour Market Policy and Wage Flexibility, Effect of Immigration, Cobweb Model.

Labour Union: Concept and Models of Union Behavior (such as Right-To-Manage, Efficient Bargaining, Union Monopoly, Bilateral Monopoly).

Unit – IV

Contemporary Issues: Problem of Child and Women Labour, Labour Market Issues and Reforms in India; Employment Programs- MGNREGA, Exit Policy, Recommendations of Second National Labour Commission in India; Social Security Act for Un-organised Sector Workers, 2008.

Suggested Readings:

1. Borjas, George J. *Labour Economics*. McGraw-Hill Irwin. 2013.
2. Ehrenberg, Ronald G and Robert S., Smith, *Modern Labour Economics: Theory and Public Policy*. Addison Wesley, 2006.
3. Gould, J. P. and P. Edward Lazear. *Microeconomic Theory*. AITBS Publishers and Distributors Delhi, 2001.
4. Kar, Saibal and Debabratta, Datta. *Industrial and Labor Economics: Issues in Developing and Transition Countries*. Springer India. 2015.
5. Smith, Stephen. *Labour Economics*. Routledge. 2003.
6. Government of India. *Indian Labour Yearbooks (various issues)*, GOI.

Course Title: Advanced Microeconomic Theory

Course Code: ECO516

Unit I

L	T	P	Credits	Marks
4	0	0	4	100

Inter-temporal Choice: Budget Constraint, Preferences for Consumption, Comparative Statics, Slutsky Equation and Inter-temporal Choice, Present Value, Analysing Present Value for Several Periods, Use of Present Value, Choice of Interest Rate.

Unit II

Uncertainty: Contingent Consumption, Functions and Probabilities – Expected Value, Expected Utility, Neumann-Morgenstern Utility Function, Diversification, Risk Aversion, Risk Spreading.

Asymmetric Information: Model of a Market, Quality Choice and Choosing the Quality, Adverse Selection, Moral Hazard, Hidden Action and Hidden Information Problem, Signaling, Incentives.

Unit III

Game Theory: Payoffs, Payoff Matrix, Two Person Zero Sum Game – (a) Certainty Model, Its Assumptions, Choice of Strategy, (b) Uncertainty Model – Its Assumptions, Choice of Strategy, Non-Zero Sum Game; Prisoner’s Dilemma.

Behaviourial Economics: Definition, Framing Effects in Consumer Choice – Positive and Negative Framing, Anchoring Effects, Bracketing, Constructed Preferences, Uncertainty and Law of Small Numbers, Assessment of Behaviourial Economics.

Unit IV

Linear Programming: Defining Linear Programming Problem, Solution – (a) Graphical Method, Determination of Objective and Optimal Solution, (b) Simplex Method; Dual Problem and Shadow Prices.

Suggested Readings:

1. Varian, Hal. R. *Intermediate Microeconomics: A Modern Approach*, Ninth Edition, W. W. Norton & Company, New York, 2014.
2. Salvatore, Dominick. *Principles of Microeconomics*, Fifth Edition (International version), Oxford University Press, 2009.
3. Koutsoyiannis, A. *Modern Microeconomics*. Palgrave Macmillan, Second Edition, 2003
4. Lipsey, G. and K.A. Chrysal. *Economics*. Oxford University Press. 2004.
5. Mankiw, N. Gregory. *Principles of Economics*. Worth Publishers. 2007.

Course Name: Advanced Macroeconomic Theory

Course Code: ECO517

L	T	P	Credits	Marks
4	0	0	4	100

Unit 1

Macro Economic Policy: Meaning and Objectives; Targets and Instruments: Fixed and Flexible Targets Approaches, Uncertainty and Economic Policy, Lags in the Effect of Policy: Rules vs. Discretion.

Dynamic Aggregate Demand (DAD) and Dynamic Aggregate Supply (DAS): Structure of the Model comprising DAD and DAS, Its Functioning, Equilibrium Analysis, Analysis of Aggregate Supply and Aggregate Demand Shocks, Lessons for Monetary Policy.

Unit 11

Disequilibrium Models: Time Horizon in Macroeconomics: Short run and Long run; Fluctuations: Aggregate Demand and Aggregate Supply Shocks; Nominal and Real Rigidities and Fluctuations.

Models of Aggregate Supply: The Sticky Wage Model, Sticky Price Model, Imperfect Information Model (Theoretical expositions).

Dynamic Disequilibrium: Explaining Fluctuations with the IS – LM Model.

Unit III

Supply Side Economics: Basic Propositions, Features, Keynes and Supply Side Economics, Supply Side Economics and Developing Economies, India and Supply Side Economics.

Post-Keynesian Economics: The Origin of the Problem, Essence and Features of Post-Keynesian Economics, Causes of Its Emergence, Keynes and Kalecki on Post-Keynesian Economics, Its Policy Implications.

Unit IV

Micro Foundations of Macro Economics: Irving Fisher and Intertemporal Choice: The Intertemporal Budget Constraint, Consumer Preferences, Optimization, Impact of Changes in Income on Consumption, Impact of Changes in the Real Interest Rate on Consumption, Constraints on Borrowing.

Suggested Readings:

1. David Romer. *Advanced Macroeconomics*. McGraw Hill International Edition. 2001.
2. Dornbush, R., S. Fisher and R. Startz. *Macro Economics*. Tata McGraw Hill. 2004.
3. Gordon, R. J. *Macroeconomics*. PHI Learning. 12th Edition. 2012.
4. Ljungqvist, L. and T. J. Sargent. *Recursive Macroeconomic Theory*. MIT Press. 2000.
5. Mankiw, N.G. *Macroeconomics*. Worth Publishers. 2010. 7th Edition.
6. Samuelson, P.A. and W. D. Nordhaus. *Macroeconomics*. Tata McGraw Hill. 2012. 19th Edition.
7. Shapiro Edward. *Macroeconomic Analysis*. Galgotia Publications Pvt. Ltd. New Delhi. 2004.

Course Title: Development Economics

Course Code: ECO601

L	T	P	Credits	Marks
4	0	0	4	100

Unit 1

Economic Development: Meaning, Traditional and Modern View of Development, Core Values of Development, Sen's Approach, The Millennium and Sustainable Development Goals. Economic Growth and Economic Development: A Contrast in Concepts.

Indicators of Development: GDP as a Measure of Welfare, Social and Economic Indicators: Physical Quality of Life Index (PQLI) and the Human Development Index (HDI).

Unit II

Poverty, Inequality and Development: Measuring Poverty: Extent and Magnitude, Characteristics of Poverty Groups, the Functional Impact of Poverty; Inequality and its Measurement Criteria, Lorenz Curves and Kuznets' Inverted - U Hypothesis.

Models of Surplus Labor: Lewis, Ranis and Fei, Jorgenson and Todaro Model.

Theories of Underdevelopment: Neo-Colonial Dependence Model, Myrdal's Cumulative Causation Thesis and Raul Prebisch Model.

Dualistic Development Thesis: Social and Technological Dualism.

Unit III

Theories and Processes of Development: Classical Model; Marxian Model; Rostow Model; Schumpeter's Model; Kaldor growth Model; Solow Growth Model; Joan Robinson and Optimal Growth Models; New Endogenous Growth Model (Romer Model).

Unit IV

Strategies of Economic Growth: Balanced vs. Unbalanced Growth: Theory of Big Push and Critical Minimum Effort Thesis, Reliance on Foreign Trade, International Aid, FDI and MNCs. Agricultural Strategy for Economic Development, Role of Agriculture in Development, Trade and Development.

Economic Growth and the Issue of Sustainable Development: Resource Depletion, Resource Augmentation, Environmental Consequences and Sustainability.

Suggested Readings:

1. Chew, S.C. and R.A. Denmark. *The Underdevelopment of Development*. Sage Publications. New Delhi. 1999.
2. Debraj, Ray. *Development Economics*. Oxford University Press. 1998.
3. Meier, G.M. and J.E. Rauch. *Leading Issues in Economic Development*. Oxford University Press. 2000.
4. Taneja, M.L and R.M. Myer. *Economics of Development and Planning*. Vishal Publications. 2014.
5. Thirwall. A.P. *Growth and Development*. Palgrave Macmillan Publishers. 7th Edition.
6. Todaro, M.P. and Stephen C. Smith. *Economic Development*. Pearson Publications. 2011.

Course Title: Indian Economy

Course Code: ECO602

L	T	P	Credits	Marks
4	0	0	4	100

Unit-1

Introduction- State of Indian Economy at the dawn of Independence: A Review. Structural Changes: State of Economy since 1990-91.

National Income: Growth, Trends and Structure. *Capital Formation:* Growth and Trends.

Economic Reforms in India: First and Second Phase of Economic Reforms, Features, Appraisal of Economic Reforms.

Unit II

Agriculture- Growth, Pattern and Problems; Regional Variation in Agricultural Development; New Agriculture Strategy: First and Second Green Revolution; Sustainable Agriculture: Need and Policies; Recent Agricultural Policy of Govt. of India. Economic Reforms and Agriculture: Impact.

Industry- Growth, Pattern and Structure of Industrial Development; Regional Variation in Industrial Development; New Industrial Policy: Deregulation, Liberalization and Impact on Indian Industry; Public Sector Reforms and Privatization. Rationale, Objective and Functioning of Competition Act.

Unit III

Financial Sector- Nationalization of Banks and their Performance; Banking Sector Reforms since 1991. Capital Market – Growth, Problems and Reforms since 1991.

Public Finance: Recent Trends in Public Debt and Fiscal Deficits in Central and State Finances. Centre-State Financial Relations– The Debate. Recent Reforms in Indian Tax Structure.

External Sector: Trade Policy during Pre and Post Reform Period; Special Economic Zones in India: Benefits and Arguments Against. Exchange Rate Policy and Foreign Exchange Management Act (FEMA); External Debt. Foreign Direct Investment.

Unit IV

Poverty and Unemployment- Poverty Line; Poverty across States and Poverty Alleviation Programs in Post- Reform Period.

Economic Planning- Objectives, Rationale and Performance; Eleventh Five Year Plan; Twelfth Five Year Plan- Objective, Issues, Financing for various Sectors under 12th Plan; NITI Aayog.

Suggested Readings:

1. Kapila, Uma. *Indian Economy since Independence*, Academic Foundation, New Delhi, various editions.
2. Sundharam K. P. M. Datt, G. and, Mahajan, A., *Indian Economy*, New Delhi, S. Chand & Company, 2016.
3. Misra, S. K. & Puri, V. K., *Indian Economy*, Mumbai, Himalaya Publishing House, 2016.
4. Dhar, P. K., *Indian Economy: Its Growing Dimensions*, New Delhi, Kalyani Publishers, 2106.
5. *Economic Surveys*, Government of India, Various Issues.
6. *Union Budget*, Government of India.

Course Title: Basic Econometrics
Course Code: ECO603

L	T	P	Credits	Marks
4	0	0	4	100

Unit-I

Econometrics: Nature, Meaning of Econometrics, Methodology Followed and Type of Data Used in Econometric models. Estimation of the Two Variable and Multiple Regression Models with the Method of Ordinary Least Squares (OLS); BLUE Properties and Testing of Hypothesis, Maximum Likelihood Estimation (MLE).

Unit-II

Nature, Consequences, Detection and Remedial Measures for the Problems of: Multi-collinearity, Heteroscedasticity and Autocorrelation.

Unit-III

Distributed Lag and Autoregressive Models: Introduction and Nature of Distributed Lag (DL) & Autoregressive (AR) Model, Koyck Approach for Estimation of DL & AR Models. Rationalization of Koyck Approach by Adaptive Expectation and Partial Adjustment Hypothesis; Almon's Polynomial Approach.

Unit-IV

Estimation of Regression Models Using Standard Statistical/Econometric Packages, Interpretation of Estimates and Hypothesis Testing, Testing for Multi-collinearity, Heteroscedasticity, Autocorrelation using Computer Techniques.

Suggested Readings:

1. Gujarati Damodar, *Basic Econometrics*, 4th Ed., McGraw Hill. New Delhi, 2002.
2. Kemanta, J., *Elements of Econometrics*, (2nd Ed.), Macmillan, New York, 2008.
3. Maddala, G. S., "*Introduction to Econometrics*", (3rd ed.), Wiley India. 2010
4. Koutsoyiannis, A., *Theory of Econometrics*, Harper & Row, New York, 1973.
5. Wooldridge, Jeffery M.: *Introductory Econometrics*, South Western College Publishing, 2000.

Course Title: Agriculture Economics

Course Code: ECO604

L	T	P	Credits	Marks
4	0	0	4	100

UNIT-I

Introduction: Nature, Scope and Role in Economics Development; Changing Importance of Agriculture in the Process of Economic Development; Characteristics of Subsistence Agriculture. Schultz's Prescription of Transforming Traditional Agriculture; Interface between Agriculture and Industry.

Institutional Structure: Relationship between Institutional Structure and Agricultural Development; Land Reforms: Nature, Progress and Assessment.

UNIT-II

Farm Management: Meaning, Concept, Tools of Farm Management Analysis, Nature of Emerging Agrarian Structure, Farm Size and Productivity in Indian Agriculture; Agricultural Finance and Credit. Problem of Rural Indebtedness.

New Agricultural Technology: Impact on Production, Employment and Income Distribution.

Growth and Productivity Trends in Indian Agriculture: Spatial Pattern of Agricultural Development in India; New Technology and Labour Absorption in Indian Agriculture.

UNIT - III

Price Instability in Agriculture: Methods to Stabilize Income and Prices in Agriculture; Acreage and Output Response to Prices in Agriculture.

Agricultural Price Policy in India: Instruments and Assessment; Agricultural Marketing in India; Public Distribution System (PDS).

UNIT – IV

Agricultural Taxation: Inter-Sectoral Terms of Trade; Agricultural Subsidies: Nature, Trends and Distributional Implications.

New Economic Policy and Indian Agriculture: Foreign Trade and Agricultural Development, WTO and Indian Agriculture.

Suggested Readings:

1. Government of India. *Economic Survey*. Various Issues.
2. *Handbook of Agriculture Economics*.
3. Drummond, H and John Goodwin. *Agriculture Economics*. Pearson Publication. 2013.
4. Sadhu, A.N. and Amarjit Singh. *Fundamentals of Agricultural Economics*. Himalaya Publishers. New Delhi. 2012.
5. Schultz, T.W. *Transforming Traditional Agriculture* 1964.
6. Tsakok, Isabelle. *Success in Agricultural Transformation*. Cambridge University. New York. 2011.

Course title: Economics of Infrastructure
Course Code: ECO605

L	T	P	Credits	Marks
4	0	0	4	100

Unit - I

Introduction: Concept and Definition of Infrastructure, Characteristics, Classification, Importance for Economic Development.

Public Utilities: Concept of Natural Monopoly, Economies of Scale and Economics of Scope, Peak-load and Off-peak Load Problem, Dual Principle Controversy.

Unit – II

Transport and Storage: Classification of Transport System, Cost Functions and Structure of Transport Costs, Demand for Transport Service; Types of Warehouses.
Indian Modal Mix; Cold Chain Industry in India.

Telecommunications: Principles of Decreasing Costs in Telephone Industry, Rate-Making in Telephone Utilities.

Telecom Regulatory Authority of India – Objective and Functions.

Unit – III

Energy System and Security: Concept of Energy System, Types of Energy Resources, Approaches of Energy Demand Modelling; Dimensions of Energy Security, Role of Energy Conservation, Energy Security Indices.

Primary Energy Mix in India, National Power Grid, Bureau of Energy Efficiency, Energy Policy and Issues (latest).

Unit – IV

Education: Importance of Human Resource Development, Education and Human Resource Development, Problems of India's Education System, Education Policy in India.

Health: Determinants of Health, National Health Policy, Major Health Programmes such as National Health Mission, Swachh Bharat Mission (Gramin).

Suggested Readings:

1. Samli, A Coskun, *Infrastructuring: The key to achieving economic growth productivity and quality of life*, Springer, London, 2011.
2. Frischmann, Brett. M., *Infrastructure: The Social Value of Shared Resources*, Oxford University Press, 2012.
3. Sharkey, William W., *The Theory of Natural Monopoly*, Cambridge University Press, 1989.
4. William, Jack. *Principles of Health Economics for Developing Countries*. World Bank Institute Development Studies, Washington DC, 1999.
5. Ehrenberg, Ronald G and Robert S., Smith, *Modern Labour Economics: Theory and Public Policy*. Addison Wesley, 2006.
6. Kingdon, Geeta G, *The progress of school education in India*, Oxford Review of Economic Policy, 23(2)

Course Title: Punjab Economy
Course Code: ECO612

L	T	P	Credits	Marks
4	0	0	4	100

Unit-1

Concept of Region: Type of Region, Nodal, Programming, Administrative and Natural Regions, Transport Costs and Location.

Regional Allocation of Resources: Balanced Regional Development; Regional Linkage-Spread and Backwash Effects; Convergence and Divergence.

Urban Development: Regional Imbalance in India; Regional Planning; Rural Urban Inequality; Growth Poles and Development Process.

Unit II

Structural Changes in Punjab Economy: Agriculture in Punjab, Growth & Productivity.

Physical Infrastructure: Role, Growth and Performance.

Green Revolution: Role, Performance & Implications; W.T.O and Punjab Agriculture.

Farming Systems: Family Farming, Co-operative Farming, Collective Farming and State Farming.

Agricultural credit: Need, Role of Co-Operative and Commercial Banks in Punjab.

Unit III

Industrialization in Punjab: Structure, Pattern and Progress of Industries in Punjab Since 1966. Inter-District Industrial Disparities. Role of State & Financial Institutions in Industrial Development.

New Industrial Policy: MSME in Punjab; Public Sector Reforms and Privatization in Punjab, Impact of WTO on Punjab Industrial Development.

Unit IV

Transport and Banking: Classification of Transport System, Structure of Transport Costs, Demand for Transport and Development of Banking in Punjab.

State Finance: Financial Relations between Centre and State; Sources of Revenue and Heads of Expenditure and Problems, Pattern of Devolution of Resources from Centre to Punjab, Recommendation of Latest Finance Commission.

Suggested Readings:

1. Bawa, R.S. and P.S. Raikhy (eds.). *Punjab Economy, Emerging Issues*, 2000.
2. Chadha, G.K. *The State and Rural Economic Transformation: The Case of Punjab 1950-85*. Sage Publication.1986.
3. G.S.Bhalla and G.Singh. *Regional Variation in agriculture development in India*. Sage Publication, 2001.
4. Johl S.S. and S.K. Ray. *Future of Agriculture in Punjab*. CRRID. 2002.
1. 5. Singh, Balwinder: *Agricultural Credit, Sources, Problems and Emerging Issues*. New Delhi: Deep & Deep Publishers Pvt. Ltd. 2000.
5. Singh, Himmat: *Green Revolution Reconsidered: The Rural World of Contemporary Punjab*. 2000.
6. *Handbook on Indian economy*. RBI publication.

Course Title: Operational Research

Course Code: ECO613

L	T	P	Credits	Marks
4	0	0	4	100

Unit – I

Introduction: Nature, Scope, Features, Limitations of OR , Types of OR Models, Principles of OR Modeling, Applications, Phases and Processes, Methodology and Techniques of OR.

Sequencing Theory: Terminology, Assumptions, Types of Sequencing Problems; ‘n’ jobs through one machine, ‘n’ jobs through two machines, ‘n’ jobs through three machines, ‘n’ jobs through ‘m’ machines, and two jobs through ‘m’ machines.

Unit – II

Duality: Concept of duality in LPP, Formulation of dual problem, Rules for constructing Dual problem, Primal- Dual relationship, Interpreting Primal- Dual Relationship, Dual Simplex, Steps in Dual Simplex

Transportation Models: Introduction, Terminology, Assumptions, Tabular Presentation, Formulation of problem, Optimal Solution, Methods of Initial Basic Feasible Solutions- NWCM, LCM, VAM; Optimality Test- Stepping Stone Method, Modified Distribution Method; Degeneracy in Transportation Problem; Profit Maximization in Transportation Model; Trans-shipment Problem.

Unit – III

Replacement Theory: Introduction, Failure Mechanism of Item, Assumptions, Replacement Decisions, Types of Replacement Problem, Replacement Policy for Item Breaking Down Suddenly- Individual & Group Policy.

Queuing Theory: Introduction, Features, Scope, Assumptions, Service System; Queuing Models- Probabilistic, Deterministic, Mixed.

Simulation Models: Introduction, Steps in Simulation Process, Merits & Demerits; Monte- Carlo Method.

Unit – IV

Game Theory: Introduction, Significance, Features, Limitations, Strategy & Types of Strategy, Maximin- Minimax Principle, Saddle point, Types of Problems- Games with Pure Strategies, Games with Mixed Strategies.

Network Analysis: PERT & CPM- Introduction, History, Objectives, Applications, Terminology, Errors in Network Logic, Rules to frame a Network, Fulkerson’s Rules to Numbering of Events, Stages of Project Management, Activity Times & Critical Path, Computation of Critical Path- Slack & Float, Merits & Demerits of PERT, CPM- Time Estimating & Limitations, Comparison between PERT & CPM.

Decision Theory: Introduction, Components- Act, Event & Outcome, Types of Decision Making- Certainty, Risk, Uncertainty, Decision Tree Diagram.

Suggested Readings:

1. Kalavathy, S., *Operations Research*, Vikas Publishing House, New Delhi, 2002.
2. Kapoor, V. K., *Operations Research*, Sultan Chand & Sons, New Delhi, 2014.
3. Paneerselvam, R., *Operations Research*, Prentice Hall of India, New Delhi, 2006.
4. Sharma, J. K., *Operations Research: Theory and Applications*, Macmillan, New Delhi, 2009.
5. Taha, H. A., *Operations Research: An Introduction*, Prentice Hall of India, 2016.
6. Vohar, N. D., *Quantitative Techniques in Management*, Tata McGraw Hill, New Delhi, 2007.

Course Title: International Economics

Course Code: ECO606

L	T	P	Credits	Marks
4	0	0	4	100

Unit-1

Theory of International Trade and Commercial Policy: Classical Comparative Cost Theory, Heckscher-Ohlin Model, Empirical Test of Classical and Heckscher-Ohlin Model, Gains from Trade, Terms of Trade. Tariff (Partial and General Equilibrium Analysis) and Non-Tariff Barriers to Trade, Custom Union.

Unit-11

Balance of Payments: Meaning, Concept, Equilibrium and Disequilibrium in Balance of Payments, Traditional, Absorption and Monetary Approach for Adjustment in Balance of Payments. Foreign Trade Multiplier.

Unit-111

Foreign Exchange Market and Exchange Rates: Function, Interest Arbitrage and Efficiency of Foreign Exchange Market.

Theory of Foreign Exchange Markets: Exchange Trading, Arbitrage and Market Hedging, Determination of Exchange Rate, Purchasing Power Parity, Determination of Equilibrium Exchange Rate.

Unit-IV

International Monetary System: Special Drawing Rights (SDR's); Breakdown of the Bretton Wood System; Present International Monetary System; Theory of International Reserves; Optimum Currency Areas: Theory and Impact in the Developed and Developing Countries. Current IMF Operation in Contest to India.

Suggested Readings:

1. Carbaugh, R. J. *International Economics*, Thomson South Western, New Delhi. 2008.
2. Cherunilam, F. *International Economics*. Tata McGraw-Hill Companies, New Delhi. 2006.
3. Kindleberger, C. *International Economics*, Ontario Richard D. Irwin. Latest Edition.
4. Ingram, James, C. *International Economic Problems*, John Wiley & Sons, 1978.
5. Salvatore, D.K. *International Economics*. John Wiley and Sons. 2013.
6. Sodersten, B.O. *International Economics*, II Edition Macmillan Press Ltd, Latest Edition.
7. Yarbrough, B. V. and Yarbrough, R. M. *The World Economy- Trade and Finance*, Thomson South Western. 2007.

Course Title: Financial Markets and Institutions

Course Code: ECO607

L	T	P	Credits	Marks
4	0	0	4	100

UNIT – I

Financial Markets and Financial Institutions: The Role and Structure of Financial Markets in the Economy. Functions of Financial Institutions.

Introduction to Corporate Finance: Various Methods of Corporate Finance, Goals of Financial Management, Cost of Capital and Capital Structure.

UNIT-II

The Supply of Securities: Regulations Governing Supply of Securities, General Characteristics of Securities: Government Bonds, Index Linked Bonds, Corporate Securities; Mutual Funds and Money Market Funds.

The Demand for Securities: The Time Dimension: Present Value and Duration, Yields on Zero-Coupon Bonds. Measurement of Risk, Expected Utility Approach, Mean Variance Portfolio Theory, Portfolio Diversification.

UNIT-III

Industrial Finance in India: Market Financial Institution in India with special reference to IDBI, IFCI, ICICI and SFCs.

Capital Market in India: Structure Developments, Role, Problems and Role of SEBI. Recent Reforms in the Indian Financial Market.

UNIT-IV

Development Financial Institutions: Role, Growth and Structure of Development Financial Institutions in India; Types and Control of Non-Banking Financial Companies by RBI.

Foreign Exchange Market: Nature, Organisation and Participants.

Suggested Readings:

1. Bhole, L. M.: *Financial Institutions and Markets*. Tata McGraw Hill Publishers Company Ltd., New Delhi. 2012.
2. Eatwell, John and Taylor Lance: *International Capital Markets, System in Transition*. Oxford University Press, Delhi. 2013.
3. Fabozzi, Frank J. Modigliani Franco: *Capital Markets, Institution and Instruments*. Prentice Hall of India Pvt. Ltd., third edition New Delhi.
4. Government of India: *Economic Survey* (Recent Issues).
5. Khan, M. Y.: *Indian Financial System*. Tata McGraw Hill, New Delhi, 2000.
6. Kapila, Uma. *Indian Economy since Independence*. Academic Foundation. 2016.
7. Sundharam, K. P. M, G. Datt and A. Mahajan. *Indian Economy*. S. Chand & Company, New Delhi. 2016.
8. Misra, S. K. & Puri, V. K. *Indian Economy*. Himalaya Publishing House. Mumbai. 2016.
9. Reserve Bank of India: *Various Reports*.

Course Name: Economics of Planning
Course Code: ECO608

L	T	P	Credits	Marks
4	0	0	4	100

Unit-I

Economic Planning: Meaning, Objectives, Rationale and Process of Planning; Different Planning Systems, Requisites for Successful Planning; Types of Planning: Rolling and Fixed, Indicative and Imperative, Centralized and Decentralized, Financial and Physical, Planning by Direction and Inducement, Structural and Functional, Democratic and Socialist, Physical and Financial Planning.

Controls under Planning: Meaning, Need and Types of Controls, Aims and Limitations of Physical Controls.

Unit-II

Investment Criteria: Rationale and Types of Investment Criterion.

Choice of Technique: Meaning, Process of Technological Development, Labour Intensive, Capital Intensive Technology, Intermediate Technology, Appropriate Technology, Labour Intensive vs. Capital Intensive Technology, Choice of Technique in Underdeveloped Countries and Appropriate Technique for UDC's. Sen-Dobb Thesis.

International Transfer of Technology: Need, Channels, Importance and Problems in the Transfer of Technology.

Unit III

Project Evaluation: Meaning, its Stages, Rationale, Project Planning and Commercial Profitability Criteria; Social Cost Benefit Analysis: Meaning and Technique; Shadow Prices: Meaning, Importance and Methods to Compute Shadow Prices, Little Mirrless and UNIDO Approaches – A Comparison.

Plan Models: Theoretical Foundations and Consistency in Plan Models, Static and Dynamic Input–Output Analysis.

Unit IV

Indian Plan Models: Harrod–Domar, Mahalanobis, Frisch and Sandee, Manne and Rudra, CELP Model.

Indian Planning: Strategy, Objectives, Priorities, Financing and Investment Pattern, Implementation and Evaluation in the context of Targets and Achievements of Five Year Plans after Post-Reform Period.

Suggested Readings:

1. Debraj, Ray. *Development Economics*. Oxford University Press. 1998.
2. Dutt, Ruddra and K.P.M. Sundharam. *Indian Economy*. S. Chand and Company Ltd. New Delhi. 2016.
3. Meier, G.M. and J.E. Rauch. *Leading Issues in Economic Development*. Oxford University Press. 2000.
4. Puri, V.K. and S.K Misra. *Economics of Development and Planning*. Himalaya Publishing House. 2016.
5. Taneja, M.L and R.M. Myer. *Economics of Development and Planning*. Vishal Publications. 2014.
6. Thirwall. A.P. *Growth and Development*. Palgrave Macmillan Publishers. 7th Edition.
7. Todaro, M.P. and Stephen C. Smith. *Economic Development*. Pearson Publications. 2011.
8. Yotopoulous, P.A. and Nugent, G. *Economics of Development and Planning: An Empirical Analysis*. New York: Harper & Row. 1976.

Course Title: Industrial Economics
Course Code: ECO609

L	T	P	Credits	Marks
4	0	0	4	100

Unit – I

Framework and Problems of Industrial Economics: Concept and Organization of a Firm – Ownership, Control and Objectives of the Firm; Neo-Classical Theory of Firm and Challenges to Profit Maximization.

Static Alternatives to Profit Maximization- W. J. Baumol, O. Williamson, Dynamic alternatives to profit maximization: R. Marris, Cyret and March

Unit – II

Market Structure: Sellers' Concentration; Product Differentiation; Entry Conditions; Economies of Scale; Market Structure and Innovation; Theories of Industrial Location – Weber and Sargent Florence; Factors Affecting Location.

Market Conduct: Product Pricing - Theories and Evidence; Advertising Expenditure; Mergers and Acquisitions; Diversification; Optimum Size of Firm and Constraints to Size of Firm.

Unit – III

Market Performance: Growth of the Firm – Theory and Evidence; Constraints on Firm's Growth; Productivity, Efficiency and Capacity Utilization – Concept and Measurement including Evidence from Indian Economy.

Project Appraisal: Cost-Benefit Analysis – Net Present Value (NPV) and Internal Rate of Return (IRR) Criteria – Balancing Private and Social Returns.

Unit – IV

Indian Industrial Growth and Pattern: Industrial Policy in India – Structural Transformation of Indian Industries; Industrial Competitiveness and Recent Industry Policy Initiatives; Recent Trends in Indian Industrial Growth; Transfer of Technology and Issues Related with TRIMS. Competition Policy.

Suggested Readings:

1. Hay, D. and D. J. Morris, *Industrial Economics: Theory and Evidence*, Oxford University Press, New Delhi, 1979.
2. Devine, P.J. & R.M. Jones (et. al.), *An Introduction to Industrial Economics*, George Allen & Unwin Ltd., London, 1979.
3. Singh, A. & Sandhu, A. N., *Industrial Economics*, Himalaya Publishing House, Mumbai, 1988.
4. Barthwal, R. R., *Industrial Economics*, Wiley Eastern Ltd., New Delhi, 1985.
5. Koutsoyiannis, A., *Modern Economics*, Palgrave Macmillan, U.K., 2003.

Course Title: Health Economics

Course Code: ECO610

L	T	P	Credits	Marks
4	0	0	4	100

Unit I

Introduction to Health Economics: Meaning, Importance and Essential Features of Health Economics.

Concepts of Health: Health Care, Birth Rate, Fertility Rate, Death Rate, IMR, CMR, MMR, Morbidity rate (Acute and Chronic), Disability Adjusted Life Year (DALY), Quality Adjusted Life Year (QUALY), Sex Ratio etc.

The Determinants of Health: Health and Development, Income-Health Linkages, Health Care as an Input into the Production of Health, Health-Income Linkages.

Unit II

Demand for Health Care Services: Conceptual Framework, Health Needs, Diseases and Demand for Health Care: Derivation of Individual and Market Demand for Health Care (Illness Cases), Impact of Health Insurance on Health Care Demand, The Role of Quality in Demand for Health Care.

The Supply of Physician Services and Other Medical Services: Inputs into the Production of Health Care, Incentives and the Allocation of Resources, Drugs, Hospitals, Medical Care Suppliers in the Market, Manpower Planning.

Unit III

Health Projects and the Burden of Disease: Cost-Benefit Analysis of Health Projects, Cost Effectiveness Analysis (CEA) and Cost utility Analysis (CUA) of Health Projects, The Burden of Disease.

Unit IV

Health Sector in India: An Overview of Health Outcomes, Health Systems, Health Financing. National Health Policy.

Suggested Readings:

1. Henderson J.W. *Health Economics and Policy*. Thomson learning. Latest Edition.
2. Berman, Peter, Rajeev Ahuja, Ajay Tandon, Susan Sparkes and Pablo Gottret. *Government Health Financing in India: Challenges in Achieving Ambitious Goals*. H N P Discussion Paper. 2010.
3. Government of India. *National Health Policy*. New Delhi. 2016.
4. Government of India. *National Health Accounts*. Ministry of Health and Family Welfare. India. 2016.
5. Ramankutty. *A Premier of Health System Economics*. Allied Publications. New Delhi. 2007.
6. Ronald G., Ehrenberg and S. Robert and Smith. *Modern Labor Economics: Theory and Public Policy*. Addison Wesley. 2005.
7. Sherman Folland, Allen C. Goodman and Mirom Stano. *The Economics of Health and Health Care*: Pearson-Prentice Hall. Recent Edition.
8. William, Jack. *Principles of Health Economics for Developing Countries*. World Bank Institute Development Studies. 1999.
9. World Development Report. *Investing in Health*. The World Bank. 2014.

Course Title: Optimisation Techniques
Course Code: ECO614

L	T	P	Credits	Marks
4	0	0	4	100

UNIT I

Linear Programming: Assumptions, Formulation of Linear Programming Problems Standard Form of Linear Programming Models: Methods of LPP: Graphical and Simplex.

UNIT II

Duality Theory: Dual Simplex Method, Sensitivity Analysis.

Transportation Problems, Assignment Problems, Traveling Sales Man Problem Data Envelopment Analysis.

Non Linear Programming: Classification of Non Linear programming–Lagrange Multiplier Method- Karush-Kuhn Tucker Conditions. Reduced Gradient Algorithms, Quadratic Programming Method- Penalty and Barrier Method.

UNIT III

Interior Point Methods: Karmarkar’s Algorithm–Projection Scaling Method–Dual Affine Algorithm–Primal Affine Algorithm Barrier Algorithm.

UNIT IV

Dynamic Programming: Formulation of Multi Stage Decision Problem, Characteristics, Concept of Sub-optimization and the Principle of Optimality Formulation of Dynamic Programming Backward and Forward Recursion– Computational procedure.

Suggested Readings:

1. Hillier and Lieberman “*Introduction to Operations Research*”, TMH, 2000.
2. R.Panneerselvam, “*Operations Research*”, PHI, 2006
3. Hamdy ATaha, “*Operations Research –An Introduction*”, Prentice Hall India, 2003.
4. Philips, Ravindran and Solberg, “*Operations Research*”, John Wiley, 2002.
5. Ronald L.Rardin, “*Optimization in Operation Research*” Pearson Education Pvt. Ltd. New Delhi, 2005.

Course Title: Time Series Analysis

L	T	P	Credits	Marks
4	0	0	4	100

Course Code: ECO615

UNIT I

Stochastic Process and its Main Characteristics. Time series as a Discrete Stochastic Process. Stationarity: Stationary Stochastic Processes. Stationarity as the Main Characteristic of Stochastic Component of Time Series.

UNIT II

Autoregressive Moving Average Models (ARMA), Moving Average Models (MA). Condition of Invert ability. Autoregressive Models (AR). Yull-Worker Equations. Stationary Conditions. Coefficient Estimation in ARMA Processes. Box-Jenkins' Approach. Forecasting in the Framework of Box-Jenkins Model.

UNIT III

Non-Stationary: Its Mean, Variance and Covariance; Use of Box-Jenkins Methodology to Determination of Order of Integration. The Unit Root Problem. Spurious Trends and Regressions. Unit Root Tests (Dickey-Fuller). ADF Test and the Choice of the Number of lags. Other unit root tests.

UNIT IV

Unit Root and Structure Changes Non-Stationary Time Series, TSP or DSP: Methodology of research. Segmented Trends and Structure Changes. Regressive Dynamic Models. Autoregressive Models with Distributed Lags (ADL). Vector Auto-Regression model and Co-Integration Time Series Co-Integration. Co-Integration Regression. Testing of Co-Integration. Vector Auto-Regression and Co-Integration. Co-Integration and Error Correction Model.

Suggested Reading:

1. Enders W. *Applied Econometric Time Series*. John Wiley & Sons, Inc., 1995
2. Mills, T.C. *The Econometric Modelling of Financial Time Series*. Cambridge University Press, 1999
3. Andrew C. Harvey. *Time Series Models*. Harvester wheatsheaf, 1993.
4. Andrew C. Harvey. *The Econometric Analysis of Time Series*. Philip Allan, 1990.
5. Maddala, G.S. And Kim In-Moo. *Unit Roots, Co-integration, and Structural Change*. Cambridge University Press, 1998
6. P. J. Brockwell, R. A. Davis, *Introduction to Time Series and Forecasting*. Springer, 1996
7. J. Johnston, J. DiNardo. *Econometric Methods*. McGraw-Hill, 1997.