

ST. JOSEPH'S COLLEGE (AUTONOMOUS)

BENGALURU-27



Re-accredited with 'A++' GRADE with 3.79/4 CGPA by NAAC Recognized by UGC
as College of Excellence

DEPARTMENT OF ECONOMICS

SYLLABUS FOR POSTGRADUATE PROGRAMME

For Batch 2021-2023

Part B

M.A. Economics Curriculum

Courses and course completion requirements	No. of credits
Economics	70
Open elective courses (non-professional)	2
Internship	10
Dissertation	8
Outreach activity	

SUMMARY OF CREDITS

DEPARTMENT OF ECONOMICS (PG)								
(2021-2023)								
Semester 1	Code Number	Title	No. of Hours of Instructions	Number of Hours of teaching per week	Number of credits	Continuous Internal Assessment (CIA) Marks	End Semester Marks	Total marks
Theory	EC 7121	History of Economic Thought	60	04	04	30	70	100
Theory	EC 7221	Micro Economic Theory	60	04	04	30	70	100
Theory	EC 7321	Macro Economic Theory	60	04	04	30	70	100
Theory	EC 7421	Mathematical Methods for Economists	60	04	04	30	70	100
Theory	EC 7521	Industrial Economics	60	04	04	30	70	100
Total Number of credits:			20					
Semester 2	Code Number	Title	No. of Hours of Instructions	Number of teaching hrs /week	Number of credits	Continuous Internal Assessment (CIA) Marks	End Semester Marks	Total marks
Theory	EC 8121	Statistical Methods for Economists	60	04	04	30	70	100
Theory	EC 8221	Public Economics and Finance	60	04	04	30	70	100
Theory	EC 8321	Institutional Economics	60	04	04	30	70	100
Theory	EC 8421	Economics of Growth and Development	60	04	04	30	70	100
Theory	EC 8521	Introductio to Programming in C and MS Excel	60	04	04	30	70	100
Total Number of credits:			20					
SUMMER INTERSHIP (8 weeks)			10					
Note : after the end of second semester students have to complete Summer internship for 8 weeks – 10 Credits								

Semester 3	Code Number	Title	No. of Hours of Instructions	Number of teaching hrs /week	Number of credits	Continuous Internal Assessment (CIA) Marks	End Semester Marks	Total marks
Theory	EC 9121	International Economics	60	04	04	30	70	100
Theory	EC 9221	Research Methodology	30	02	02	15	35	50
Theory	EC 9321	Indian Economic Development and Policy	60	04	04	30	70	100
Theory	EC 9421	Basic Econometrics	60	04	04	30	70	100
Theory	EC 9521	Financial Economics	60	04	04	30	70	100
Theory (Open Elective)	ECOE 9621	Basic Economics for Non-Economists	30	02	02	15	35	50
Total Number of credits:			20					
Semester 4	Code Number	Title	No. of Hours of Instructions	Number of teaching hrs /week	Number of credits	Continuous Internal Assessment (CIA) Marks	End Semester Marks	Total marks
Theory	EC0121	Advanced Econometrics	60	04	04	30	70	100
Theory	EC0221	Environmental Economics	60	04	04	30	70	100
Theory – Department Elective	ECDE0321	Optional- Human Resources Economics	60	04	04	30	70	100
Theory – Department Elective	ECDE0421	Optional - Comparative politics and society	60	04	04	30	70	100
Theory – Department Elective	ECDE0521	Optional- Economics and Business Journalism	60	04	04	30	70	100
Theory – Department Elective	ECDE0621	Optional- Economic History of the World	60	04	04	30	70	100
	EC0D1	DISSERTATION	120	08	08	200		
Total Number of credits:			20					
<p>Note : In the fourth semester students can opt any one from the list of four department electives , within two electives offered that year. The Elective papers (ECDE0421 and ECDE0521) are not offered at the moment.</p>								

		IGNITORS/ OUTREACH		04	
Total No. of Credits: 94					
KEY WORDS: DE – Departmental Elective and OE – Open Elective					

CORE COURSES (CC)	
Course Title	Code Number
History of Economic Thought	EC 7121
Micro Economic Theory	EC 7221
Macro-Economic Theory	EC 7321
Mathematical Methods for Economists	EC 7421
Industrial Economics	EC 7521
Statistical Methods for Economists	EC 8121
Public Economics and Finance	EC 8221
Institutional Economics	EC 8321
Economics of Growth and Development	EC 8421
Programming in C	EC 8521
International Economics	EC 9121
Research Methodology	EC 9221
Indian Economic Development and Policy	EC 9321
Basic Econometrics	EC 9421
Financial Economics	EC 9521
Advanced Econometrics	EC0121
Environmental Economics	EC0221

DISCIPLINE SPECIFIC ELECTIVE COURSES (DSE)	
Course Title	Code Number
Optional- Human Resources Economics	ECDE0321
Optional -Comparative politics and society	ECDE0421
Optional-Economics and Business Journalism	ECDE0521
Optional- Economic History of the World	ECDE0621

GENERIC ELECTIVE COURSES (GSE)/ Can include open electives offered	
Course Title	Code Number
Basic Economics for Non-Economists	ECOE9621

SKILL ENHANCEMENT COURSE (SEC) –

Course Title	Code Number

VALUE ADDED COURSES (VAC)

Course Title	Code Number
Business Analytics – (60 hours) 2 credits	

Online courses offered or recommended by the department to be listed

Course Title	Code Number

Course Outcomes and Course Content

Semester	I
Paper Code	EC 7121
Paper Title	HISTOY OF ECONOMIC THOUGHT
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES:

- To enable students to demonstrate broad knowledge of the development of economics as systematic progress of ideas.
- To provide a philosophical foundation to the study of the science of economics.
- To enable the students to relate real world applications of economic theories to their origins and evolution.

MODULE I - AGE OF POLITICAL ECONOMY (10 Hours)

Nature and significance of the history of economic thought. Early thought, Ancient Indian Economic Thought; Kautilya, Thiruvalluvar, The Scholastics and medieval economic thought, mercantilism, the Physiocrats, Natural order and the circulation of wealth, Laissez Faire.

SELF STUDY:

- Charles Waldauer, William J. Zahka And Surendra Pal, *Kautilya's Arthashastra: A Neglected Precursor to Classical Economics*, *Indian Economic Review*, New Series, Vol. 31, No. 1 (January-June 1996), pp. 101-108
- Marcello de Cecco, *Monetary Theory and Roman History*, *The Journal of Economic History*, Vol. 45, No. 4 (Dec., 1985), pp. 809-822
- S. Todd Lowry, *Recent Literature on Ancient Greek Economic Thought* *Journal of Economic Literature*, Vol. 17, No. 1 (Mar., 1979), pp. 65-86

MODULE II - CLASSICAL POLITICAL PHILOSOPHY (10 Hours)

Adam Smith - naturalism, optimism, Theory of moral sentiments, Specialisation of Labour, The pessimists- Malthus and Ricardo. The Malthusian Debate. Origin of the Historical school.

SELF STUDY:

- J. Bonar, *The Theory of Moral Sentiments*, " by Adam Smith, 1759, *Journal of Philosophical Studies*, Vol. 1, No. 3 (Jul., 1926), pp. 333-353
- Jonathan B. Wight, *The Treatment of Smith's Invisible Hand*, *The Journal of Economic Education*, Vol. 38, No. 3 (Summer, 2007), pp. 341-358
- Donald Rutherford, *Malthus and Three Approaches to Solving the Population Problem* *Population (English Edition, 2002-)*, Vol. 62, No. 2 (2007), pp. 213-237
- D. P. O'Brien, *Ricardian Economics and the Economics of David Ricardo* *Oxford Economic Papers*, New Series, Vol. 33, No. 3 (Nov., 1981), pp. 352-386

MODULE III - THE SOCIALISTS OF THE EARLY NINETEENTH CENTURY (10 Hours)

Critique of capitalism, Rise of Socialist Thought, Types of Socialism, Karl Marx.

SELF STUDY:

- Susan M. Schoenbohm, *The Function And Questionable Purpose Of Utopian Thought, Soundings: An Interdisciplinary Journal*, Vol. 91, No. 1/2 (Spring/Summer 2008), Pp. 21- 32
- Barbara Harriss-White, *Poverty and Capitalism. Economic and Political Weekly*, Vol. 41, No. 13 (Apr. 1-7, 2006), pp. 1241-1246
- Lange, O. (1935). *Marxian Economics and Modern Economic Theory. The Review of Economic Studies*, 2(3), 189-201
- Jürg Niehans, *Revolution and Evolution in Economic Theory, The Australian Quarterly*, Vol. 65, No. 1 (Autumn, 1993), pp. 498-515

MODULE IV - RECONSTRUCTION OF ECONOMIC SCIENCE (15 Hours)

Subjectivism and marginalism. Earlier developments in the marginal utility concept, Austrian school. Loussane school, Mathematical school, Swedish school, Knut Wicksell, The hedonist school. Contribution of American thought. Neo classical Orthodoxy, Marshall - competition and equilibrium.

SELF STUDY:

- Robert B. Ekelund Jr. and Robert F. Hébert, *The Origins of Neoclassical Microeconomics, The Journal of Economic Perspectives*, Vol. 16, No. 3 (Summer, 2002), pp. 197-215
- William M. Dugger, *Two Twists in Economic Methodology: Positivism and Subjectivism, The American Journal of Economics and Sociology*, Vol. 42, No. 1 (Jan., 1983), pp. 75- 91
- Schabas, Margaret. "Alfred Marshall, W. Stanley Jevons, and the mathematization of economics." *Isis* 80, no. 1 (1989): 60-73.

MODULE V- MODERN ECONOMIC THOUGHT (15 Hours)

Institutional economics. Welfare economics- New welfare economists. New economics - Keynes, General equilibrium conditions and Econometrics - Walrus and Stockholm school. Post Keynesian Economics. Samuelson. Heterodoxy economics- Sraffa, Chamberlin, Joan Robinson.

SELF STUDY:

- Robert Heilbroner, *Analysis and Vision in the History of Modern Economic Thought, Journal of Economic Literature*, Vol. 28, No. 3 (Sep., 1990), pp. 1097-1114
- Davidson, Paul. "Setting the record straight on A history of Post Keynesian economics." *Journal of Post Keynesian Economics* 26, no. 2 (2003): 245-272.
- Cropsey, Joseph. "What Is Welfare Economics?" *Ethics*, vol. 65, no. 2, 1955, pp. 116– 125.

REFERENCE BOOKS:

1. A Patel (2009) *The Collected Works of A.K. Dasgupta- Volume 1, Oxford Publications.*
2. Douglass, C. (1981) *North, Structure and change in economic history. New York: Norton*, 5, pp.33-40.
3. Gide Charles and Rist Charles (2007) *A History Of Economic Doctrines – From the Time of the Physiocrats to the Present Day, (1st Indian Reprint), Surjeet Publications, New Delhi.*
4. Haney Lewis (1979) *History of Economic Thought, Surjeet Publications.*
5. Hunt E. K and M Lautzenheiser (2011) *History of Economic Thought: A Critical Perspective, 3rd Edition, PHI*
6. Heilbroner, Robert L. *The worldly philosophers: The lives, times and ideas of the great economic thinkers. Simon and Schuster, 1999.*
7. Kapp William (1960) *History of Economic Thought, Barnes and Noble.*

8. *Mark Blaug(1992) The Methodology of Economics, Cambridge University Press*
9. *Roll Eric (1986) A History of Economic Thought, Oxford University Press.*
10. *Robbins, Lionel Robbins Baron, Steven G. Medema, and Warren J. Samuels. A history of economic thought: the LSE lectures. Princeton: Princeton University Press, 1998.*
11. *Screpanti, Ernesto and Zamagni, Stefano (2006) An Outline Of The History Of Economic Thought (2nd Edition), Oxford University Press.*
12. *History of economic Theory Takeshi Negshi North Holland latest edition*
13. *Lokanathan, V. A History of Economic Thought (Tenth Edition), S Chand Publishers*

Note: In order to have an understanding about the dynamic causations of the development of ideas, discussions on the political, cultural and historical backgrounds and readings of the period and thinker's biographical outlines is recommended. Reading on economic history of nations, and on Nobel laureates is an additional area of reading to enrich the knowledge of the subject.

BLUE PRINT

Code number: EC 7121

Title of the paper: HISTORY OF ECONOMIC THOUGHT

Total marks for which the questions are to be asked (including bonus questions)	Number of hrs	Chapter/ Unit number
15	10	I
26	10	II
19	10	III
30	15	IV
25	15	V
109	60	TOTAL
Maximum marks for the paper (Excluding bonus question): 70		

Course Outcomes: At the end of the Course, the Student will

CO1	Have acquired knowledge of development of the discipline of Economics and the contributions made by prominent economists in this field.
CO2	Have developed a thorough understanding of the evolution of the schools of thought in relation to their political and economic context.
CO3	Have developed the ability to critique the theories in relation to their schools of thought.
CO4	Be able to contrast and explain the various schools of thought and the validity of economic theories.

Semester	I
Paper Code	EC 7221
Paper Title	MICRO ECONOMIC THEORY
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To equip students with the theories and analytical tools for micro economic analysis.
- To develop students' ability to apply analytical tools in different economic situations.

MODULE I - THEORY OF CONSUMPTION AND DEMAND ANALYSIS (15 Hours)

Utility: Cardinal and Ordinal, Marshallian theory of Consumer Behavior, Indifference Curve Approach- Basic Axioms, existence of IC, shape of IC under different situation, Budget Line, shift of budget line, equilibrium of the Consumer, Extension of Indifference Curve Approach: Derivation of Income Consumption Curve, Engel Curve, Price Consumption Curve, PCC and ICC under different nature of goods, Price Effect, Income Effect and Substitution Effect: Hicks as well as Slutsky method for normal and inferior goods case, Marshallian Demand Function, Hicksian Demand Function and Slutsky Demand Function, Indirect Utility function, Roy's Identity, Sheppard's lemma. Revealed Preference Theory: Axioms, Elasticity of demand: price and income elasticity.

MODULE II - THEORY OF PRODUCTION AND COST (10 Hours)

Introduction to production function, Concept of Production, different types, introduce different standard functional forms, Short Run production function- Total Product, Average Product and Marginal Product. Production under long run-Isoquant, Ridge Lines, Elasticity of substitution, Returns to Scale, different types. Short Run Cost- total cost, fixed, variable cost, marginal cost -average fixed, average variable cost, Theory of Cost under Long Run-Derivation of Isocost line, Equilibrium of the firm, Expansion Path. Modern Theory of Cost.

SELF STUDY:

- Douglas, P. H. (1976). *The Cobb-Douglas production function once again: its history, its testing, and some new empirical values*. *Journal of Political Economy*, 84(5), 903-915.

MODULE III - THEORY OF THE FIRM (20 Hours)

Perfect competition - market equilibrium. Monopoly-short run, long run, multiplant monopolist, price discrimination model. Monopolistic competition— Chamberlin's Model. Oligopoly—Cournot, Bertrand, Sweezy, Stackleberg 's price leadership model, Cartel.

SELF STUDY:

- Dorfman, R. and P.O. Steiner, 'Optimal advertising and optimal quality', *American Economic Review* 44 1954, pp.826–36.
- Oi, W. 'A Disneyland dilemma: two-part tariffs for a Mickey Mouse monopoly', *Quarterly Journal of Economics* 85 1971, pp.77–90

MODULE IV - ECONOMICS OF DISTRIBUTION (5 Hours)

Marginal productivity theory, product exhaustion theorem. Theory of distribution in perfect and imperfect product and factor markets.

SELF STUDY:

- Frank, R. H. (1984). *Are workers paid their marginal products?* *The American economic review*, 74(4), 549-571.

MODULE V - ECONOMICS OF EQUILIBRIUM AND WELFARE (10 Hours)

Concept of General Equilibrium, Criteria of social welfare: Cardinalists criterion, Bentham criterion, Pareto Optimal conditions, Kaldor Hicks compensation criterion, Bergsons criterion, Production Possibility Curve, derivation of grand utility possibility frontier Imperfections, externalities and market failures, Arrows impossibility theorem.

SELF STUDY:

- Arrow, K. (1962). *Economic welfare and the allocation of resources for invention. In The rate and direction of inventive activity: Economic and social factors (pp. 609-626). Princeton University Press. (NBER working paper)*

REFERENCE BOOKS:

1. Chakravarty S (2002) *Microeconomics*, Allied Publishers.
2. Gravelle Hugh and Rees Ray (2004): *Microeconomics*, 2nd Edition, Pearson Education.
3. Hall R Varian (2010): *Intermediate Microeconomics- A modern Approach*, 8th edition
4. Hall R Varian (2009): *Microeconomic Analysis*, 3rd Edition, Viva Books
5. Koutsoyiannis A (2008): *Modern Microeconomics*, 2nd Edition, MacMillan Press Ltd.
5. Perloff J.M. (2001): *Microeconomics*, 2nd Edition, Pearson Publication.
6. Salvatore, D. (2010). *Schaum's Outline of Microeconomics*. McGraw Hill Professional
7. Sen A (2007): *Microeconomics Theory and Applications*, Oxford
8. Pyndick Robert.S and Rubinfeld Daniel L (2009) ,*Microeconomics*,Prentice Hall , 7th edition
9. Henderson and E Quandt: (2003) *Microeconomic Theory- A Mathematical Approach*, McGraw Hill, Third Edition.

BLUE PRINT

Code number: EC 7221

Title of the course: MICRO ECONOMIC THEORY

Chapter/ Unit number	Number of hrs	Total marks for which the questions are to be asked (including bonus questions)
I	15	25
II	10	20
III	20	25
IV	5	19
V	10	20
TOTAL	60	109
	Maximum marks for the paper (Excluding bonus question): 70	

Course Outcomes: At the end of the Course, the Student

CO1	Have developed a sound theoretical <i>knowledge</i> of different concepts of Microeconomic theory, like role of consumers, producers, etc., their interaction in determining market equilibrium, market structure and market power and the concept of General Equilibrium and Welfare Economics.
CO2	<i>Understand</i> the methods used for different socio-economic issues concerning the discipline.
CO3	<i>Interpret</i> and <i>apply</i> micro economic theory to solve several microeconomic problems, market trends. etc.
CO4	<i>Analyze</i> critically and formulate independent and well-considered conclusions about economic issues and policies.

Semester	I
Paper Code	EC7321
Paper Title	MACRO ECONOMIC THEORY
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To examine working of the economy at the aggregate level
- To enable students to appreciate the working of major theoretical developments in short run macroeconomics and its policy implications

MODULE I - MEASUREMENT OF MACRO ECONOMIC VARIABLES (8 Hours)

Basis concepts in macroeconomics: savings, investment, balance of payment, input output table.

Circular Flow of Income three-sector and four sectors. GDP and its components, GDP at Factor Cost and market price, GNP, NDP and NNP, National Income, Disposable Income, Personal Income, Private Income, GDP Deflator, CPI, WPI, Measurement of NI in India.

SELF STUDY:

- Bhaduri, A. (1986). 'The nature of capitalistic production' in *Macroeconomics: the dynamics of commodity production*. Springer UK.

MODULE II - CLASSICAL THEORY OF OUTPUT, EMPLOYMENT AND INTEREST RATE (10 Hours)

Classical Macroeconomics: Production, Employment and Aggregate Supply, Quantity Theory of Money and Aggregate Demand, Classical Dichotomy, Classical Theory of Interest Rate, Policy Implications: Government Spending, Taxation & Monetary Policy

SELF STUDY:

- Samuelson, P. A. (1978). *The canonical classical model of political economy*. *Journal of economic literature*, 16(4), 1415-1434.

MODULE III - KEYNESIAN THEORY & IS LM MODEL (14 Hours)

Simple Keynesian Model (SKM) of Equilibrium Income, Stability, Exports & Imports in SKM, Commodity market Equilibrium and IS curve, Money Market- Keynesian money demand function, Money Market equilibrium and LM curve, Liquidity trap, IS-LM Model in closed and Open economy and relative effectiveness of fiscal and monetary policy, Multipliers and Policy Mix, Aggregate Demand and Aggregate Supply, Keynes versus classics

SELF STUDY:

- Krugman, P. R., Dominquez, K. M., & Rogoff, K. (1998). *It's back: Japan's slump and the return of the liquidity trap*. *Brookings Papers on Economic Activity*, 1998(2), 137-205.
- Rogoff, K. (2015). *Costs and benefits to phasing out paper currency*. *NBER Macroeconomics Annual*, 29(1), 445-456.
- Dasgupta, D. (2016). *Theoretical Analysis of 'Demonetisation'*. *Economic and Political weekly*, 51.

MODULE IV - POST KEYNESIAN THEORY OF CONSUMPTION, INVESTMENT AND DEMAND FOR MONEY (12 Hours)

Keynesian Consumption Hypothesis, Fisher's Inter-temporal Model, Life cycle and permanent income hypothesis, Relative Income Hypothesis, Random walk hypothesis. Keynesian and Tobin's theory of demand for money, Keynesian theory of investment, NPV, IRR, Payback rule, Tobin's q

SELF STUDY:

- Horioka, C. Y. (1990). *Why is Japan's household saving rate so high? A literature survey. Journal of the Japanese and International Economies*, 4(1), 49-92.

MODULE V -POST KEYNESIAN THEORY OF INFLATION, OUTPUT AND UNEMPLOYMENT (16 Hours)

Monetarist’s view on fiscal and monetary Policy, output inflation trade- off, Short run and Long run Phillips curve and NAIRU, Adaptive expectations versus rational expectations, Aggregate Supply - Lucas imperfect information model, Sticky wage and sticky price model, Real business cycle model. Policy Effectiveness - Dynamic Inconsistency problem, Ricardian Equivalence Theory, Theory of Unemployment: Efficiency wage Theory, Search and matching model

SELF STUDY:

- Ball, L., & Mankiw, N. G. (2002). *The NAIRU in theory and practice. The Journal of Economic Perspectives*, 16(4), 115-136.
- Olivier, B., 2005. *European Unemployment: The Evolution of Facts and Ideas. NBER Working Papers.*

REFERENCE BOOKS:

1. David Romer: *Advanced Macroeconomics*, Mc Graw Hill, 1996
2. Froyen Richard T (2005): *Macroeconomic Theory and Policy*, 8th Edition, Pearson Education
3. Gregory Mankiw (2005) : *Macroeconomics*, fifth edition, Worth Publishers
4. Oliver Blanchard (2005): *Macroeconomics*, Pearson Education, 4th Edition
5. Olivier Blanchard and Stanley Fisher (2013): *Lectures on Macroeconomics*, PHI Ltd
6. Snowdon and Vane (2005): *Modern Macroeconomics: Its Origin Development and Current State*, Edward Elgar Publications,
7. Wendy Carlin and David Soskice (2005) : *Macroeconomics- Imperfections Institutions and Policies*, Oxford, First Indian Edition
8. Ghosh and Ghosh (2011) *Macroeconomics - PHI Publications*

BLUEPRINT

Code number: **EC7321**

Title of the paper: **MACRO ECONOMIC THEORY**

Chapter	Number of Hours	Total marks for which the questions are to be asked (including bonus questions)
Module I	8	15
Module II	10	18
Module III	14	25
Module IV	12	22
Module V	16	29
TOTAL	60	109
Maximum marks for the paper (Excluding bonus question) = 70		

Course Outcomes (7321): At the end of the course, the student should

CO1	Develop a sound theoretical <i>knowledge</i> of different concepts of Macroeconomics which include economic growth, consumption, investment, unemployment, business cycles, inflation, monetary and fiscal policy ,etc.
CO2	Understand the methods used for different socio-economic issues concerning the discipline.
CO3	Interpret and apply methods to solve macroeconomic problems.

Semester	I
Paper Code	EC 7421
Paper Title	MATHEMATICAL METHODS FOR ECONOMISTS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- Introduction to some branches of mathematics used extensively by economists
- To gain knowledge and skills in applying Mathematical methods to analyse and solve economic problems.

MODULE I - INTRODUCTION (10 Hours)

Importance- mathematical methods in economic analysis. Number system, elementary set theory. Concept and types of functions- limits and continuity. Elementary algebra- Linear and non-linear quadratic- cubic, parabolic, hyperbolic, logarithmic and exponential functions and their graphs. Factorization of quadratic equations. Simultaneous equations- applications to market equilibrium analysis, one and two commodity case, specific tax and subsidy case, compound interest and growth rates. Elementary matrix algebra, definition, types and operations of matrices, determinants, Cramer's rule, economic application and solving linear system.

MODULE II - DERIVATIVES WITH ECONOMIC APPLICATIONS (15 Hours)

Meaning and rule of differentiation, marginal concept, 1st and second order derivatives. Concept of elasticity, elasticity of substitution, output and total cost elasticity, partial derivatives- 1st and 2nd order conditions, cross partial derivatives, application of calculus in demand, utility and production analysis. Homogenous functions. Cob-web model, Cob Douglas and CES production function and their properties, Euler's theorem and market equilibrium, effects of specific and ad-valorem taxes on prices and output and effects of subsidies, Walrasian and Marshallian stability condition.

MODULE III - MAXIMA AND MINIMA OF FUNCTIONS AND APPLICATIONS (10 Hours)

Single and multivariable functions- unconstrained and constrained optimization- Constrained Optimization: Lagrangian multiplier method-applications on consumer equilibrium, utility maximization, cost minimization, derivatives of ordinary and compensated demand functions, output maximization. Unconstrained Optimization: revenue and profit maximization under perfect, monopoly, duopoly and oligopoly markets. Concept and applications of total derivatives.

MODULE IV - CONCEPT OF INTEGRATION AND APPLICATIONS (10 Hours)

Rules, definite and indefinite integration, area under curves, derivation of TC, TR from MR, MC, derivation of saving and consumption function from MPS and MPC, Consumer's and producer's surplus. Introduction of the Concept of Differential equation and basic application.

MODULE V - LINEAR PROGRAMMING, INPUT-OUTPUT ANALYSIS AND GAME THEORY (15 Hours)

Basic concept, formulation of a linear programming problem-its structures and variables. Nature of feasible, basic, and optimal solutions- graphical and simplex method. Basic theorems of linear programming, formulation of the dual program and its interpretation. Shadow prices and its uses. I-O analysis: solving of basic I-O model, Concept of game, strategies, simple and mixed, value of a game, saddle point solution,

simple applications.

SELF STUDY: problem solving for all modules

REFERENCE BOOKS:

1. Allen, R. G. D. (1995). *Mathematical Analysis for Economists*. Macmillan.
2. Anthony and N Biggs (2012) *Mathematics for Economics and Finance- Methods and Modelling*, Cambridge University Press
3. Chiang, A.C (1984) *Fundamental Methods of Mathematical Economics*”, McGraw-Hill Book Company
4. Carl P Simon and Lawrence Blume (2013) *Mathematics for Economists*, Viva Books
5. Henderson and E Quandt: (2003) *Microeconomic Theory- A Mathematical Approach*, McGraw Hill, Third Edition
6. Jean Soper (1999) *Mathematics for Economics and Business: An Interactive Introduction*, with CD-ROM containing Math Econ Blackwell Publishers.
7. Intriligator, M. D. (2002). *Mathematical optimization and economic theory*. Society for industrial and applied mathematics.

BLUE PRINT

Code number: EC 7421

Title of the course: MATHEMATICAL METHODS FOR ECONOMISTS

Chapter/ Unit number	Number of hrs	Total marks for which the questions are to be asked (including bonus questions)
I	10	20
II	15	25
III	10	25
IV	10	20
V	15	19
TOTAL	60	109
	Maximum marks for the paper (Excluding bonus question): 70	

Course Outcomes: At the end of the Course, the Student should

CO1	Have developed a sound quantitative <i>knowledge</i> of basic economic theories and its application in solving economic problems.
CO2	<i>Understand</i> the role of mathematical tools in economics.
CO3	<i>Interpret</i> and <i>apply</i> several mathematical methods like Differentiation, Integration, Optimization, Input-Output, Game Theory and Linear Programming models for obtaining optimum solution under complex economic situations.

Semester	I
Paper Code	EC7521
Paper Title	INDUSTRIAL ECONOMICS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To demonstrate the application of microeconomic principles to the field of industrial organization.
- To equip learners with skills for the analysis of firm's behavior under different industrial structures.
- To demonstrate the use of public policy in the regulation of industrial organizations and to promote competition

MODULE I - CONCEPT, ORGANIZATION AND BEHAVIOR OF A FIRM (15 Hours)

Nature and scope of industrial economics–Basic concepts–firm, industry, market. Organization of firm-types of ownership and management-M form and U form. Objectives of the firm. Alternative theories of Firm-Transaction Cost theory, Agency cost theory, Resource based theory, Property rights theory and behavioral theories. Determinants of size of firm and profitability, cost theory and optimum size of a firm. Growth of firms--constraints on growth. Industrial Efficiency-concept, determinants, measurement, efficiency and decision making -X-efficiency.

SELF STUDY:

- *R. H. Coase(1937) - The Nature of the Firm ,Economica, New Series, Vol. 4, No. 16 ,*
- *Oliver Hart (1989) - An Economist's Perspective on the Theory of the Firm, Columbia Law Review, Vol. 89, No. 7.*
- *Harvey Leibenstein, On the Basic Proposition of X-Efficiency Theory,The American Economic Review,Vol. 68, No. 2, Papers and Proceedings of the Ninetieth Annual Meeting of the American Economic Association (May, 1978), pp. 328-332*

MODULE II - MARKET STRUCTURE AND FIRM BEHAVIOUR (15 Hours)

Market structure, competitive and non-competitive markets-, strategic and non-strategic behavior of firms, market behavior–competition or cooperation.

Market concentration- measurement- Concentration ratio, Hirschman -Herfindahl index, effects on market performance.

Product differentiation and Advertisement. Pricing decisions- situations and procedures. Diversification-motives, measurements, Integration –horizontal and vertical, and mergers.

SELF STUDY:

- *Justin P. Johnson, David P. Myatt, On the Simple Economics of Advertising, Marketing, and Product Design, The American Economic Review, Vol. 96, No. 3 (Jun., 2006), pp. 756-784*
- *Richard P. Rumelt (1982) Diversification Strategy and Profitability, Strategic Management Journal, Vol.3, No.4, pp.359-369,*
- *Lafontaine and Slade (2007) Vertical integration and firm boundaries: The evidence, Journal of Economic Literature Vol 45, No.3 pp.629–85.*

MODULE III - FIRMS BEHAVIOR AND INNOVATION (10 Hours)

Invention and innovation—Characteristics of innovation, Schumpeter's theory of innovation-destructive capitalism— competitive and non-competitive market behavior of firms under innovation. R&D- In-house R&D, MNCs and transfer of technology. Innovation-process, Adoption and diffusion of innovations- measurement, models. Protection of Intellectual Property- patent policy, the role of government intervention in industry.

SELF STUDY:

- *Sanjay Kathuria, Market Structure and Innovation: A Survey of Empirical Studies of Schumpeterian Hypotheses for Developed Countries and India, Economic and Political Weekly, Vol. 24, No. 34 (Aug. 26, 1989), pp. M113-M125*

MODULE IV- PROJECT EVALUATION (10 Hours)

Investment decisions- need for finance, choice of funding. Financial statements – Balance sheet, Profit & Loss Analysis. Cost of capital, Analysis of financial ratios –types and their relationships, break even analysis. Time profile and methods of project evaluation. Appraisal of projects -Social cost benefit analysis, balancing private and social returns- IRR, NPV and cost benefit ratio – importance of discount rate.

SELF STUDY:

- *Garry Pursell (1990) Industrial Sickness, Primary and Secondary: The Effects of Exit Constraints on Industrial , The World Bank Economic Review, Vol. 4, No. 1, pp. 103-114*

MODULE V - INDUSTRIAL LOCATION, REGULATION AND REGIONAL DEVELOPMENT (10 Hours)

Determinants of Industrial Location. Theories of industrial location -Weber, Sargant Florence. Regulation framework for industries – Forms of industrial regulations, Regulation of firm in market economies, regulation and competition- antitrust policies. Approach to balanced sectoral and spatial development of industries.

SELF STUDY:

- *Firm Location and the Creation and Utilization of Human Capital ,Andres Almazan, Adolfo De Motta Sheridan Titman, The Review of Economic Studies, Vol. 74, No. 4 (Oct., 2007), pp. 1305-1327*
- *Harper W. Boyd, Jr., Henry Claycamp, Industrial Self-Regulation and the Public Interest*
- *Michigan Law Review, Vol. 64, No. 7 (May, 1966), pp. 1239-1254*
- *Becker, Toward, The Journal of Law & Economics, Vol. 19, No. 2, Conference on the Economics of Politics and Regulation (Aug., 1976), pp. 245-248*

REFERENCES:

1. Barthwal. R.R (2003) Industrial Economics- An Introductory Text Book, New Age International (P) Ltd New Delhi.
2. Hay.A.D and Derek J. Morris (1991) Industrial Economics Theory and Evidence Oxford University Press.
3. Cashian, P (2007) Economics, Strategy and the Firm, Palgrave Macmillan.
4. Clarke, R.S (1985) Industrial Economics, Blackwell Publishing.
5. Das, S.P (2007) Microeconomics for Business, Sage Publications Pvt. Ltd.
6. Waldman, D.E and Elizabeth J. Jensen (2013) Industrial Organizations theory and practice- Fourth Edition , Pearson Education Inc.
7. Koutsoyiannis, A. (1979), Modern Microeconomics, Macmillan, New York
8. Lipczynski,J , John Wilson and John G (2005) Industrial Organization Competition, Strategy, Policy- Second edition ,Financial Times/ Prentice Hall.
9. Michael A. Crew, David Parker. (2006). International Handbook on Economic Regulation. Edward Elgar (New York).

BLUE PRINT

Code number: EC7521

Title of the paper: Industrial Economics

Modules	Number of Hours	Total marks for which the questions are to be asked (including bonus questions)
Module I	15	27
Module II	15	27
Module III	10	18
Module IV	10	20
Module V	10	17
TOTAL	75	109
Maximum marks for the paper (Excluding bonus question)= 70		

Course Outcomes: At the end of the Course, the Student

CO1	Have acquired <i>knowledge</i> of basic concepts and scope of industrial organizations
CO2	Develop <i>understanding</i> of strategic behavior of firms
CO3	Develop competency in <i>usage</i> of economic tools for analyzing issues specific to industrial organizations
CO4	Will be able to <i>evaluate</i> the use of public policy like protection of Intellectual Property Rights and competitiveness among firms

Semester	II
Course Code	EC8121
Course Title	STATISTICAL METHODS FOR ECONOMISTS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To teach concepts, principles and methods of statistics
- To demonstrate the application of these techniques to understand and analyse economic problems in economics

MODULE I - DESCRIPTIVE STATISTICS (10 Hours)

Measurement, Classification and Presentation of data and Graphical representation of data. Measures of Central Tendency: Mean, Median, Mode, Geometric Mean, and Harmonic Mean: properties of mean, weighted mean. Index numbers Measures of Dispersion: Range, Interquartile range, variance, standard deviation, coefficient of variation. Measures of Skewness and Kurtosis, Scatter diagram, Bivariate Frequency distribution

MODULE II - THEORY OF PROBABILITY AND PROBABILITY DISTRIBUTION (10 Hours)

Definition of Probability: classical, frequency and Bayesian approach; Sets and sample spaces, Permutations and combinations, Basic theorems of Probability Theory: Addition theorem, Mutually exclusive, conditional probability, independence: Bayes Theorem, Discrete Random variables and Probability functions, Continuous Random variables and Probability functions, Mathematical expectations

MODULE III: THEORETICAL AND SAMPLING DISTRIBUTIONS (15 hours)

Theoretical distributions: Specification and properties of discrete and continuous distribution: Uniform, Bernoulli, Binomial Poisson, Normal and exponential distributions.
Sampling distributions; Sampling distribution of sample mean and variance; Central limit theorem; Distribution of selected test statistics-Chi square, t-distribution and F-distribution.

MODULE IV: ESTIMATION AND TESTING OF HYPOTHESIS (15 hours)

Estimation: point estimation, interval estimation, properties of estimation- unbiasedness, efficient estimator; methods of estimation.
Design and Evaluation of tests; types of errors; testing for single proportion; testing for equals of two proportions, testing for equals of more than two proportions; testing for single mean; testing for equality of two means; testing for equality of more than two means (ANOVA); testing for equality of two variances, Analysis with respect to more than two variables- correlation, association with discrete variable, Simple Linear Regression, fitting a trend.

MODULE V: SAMPLING TECHNIQUES (10 hours)

Principal steps in sample survey; Determination of sample size; Probability sampling: Simple random sampling, stratified random sampling, systematic sampling, cluster sampling; non probability sampling, quota sampling,

purposive sampling, convenience sampling, snow ball sampling, multi stage sampling; sampling errors.

Problem solving for all modules as Self-study using any statistical package especially R software

REFERENCE BOOKS:

1. **A L Nagar and R K Das(1983) : Basic Statistics, Oxford University press**
2. Gupta SC and V.K Kapoor – Fundamentals of Mathematical Statistics, Sultan Chand and Sons 2002
3. Anderson and Sweeney and Williams- Statistics for Business and Economics, Thomson Learning,2012
4. Newbold and Carlson and Thorne-Statistics for Business and Economics, Pearson Publication 2012
5. Mood, A M., F A Greybill and D C Boes(2001), Introduction to theory of statistics, McGraw Hill.

BLUE PRINT

Code number: EC8121

Title of the paper: Statistical Methods for Economists

Total marks for which the questions are to be asked (including bonus questions)	Number of hours	Chapter/ Unit number
21	10	I
18	10	II
25	15	III
27	15	IV
18	10	V
109	60	TOTAL
Maximum marks for the paper (Excluding bonus question): 70		

Course Outcomes (EC8121): At the end of the course, the student should

CO1	Develop knowledge of basic concepts in Statistics
CO2	Have an understanding of how statistical tools form the basis of quantitative analysis in Economics
CO3	Are able to apply statistical methods to real world problems and formulate research questions using statistical inference.

Semester	II
Paper Code	EC 8221
Paper Title	PUBLIC ECONOMICS AND FINANCE
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To enable students to acquire knowledge about the applications of economic theory to the study of non-market decision-making by the Government.
- To examine the limitations of Government interventions.
- To examine the role of government's financial activities in the special context of India.

MODULE I- INTRODUCTION TO PUBLIC ECONOMICS (20 Hours)

Market Failures- imperfections, Externalities and Efficiency, public sector solution to externality problems – taxes versus regulation: efficiency consideration and public choice rationale, Pareto optimality and public, pure public goods.-non-rival consumption and non-excludability- non-excludability and the issue of free rider. Pareto optimal provision of a public good. Pigu tax and subsidies, Policy choices for correcting externalities: Coase theorem, Emission fees and Cap-and-Trade; Voluntary provision of impure public goods: theory of Clubs. Public provision of pure public goods: Lindahl process (voluntary exchange model) and Clarke tax. Social wants, merit wants, public wants. Voting systems under Arrow's Impossibility Theorem. Rent seeking and Directly Unproductive Profit seeking (DUP) activities, Fiscal federalism –Optimum size of local authorities: An application of the theory of clubs, Tiebout model, Public Economic Policies: Allocation, Distribution and Stabilization.

SELF STUDY:

- Charles M. Tiebout (1956) *A Pure Theory of Local Expenditures*, the *Journal of Political Economy*, Vol. 64, No. 5.
- Jagdish N. Bhagwati (1982) *Directly Unproductive Profit-seeking (DUP) Activities*, *Journal of Political Economy*, vol. 90, no. 5.
- William J Congdon, Jeffery R Kling, Sendhil Mullianathan: *Policy and Choice: Public Finance through the Lens of Behavioral Economics*, *The Brookings Institute*: ch.1,2,3
- Ostrom, E. (2003) *How types of goods and property rights jointly affect collective action*". *Journal of Theoretical Politics*. Vol. 15, No. 3: 239-270

MODULE II - PUBLIC EXPENDITURE (10 Hours)

Public Expenditure- - intensive and extensive expansion of governmental activities. Micro and macro perspective of public expenditure, Wagner's Law of Increasing State Activities, Wiseman–Peacock Hypothesis. Criteria for Public Investment–Cost-benefit analysis-Principle of maximum social advantage. Effects of Public Expenditure on Savings, Investment and Growth.

SELF STUDY:

- Alan T. Peacock and Jack Wiseman (1961) *The Growth of Public Expenditure in the United Kingdom* , *National Bureau of Economic Research* ,Number 72, General Series

- Peter Saunders, *Public Expenditure and Economic Performance in OECD Countries* Journal of Public Policy, Vol. 5, No. 1 (Feb., 1985), pp. 1-21
- Russell S. Sobel (2003) *Welfare Economics and Public Finance, Ch.2 in Handbook of Public Finance, p.19-51*
- Shenggen Fan, Peter Hazell and S. K. Thorat, *Impact of Public Expenditure on Poverty in Rural India, Economic and Political Weekly, Vol. 35, No. 40 (Sep. 30 - Oct. 6, 2000), pp. 3581-3588*

MODULE III - TAXATION AND DEBT (10 Hours)

Principles of taxation-Theories of Taxation- two approaches- Benefit Approach, Ability to Pay Approach – Theory of Optimal Taxation .Concepts of equal sacrifice– Incidence of Taxation, effects of taxation. Social welfare recent reforms in India in taxation-VAT, GST. Public Debt – Sources, types, Effects, Burden and problems of debt Management. Deficit financing - currency expansion, credit expansion. Borrowing versus taxation for debt service.

SELF STUDY:

- Piketty, T. & Qian, N.(2009) *Income Inequality and Progressive Income Taxation in China and India, 1986-2010, American Economic Journal: Applied Economics, 1(1),pp. 53-63.*
- A.B. Atkinson and J.E. Stiglitz (1976) *The Design of Tax Structure: Direct Versus Indirect Taxation, Journal of Public Economics 6:pp.55-75.*
- Evsey D. Domar (1944) *The "Burden of the Debt" and the National Income, The American Economic Review, Vol. 34, No. 4 , pp. 798-827*

MODULE IV - BUDGETING AND FISCAL POLICY (10 Hours)

Concepts –Revenue account, Capital Account, Fiscal Deficit, Revenue Deficit and Primary Deficit– Budget Estimate, and Revised Estimate, actual and audited expenditure. Preparation, legislation of the budget appropriations, Programme Budgeting and Zero Base Budgeting. Balanced versus unbalanced budget. Fiscal policy - Objectives, income inducing effects of combined taxation and spending. Stimulation of aggregate demand, employment, reduction in taxes. Problems of timing and flexibility issues-lags.

SELF STUDY:

- Jagdish Bhagwati, *Deficit Financing and Economic Development, Indian Economic Review, Vol. 3, No. 2 (August 1956), pp. 40-60*
- Philip Arestis and Malcolm Sawyer (2003), *Reinventing Fiscal Policy, Journal of Post Keynesian Economics, Vol. 26, No. 1,pp. 3-25.*

MODULE V - FEDERAL FINANCE WITH SPECIAL REFERENCE TO INDIA (10 Hours)

Rationale of the local government. Centralisation vs Decentralisation. Financing of local governments Fiscal Federalism- Principles of fiscal federalism-History and theory. Problems-Centre State Financial Relations– Horizontal and Vertical imbalances–Union Finance–Trends in Revenue and Expenditure of Government of India –Latest Finance Commission and its Recommendations.

SELF STUDY:

- Wallace E. Oates (1999), *An Essay on Fiscal Federalism, Journal of Economic Literature, Vol. 37, No. 3, pp. 1120-1149.*

REFERENCE BOOKS:

1. Cullis, John and Philip Jones (2010) *Public Finance & Public Choice* Third Edition, Oxford Publications.
2. Raghbendra Jha (1987) *Modern Theory of Public Finance*, Wiley Eastern Limited, Delhi
3. Musgrave , Richard A. and Peggy B. Musgrave (2004) *Public Finance in Theory and Practice* Fifth Edition, McGraw-Hill
4. Singh S.K. (2008) *Public finance in theory and practice*, S Chand and Company Limited.
5. Hindriks, Jean and Gareth D. Myles (2005) *Intermediate Public Economics*. MIT Press.
6. Stiglitz, J.E (2000) *Economics of the Public Sector* Third Edition, W. W. Norton & Company.
7. Rosen, H.S (2005) *Public Finance* Seventh Edition , McGraw-Hill International Edition.
8. C. Rangarajan and D. K. Srivastava (2011) *Fiscal Federalism*.

9. Govinda Rao M and T. K. Sen (1996) Fiscal Federalism in India: Theory and Practice
10. Fiscal Federalism by C. Rangarajan and D. K. Srivastava; Govinda Rao M. and T. K. Sen
11. Fiscal Federalism in India: Theory and Practice, 1996

BLUE PRINT

Code number: EC8221

Course title: Public Economics and Finance

Total marks for which the questions are to be asked (including bonus questions)	Number of hrs	Chapter/ Unit number
27	15	I
27	15	II
19	10	III
18	10	IV
18	10	
109	60	TOTAL
Maximum marks for the paper (Excluding bonus question): 70		

Course Outcome

CO1	Are aware of theoretical frameworks in Public Economics
CO2	Have an understanding of the role and limitations of Government intervention in the economy
CO3	Are able to apply concepts of the discipline to examine budget statements in federalistic structure
CO4	Are able to analyse the impact of public economic tools on macroeconomic decision making

Semester	II
Paper Code	EC 8321
Paper Title	INSTITUTIONAL ECONOMICS
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To introduce concepts and theories of institutional economics to the working of political economy.
- To examine how institutions influence the paths of development

MODULE I - INTRODUCTION TO INSTITUTIONAL ECONOMICS (10 Hours)

Institutional Economics as a departure from Neo-Classical and Marxian Economics, comparative view of old and new institutional economics. Formal and informal institutions, functions of social and economic institutions. Values in institutional economics

SELF STUDY:

- R. S. Rao ,*New Institutional Economics, Marx and Marxism , Economic and Political Weekly, Vol. 29, No. 31 (Jul. 30, 1994), pp. PE65-PE69*
- Posner R. and Rasmussen E. *Creating and Enforcing Norms, with Special Reference to Sanctions. International Review of Law and Economics, 1999, Vol. 19, pp. 369-382*
- Paul Dale Bush,*Philosophical and Methodological Issues in Institutional Economics, Journal of Economic Issues, Vol. 25, No. 2 (Jun., 1991), pp. 320-346*

MODULE II - PROBLEMS OF INFORMATION ASYMMETRY (10 Hours)

Social vis-à-vis Individual Choices, Neo-classical Maximisation vis-à-vis Methodological Individualism. Perfect information, imperfect information and asymmetric information (concepts). Asymmetric information and opportunistic behavior- Problem of Adverse Selection - Signalling, screening and self-selection. Problem of Moral Hazard. Market for lemons and its applications , Principal-Agent Problem. Controlling and preventing moral hazard-controlling the agent, incentive contracts and bonding. Introduction to theory of auctions.

SELF STUDY:

- Harold Wolozin,*The Human Mind, Institutions, and Economic Behavior, Journal of Economic Issues, Vol. 38, No. 2 (Jun., 2004), pp. 563-570*
- *Bounded Rationality, Institutions, and Uncertainty Author(s): David Dequech Source: Journal of Economic Issues, Vol. 35, No. 4 (Dec., 2001), pp. 911-929*
- Prisoner's dilemma and Nash equilibrium.

MODULE III - ECONOMIC THEORY OF PROPERTY RIGHTS (10 Hours)

Concepts of Property , defining Property Rights, Problems of Ill-defined Property rights, Externalities-Market failure and property rights, the internalization of externalities. The Coase Theorem. Alternative property rights regimes. Common property -open access and Hardin's tragedy of the commons. Collective action and assurance Problem.

SELF STUDY:

- Armen A. Alchian, Harold Demsetz*The Property Right Paradigm, The Journal of Economic History, Vol. 33, No. 1, The Tasks of Economic History (Mar., 1973), pp. 1627*

- *Ward Farnsworth, Do Parties to Nuisance Cases Bargain after Judgment? A Glimpse inside the Cathedral*, *The University of Chicago Law Review*, Vol. 66, No. 2 (Spring, 1999), pp. 373-436

MODULE IV - TRANSACTION COSTS AND BOUNDED RATIONALITY (15 Hours)

The concept of transaction, Types of market transaction costs and means of transaction costs. Issues relating to transaction costs, Transaction costs and transformation costs. Social cost vis-à-vis individual costs, Identification and measurements of transaction costs, Coase Theorem, Bounded Rationality. Comparative advantages and shortcomings of the legal enforcement mechanism.

SELF STUDY:

- *David Dequech, Bounded Rationality, Institutions, and Uncertainty*, *Journal of Economic Issues*, Vol. 35, No. 4 (Dec., 2001), pp. 911-929
- *Oliver E. Williamson, The Economics of Organization: The Transaction Cost Approach* *American Journal of Sociology*, Vol. 87, No. 3 (Nov., 1981), pp. 548-577.

MODULE V - DEVELOPMENT AND INSTITUTIONAL ECONOMICS (15 Hours)

The role of the state in the process of institutional change. State in development - Corruption and its economics, Corruption and its economics: the principal-agent framework; incentive structures; the threat system and the authority; collusion, preemptive collusion and ex-post collusion; Rent-seeking behavior- Framework- the principal-agent framework-incentive structures, the threat system and the authority; collusion, Rent-seeking behavior and free-riding. Welfare implications of corruption.

SELF STUDY:

- *Shleifer A, Vishny R. (1993) 'Corruption', The Quarterly Journal of Economics, 108(3): 599-617*
- *Olken B. (2009) 'Corruption Perceptions vs. Corruption Reality', Journal of Public Economics, 93(7-8): 950-964*

REFERENCE BOOKS:

1. Brousseau Eric and Glachant (2008) *New Institutional Economics*, Cambridge University Press.
2. Chrysostomos Mantzavinos (2001) *Individuals, Institutions, and Markets*, Cambridge University Press.
3. Geoffrey M Hodgson (Ed) 2003. *Recent Developments in Institutional Economics*, Edward Elgar Publishing.
4. Groenewegen John et. al (2010) *Institutional Economics: An Introduction* Palgrave Macmillan
5. Geoffrey M Hodgson (Ed.) (1993) *The Economics of Institutions*, Edward Elgar.
6. Kapp William (2011) *The Foundations Of Institutional Economics*, Routedge
7. Malcolm Rutherford (1996) *Institutions in Economics*, Cambridge University Press.
8. Schmid Allan (2004) *Conflict and Cooperation: Institutional and Behavioral Economics*, Blackwell Publishing.
9. Langlois, R. (Ed.). (1989). *Economics as a process: Essays in the new institutional economics*. CUP Archive.
10. North, D. C. (2005) *Understanding the Process of Economic Change*. Princeton University Press.

BLUEPRINT

Code number: EC8321

Title of the paper: INSTITUTIONAL ECONOMICS

Chapter	Number of Hours	Total marks for which the questions are to be asked (including bonus questions)
Module I	10	18
Module II	10	18
Module III	10	19
Module IV	15	27
Module V	15	27
TOTAL	60	109
Maximum marks for the paper (Excluding bonus question) = 70		

Course Outcomes (8321): At the end of the course, the student should

CO1	To understand the core arguments both in the “old institutional economics” and the “new institutional economics,” including transaction-cost, contracts and game-theory
CO2	<i>Interpret and apply</i> methods to solve institutional economic problems like externalities, ill-defined property rights and asymmetric information.
CO3	<i>Critically analyse</i> and formulate independent and well-considered conclusions about economic issues and policies.

Semester	II
Paper Code	EC 8421
Paper Title	ECONOMICS OF GROWTH AND DEVELOPMENT
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES

- To enable students to understand the processes and problems of economic development.
- To equip students with skills to analyze various approaches and strategies for accelerating growth in policy making

MODULE I - GROWTH MODELS (15 Hours)

Evolution and Meaning of the concept of Economic Development: Economic Growth, Structural Transformation, Capability Expansion.

Introduction to Growth Model- Concept of Economic growth and steady state, Harrod and Domar (H-D) Model, Instability in H-D model. Models on Flexible Savings Ratio: Kaldor-Mirrlees Model, Pasenetti's Extension of Kaldor- Mirrlees Model. Neoclassical Model: Solow model. Endogenous growth model- AK Model, Lucas- Uzawa and Romer. Schumpeter's theory.

SELF STUDY:

- Sen, Amartya "Development: Which way now?The Economic Journal 93.372 (1983): 745-762.

MODULE II - ECONOMIC DEVELOPMENT: CONCEPT AND THEORETICAL APPROACHES (15 Hours)

Low-level equilibrium, IRS, Externalities and Complementarities: Big Push Theory, Leibenstein's critical minimum effort thesis, Nelson's Low-level Equilibrium Trap, Nurske's Theory. Allocation of Scarce Resources, Planning and Investment Criteria: Balanced Growth theory and Hirschman's Unbalanced Growth Theory.

SELF STUDY:

- Stages of Economic Development: Marxian Stages of Development, Rostow's Growth Stages
- Capital Turnover Criteria, Social Marginal Productivity Criteria, Investible Surplus and reinvestible surplus criterion. Critiques of capitalist Development: Myrdal and Dependency theory.
- Debraj Ray (1998) Development Economics, Oxford University Press, Delhi. Chapter 5- History, Expectations and Development

MODULE III - THEORETICAL MODELS BASED ON DUALISM (10 Hours)

Types of Dualism: Social, Technical and Financial Dualism. Overview of Rural Markets: Credit, Land and Labour Market. Supply side Dual Models on Development Planning: Lewis, Ranis Fei, Jorgenson Model, Kalecki Demand Side Development Models: Mihir Rakshit, Amitava Bose. Critique of Development Planning: Harris Todaro – Urban Unemployment. Rural Nonfarm sector as an alternative: Ranis Stewart Model.

SELF STUDY:

- Bhaduri, A. (1986). *'The Principle of Effective Demand' in Macroeconomics: the dynamics of commodity production.* Springer UK.

MODULE IV - DEVELOPMENT PLANNING IN PRACTICE (10 Hours)

Debates on Indian Planning: Feldman Mahanalobis Model, Brahmananda Vakil Wage Goods Model.

SELF STUDY:

- Country Specific Case Studies: Soviet Debate, China's Decentralized Development.

MODULE V - MEASUREMENT OF ECONOMIC DEVELOPMENT (10 Hours)

Measurement of Development: PQLI, HPI, HDI, Gender and Development: Gender Development Index, Gender Empowerment Index, Gender inequality Index, Other Index: Global Hunger Index, Multidimensional Poverty Index. Growth and measurement of redistribution: Kuznets curve, Axioms of Inequality Measurement, Lorenz curve and Gini coefficient. Poverty and its Measurement: Poverty Line, Absolute and Relative Poverty, Axioms of Poverty Index and Measurement.

SELF STUDY:

- Alkire, S., & Foster, J. (2011). *Understandings and misunderstandings of multidimensional poverty measurement.* *Journal of Economic Inequality*, 9(2), 289-314.

REFERENCE BOOKS:

1. Bardhan, Pranab (2009) *Aweakening Giants and Feet of Clay, Assessing the Economic Rise of China and India*, Oxford
2. Basu.K(1998)'Analytical Development Economics: Less Developed Economy Revisited', OUP.
3. Debraj Ray (1998) *Development Economics*, Oxford University Press, Delhi.
4. Ghatak Subrata (2007) *Introduction to Development Economics*, Routledge Taylor and Francis Group.
5. Meier Gerald M., Rauch James E. (2005) *Leading Issues In Economic Development*, OUP.
5. Mitra, Ashok (2005) *Terms of Trade and Class Relations*, Chronicle Books
8. Ranis and Stewart (1993) *Rural Non Agricultural Activities in Development*, JDE,Vol40,pp75 --101
9. Rakshit, Mihir (1989) *Studies in the Macroeconomics of Developing Countries*, OUP
11. Todaro and Smith (1996) *Economic Development*, Addison-Wesley Series In Economics.
12. Mukherjee and Chakrabarti (2016) *Development Economics- A Critical Perspective-* PHI
13. Ghosh and Ghosh (2011) *Macroeconomics – PHI*

BLUE PRINT

Code number: EC 8421

Title of the course: ECONOMICS OF GROWTH AND DEVELOPMENT

Chapter/ Unit number	Number of hrs	Total marks for which the questions are to be asked (including bonus questions)
I	15	25
II	15	24
III	10	20
IV	10	20
V	10	20
TOTAL	60	109
	Maximum marks for the paper (Excluding bonus question): 70	

Course Outcomes: At the end of the Course, the Student should

CO1	Have developed a sound theoretical <i>knowledge</i> of the major growth and development theories, including issues of development, related to poverty and inequality.
CO2	<i>Understand</i> the methods in determining the processes and problems of economic growth and development.
CO3	<i>Interpret and critically analyze</i> various approaches and strategies for accelerating growth and development in policy making in India with a global dimension.
CO4	Develop a habit of <i>reading and evaluating</i> the literature in the discipline and <i>apply</i> them to analyze empirical evidence in the patterns of economic development related to the current economic situation.

Semester	II
Paper Code	EC 8521
Paper Title	INTRODUCTION TO PROGRAMMING IN C AND MS EXCEL
Number of teaching hours per week	04
Total number of teaching hours per semester	60
Number of credits	04

COURSE OBJECTIVES:

- To develop logical thinking in students with the help of the programming concepts
- To provide a practical exposure to problem solving and coding using the 'C' programming language.
- To introduce Excel for basic statistical analysis

MODULE I – INTRODUCTION TO PROGRAMMING (10 Hours)

Problem Solving Using Computers: Language Classification, Problem Analysis, Algorithm and Flowchart design. Algorithms: Steps in developing algorithms, Applications, advantages and disadvantages of Algorithm. Flowcharts: Symbols used in developing flowcharts, Application- advantages and disadvantages of flowchart. Modular design, Program development, Coding, Testing, Debugging, Documentation and maintenance.

MODULE II- DATA ANALYSIS USING MS EXCEL (10 Hours)

Introduction to Excel. Excel functions – text, arithmetic and IF functions. Data sorting and filter. Conditional formatting, goal seek, pivot tables, power pivots. Descriptive statistics – Average Mean, Median, Mode. Standard deviation, Correlation, simple linear regression. Creating Charts and Histograms in Excel.

MODULE III - C PROGRAMMING (10 Hours)

History of C Programming, Conventions, Character Set, Identifiers, Keywords, Simple Data types, Modifiers, Variables, Constants, Operators, Operator precedence, Structure of a 'C' program.

MODULE IV- INPUT AND OUTPUT AND CONTROL STRUCTURES IN C (15 Hours)

Input and Output operation: Single character input and output, formatted input and output, Buffered input. Conditional statement, if statement, if-else statement, nested if statement, else-if statement and switch statement. Goto statement, looping statement, while statement, do-while statement, for statement, break and continue, nested for statement. Application.

MODULE V-ARRAYS AND FUNCTIONS (15 Hours)

One and two dimensional, Declaration of arrays, Initialization of arrays, processing with arrays. String manipulation, declaration of string arrays, string operations
Function definition, function call, Actual and formal arguments, local and global variables, function prototypes, types of functions.

Self-study: problem solving in all modules

REFERENCES:

1. Rajaraman V (2010) Fundamentals of Computers, PHI, 1986, 2nd Edition. 5th Ed
2. Bartee, Thomas C (1987), Digital Computer Fundamentals by McGraw Hill, VI Edition.
3. Balagurusamy (2008) Programming in ANSI C, Tata McGraw-Hill Education
4. Excel 2013 Simplified McFedries, Paul (2013), John Wiley & Sons

BLUE PRINT**Code number: EC8521****Title of the paper: introduction to programming in C and MS Excel**

Modules	Number of Hours	Total marks for which the questions are to be asked (including bonus questions)
Module I	10	19
Module II	10	16
Module III	10	20
Module IV	15	27
Module V	15	27
TOTAL	60	109
Maximum marks for the paper (Excluding bonus question)= 70		

Course Outcomes: At the end of the Course, the Student

CO1	Will have <i>acquired</i> basic knowledge of Computer Programming and MS Excel
CO2	will be able to <i>understand</i> programming methodology
CO3	is skilled to <i>design</i> algorithms, flowcharts and codes for problem solving
CO4	is able to <i>create</i> user defined functions to simplify particular tasks in C
CO5	is proficient in <i>analysing</i> data using MS Excel