



**Fergusson College (Autonomous)
Pune**

**Learning Outcomes-Based Curriculum
for
M.A. I - Economics**

with effect from June 2023

Program Outcomes (POs) for M.A Programme	
PO1	Disciplinary Knowledge: Demonstrate comprehensive knowledge and a strong theoretical grounding in their area of work.
PO2	Critical Thinking and Problem solving: Identify problems by closely examining the situations around them and think holistically about the phenomena and generate viable solutions to these problems. Exhibit the skill of critical thinking and understand scientific texts and place scientific statements and themes in contexts and also evaluate them in terms of generic conventions. Identify the problem by observing the situation closely, take actions and apply lateral thinking and analytical skills to design the solutions.
PO3	Social competence and communication skills: Demonstrate ability to accommodate the views of others and present their own opinions and complex ideas, in written or oral form, in a clear and concise manner in group settings. Exhibit thoughts and ideas effectively in writing and orally; communicate with others using appropriate media, build effective interactive and presenting skills to meet global competencies. Elicit views of others, present complex information in a clear and concise and help reach conclusion in group settings.
PO4	Research-related skills and Scientific temper: Infer scientific literature, build sense of enquiry and able to formulate, test, analyse, interpret and establish hypothesis and research questions; and to identify and consult relevant sources to find answers. Able to plan and write a research paper/project while emphasizing on academics and research ethics, scientific conduct and creating awareness about intellectual property rights and issues of plagiarism.
PO5	Trans-disciplinary research competence: Create new conceptual, theoretical, methodological innovations that integrates and transcends beyond discipline-specific approaches to address a common problem.
PO6	Personal and professional competence: Perform independently and also collaboratively as a part of team to meet defined objectives and carry out work across interdisciplinary fields. Execute interpersonal relationships, self-motivation and adaptability skills and commit to professional ethics.
PO7	Effective Citizenship and Ethics: Demonstrate empathetic social concern and equity centred national development and act with an informed awareness of moral and ethical issues and commit to professional ethics and responsibility.
PO8	Environment and Sustainability: Understand the impact of the scientific solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development.
PO9	Self-directed and Life-long learning: Demonstrate attitudes of being a life-long learner who passionately pursues self-determined goals in the broadest context of socio-technological changes. Acquire the ability to engage in independent and life-long learning in the broadest context of socio-technological changes.

PSO No.	Program Specific Outcomes(PSOs) Upon completion of this programme the student will be able to
PSO1	Academic Competence: (i) To understand theoretical and analytical aspects involved with advanced economic theories and concepts. (ii) To conduct economic analysis using mathematical and statistical techniques.
PSO2	Personal and Professional Competence: (i) To apply both oral and written communication skills within the discipline.
PSO3	Research Competence: (i) To identify and demonstrate research questions in Economics and conduct the research independently with the help of qualitative and quantitative methodologies.
PSO4	Entrepreneurial and Social Competence: (i) To apply economic theory to real world issues. (ii) To critically analyse and evaluate economic issues in the country and around the world.

Programme Structure

Semester	Paper Code	Paper Title	Credits
F.Y. M.A.	Semester I		
	ECO 501	Micro Economics-I	4
	ECO502	Public Economics-I	4
	ECO503	Macro Economics-I	4
	ECO504 OR ECO505	Statistical Techniques Indian Economic Policy	4
	ECO510	Research Methodology	4
	Semester II		
	ECO551	Micro Economics-II	4
	ECO552	Public Economics-II	4
	ECO553	Macro Economics-II	4
	ECO 54 OR ECO555	Mathematical Economics Agricultural Economics	4
	ECO560	On Job Training	4
S.Y. M.A.	Semester III		
	ECO601	International Economics and Finance-I	4
	ECO602	Growth & Development-I	4
	ECO603	Modern Banking	4
	ECO604 OR ECO605	World Economy Econometrics	4
	ECO610	Research Project I	4
	Semester IV		
	ECO651	International Economics and Finance-II	4
	ECO652	Growth & Development-II	4
	ECO653	Advanced Research Methods	4
	ECO654 OR ECO655	Economics of Environment Economics of Finance	2
	ECO660	Research Project II	6

F. Y. M. A. Semester I		
ECO501	Micro Economics - I	Number of Credits: 04
Course Outcomes (Cos) On completion of the course, the students will be able to:		
CO1	Cite the basic principles of microeconomics.	
CO2	Interpret the concepts of utility, demand supply mechanism, elasticity.	
CO3	Apply these concepts to solve and analyse various problems of economic policy.	
CO4	Analyse the perfect competitive market framework.	
CO5	Assess the framework and analyse microeconomic relationships.	
CO6	Devise pricing strategies for firms and calculate productivity and costs for the firm.	

Unit No.	Title of Unit and Contents
I	Introduction 1.1 The Basic Micro- Economic Problems of Scarcity and Choice. 1.2 Market and Price Mechanism 1.3 Disturbances to Equilibrium, Floor Price, Ceiling Price 1.4 Basics of Demand and Supply 1.5 The Market Mechanism 1.6 Shifts in Supply and Demand 1.7 Elasticities of Supply and Demand Short-Run versus Long-Run Elasticities 1.8 Understanding and Predicting the Effects of Changing Market Conditions 1.9 Effects of Government Intervention-Price Controls- (Labour market, Fuel Prices, Water shortages) 1.10
II	Consumer Theory 2.1. Consumer Preferences 2.1.1 Some Basic Assumptions 2.1.2 Indifference Curves 2.1.3 Ordinal versus Cardinal Rankings 2.1.4 The Marginal Rate of Substitution 2.1.5 Perfect Substitutes and Perfect Complements 2.2 Budget Constraints 2.2.1 The Budget Line 2.2.2 The Effects of Changes in Income and Prices 2.2.3 Consumer Choice 2.2.4 A Corner Solution 2.3. Revealed Preference 2.4. The Concept of Utility 2.4.1 Utility and Satisfaction 2.4.2 Marginal Utility 2.4.3 Indirect utility function and its properties 2.4.4 Roy's identity, Expenditure function, Shephard's lemma

III	Individual and Market Demand 3.1. Individual Demand 3.1.1 Price Changes 3.1.2 The Demand Curve 3.1.3 Income Changes 3.1.4 Engel Curves 3.1.5 Substitutes and Complements 3.1.6 The Income Elasticity of Demand 3.2. Income and Substitution Effects 3.2.1 Substitution Effect 3.2.2 Income Effect 3.2.3 A Special Case- The Giffen Good 3.2.4 Application of Income and Substitution Effect
IV	Producer Theory 4.1. Introduction to Producer Theory 4.1.1. Firm's Production Functions 4.1.2. Short Run Production and Diminishing Marginal Product 4.1.3. Long Run Production and the Marginal Rate of Technical Substitution 4.1.4. Returns to Scale 4.2. Productivity and Costs 4.2.1 Productivity 4.2.2 Introduction to Costs and Short Run Costs 4.2.3 Long Run Costs 4.2.4 Long Run Expansion Path
V	Perfect Competition 5.1. Assumptions 5.2 Short-Run Equilibrium 5.2.1 Equilibrium of the Firm in the Short Run 5.2.2 The Supply Curve of the Firm and the Industry 5.2.3 Short-Run Equilibrium of the Industry 5.3 Long-Run Equilibrium 5.3.1. Equilibrium of the Firm in the Long Run 5.3.2. Equilibrium of the Industry in the Long Run 5.3.3. Optimal Resource Allocation 5.4 Dynamic Changes and Industry Equilibrium 5.4.1 Shift in the Market Demand 5.4.2 Predictions of the Perfect Competition Model when Costs Change 5.4.3. Effects of Imposition of a Tax

References:

1. Gravelle, H. and R. Rees, Microeconomics, Pearson Edition, 2004
2. Varian, Hal R. (1992), Microeconomic Analysis, 3 rd Edition, International Student Edition, W. W. Norton and Company
3. Pindyck, Robert S. and Rubinfeld, Daniel L. (1998), Microeconomics, Prentice Hall
4. Koutsoyiannis, A. (1979). *Modern Microeconomics* (2nd Edition ed.). New York: St. Martin's Press, Inc.

ECO502	Public Economics - I	Number of Credits: 04
Course Outcomes (COs) On completion of the course, the students will be able to:		
CO1	Describe the role of the public sector in the economic arena.	
CO2	Explain the concept and the need for government intervention in economic activities.	
CO3	Examine the recent developments in both theoretical and empirical literature through the Indian context.	
CO4	Analyse policy challenges facing governments around the world and learn about potential solutions to these challenges as well as obstacles in implementing them.	
CO5	Judge the performance and effectiveness of public expenditure.	
CO6	Compile economic information on activities of the government sector to become well-informed, engaged participants in society and identify the theories of public choice used.	

Unit No.	Title of Unit and Contents
I	Role of Government 1.1. Introduction 1.1.1 Why is public sector required in a mixed economic system? 1.2. Role of Government in Organized Society 1.2.1 Changing perspective about the role of government 1.2.2 Fiscal functions: An overview
II	Public Policy 2.1 Rationale of public policy 2.2. Concept of public goods 2.3 Difference between public and private goods 2.4 Allocation of resources: Efficiency condition - Provision of Public Good 2.4.1 Lindahl's voluntary exchange approach 2.4.2 Samuelson's model of public goods allocation 2.4.3 Musgrave's model 2.4.4 Difference between Samuelson's approach and Musgrave's approach 2.5. Theory of public choice 2.5.1. Meaning of public choice theory 2.5.2. Voting Model 2.5.3. The Optimal Constitution 2.5.4. Log Rolling – The Buchanan Tullock Model 2.5.5. The Down's Theory of Democracy 2.5.6. Revelling social preferences
III	Principle of Public Expenditure 3.1 Introduction: Meaning and Scope, Reasons for Growth 3.2 Theoretical Analysis of Public Expenditure Growth 3.3 Wagner's Law of Increasing State Activities 3.4 Wiesman- Peacock Hypothesis 3.5 Pure Theory of Public Expenditure 3.6 Collin Clark's critical Limit Hypothesis 3.7 Evaluation of Public Expenditure 3.8 Social Cost-Benefit Analysis, Fundamentals, Meaning, Basic Postulate ,Evaluation and Limitations

IV	Public Debt
	4.1 Classical view of Public Debt
	4.2 Compensatory aspect of Debt Policy
	4.3 Sources of Public Debt; Debt through created Money
	4.4 Public Borrowings and Price Level
	4.5 Crowding Out of Private Investment and Activity
	4.6 Principles of Debt Management and Repayment
	4.7 Burden of Public Debt on Indian Economy.

References:

Basic Reading List

1. Stiglitz, J.E. (1986), Economics of Public Sector, Norton, New York.
2. S.K. Singh, (2008), Public Finance in theory and Practice
3. R.A. Musgrave and P.B. Musgrave (2004), Public Finance in Theory and Practice

Additional Reading List

1. Cornes, R. and T. Sandler (1986), The Theory of Externalities, Public Goods and Club Goods, Cambridge University Press, Cambridge.
2. Duff, L. (1997), Government and Market, Orient Longman, New Delhi.
3. Herber, B.P. (1967), Modern Public Finance, Richard D. Irwin, Homewood.
4. Spulber, N. (1998), Redefining the State, Cambridge University Press, Cambridge.
5. Buchanan, J.M. (1968), The Demand and Supply of Public Goods, Rand McNally, Chicago.
6. Mueller, D.C. (1979), Public Choice, Cambridge University Press, Cambridge.
7. Spulber, N. (1998), Redefining the State, Cambridge University Press, Cambridge.
8. Dorfman, R. (Ed.) (1970), Measuring the Benefits of Government Investment, Brookings Institution, Washington.

ECO503	Macro Economics - I	Number of Credits: 04
Course Outcomes (COs) On completion of the course, the students will be able to:		
CO1	Show the basic theoretical framework underlying the field of macroeconomics.	
CO2	Articulate and Explain how the economy's total output of goods and services, quantity of money employment of resources is determined and what causes these totals to fluctuate.	
CO3	Apply the framework and analyse macroeconomic relationships.	
CO4	Analyse the behaviours of consumption and investment.	
CO5	Validate the relation between prices and output.	
CO6	Collect data and perform validation analysis for the theories with actual data.	

Unit No.	Title of Unit and Contents
I	History of Macroeconomic Thought 1.1 Classical School of Thought 1.2 Keynesian School of Thought 1.3 Schools of thought in Macroeconomics after Keynes 1.4 National Income Accounting - revisited Concepts of growth and Development
II	Behavioural foundations of Macro Economics 2.1 Consumption Function: Keynes Psychological Law and Kuznet's consumption puzzle 2.2 The Orthodox Keynesian School: The orthodox Keynesian School- the IS-LM model for a closed economy 2.3 Underemployment equilibrium in the Keynesian Model 2.4 The IS-LM model for an open economy- IS-LM-BP model of Mundell-Fleming 2.5 The Philips Curve and orthodox Keynesian economics. 2.6 Determination of output and employment – labour market. 2.7 AD-AS model.
III	Theories of Consumption 3.1 Fisher's inter-temporal Choice Model, 3.2 Permanent Income Hypothesis, 3.3 Life Cycle Hypothesis and Relative Income Hypothesis.
IV	Theories of Investment 4.1 Investment Function: Neo-Classical Theory of Investment, 4.2 Stock Market and Tobin's q-ratio, 4.3 Accelerator Theory of Investment (simple and flexible acceleration models)
V	The Monetarist School 5.1 The quantity theory of money approach 5.2 The expectation augmented Philips cure analysis 5.3 The orthodox monetary school and stabilization policy

References:

1. Barro, Robert J. & Sala-i- Martin, Xavier (1995), Economic growth, MacGrawHill .
2. Blanchard, Olivier (2000), Macroeconomics, Prentice Hall.
3. Blanchard, Olivier and Stanley, Fischer (1989), “Lectures on Macroeconomics”, The MIT Press
4. Dornbusch, Rudiger, Fischer, Stanley & Startz, Richard (2004), Macroeconomics, 9th Edition, MacGraw Hill.
5. Mankiw Gregory (2002), Macroeconomics, 5th Edition, Worth Publishers
6. Romer, David (2003), Advanced Macroeconomics, 3rd Edition, Mc Grow Hill Publishers.
7. Snowdon Brian and Vane Howard R, (2005) Modern Macroeconomics: Its Origin, Development and Current State, Edward Elgar Publishing Ltd.

ECO504	Statistical Techniques	Number of Credits: 04
Course Outcomes (COs) On completion of the course, the students will be able to:		
CO1	Cite the theoretical and conceptual foundations of Statistics.	
CO2	Outline probability theory and sampling techniques.	
CO3	Apply sampling methods for collecting data for analysis.	
CO4	Analyse economic relations with estimation methods.	
CO5	Evaluate statistical significance of parameter estimates with testing hypothesis.	
CO6	Formulate hypothesis tests and interpret results.	

Unit No.	Title of Unit and Contents
I	Introduction 1.1 Set and Probability Theory 1.2 Random Variables, Probability Mass/Density Function, Cumulative Distribution Function (Univariate Model)
II	Distribution 2.1 Multiple Random Variables 2.2 Bivariate Distribution 2.3 Marginal Distribution 2.4 Conditional Distribution, Independence 2.5 Multivariate Distribution (Multivariate Model) 2.6 Expectation (Moments) 2.7 Random Variable and Random Vector Transformations (Univariate and Multivariate Models) 2.8 Special Distributions (Discrete and Continuous)
III	Probability 3.1 Probability in uncertainty 3.2 Random variables, distributions, quantiles, mean, variance 3.3 Conditional probability, Bayes' theorem, base rate fallacy 3.4 Joint distributions, covariance, correlation, independence

IV	Sampling 4.1 Random Sample 4.2 Law of Large Numbers 4.3 Central Limit Theorem
V	Estimation and Testing 5.1 Point Estimators and Point Estimation Methods 5.2 Interval Estimation and Confidence Intervals 5.3 Hypothesis Testing

References:

1. Mode, E.B.: Elements of Statistics - Prentice Hall
2. Wilks, S.S.: Elementary Statistical Analysis -Oxford and IBH
3. Snedecor, G.W., & Cochran, W.G.: Statistical Methods, Oxford and IBH
4. Simpson and Kafka: Basic Statistics
5. Burr, I.W.: Applied Statistical Methods, Academic Press.
6. Croxton, FE. and Cowden, D.J.: Applied General Statistics, Prentice Hall
7. Ostleo, B.: Statistics in Research, Oxford & IBH.
8. Gujarati: Essentials of Econometrics.
9. Humphreys: Probability and Statistics.

ECO505	Indian Economic Policy	Number of Credits : 04
Course Outcomes (COs) On completion of the course, the students will be able to:		
CO1	Identify the concepts and the issues and policies in Economic Development.	
CO2	Exemplify various issues of Agriculture LPG, Infrastructure, Financial and Monetary institutions, Foreign Trade and Fiscal Policy pertaining to India's economic development.	
CO3	Demonstrate the various Issues and policies of Infrastructural, Social and financial sector of the economy.	
CO4	Explain the impacts various economic policies have had on the Indian Economy.	
CO5	Appraise the contemporary developments in the Indian as well as International economy.	
CO6	Propose ways in which past policies could have been more effectively applied and examine the consequences.	

Unit No.	Title of Unit and Contents
I	Framework of Indian Economy 1.1 National Income: Trends and Structure of National Income, Trends in rural- urban income disparity. 1.2 Demographic Features and Indicators of Economic Growth and Development Rural-Urban Migration and issues related to Urbanization 1.3 Unemployment-Nature, Central and State Government's 1.4 policies, policy implications, Employment trends in Organized and Unorganized Sector, Gender issues in agricultural services.
II	Development Strategies in India 2.1 Agricultural- Pricing, Marketing and Financing of Primary Sector 2.2 Economic Reforms- Rationale of Economic Reforms, Liberalization, Privatization and Globalization of the Economy, 2.3 Interdependence between Agriculture and industrial development. 2.4 Changing structure of India's Foreign Trade 2.5 Role of Public Sector- Redefining the role of Public Sector, Government Policy towards Public Sector, problems associated with Privatization, issues regarding Deregulation-Disinvestment and future of Economic Reforms
III	The Economic Policy and Infrastructure Development 3.1 Energy and Transport 3.2 Social Infrastructure- Education, Health and Gender related issues, Social Inclusion 3.3 Issues and policies in Financing Infrastructure Development 3.4 Indian Financial System- issues of Financial Inclusion. Financial Sector Reforms-review of Monetary Policy of R.B.I. Capital Market in India.

IV	The Economic Policy and Industrial Sector 4.1 Industrial Sector development Pre-reforms period and Post- reform period 4.2 Problems of MSMEs . 4.3 Amalgamation ,Mergers, Acquisition, Takeovers. 4.4 Labour Market - Characteristics of Indian Labour Market, Labour efficiency and productivity, Technical change, Labour absorption.
-----------	--

References:

1. Brahmananda, P.R. and V.A. Panchmukhi. [2001], Ed. 'Development Experience in Indian Economy, Inter-state Perspective,' Book well, New Delhi.
2. Gupta, S.P. [1989], 'Planning and Development in India: A Critique,' Allied Publishers Private Limited, New Delhi.
3. Bhagwati, Jagdish. [2004], 'In Defense of Globalization,' Oxford University Press, U.K.
4. Dhingra, Ishwar //C.[2006], 'Indian Economy,' Sultan Chand and Sons, New Delhi.
5. Datt, Ruddar and Sundaram, K.P.M. [Latest edition], 'Indian Economy,' S. Chand and Co, New Delhi
6. Uma Kapila –Indian Economy
7. Pratiyogita Darpan Series
8. Ramesh Singh-Indian Economy-Tata Mcgraw Hill Publication New Delhi

ECO510	Research Methodology	Number of Credits: 04
Course Outcomes (COs) On completion of the course, the students will be able to:		

F. Y. M. A. Semester II		
ECO551	Micro Economics - II	Number of Credits: 04
Course Outcomes (COs) On completion of the course, the students will be able to:		
CO1	Report a thorough understanding of the basic principles of microeconomics.	
CO2	Interpret the Monopolistic market framework, and apply it to microeconomic situations.	
CO3	Illustrate the features of the Oligopolistic market.	
CO4	Break down the nuances of welfare economics.	
CO5	Review the above concepts to solve and analyse various problems of economic policy.	
CO6	Devise and apply game theoretic solutions for economic decision making.	

Unit No.	Title of Unit and Contents
I	Monopoly 1.1 Definition 1.2 Demand and Revenue 1.3 Costs 1.4 Equilibrium of the Monopolist 1.4.1 Short-Run Equilibrium 1.4.2 Long-Run Equilibrium 1.5 Predictions in Dynamic Changes 1.5.1 Shift in the Market Demand 1.5.2 An Increase in the Costs of the Monopolist 1.5.3 Imposition of a Tax 1.6 Comparison of Pure Competition and Monopoly 1.7 The Multiplant Firm 1.8 Bilateral Monopoly
II	Price Discrimination 2.1. Effects of Price Discrimination 2.2. Price Discrimination and Elasticity of Demand 2.2.1 First-Degree Price Discrimination 2.2.2 Second-Degree Price Discrimination 2.2.3 Third-Degree Price Discrimination 2.3. Government-Regulated Monopoly 2.3.1 Price Regulation 2.3.2 Contestable Market: The Airline Industry Monopsony 2.4. Monopsony and Monopoly Compared 2.4.1 Monopsony Power 2.4.2 Sources of Monopsony Power 2.4.3 The Social Costs of Monopsony Power

III	Oligopoly 3.1. Non-Collusive Oligopoly 3.1.1 Cournot's Duopoly Model 3.1.2 Bertrand's Duopoly Model
	3.1.3 Chamberlin's Oligopoly Model 3.1.4 The 'Kinked-Demand' Model 3.1.5 Stackelberg's Duopoly Model Collusive Oligopoly 3.2 Cartels 3.2.1 Cartels aiming at Joint Profit Maximisation 3.2.2 Market-Sharing Cartels 3.3. Game Theory 3.3.1 Game Theory and the Prisoner's Dilemma 3.3.2 Repeated Games 3.3.3 Non-cooperative Versus Cooperative Games 3.3.4 Dominant Strategies 3.3. The Nash Equilibrium 3.4.1 Maximin Strategies 3.4.2 Mixed Strategies
IV	Equity And Efficiency - Welfare Economics 4.1 Market Consumer Surplus 4.2 Producer Surplus 4.3 Social Welfare and Dead Weight Loss 4.4 Impact of Government Interference on Social Welfare 4.5 Social Welfare Criteria 4.5.1 Growth of GNP as a Welfare Criterion 4.5.2 Bentham's Criterion 4.5.3 A 'Cardinalist' Criterion 4.5.4 The Pareto-Optimality Criterion 4.5.5 The Kaldor-Hicks 'Compensation Criterion' 4.5.6 The Bergson Criterion 'Social Welfare Function' 4.6 Overview of the Equity-Efficiency Trade-off 4.7 Social Welfare Functions: Utilitarian, Rawlsian, Nozickian, Commodity Egalitarian

References:

1. Gravelle, H. and R. Rees, Microeconomics, Pearson Edition, 2004
2. Varian, Hal R. (1992), Microeconomic Analysis, 3rd Edition, International Student Edition, W. W. Norton and Company
3. Pindyck, Robert S. and Rubinfeld, Daniel L. (1998), Microeconomics, Prentice Hall
4. Koutsoyiannis, A. (1979). *Modern Microeconomics* (2nd Edition ed.). New York: St. Martin's Press, Inc.

ECO552	Public Economics - II	Number of Credits: 04
Course Outcomes (COs)		
On completion of the course, the students will be able to:		
CO1	Examine the role of the public sector in the economic arena.	
CO2	Connect the recent developments in both theoretical and empirical literature through the Indian context.	
CO3	Review and test the recent developments in Indian fiscal scenario.	
CO4	Integrate international fiscal coordination in public finance.	
CO5	Assess tax structure and tax reforms.	
CO6	Analyse and create policy recommendations fostering economic planning.	

Unit No.	Title of Unit and Contents
I	Fiscal Policy 1.1 Objectives of Fiscal Policy, Interdependence of Fiscal and Monetary Policies 1.2 Fiscal Policy for Stabilization - Automatic vs. Discretionary Stabilization. 1.3 Budget – Meaning and Components: Preparation, Presentation and Execution of Budget 1.4 Economic Classification of Budget. 1.5 Budget Deficits and Their Implications. 1.6 Balanced Budget Multiplier.
II	Indian Fiscal Federalism 2.1 Fiscal Federalism 2.1.1 Concept of Federal Finance 2.1.2 Principles of Federal Finance 2.1.3 The Salient Problems Federal Finance 2.1.4 Fiscal Imbalance: Vertical and Horizontal Imbalance 2.2 Fiscal Federalism in India 2.2.1 Centre - State Financial relations 2.2.2 Major Problems in Centre State Financial Relation 2.2.3 Constitutional provisions: Finance Commission and Planning Commission 2.2.4 NITI Aayog. 2.3 Problems of States' Resources and Indebtedness 2.4 Transfer of resources from Union and States to Local Bodies.
III	Taxation 3.1 Introduction 3.1.1 Characteristics of a Good Tax System 3.1.2 Modern View of Sound Tax System 3.1.3 Musgrave's View 3.2 Distribution of Tax Burden 3.2.1. Principle of Equity- Horizontal, vertical 3.2.2. The cost of Service Principle 3.2.3. The Benefit Principle- Classical Version, Modern View (Voluntary Exchange Approach, Lindahl and Bowen Solutions)

	3.2.4. The Ability to Pay Approach 3.2.5. The Concept of Optimal Taxation 3.3 Shifting and Incidence of Tax 3.3.1 Theories of Tax System – Concentration Theory, Diffusion Theory and Demand and Supply Theory 3.3.2 Fiscal Incidence and Its measurements: Musgrave’s Approach 3.4 Tax Reforms: Committee Recommendations
IV	International Fiscal Coordination 4.1 Introduction to Tax Coordination 4.2 Coordination of Income and Profit Taxes 4.3 Coordination of Product Taxes 4.4 Expenditure Coordination 4.5 Coordination of Stabilization Policies

References:

Basic Reading List

1. Hugh Dalton : Principles of Public Finance , 11th Impression Routledge publications
2. C F Bastable : Public Finance, London: Macmillan and Co., Limited, 3rd Edition
3. Ursula Hicks : Public Finance
4. Shome, P. (Ed.) (1995), Tax Policy: Handbook, Tax Division, Fiscal Affairs Department, International Monetary Fund, Washington D.C.
5. Tripathy R.N. Public Finance in Underdeveloped Countries.
6. Rajesh K.Jha (2012) Public Finance. Pearson Publication New Delhi
7. Dr. Joshi P.L. Zero Base Budgeting Technology in Government, Dhruv and Deep Books, Bombay.
8. Dr.Tyagi B.P., Public Finance, Jai Prakash Nath Pub.Meerat (UP).
9. Mithani D.M. Principles of Public Finance and Fiscal Policy Himalaya PublishingHouse, New Delhi.
10. RuddarDatt and K.P.M. Sundharam (2006), Indian Economy, S.C.Chand and Company Ltd, New Delhi.
11. Ashutosh Raravikar, Fiscal Deficit and Inflation in India, Macmillan India Ltd. New Delhi
12. Richard Musgrave and Peggy Musgrave Public Finance theory and Practice.

ECO553	Macro Economics - II	Number of Credits: 04
Course Outcomes (COs)		
On completion of the course, the students will be able to:		
CO1	Summarise the micro-foundations of macroeconomics.	
CO2	Outline the existence of unemployment.	
CO3	Examine expectations formation.	
CO4	Analyse the cyclical movement of output.	
CO5	Determine and analyse movements of money.	
CO6	Formulate how monetary policy interest rate is determined.	

Unit No.	Title of Unit and Contents
I	Micro Foundations of real and nominal Rigidities-I 1.1 New Keynesian School: Imperfect competition and price setting 1.2 Real rigidity- Co-ordination failure models 1.3 Real Non-Walrasian Theories 1.4 Small Menu Cost model and Staggering of prices 1.5 Implicit wage contract theory- efficiency wage theory 1.6 Insider- Outsider model.
II	Micro Foundations of real and nominal rigidities-II 2.1 New Classical School: Perfect Information Rational expectations hypothesis 2.2 Lucas Critique-Imperfect and asymmetric information 2.3 Barro-Ricardo equivalence and fiscal policy
III	Business Cycle 3.1 Real Business Cycle, 3.2 Multiplier-Accelerator Interaction 3.3 Samuelson's Oscillation Model
IV	Monetary Theories 4.1 Liquidity theory Gurley and Shaw Hypothesis 4.2 The quantity and components of money stock in India and broad trend in them 4.3 Base money, money multipliers and role of financial intermediaries 4.4 Balance sheet of Reserve Bank of India 4.5 Demand for money Keynesian theory of demand for money 4.6 Baumol-Tobin theory, Tobin's Portfolio Theory 4.7 Issues regarding endogenous and exogenous supply of money.
V	Theories of Interest Rate 5.1 Real and monetary theories of the interest rate Keynesian theory 5.1.1 Wicksellian theory 5.1.2 Fisher's theory 5.1.3 Hicksian theory 5.2 Interest rate parity 5.3 Backward and forward looking models

References:

1. Blanchard, Olivier and Stanley, Fischer (1989), “Lectures on Macroeconomics”, The MIT Press
2. Dornbusch, Rudiger ,Fischer,Stanley&Startz,Richard (2004), Macroeconomics, 9 th Edition, MacGrow Hill.
3. Mankiw Gregory (2002), Macroeconomics, 5 th Edition, Worth Publishers
4. Romer, David (2003), Advanced Macroeconomics, 3rd Edition, Mc Grow Hill Publishers.
5. Snowden Brian and Vane Howard R, (2005) Modern Macroeconomics: Its Origin, Development and Current State, Edward Elgar Publishing Ltd.
6. Mishkin Frederic (2007), The Economics of Money Banking and Financial Markets, 8th ed Addison Wesley Longman Publishers.
7. Bain, Keith &Howells, Peter (2009), Monetary Economics: Policy and Its Theoretical Basis, Palgrave.
8. Friedman, Ben & Hahn F.H. (Eds.), (1990), Handbook of Monetary Economics, Vols. 1, 2, & 3, North Holland Publishers.
9. Blinder Alan (1998), Central Banking in Theory and Practice, The MIT Press
10. Langdana Farrokh (2009), Macroeconomic Policy: Demystifying Monetary and Fiscal Policy, 2nd Edition, Springer.

ECO554	Mathematical Economics	Number of Credits: 04
Course Outcomes (COs) On completion of the course, the students will be able to:		
CO1	Identify the mathematical formulations necessary to understand Economics.	
CO2	Interpret static mathematical frameworks.	
CO3	Employ comparative static mathematical frameworks.	
CO4	Analyse dynamic mathematical frameworks.	
CO5	Determine the applicability of the above three frameworks in Economics and analyse economic problems.	
CO6	Develop solutions to Economic problems from programming and game theoretic approach.	

Unit No.	Title of Unit and Contents
I	Static Analysis 1.1 Relations and functions; Economic equilibrium analysis Linear model: Matrix algebra: Matrix operations; Commutative, associative, distributive laws Transposes; Determinants; Non-singularity; Eigen Value; Leontief 1.2 Cayley-Hamilton Theorem; Matrix inversion; Cramer's rule; Applications in Economics; Input-output model.
II	Comparative Statics 2.1 The derivative; Limit; Continuity; differentiability; Rules of differentiation; 2.2 Partial differentiation; Total differentials; Total derivatives; Implicit functions; 2.3 Applications in Economics 2.4 Optimization: First and second derivative tests; Exponential function: Derivatives; 2.5 Logarithmic function: Derivatives; Applications in Economics. 2.6 Functions of two or more variables: Second order partial derivatives and total differentials 2.7 Finding maximum/minimum: Unconstrained optimization; Quadratic forms; 2.8 Characteristic roots; Concavity and convexity; Applications in Economics. 2.9 Constrained optimization: Classical Programming; Lagrange multiplier; Second order condition; Homogeneous functions; Homotheticity; Euler's theorem; Cobb-Douglas function; CES function; Translog Function; Applications in Economics.
III	Dynamics 3.1 Rules of integration; Indefinite integrals; Definite integrals; Improper integrals; 3.2 Applications in Economics; Domar Growth model. 3.3 First order difference equations: Dynamic stability of equilibrium; Applications in Economics: Cobweb model; Harrod model. 3.4 Second order difference equations: Applications in Economics: Samuelson trade cycle model. 3.5 Dynamic Optimization: Discrete Time and Continuous Time.

IV	Mathematical programming and Game theory 4.1 Linear Programming; Simplex method; Duality; Non-linear programming; 4.2 Kuhn-Tucker conditions; Applications in Economics. Game theory; the rectangular game as a linear program; duality.
-----------	---

References:

1. Chiang A.C. and K. Wainwright, Fundamental Methods of Mathematical Economics, 4 th Edition, McGraw-Hill, New York, 2005. (cw)
2. Dowling E.T, Introduction to Mathematical Economics, 2nd Edition, Schaum's Series, McGraw-Hill, New York, 2003(ETD)
3. R.G.D Allen, Mathematical Economics
4. Mehta and Madnani, Mathematics for Economics
5. Joshi and Agarwal, Mathematics for Economics
6. Taro Yamane, Mathematics for Economics

ECO555	Agricultural Economics	Number of Credits: 04
Course Outcomes (COs) On completion of the course, the students will be able to:		
CO1	Show the role of the Agriculture sector in the economic arena.	
CO2	Summarize the recent developments in Indian as well as international Agriculture sector.	
CO3	Illustrate policy issues that are relevant to Indian agricultural economics.	
CO4	Analyse the issues in agricultural sector, using basic economic concepts.	
CO5	Determine the current social, economic and technical challenges and opportunities in sustainable agriculture.	
CO6	Create policy recommendations to enhance efficiency and credit flow towards agriculture.	

Unit No.	Title of Unit and Contents
I	Introduction. 1.1. Place of Agriculture in Indian economy. 1.2. Trends, Agriculture Productivity 1.3. Agricultural Development under Five Year Plans. 1.4. Agricultural Management- Concept, Recent trends and Problems.
II	Agriculture Labour and Efficiency 2.1. Problems of Agriculture Labour. 2.2. Impact of Mechanization on Agriculture Labour. 2.3. Unemployment in Agriculture Labour. 2.4. Different types of land Law
III	Agricultural credit. 3.1. Financial needs of Indian Agriculture. 3.2. Co-operative Credit Structure. 3.3. Role of NABARD 3.4. Role of Commercial Banks. 3.5. Private Money Lenders 3.6. Crop loans and Crop insurance.
IV	Sustainable Agriculture and Agricultural Policy. 4.1 Technological Changes and Options in agriculture- Organic 4.2 Farming- Present status and Future 4.3 Food Policy in India. 4.4 EXIM Policy and Agriculture. 4.5 Tourism and Agriculture.

References:

1. Datt R. & K.P.M Sundharm (2007) Indian Economy, S.Chand & Co.Ltd.Delhi.
2. Misra S.K. & V.K.Puri (2007) Indian Economy – Himalaya Publication house Mumbai
3. Gopal Ji & SumanBhakari ‘Indian Economy (2012) Performance and Policies Pearson Publication Delhi
4. Agrawal A.N. Indian Economy Problem of Development and Planning 06.
5. Kapila Uma (ed) Indian Economy Since Independence, Academic Foundation (2003)
6. Dewett Kewal : Indian Economy C.Chand & Co.Ltd, New Delhi 2005.
7. B.N.P singh : Indian Economy Today Changing Contours. Deep and Deep pub. 05.
8. Mamoria C.B.Agricultural Problems of India Kitab Mahal Pub. 2005.
9. M.P.Singh- Indian Economy Today- Problems Planning and Development. (2004) Deep and Deep Publication.
10. Singh Acharya, Sagar – Sustainable Agricultural Poverty and Food Securities (2002) Rawat Publication Jaypur Vol- I & II
11. Ajit Singh and Tabatabai – Economic crisis and Third World Agriculture, Cambridge University Press.
12. Gulati & Kelley – Trade Liberalization of Indian Agriculture, (1999), Oxford University press.
13. C.S. Prasad – Sixty years of Indian Agriculture – New Delhi 2006.
14. Hansra Parumal and Chandrakarn – Modernization of Indian Agriculture in 21st century challenges, opportunity and strategies, Concept Publication Co. New Delhi.
15. Norten and Allwending – The Introduction to Economic and Agricultural Development Mac Graw Hill Co. Publication, New Delhi.
16. Wakatash – Development Agricultural Technology, Rawat Publications