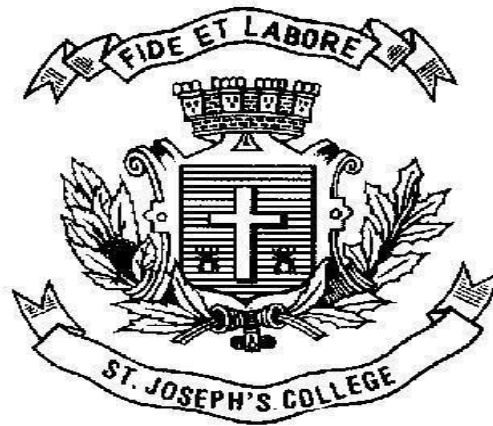


ST. JOSEPH'S COLLEGE (AUTONOMOUS)
DEPARTMENT OF ECONOMICS
BANGALORE-27



Re-accredited with 'A' GRADE and 3.79/4 CGPA by NAAC
Recognised as "COLLEGE OF EXCELLENCE" by UGC

SYLLABUS FOR B.Sc. EMS ECONOMICS
2018 ONWARDS

TABLE OF CONTENTS

Cover page	Page No.
Table Of Content	1
Introduction to the Department and Evaluation	2-4
Course Structure	5
Micro Economics –I	6-7
Micro Economics –II	8-9
Macro Economics	10-11
International Economics	12-13
Basic Econometrics (Compulsory)	14
Environmental Economics (Optional)	15
Economics of Growth and Development (Optional)	16
Indian Economy (Compulsory)	17-18
Financial Institutions & Markets (Optional)	19
Public Economics (Optional)	20-21
Programming in 'C' (Optional)	22

DEPARTMENT OF ECONOMICS

The Department Of Economics of St. Joseph's College is as old as the college itself. St. Joseph's College, which was established in 1882, had Economics as a subject at the Intermediate level till 1923. Once the college became a First Grade College in 1923, Economics became one among the major subjects of study for the degree students. The Department today offers both Undergraduate and Post Graduate courses. The Post Graduate Department was started in 2006. The Economics- Mathematics - Statistics (EMS) course was started in 2010.

VISION

The vision is to develop and establish the Department as a School of Economics

MISSION STATEMENT

The Undergraduate Department of Economics is committed to generating interest in the discipline of Economics among students by imparting sound theoretical knowledge and developing quantitative skills to analyze economic behavior. The department is engaged in creating good citizens with critical thinking, right attitudes and human values who will become agents of change for our developing society.

COURSE STRUCTURE

B.Sc: Economics- Mathematics - Statistics (EMS) has a different pedagogy from that of the BA courses as the papers are taught using quantitative methods. This course is suitable for students who have a sound background in Mathematics in their school or pre university education.

The **B.Sc curriculum** have been revised and updated in order to make the courses more challenging, relevant and in tune with the emerging needs of the discipline and the needs of the employment scenario. The syllabus has been approved by the Board of studies and is being followed from June 2018.

EVALUATION

Credit Grade Based Performance Assessment (CGPA)

Being in an Autonomous system, the college has adopted the Credit Grade Based Performance Assessment (CGPA). The course gives 30 % weightage to continuous internal assessment (CIA) i.e. 10 marks for Assignments and presentations, 15 marks for internal tests and 5 marks for attendance. The other 70% is from Semester Examination.

End Semester Examination for International Economics in the IV semester is for 40 marks and 20 marks for CIA totaling 60 marks.

End Semester Examination for CBCS course in the IV semester is for 30 marks, CIA for 10 marks, totaling 40 marks.

Examination Pattern

End Semester Examination Question Paper Pattern for Hard Core and Soft Core

Papers: Time: 2.5 Hours Max Marks: 70

Section A (3x10=30 marks)

Section B (5x2 =10 marks)

Section C (15x2 =30 marks)

Section A: Conceptual (10x3 marks = 30) 10/12 questions

In this section questions seek to test whether a student has gained specific information, knowledge and can comprehend concepts from the lessons taught.

Section B: Analytical (2x5marks = 10) 2/3 questions

Questions in this section are to test whether students can analyze the relationship between/ among concepts and apply or use the knowledge they have learned to explain an economic phenomena.

Section C: Descriptive and Evaluative (2x15 marks =30) 2/3 questions

In this section, students are required to use facts, solve problems, concepts and theories to explain, or draw conclusions about certain economic phenomena/ phenomenon. Students will also exhibit their writing skills.

GUIDELINES FOR QUESTION PAPER SETTING

Points to remember

- Question papers received will be scrutinized in the Board Of Evaluation (BOE)
- Please ensure that paper contains questions from all modules and topics as given in the syllabus
- Questions appear in the same sequence as the topics have been presented in the syllabus
- Kindly check for language , avoid repeated use of the same interrogative words like 'what'
- Punctuation marks need to be appropriately chosen
- The expected length of the answer should match the marks allotted for the question

SCHEME OF VALUATION

Points to Remember

- Scheme of valuation should enable uniform valuation among valuers.
- Graphs, tables, calculations or equations required need to be presented accordingly.
- For two marks – outline of the concept
- For five marks- concepts, relationship among concepts, utility of concepts if required
- For fifteen marks- concepts, relationship among concepts, utility of concepts if required and desirable outcomes of a theory in its application , critical evaluation if required.
- Valuation Scheme may be handwritten.

COURSE STRUCTURE 2018 ONWARDS
COURSE STRUCTURE FOR B.Sc. EMS

Semester	Course Code	Nature of paper	Paper Title	Credits
I	ECS 1118	Hard Core (compulsory)	Microeconomics I	5
II	ECS 2118	Hard Core (compulsory)	Microeconomics II	5
III	ECS 3118	Hard Core (compulsory)	Macroeconomics	5
IV	ECS 4118	Hard Core (compulsory)	International Economics	3
IV	EC SOE	Open elective	Choice Based Credit Courses (CBCS)	2
V	ECS 5118	Hard Core (Compulsory)	Econometrics	4
V	ECSDE5218	Soft Core (Optional)	Environmental Economics	4
V	ECSDE5318	Soft Core (Optional)	Economics of Growth and Development	4
VI	ECS 6118	Hard Core (Compulsory)	Indian Economy	4
VI	ECSDE6218	Soft Core (Optional)	Financial Institutions and Markets	4
VI	ECSDE6318	Soft Core (Optional)	Public Economics	4
VI	ECSDE6418	Soft Core (Optional)	Programming in 'C'	4
Total credits				36

SEMESTER I
ECS 1118: MICROECONOMICS-I

Total Teaching Hours Per Semester: 75
Number of Credits: 5

Number of Teaching Hours Per Week: 5

COURSE OBJECTIVES:

- To familiarize students with fundamentals of micro economic theory
- To provide students skills necessary to deal with micro economic problems

MODULE I: MICROECONOMICS: AN INTRODUCTION (5 Hours)

Definition of Economics, Positive and normative economics, definition and scope of Microeconomics; Concept of Equilibrium, Ex-post and Ex-ante statics, comparative statics and dynamics

SELF STUDY:

- *Mankiw NG (2011), Principles of Economics, 5th edition. South- Western Cengage Learning. Chapter 1- Ten Principles of Economics, Chapter 4- The Market Forces of Supply and Demand and Chapter 5- Elasticity and its Application.*
- *Pindyck, R. S. and Rubinfeld, D. L. Microeconomics, Global Edition. 2015 - Pearson Education Ltd. Chapter 1 - Preliminaries.*

MODULE II: THEORY OF CONSUMER BEHAVIOUR (30 Hours)

Marshallian Theory of Consumer Behaviour: Assumptions, Derivation of Equilibrium, Law of Equi-marginal utility, Limitations.

Indifference Curve Approach: Basic Axioms, existence of IC, shape of IC under different situation, Budget Line, mathematical and diagrammatical representation of equilibrium of the Consumer, Mathematical Problems using Lagrangian Multiplier method.

Extension of Indifference Curve Approach: Derivation of Income Consumption Curve, Engel Curve, Price Consumption Curve, Price Effect, Income Effect and Substitution Effect, Slutsky equation Derivation using matrix algebra, Derivation of Marshallian Demand Function, Hicksian Demand Function and Slutsky Demand Function, Mathematical problems

Revealed Preference Theory: Axioms, Derivation of the Demand curve, Mathematical problems.

MODULE III: DEMAND AND SUPPLY (8 Hours)

Elasticity of Demand- concept and measurement, law of demand, shape of demand curve under different case, limitations, Bandwagon, Snob and Veblen Effect, Elasticity of Supply, Law of Supply, Limitations; Market Equilibrium; Consumer and Producer Surplus, mathematical problems.

SELF STUDY:

- *H. Leibenstein, Bandwagon, Snob, and Veblen Effects in the Theory of Consumers' Demand, The Quarterly Journal of Economics, Vol. 64, No. 2 (May, 1950), pp. 183-207*

MODULE IV: THEORY OF PRODUCTION (16 Hours)

Short Run production function; Total Product, Average Product and Marginal Product- Concept, measurement and relation between them (diagrammatical and mathematical representation); Production under long run: Derivation of Isoquant, Shape of isoquant Ridge Lines, Elasticity of substitution

MODULE V: THEORY OF COST (16 Hours)

Short Run average cost curve, average Variable cost, Marginal cost- concept, measurement and relation between them; Theory of Cost under Long Run: Derivation of Isocost line, Equilibrium of the firm, Expansion Path; Long Run Average Cost and Marginal cost curve, Relation between AR and MR; Problems on output maximization cost minimization.

SEMESTER II
ECS 2118: MICROECONOMICS-II

Total Teaching Hours Per Semester: 75
Number of Credits: 5

Number of Teaching Hours Per Week: 5

COURSE OBJECTIVES:

- To familiarize students with fundamentals of micro economic theory
- To provide students skills necessary to deal with micro economic problems

MODULE I: PERFECT COMPETITION (15 Hours)

Assumptions and derivation of Short Run Equilibrium, Shut down and break-even point, Walrasian and Marshallian Stability Conditions, Numerical Problems. Long Run Equilibrium Mathematical problems

MODULE II: MONOPOLY AND MONOPOLISTIC COMPETITION (15 Hours)

Assumptions and derivation of Equilibrium of a monopolist, Comparison between perfect competition and monopoly, Deadweight Loss- consumer and producer surplus, Price discriminating monopolist and multiplant monopolist, Monopolistic competition and excess capacity, Mathematical problems

SELF STUDY:

- <https://www.thenation.com/article/america-has-a-monopoly-problem-and-its-huge/>
- <https://www.theguardian.com/business/2016/may/13/-new-era-monopoly-joseph-stiglitz>
- <http://www.livemint.com/Opinion/s6HVwWR1AOLe92nkhytqHI/Techs-new-monopolies.html>

MODULE III: OLIGOPOLY (20 Hours)

Features of Oligopolistic Competition, Concept of Nash Equilibrium, Bertrand Equilibrium in case of homogenous products, Cournot Equilibrium, Stakelberg's Price leadership Model Kinked demand curve model, Numerical Problems.

SELF STUDY:

- *The Half-Truth of First Mover Advantage-Harvard Business Review*
<https://hbr.org/2005/04/the-half-truth-of-first-mover-advantage>

MODULE IV: GENERAL EQUILIBRIUM AND WELFARE ECONOMICS (15 Hours)

Meaning of Walrasian Equilibrium, Existence, Uniqueness and Stability of Equilibrium and Efficiency in Walrasian and Marshallian (basic concepts), General Equilibrium in an exchange economy, and with production using Edgeworth Box, introduction of input-output model. First and Second Fundamental Theorem of Welfare Economics. Social Welfare and Arrows Impossibility Theorem. Brief overview of sources of market failure: Monopoly, public good, externalities and asymmetric information.

SELF STUDY:

- *Mankiw NG (2011). Principles of Economics, 5th edition. South-Western Cengage Learning. Chapter 9- Externalities and Chapter 10-Public Goods and Common Resources*

MODULE V: THEORY OF DISTRIBUTION AND FACTOR PRICING (10 Hours)

Ricardian Theory of Distribution; Marginal Productivity Theory of Distribution; Theory of Wages under different market conditions in factor and product markets.

REFERENCES (I &II Semester)

1. Hall R. Varian (2010), Intermediate Microeconomics: A Modern Approach, East West publication 8th Edition.
2. Henderson Mitchell and Quandt Richard E. (2003), Microeconomics: A Mathematical Approach, Tata Mc Graw Hill Edition.
3. Koutsoyiannis(2015), Modern Microeconomics, Mcmillan , 2nd Edition.
4. Mankiw Gregory (2011), Principles of Economics, Cengage Learning, 6th Edition.
5. Pyndick Robert.S and Rubinfeld Daniel L (2009) ,Microeconomics,Prentice Hall , 7th edition
6. Sen, A (2000) Microeconomics: Theory and Applications, Oxford University Press.
8. Simon Carl.P and Blume Lawrence (2010)Mathematics for Economists, W W Norton & Company

SEMESTER III
ECS 3118: MACROECONOMICS

Total Teaching Hours Per Semester: 75
Number of Credits: 5

Number of Teaching Hours Per Week: 5

COURSE OBJECTIVES:

- To familiarize students with fundamentals of Macroeconomic theory
- To provide knowledge about the macro economic issues from a historical perspective

MODULE I: INTRODUCTION TO MACROECONOMICS AND NATIONAL INCOME ACCOUNTING (10 Hours)

Issues in macroeconomics, Concept of short run, medium run and long run, importance of Macroeconomics from historical perspective- different schools of thought. Various concepts of National Income Accounts-Circular Flow of Income- Methods of computing, GDP- Problem of double counting- Mathematical Problems.

SELF STUDY:

- *Mathematical Exercise on National Income Accounting*

MODULE II: CLASSICAL THEORY (10 Hours)

Characteristics of classical school- Income Employment and interest rate determination- Crowding out effect, Quantity theory of money, Classical Dichotomy- Policy Implications of Classical School.

SELF STUDY:

- *Review Questions and Problems - Froyen, R.T. (2006) – Macroeconomics Theories and Policies (Eighth Edition), Chapter 2 and 3*

MODULE III: KEYNESIAN THEORY OF INCOME AND EMPLOYMENT (10 Hours)

Simple Keynesian Model (SKM) - components of aggregate demand- consumption function, investment demand and government expenditure- Income determination – equilibrium, stability and multiplier. Interest rate induced investment and IS curve, Money market and LM curve, slope of IS-LM curve and policy analysis. Derivation of Aggregate Demand from IS -LM curve, Aggregate supply- Complete Keynesian Model. Differences between Keynes and Classics.

SELF STUDY:

- *Review Questions and Problems, Froyen, R.T. (2006) – Macroeconomics Theories and Policies (Eight Edition), Chapter 2 and 3, Chapter 6-9*
- *Hicks, J. (1937). Mr. Keynes and the "Classics"; A Suggested Interpretation. Econometrica, 5(2), 147-159. doi:10.2307/1907242*
- *Gerrard, Bill. "Keynes, The Keynesians and the Classics: A Suggested Interpretation." The Economic Journal, vol. 105, no. 429, 1995, pp. 445–458. JSTOR, JSTOR, www.jstor.org/stable/2235503.*

MODULE IV: THEORY OF INFLATION AND UNEMPLOYMENT (10 Hours)

Keynesian theory of inflation- Inflation unemployment trade-off- Short Run and Long run Phillips Curve. Overview of Post Keynesian theory- monetarism, rational expectation, real business cycle and new Keynesian school.

SELF STUDY:

- *Friedman, Milton. "Monetary Policy: Theory and Practice." Journal of Money, Credit and Banking, vol. 14, no. 1, 1982, pp. 98–118. JSTOR, JSTOR, www.jstor.org/stable/1991496.*

MODULE V: THEORY OF CONSUMPTION, INVESTMENT AND DEMAND FOR MONEY

(10 Hours)

Keynesian Consumption Hypothesis, Kuznet's findings, Fisher's Inter-temporal Model, Life cycle and permanent income hypothesis, Relative Income Hypothesis, Random walk hypothesis, Keynesian Investment Function-Marginal Efficiency of Capital, Marginal efficiency of Investment and Investment Demand, Accelerator Theory of Investment, Interaction between multiplier and accelerator, Tobin's q. Baumol's Tobin & Friedman theory of money demand.

SELF STUDY:

- Hüfner, F., & Koske, I. (2010). *Explaining household saving rates in G7 countries: implications for Germany. OECD Economic Department Working Papers, (754), 0_1.*
<https://search.proquest.com/openview/28f8b2777dbc891ffc82ef4fba051dc5/1?pqorigsite=gscholar&cbl=54478>

MODULE VI : ECONOMIC GROWTH MODELS (5 Hours)

Harrod- Domar model and Solow model.

REFERENCES:

1. Blanchard Olivier (2013) Macroeconomics, Pearson, Fourth Edition
2. Dwivedi D.N (2008) Macroeconomics Theory and Policy, Tata Mc Graw Hill, 3rd Edition.
3. Froyen R. T. (2005) Macroeconomics: Theory and Policy, Pearson Education,
4. Mankiw Gregory (2010) Macroeconomics. Worth Publishers, 7th Edition
5. Dwivedi D.N. (2008) Macroeconomics Theory and Policy, Tata Mc Graw Hill, 3rd Edition

SEMESTER IV
ECS 4118: INTERNATIONAL ECONOMICS

Total Teaching Hours Per Semester: 45
Number of Credits: 3

Number of Teaching Hours Per Week: 3

COURSE OBJECTIVES:

- To provide knowledge of the fundamentals of international economic theory
- To provide an understanding of the working of international economic institutions

MODULE I: CLASSICAL THEORY OF INTERNATIONAL TRADE AND EXTENSIONS

(15 Hours)

Gains from trade - Adam Smith's theory of absolute advantage, Ricardian theory of comparative advantage; Opportunity cost theory and gains from trade. International equilibrium - derivation of trade indifference curve and offer curves, terms of trade-GBTT NBTT-elasticity of offer curve-relation between elasticity of offer curve elasticity of import demand and elasticity of export supply; Derivation of Marshall-Lerner condition.

SELF STUDY:

- *Balassa, B. (1963). An empirical demonstration of classical comparative cost theory. The Review of Economics and Statistics, 231-238.*

MODULE II: MODERN THEORY OF INTERNATIONAL TRADE (10 Hours)

Concept of Factor intensity and relative factor abundance- physical definition and price definition of relative factor abundance- Heckscher-Ohlin Theorem; Leontief Paradox; Factor Price equalization theorem-factor intensity reversal; Rybcznski Theorem (statement only)

MODULE III: INTERNATIONAL TRADE POLICY (10 Hours)

Free trade and protection, Partial equilibrium analysis – Import tariff and quota for small country; General equilibrium analysis – effect of small country imposing tariff; Stolper-Samuelson theorem (Statement only)

MODULE IV: BALANCE OF PAYMENTS AND FOREIGN EXCHANGE MARKETS (5 Hours)

Balance of payments – meanings and components, disequilibrium in BOP, methods of correction- depreciation, devaluation. Demand and Supply of foreign exchange, Concept of spot and forward exchange rate, Purchasing power parity and BOP theory of exchange rate

SELF STUDY:

- *Taylor, A. and M. Taylor 'The purchasing power parity debate', Journal of economic perspectives 18 (Fall 2004), pp. 135–158.*

MODULE 5: DEVELOPMENT INSTITUTIONS AND POLICIES (5 Hours)

Development of International Finance: Gold Standard and its failure, Formation of IMF, IBRD, Failure of Bretton Wood System and issues of international liquidity, International Trade: GATT & WTO.

SELF STUDY:

- *Salvatore, Dominick (2011) International Economics: Trade and Finance, John Wiley & Sons, Chapter 21-International Monetary System*
- *Sodersten B. and Reed .G. (2005): International Economics, 3rd edition, McMillian press Ltd.*
- *Chapter 17-The General Agreement on Tariffs and Trade*

REFERENCES:

1. Chacholiades, M. (1973): The Pure Theory of International Trade, McMillian press
2. Krugman P.R. and M. Obstfeld (2009): International Economics-Theory and Policy, Pearson Education.
3. Pilbeam, K. (2013): International Finance, 4th edition, Palgrave Macmillan.
4. Salvatore, Dominick (2011) International Economics: Trade and Finance, John Wiley & Sons,
5. Sodersten B. and Reed .G. (2005): International Economics, 3rd edition, McMillian press Ltd.

SEMESTER IV: CBCS (30 hours) six courses have been prepared by six faculties of the department **BUT** at any time only **four** courses will be offered to non-economics students.

SEMESTER V: COMPULSORY PAPER

ECS 5118: BASIC ECONOMETRICS

Total Teaching Hours Per Semester: 60

Number of Teaching Hours Per Week: 4

Number of Credits: 4

COURSE OBJECTIVES:

- To provide an exposure to econometric theory
- To provide a basic understanding of empirical analysis for testing economic theories

MODULE I: NATURE AND SCOPE OF ECONOMETRICS (3 Hours)

Meaning of Econometrics, Statistical relationship and deterministic relationship; Concept of regression, causation and correlation; Nature and sources of data for Econometric analysis.

MODULE II: TWO VARIABLE REGRESSION ANALYSIS (12 Hours)

The basic two Variable Regression model: Estimation, Statistical Inference and Prediction. Extensions of two variable regression model – regression through origin, Scaling and units of measurement, Functional forms of regression model.

MODULE III: MULTIPLE REGRESSION ANALYSIS (17 Hours)

The problem of Estimation- Notation and assumptions, meaning of partial regression coefficients the multiple coefficient of determination R^2 and the multiple coefficient of correlation R , R^2 and adjusted R^2 , partial correlation coefficients, Interpretation of Multiple Regression Equation. The Problem of Inference- The normality assumption, JB test for Normality, Hypothesis testing about Individual Partial Regression coefficients, Hypothesis testing about Individual Partial Regression coefficients, testing the overall significance of the sample regression, testing the equality of two regression coefficients, restricted least squares, testing for structural stability of regression models, testing the functional form of regression.

MODULE IV: RELAXING THE ASSUMPTIONS OF THE CLASSICAL REGRESSION MODEL

(13 Hours)

Problems of Multicollinearity, Heteroscedasticity and Autocorrelation- Nature, Consequences, Detection and Remedial Measures.

MODULE V: REGRESSION ON DUMMY INDEPENDENT VARIABLES (15 Hours)

The nature of Dummy variables, regression on one quantitative variable and one qualitative variable, regression on one quantitative variable and one qualitative variable with more than two classes, regression on one quantitative variable and two qualitative variables, testing for structural stability regression models, Interaction effects, piece wise linear regression, the use of dummy variables.

REFERENCES:

1. Dougherty, C. (1992) Introduction to Econometrics. New York: Oxford University Press.
2. Gujarati, D (2003) Basic Econometrics, 4th Edition, New York: McGraw Hill.
3. Maddala, G (1992) Introduction to Econometrics, 2nd ed., New York: MacMillan.
4. Wooldridge, J.M. (2003), Introductory Econometrics: A Modern Approach, 2nd edition, Thomson South-Western.

Note: Econometric problems will be given by the resource person for each module.

SEMESTER V: OPTIONAL PAPER
ECSDE 5218: ENVIRONMENTAL ECONOMICS

Total Teaching Hours Per Semester: 60

Number of Teaching Hours Per Week: 4

Number of Credits: 4

COURSE OBJECTIVES:

- To help students apply main stream economics tools to environmental issues
- To help students to appreciate the relationship between environment and development.

MODULE 1: INTRODUCTION TO ENVIRONMENTAL ECONOMICS (15 Hours)

Definition, need, nature and scope of Environmental economics; relation between Environmental economics and economics, the material balance model. Ecology and resource economics. Individual preference and social choice. Efficiency of markets, market failure -public bad and externalities. Some environmental regulation tools -direct and indirect - pollution fees, emission trading rights, taxes on inputs/ outputs of polluting activities, subsidies for adopting cleaner technologies, effluent treatment plants, deposit refund system. Coase theorem.

MODULE II: POPULATION AND NATURAL RESOURCE ECONOMICS (15 Hours)

Population- density, migration, food security, environment nexus -poor and the affluent, gender and environment. Natural resources-current, potential and resource endowment, renewable and non renewable resources, rate of extraction and regeneration. Problem of common property resources. Land degradation-types, effects. Deforestation, causes, effects. Water pollution, causes, effects, Energy resource- types, energy crisis;

SELF STUDY:

- *Waste- types, effects; Noise pollution-source, effects; Air pollution- sources, effects.*

MODULE III: SUSTAINABLE DEVELOPMENT (15 Hours)

Sustainable development-concept, definition, indicators and obstacles to sustainable development, Kuznets curve. Reduce, Recycle and reuse, techno centric solutions .Role of govt, National issues – case studies, development and environmental issues. Environment legislation in India.

SELF STUDY:

- *Environment legislation in India. International environmental issues – global bad- ozone depletion, global warming, acid rain, bio diversity loss, endangered species, desertification, international trade issue – Climate change, international cooperation.*

MODULE IV: ENVIRONMENTAL VALUATION AND INSTRUMENTS (15 Hours)

Need for environmental valuation, concept of total economic value; cost-benefit analysis, cost effectiveness analysis. Methods of economic valuation of environment (concepts) - methods based on market prices-change in productivity technique, change in income technique, replacement technique, preventive technique, relocation technique. Surrogate method- travel cost and hedonic, simulated method or survey method-contingent valuation method .Limitation of environmental valuation.

REFERENCES:

1. Bhattacharya N, Rabindra Environmental Economics- An Indian Perspective. Oxford University Press, Delhi, 2001.
2. Kolstad C Environmental Economics, Oxford: Oxford University Press,2000.
3. Muthukrishnan Subhashini , Economics of Environment, Prentice Hall India Pvt Ltd 2015..
4. Shogren, J Hanley, N and White, B. , Introduction to Environmental Economics, 2nd edn, Oxford: Oxford University Press 2013.

SEMESTER V: OPTIONAL PAPER
ECSDE 5318: ECONOMICS OF GROWTH AND DEVELOPMENT

Total Teaching Hours Per Semester: 60

Number of Teaching Hours Per Week: 4

Number of Credits: 4

COURSE OBJECTIVES:

- To provide knowledge of the various issues involving growth and development of nations
- To familiarize students with the theories and models of growth and development

MODULE I: ECONOMIC DEVELOPMENT- CONCEPT AND MEASUREMENT (15 Hours)

Evolution of the concept of Economic Development: Economic Growth, Structural Transformation, Capability Expansion; Measurement of Economic Development: PQLI, HPI, HDI, GDI; Inequality: Kuznets curve, Lorenz curve and Gini coefficient; Poverty: Poverty Line, Absolute and Relative Poverty

SELF STUDY:

- Sen A. *Development: Which Way Now? The Economic Journal*, Vol. 93, No. 372. (Dec., 1983), pp.745-762.
- Sen A. *Development as Capability Expansion*. In: Fukuda-Parr S, et al *Readings in Human Development*. New Delhi and New York: Oxford University Press; 2003.
- Ray, Debraj (1998) *Development Economics*, Oxford University Press, Delhi- Chapter 2- Economic Development
- Ghatak Subrata (2007) *Introduction to Development Economics*, Routledge Taylor and Francis
- Group-Chapter 1

MODULE II: DEVELOPMENT THEORY (15 Hours)

Theories of Development: Big- push theory, Nurske's Theory, Hirschman's Unbalanced Growth Theory, Leibenstein's Critical Minimum Effort Thesis, and Nelson's Low Level Equilibrium Trap.

SELF STUDY:

- Ray, Debraj (1998) *Development Economics*, Oxford University Press, Delhi- Chapter 5- History, Expectations, and Development

MODULE III: DEVELOPMENT PLANNING AND INDUSTRY AGRICULTURE INTERLINKAGE (15 Hours)

Lewis, Ranis Fei, Critique of Development Planning: Harris Todaro- Urban Unemployment, Emergence of Rural Nonfarm sector as an alternative: Ranis Stewart Model

MODULE IV: GROWTH MODELS (15 Hours)

Harrod and Domar Model, Kaldor's Model, Pasenetti's Model, Solow's model, Endogenous growth model-AK Model

REFERENCES:

1. Ghatak Subrata (2007) *Introduction to Development Economics*, Routledge Taylor and Francis Group.
2. Mankiw Gregory (2010) *Macroeconomics*. Worth Publishers, 7th Edition
3. Meier Gerald M and Rauch. James E(2005) *Leading Issues in Economic Development*, 8th Edition, Oxford University Press.
4. Ray, Debraj (1998) *Development Economics*, Oxford University Press, Delhi
5. Thirlwal A.P (2006) *Growth And Development: With Special Reference To Developing Economies*, ELBS.
6. Todaro M.P. and Smith (1996) *Economic Development*, Addison-Wesley Series In Economics.

**SEMESTER VI: COMPULSORY PAPER
ECS6118: INDIAN ECONOMY**

Total Teaching Hours Per Semester: 60

Number of Teaching Hours Per Week: 4

Number of Credits: 4

COURSE OBJECTIVES

- To enable students to have an overview of the workings of the Indian economy.
- To help students examine the leading issues in India's economic development.

MODULE I: STRUCTURE OF THE INDIAN ECONOMY (15 Hours)

India-a developing economy, Overview of planning, Demographic profile-Trends in population growth- growth rate, density, age, sex, size, composition, Impact of a rising population on economic development, National Population Policy 2000, Work force participation rate and estimates of unemployment in India, Measures to reduce unemployment, Regional inequalities- measures to reduce regional inequalities

SELF STUDY:

- *Brief overview of the earlier employment generation and poverty alleviation programmes – TRYSEM, NREGP, JRY, Mahatma Gandhi National Rural Employment Guarantee Act.*

MODULE II: AGRICULTURE SECTOR (15 Hours)

Role of agriculture, causes of low productivity, Land reforms- Objectives, components and implementation, Green Revolution-, Agricultural Inputs - seed, irrigation - modern irrigation system- watershed development, dry land farming, fertilizers & pesticides, subsidies, Agricultural prices Policy- procurement price and minimum support price, Sources of agricultural finance & insurance- institutional and non –institutional sources-micro finance ,NABARD , Agricultural marketing- structure and problems, APMC, Role of co-operative sector (finance and marketing), Food security in India- Public Distribution System.

SELF STUDY:

- *Agriculture and allied activities- animal husbandry, horticulture, floriculture, aqua culture- (concepts only).*

MODULE III: INDUSTRIAL SECTOR (10 Hours)

Industrial policy resolution 1948, 1956 and Industrial Policy 1991-a critical appraisal- Strengthening of the private sector ,Liberalisation and Globalisation- Public-private partnership, Public sector enterprises in India- Origin and growth and problems, Privatisation and disinvestment, Micro small and medium enterprises- problems, prospects and challenges.

MODULE IV: INFRASTRUCTURE SECTOR (10 Hours)

Sources of Power in India- conventional and non conventional-The energy crisis, GVY, Unbundling electricity Act, Telecom and Information Technology

SELF STUDY:

- *Transport system- Road transport system in India-PGSY, Railways , Water transport and Civil aviation.*

MODULE V: SERVICE SECTOR & TRADE (10 Hours)

Health sector features, Education –literacy and gross enrollment ratios - Insurance-government and private, IT & ITES, Tourism and Hospitality, Real Estate Sector, Composition and direction of foreign trade

SELF STUDY:

- *National Rural Health Mission, JNURM, Sarva Shiksha Abhiyan, Madhyamik Shiksha Abhiyan, Uchchattar Shiksha Abhiyan, Skill Development Programme.*

REFERENCES:

1. Datt and Sundharam, Indian Economy, S. Chand & Company Ltd., New Delhi 2016
2. Misra, S. K. and V. K. Puri, Indian Economy. Mumbai: Himalaya Publishing House 2016
3. Uma Kapila-An overview of Indian Economics-volume I-IV Academic Foundation –Economic Development of India –Monthly update
4. Omkarnath , G (2012) Economics: A primer for India, Orient BlackSwan, Hyderabad.
5. Economic Survey of India latest issue.
6. India Development Report latest issue by Oxford India.

SEMESTER VI: OPTIONAL PAPER
ECSDE 6218: FINANCIAL INSTITUTIONS & MARKETS

Total Teaching Hours Per Semester: 60

Number of Teaching Hours Per Week: 4

Number of Credits: 4

COURSE OBJECTIVES:

- To enable students to learn the working of capital markets.
- To help in financial decision making.

MODULE I: THEORETICAL BACKGROUND TO FINANCIAL ECONOMICS (15 Hours)

Introduction- Decision making under risk: risk versus uncertainty; expected values; Problems with expected values – The St. Petersburg paradox and Bernoulli's hypothesis-Neumann-Morgenstern method of constructing utility index under risky situations Attitude towards risks- Risk averter, risk lover, risk neutral. Friedman-Savage hypothesis Markowitz hypothesis. Prospect theory.

SELF STUDY:

- *Milton Friedman and L. J. Savage, "The Utility Analysis of Choices Involving Risk," Journal of Political Economy 56, no. 4 (Aug., 1948): 279- 304.*

MODULE II: ASSET PRICING AND VALUATION (15 HOURS)

Time value of money: present value, net present value and internal rate of return, Capital Asset pricing model and its criticism; Arbitrage pricing theory and its criticism, simple problems of asset pricing and valuation.

MODULE III: CAPITAL STRUCTURE THEORIES (10 HOURS)

Optimum capital structure - Modigliani-Miller theorem-M-M theory under tax and information asymmetry.

MODULE-IV: FINANCIAL INSTITUTIONS AND MARKETS (20 HOURS)

Indian financial system-Financial institutions- Organized Sector and unorganized features, functions, types. Money Market: functions-components -call money market, collateral loan market, acceptance market, bill market. Institutions of money market, characteristics of a developed money market. Primary Capital Market- functions, importance and structure of the Indian capital market- new issue market- Derivatives securities-meaning and types. Secondary Capital Market characteristics and Functions of Stock Exchanges, SEBI-Objectives and Functions.

SELF STUDY:

- *Gordan and Natarajan(2012), Indian Financial System, Himalaya Publishing House.*
- *Chapter 1- The Financial System in India, Chapter 2- Primary or New Issue Market Vs. Secondary Market and Chapter 8- Securities and Exchange Board of India.*

REFERENCES:

1. Gomez Clifford (2015) Financial Markets, Institutions, and Financial Services. PHI Learning Pvt. Ltd.
2. Gordan and Natarajan (2012), Indian Financial System, Himalaya Publishing House.
3. Gurusamy .S (2009), Indian financial system, Tata Mc Graw Hill.
4. Khan M.Y. (2013) , Indian Financial System, Tata Mc Graw Hill.
5. Mishkin, F. and S. Eakins (2008), Financial Markets and Institutions, PHI Learning Pvt. Ltd.
6. Shashi K Gupta, Nisha Aggarwal, Neeti Gupta (2011),. Financial Institutions and Markets' Kalyani Publishers, New Delhi.
7. Vasant Desai (2012), Indian Financial System and Development, Himalaya Publishing House.

**SEMESTER VI: OPTIONAL PAPER
ECSDE 6318: PUBLIC ECONOMICS**

Total Teaching Hours Per Semester: 60

Number of Teaching Hours Per Week: 4

Number of Credits:4

COURSE OBJECTIVES:

- To expose students to the problem of market failure and the need for intervention
- To provide knowledge about the role and working of the government in an economy

MODULE I: INTRODUCTION TO PUBLIC ECONOMICS (15 Hours)

Definition and Scope of Public Economics, Sources of market failure: monopoly, public good, externalities and asymmetric information. Role of Government- Allocation, Distribution and Stabilisation

SELF STUDY:

- *Role of Government: Musgrave R.A and Peggy B. Musgrave (2004)–Public Finance in Theory and Practice Fifth Edition, Chapter 1.*

MODULE II: MARKET FAILURE, DEVELOPMENT AND GOVERNMENT (15 Hours)

Methods to correct problems of externality: standard setting, Pigouvian tax; Private goods and Public goods-Pure and Impure, Local and National public goods. The tragedy of commons-property rights, optimal provision of public good. Imperfect competition and government: measurement of competition- Herfindahl Index, Solutions to natural monopoly- public ownership. Correction of distributional and regional inequalities - Tiebout model.

MODULE III: PUBLIC - REVENUE, EXPENDITURE AND DEBT (15 Hours)

Canons of taxation, principles of taxation – Benefit principle and ability to pay principle, types of tax rates, specific and ad valorem tax. Merits and demerits of direct and indirect taxes. Incidence and Impact of taxation, Goods and Services Tax.

Canons of Public Expenditure, Wagner's Law of Increasing State Activities, Peacock-Wiseman Hypothesis. Growth and effects of Public Expenditure. Public Debt, Effects, Repayment of Public Debt. Principles of debt management

SELF STUDY:

- *Growth and effects of Public Expenditure :Musgrave,R.A and Peggy B. Musgrave (2004)– Public Finance in Theory and Practice Fifth Edition , McGraw Hill Education , Chapter 8*
- *Effects of Public Debt : Lekhi R.K (2012) Public Finance, Kalyani Publishers, Eighteenth Edition, Chapter 19*

MODULE IV: BUDGETING AND FISCAL POLICY (15 Hours)

Concepts –Revenue account, Capital Account, Fiscal Deficit, Revenue Deficit, Primary Deficit– Budget Estimate, Revised Estimate, actual and audited expenditure. Preparation, legislation of the budget appropriations, Programme Budgeting and Zero Base Budgeting. Balanced Vs unbalanced budget. Finance Act. Fiscal policy – Objectives. Fiscal Federalism in India.

SELF STUDY: *Latest Finance commission Report.*

REFERENCES:

1. Bhatia, H. L. (2012) Public Finance, Vikas Publication, New Delhi
2. Cullis, John and Philip Jones (2009) Public Finance and Public Choice OUP
3. Hindriks Jean and Gareth D. Myles (2005) Intermediate Public Economics. MIT Press
4. Lekhi R.K (2012) Public Finance, Kalyani Publishers, Eighteenth Edition
5. Musgrave, Richard A. (1959), Theory of Public Finance, McGraw Hill, Kogakusha, Tokyo.
6. Musgrave R.A. and Musgrave P.B. (2004) Public Finance in Theory and Practice, Fifth Edition McGraw Hill.
7. Singh.S.K (2012) Public Finance in Theory and Practice, S Chand Publications.
8. Stiglitz, Joseph E. (2000) Economics of the Public Sector Third Edition,W. Norton & Company

**SEMESTER VI: OPTIONAL PAPER
ECSDE6417: PROGRAMMING IN 'C'**

Total Teaching Hours Per Semester: 60

Number of Teaching Hours Per Week: 4

Number of Credits: 4

COURSE OBJECTIVES:

- To develop logical thinking in students with the help of the programming concepts
- To provide a practical exposure to problem solving using the 'C' programming language.

MODULE I: PROGRAMMING (16 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: '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 III: INPUT AND OUTPUT AND CONTROL STRUCTURES (18 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 .

SELF STUDY: Problem solving.

MODULE IV-ARRAYS AND FUNCTIONS (10 Hours)

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

SELF STUDY: Problem solving.

MODULE V- STORAGE CLASSES, STRUCTURES AND UNIONS (6 Hours)

Types of storage classes, Structure and Union, Advantages of Structure and Union.

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.