## M.Sc. (ECONOMICS) COURSE STRUCTURE & SYLLABUS
(Effective from academic year 2018-19)
(Approved by Board of Studies on 21-3-2018; Academic Council on 28-3-2018)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Course Code No.</th>
<th>Name of the Course</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>COMPULSORY COURSES</strong></td>
</tr>
<tr>
<td>1</td>
<td>A-01</td>
<td>Microeconomics - I</td>
</tr>
<tr>
<td>2</td>
<td>A-02</td>
<td>Microeconomics - II</td>
</tr>
<tr>
<td>3</td>
<td>A-03</td>
<td>Macroeconomics</td>
</tr>
<tr>
<td>4</td>
<td>A-04</td>
<td>Monetary Macroeconomics</td>
</tr>
<tr>
<td>5</td>
<td>A-18</td>
<td>Basic Econometrics</td>
</tr>
<tr>
<td>6</td>
<td>A-21</td>
<td>Advanced Econometrics</td>
</tr>
<tr>
<td>7</td>
<td>A-20</td>
<td>Economic Growth and Development</td>
</tr>
<tr>
<td>8</td>
<td>A-08</td>
<td>Public Economics</td>
</tr>
<tr>
<td>9</td>
<td>A-10</td>
<td>International Economics: Pure Theory</td>
</tr>
<tr>
<td>10</td>
<td>A-11</td>
<td>International Economics: Money and Finance</td>
</tr>
<tr>
<td>11</td>
<td>A-13</td>
<td>Mathematics for Economic Analysis</td>
</tr>
<tr>
<td>12</td>
<td>A-23</td>
<td>Population Studies</td>
</tr>
<tr>
<td>13</td>
<td>A-15</td>
<td>Accountancy and Financial Statement Analysis</td>
</tr>
<tr>
<td>14</td>
<td>A-16</td>
<td>Financial Economics</td>
</tr>
<tr>
<td>15</td>
<td>A-19</td>
<td>Statistics and Operations Research</td>
</tr>
<tr>
<td>16</td>
<td>A-22</td>
<td>Business Analytics</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>OPTIONAL COURSES (Any four to be opted)</strong></td>
</tr>
<tr>
<td>1</td>
<td>B-01</td>
<td>Indian Agricultural Economics</td>
</tr>
<tr>
<td>2</td>
<td>B-02</td>
<td>Transport Economics</td>
</tr>
<tr>
<td>3</td>
<td>B-03</td>
<td>Industry: Organization, Structure and Problems</td>
</tr>
<tr>
<td>4</td>
<td>B-05</td>
<td>Economics of Labour</td>
</tr>
<tr>
<td>5</td>
<td>B-06</td>
<td>Financial Institutions and Markets</td>
</tr>
<tr>
<td>6</td>
<td>B-07</td>
<td>Law and Economics - I</td>
</tr>
<tr>
<td>7</td>
<td>B-08</td>
<td>Law and Economics - II</td>
</tr>
<tr>
<td>8</td>
<td>B-09</td>
<td>Economic Sociology</td>
</tr>
<tr>
<td>9</td>
<td>B-13</td>
<td>Environmental &amp; Resource Economics</td>
</tr>
<tr>
<td>10</td>
<td>B-11</td>
<td>Social Exclusion and Inclusive Policy</td>
</tr>
<tr>
<td>11</td>
<td>B-12</td>
<td>Political Economy of India’s Development</td>
</tr>
<tr>
<td>12</td>
<td>B-15</td>
<td>Urban Economics</td>
</tr>
<tr>
<td>13</td>
<td>B-14</td>
<td>Behavioural Economics</td>
</tr>
<tr>
<td>14</td>
<td>B-16</td>
<td>Linear Economics I</td>
</tr>
<tr>
<td>15</td>
<td>B-17</td>
<td>Linear Economics II</td>
</tr>
</tbody>
</table>

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
A-01: MICROECONOMICS - I

PREAMBLE

This course is the first attempt to develop the theoretical structure of microeconomics. The objective of this course is to develop an understanding of the basic principles of microeconomics. It is intended to improve student’s analytical skills and ability to solve problems, which will be useful in several other areas of economics. By the end of this course the student is expected to be familiar with basic concepts of microeconomics and acquire analytical skills to analyse problems of economic policy. Examples and exercises would be covered to provide a flavour of various applications.

It does not require any previous knowledge of microeconomics. Familiarity with calculus and optimisation theory will be helpful. Relevant mathematical tools will be developed during the course whenever necessary.

Module 1: Consumer Theory

Module 2: Theory of Firm

Module 3: Theory of Market I: Perfect Competition, Monopoly, and Monopolistic Competition

Module 4: Game theory (basic introduction)

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
Module 5: Theory of Market II: Oligopoly

Module 6: Competition Law
Economic issues in competition policy, Sources of market power, Market Structure, Market Power and Definition, Monopoly and Regulation of Monopoly, Anticompetitive Agreements & Cartels, Abuse of Dominance, Merger Control, Case studies of US Antitrust law, EU competition Law and Indian Competition policy.

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BASIC READING LIST
- Williamson, O. E. and Winter, Sidney G. (Eds) (1993), The nature of the firm; origins, evolution and development, Oxford University Press

ADDITIONAL READING LIST

Module 1

Module 2
- Pindyck, Robert S. and Rubinfeld, Daniel L. (1998), Microeconomics, Prentice Hall
Module 3
- Pindyck, Robert S. and Rubinfield, Daniel L. (1998), Microeconomics, Prentice Hall.

Module 4

Module 5
A-02: MICROECONOMICS - II

PREAMBLE
This is the second part of the core Microeconomics Sequence. This course introduces fundamental concepts and topics developed in microeconomic theory. It will cover roughly 4 topics: 1) Theory of General Equilibrium, 2) Economics of Uncertainty, 3) Games of Incomplete Information and 4) Information Economics. The aim is to be as thorough as possible in a single semester time period. The theoretical tools developed in these topics are essential in many different fields in economics.

Module 1: Theory of General Equilibriums
We will focus on GE with certainty.


Module 2: Economics of Uncertainty

Module 3: Games of Incomplete Information
Static Bayesian games and Bayesian equilibrium – theory and examples.
Module 4: Information Economics
Introduction. The elements of the problem. Types of Asymmetric information problems – moral hazard, adverse selection, signalling.
Static Moral Hazard: Full information Benchmark, Hidden action in a Two action-Two outcome model as well as in a simple Continuous action and continuous outcome case, Solution through First order approach and its validity, Value of information and characteristics of the Optimal contract

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Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
BASIC READING LIST


ADDITIONAL READING LIST

Module 1:

Module 2:

Module 3:
Module 4:


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A-03—MACROECONOMICS

Objective
The objective of the paper is to familiarize the students about the contribution of various schools of thought in macroeconomics. The course structure covers the major debates and intends to provide wider vision of the present discourses in macroeconomics. The course will help to develop aptitude to relate concepts with research and policy.

Module I: Macroeconomic Measurement
1. An overview of National Accounting
   Conventions about National Accounting Sectors
   Concept of value added by production
   National Product at market price and factor cost
   Gross and Net Production
2. Methods of Income estimation
   The Product Approach
   The Expenditure Approach
   The Income Approach
3. Accounting for environmental and Social Dimensions
   Physical quality of life index and Human Development Index
   Environmentally Adjusted Net Domestic Product

Module 2: Background Concepts:
   History of macroeconomic thought- Classical, Keynesian and schools of thought after Keynes.
   Behavioral foundations of Macro Economics:
   Investment Function: Neo-Classical Theory of Investment, Stock Market and Tobin’s q-ratio, Accelerator Theory of Investment (simple and flexible acceleration models)
   The Monetarist School: The quantity theory of money approach

Module 3: Rational Expectations and new Classical Macroeconomics:
The basic concepts – the Phillips curve and Lucas Supply equation

Module 4: Real Business Cycle School:
Real Business Cycle School and inter temporal substitution of labour- Real Business Cycle theory- technology shocks- neutrality of money and flexibility of wages and prices- Real Business cycle view on great depression.

Module 5: Micro Foundations of real and nominal rigidities: New Keynesian School:
Imperfect competition and price setting- Real rigidity- Co-ordination failure models- Real Non Walrasian Theories- Small Menu Cost model and Staggering of prices, implicit wage contract theory- efficiency wage theory- Insider- Outsider model.

Module 6: Basic Infinite Horizon Models:
Ramsey Problem: Command Economy, Decentralized economy, dynamic efficiency - Government in the decentralized economy.
Overlapping Generations Model:
OLG with production: tow period lives, dynamic inefficiency and altruism, Social Security Models under OLG

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Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
READING LIST

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A-04: MONETARY MACROECONOMICS

PREAMBLE:

This course covers the post-Keynes developments in monetary theory with special reference to the existence of general equilibrium in a monetary economy. The implications of introducing money in Walrasian and non-Walrasian economies and theories of disequilibrium dynamics will be covered in detail. The questions of monetary and credit policies and the workings of monetary policies with special reference to Indian economy will be analyzed.

Module 1: Definition of Money
Nature, functions, types and evaluation of money The debate relating to the definition of money Liquidity theory Gurley and Shaw Hypothesis Alternative money stock measures The quantity and components of money stock in India and broad trend in them

Module 2: Supply of Money and Money Transmission Mechanics
Base money, money multipliers, and role of financial intermediaries Factors affecting money supply Balance sheet of Reserve Bank of India

Module 3: Demand for Money
Quantity theory of money Demand for money Keynesian theory of demand for money Baumol-Tobin theory Issues regarding endogenous and exogenous supply of money.

Module 4: Money in Walrasian and non-Walrasian Economies and Theories of Disequilibrium Dynamics
Money in neo-classical models Money in non-neo-classical models Walrasian interpretation of Keynesian unemployment (Patinkin, Clower and Leijonhufvud) Post-Keynesian interpretation (Sidney Weintraub, Paul Davidson, Kelecki and Minsky)

Module 5: Theories of the Interest Rate
Real and monetary theories of the interest rate Keynesian theory, Wicksellian theory, Fisher’s theory, Hicksian theory Credit market imperfections Adverse selection and moral hazard

Module 7: Monetary Institutions & Monetary Policy
Monetary transmission mechanism and targeting Inflation Money growth and interest rates Interest rate rules Taylor rule
Rules versus discretion
Central Bank autonomy
Dynamic inconsistency of monetary policy credibility and reputation
Co-ordination of fiscal and monetary policy

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BASIC READINGS


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**A-05: BASIC ECONOMETRICS**

**Objective:** The objective of this paper is to introduce basic econometric techniques that are widely used in empirical work in economics and other related disciplines. It covers the problems faced in estimation and inference in the context of single and multiple equations regression model. The focus is on conceptual understanding and ‘hands on’ applications using economic data drawn from real-world examples, rather than on formal theoretical proofs alone. By the end of the course, students should be able to develop simple econometric models and interpret the econometric and statistical results reported in other studies.

**Module 1: The nature of Econometrics and Economic Data:** Introduction, Model Specification and applied research, the role of data in model specification, The Structure of Economic Data, Steps in Empirical Analysis, Causality and the Notation of Ceteris Paribus in Econometrics, etc.

**Module 2: The Classical Linear Regression Model: Estimation and Inference:** Ordinary least squares (OLS) estimation, the Classical assumptions, the Gauss-Markov theorem and properties of the OLS estimators, interval estimation and hypothesis testing and prediction, reporting and interpreting regression results, Maximum Likelihood techniques, Restricted Least Square estimation, Likelihood Ratio (LR), Wald and Lagrange Multiplier (LM) Test, Minimum Variance Bound (Rao-Cramer Inequality Theorem).

**Module 3: Non-linear regression:** Conversion of non-linear forms into linear forms, testing linear verses non-linear functional form, appropriateness and relevance of the choice of functional form.

**Module 4: Regression Analysis with Qualitative information: Binary (or Dummy) Variables:** Exogenous Dummy Variable- Formulating and interpreting coefficients on dummy explanatory variables, interactions involving dummy variables and use of dummy variables in seasonal analysis, piece wise regression analysis, the dummy variable alternative to chow test.

Discrete and Limited Dependent variable - Linear Probability Model, Problems relating to LPM, Logit and Probit Model, Multinomial Choice Models: Ordered Response Model; Unordered Response Model, Censored and Truncated Regression Model

**Module 5: Multicollinearity:** Introduction, perfect verses imperfect Multicollinearity, Consequences, tests for detection and remedies for Multicollinearity.

**Module 6: Violation of the OLS Assumptions:** Introduction, Consequences of violation of OLS assumption, GLS Estimation- Aitken’s generalization of Gauss Marks Theorem. Heteroscedasticity & Autocorrelation: Causes and consequences, diagnostic tests and remedial procedural

**Module 7: Specifications: Choosing the Independent Variables and Functional Form**

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
Omitted variables: Too few variables, Irrelevant variables: variable overload, Criterion of choice, superfluous variables etc. The use and Interpretation of constant term, Alternative Functional forms, Problem with incorrect functional form, test for choosing the appropriate functional form.

**Module 8: Lagged Variables and Distributed- Lag Models:** Introduction, Consequences of applying OLS, Almon’s lag approach, Koyak Transformation: Partial adjustment hypothesis and adaptive expectations hypothesis, estimation of distributed lag models etc.

**Module 9: Simultaneous Equation Models (SEM):** Introduction, Structural, reduced form and final form model, Rational behind the use of SEM - simultaneous bias and inconsistency of the OLS estimator, Problem of Identification: Rank and Orders conditions, Methods of estimation: ILS, 2SLS, Instrumental Variable, LIHML (LVR), Mixed estimation Method, 3 SLS and FIML methods.

**Note:** Students will be taught software packages for performing econometric applications. Computer exercises will be given

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BASIC READING LIST:

- Green, William H., Econometric Analysis, Prentice Hall.

ADDITIONAL READING LIST:

Module 2 and 3

- Judge, G.G. et al., Introduction to the theory and Practice of econometrics, 2nd Edition John Wiley and Sons, Chapter 3 and 5.
- Wooldridge, J. (2009), Introductory Econometrics, 4th edition, South-Western College Pub, Chapter 2-6

Module 2-3 (Articles)

- Smith, V. Kerry (1971), ‘A Note on Student’s t Test in Multiple Regression’, The Journal of Financial and Quantitative Analysis, Vol. 6, No. 3, June, pp. 1053-1056
• Bandiera, Orianz (2005), Some Notes on the intuition behind popular Econometric Techniques.

Module 4

• Wooldridge, J. (2009), Introductory Econometrics, South-Western College Pub., Chapter 7 and Chapter 17
• Green, William and David A Hensher (2009). Modeling Ordered Choices, NSU Stem School of Business.
(https://pdfs.semanticscholar.org/83cb/843ab8542b4ab2ad1cca4c400b7992aad460.pdf)

Articles

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018


Module 5:
- Madala G.S., Introduction to Econometrics, John Wiley & Sons, Chapter 7

Module 6:
- Judge, G.G. et al., Introduction to the theory and Practice of econometrics, 2nd Edition John Wiley and Sons, Chapter 21
- Wooldridge, J. (2009), Introductory Econometrics, 4th edition, South-Western College Pub, Chapter 12
- Madala (2001), Introduction To Econometrics, John Wiley & Sons, Chapter 6

Articles

Module 7
• Judge, G. G. et al., Introduction to the theory and Practice of econometrics, 2nd Ed. John Wiley and Sons, Chapter 16.


**Articles**


• Deric Boyed: The Ramsey test of functional for The Ramsey test of Mis-Specification, university of East London

• Oriana Bandiera: Some Notes on the intuition behind popular Econometric Techniques


**Module 8**


• Judge, G. G. et al., Introduction to the theory and Practice of Econometrics, 2nd Ed John Wiley and Sons, Chapter 16.

**Module 9**

• Koutsoyiannis, A (2004), Theory of Econometrics, 2nd edition, Palgrave, N. Y., Chapter 14,15,16,17 and 19


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*Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018*
Article 10

A-06: ADVANCED ECONOMETRICS

Module 1: Seemingly Unrelated Regression (SURE): Estimation by OLS, GLS and FGLS, testing for structural change and aggregation bias, case of autoregressive errors

Module 2: Time Series:


2.3 Models with Trend: Deterministic and Stochastic Trends, Removing the Trend, Unit Roots and Regression Residuals, The Monte Carlo Method, Dickey–Fuller Tests, Examples of the ADF Test, Extensions of the Dickey- Fuller Test, Structural Change, Power and the Deterministic Regressors, Panel Unit Root Tests, Trends and Univariate Decompositions


2.5 Cointegration and Error-correction Models: Linear Combinations of Integrated Variables, Cointegration and Common Trends, Cointegration and Error Correction, Testing for Cointegration -The Engle-Granger Methodology, Illustrating the Engle-Granger Methodology, Cointegration and Purchasing-Power Parity, Characteristic Roots, Rank, and Cointegration, Hypothesis Testing, Illustrating the Johansen Methodology, Error-Correction and ADL Tests, Comparing the Three Methods


Module 3: Panel Data

3.1 Introduction Panel Data: Some Examples, Benefits and Limitations


Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018


3.5 Introduction to Dynamic Panel Data Models

Note: The students will be taught software packages for performing econometric applications. Computer exercises will be given to students.

Basic Reading List

- Wooldridge, J. (2002), Econometric analysis of Cross Section and Panel Data
- Walter Enders (2008), Applied Econometrics Time series, Wiley India

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A-07: ECONOMIC GROWTH AND DEVELOPMENT

Objective
The course is about the fundamental models used to analyze theoretical and empirical issues in economic growth and development. The main objective of the course is to familiarize students with the problem of development in underdeveloped and developing economies. The focus of the course is to: (i) discuss the major theoretical developments in areas of Growth economics and policy discourse; (ii) analyze the economic problems of developing countries, especially problems related to slow growth, high poverty rates, high income inequality, etc.; (iii) discuss strategies for attaining sustainable growth, reducing poverty, income inequality and use of theory and empirical analysis to address issues in these areas.

Module I: Growth:
The long and medium run: Harrod-Domar Model - the Solow growth model and its application to convergence of country growth rates
Neoclassical Growth theory: the micro foundations of growth- Ramsey model with infinitely lived agents- Application to household behavior and interaction with the government - Ricardian equivalence.
Endogenous growth theory: The AK model – Long run AK model – AK model with externalities
New Growth theory: Human capital, Externalities and ideas; endogenous technological progress and development

Module II: Development, Scope of Development Economics
Background and beginnings of ‘Development Economics’: post-war world economic order and end of formal colonialism; distinction between growth and development economics/studies.
Human Development and deprivation
The concept of development – Evolution of Measures of Economic Development, Human Development Index and its extensions, modifications, and other related measures: Human Poverty Index (HPA), Gender related Development Index (GDI), Gender Empowerment Measure (GEM)
Associated problems of measurement; components; outcome indices and process indices.
Comparing Developing Economies
Economic performance/progress of developing countries over the recent past in reference to India, China, Africa and Latin America.

Module III: Major themes/perspectives of post-war ‘high development theory’ (late 1940s to 1970s)
Vicious circle of poverty; big push, balanced and unbalanced growth, dual-economy models – broad policy implications (Lewis, Ranis-Fei, Jorgenson models and limitations) – Rural-urban migration and urban unemployment (Harriss-Todaro model and extensions), Rural-urban wage-gap (Labour turnover model and wage-efficiency model – their extensions and limitations) – Political Economy of development and underdevelopment; dependency school and its critique
Module IV: Economics of Institutions
Evolution of Institution and their role in an economy: existing views: political organization and freedom: Role of financial institutions in economic development: Theory (Acemoglu and Zilibotti model), evidence; Decentralization of Institutions

New Institutional Economics
Market failures, government failures, role and emergence of institutions, role of state in economic development

Module V: Capital, Inequality and Growth
Income, capital and growth in the long run
The dynamics of capital accumulation: private vs. public capital and the great transformation
Inequality in the long-run: labour income vs capital ownership

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BASIC READING LIST
- Bardhan, P. and C. Udry (1999), Development Microeconomics, Oxford University Press.

ADDITIONAL READING LIST Module I:

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
- World Development Reports
- World Bank 1993
- World Bank 1998
- China Human Development Report 1999: Transition and the State
- Human Development Reports

**Module 2:**
- Bardhan, P. (1988), ‘Alternative approaches to development economics’ Oxford University Press, New Delhi,

**Module III:**
• Dasgupta, P. Human wellbeing and Natural Environment, Oxford University Press, 2002.

Module IV:
• Maddison. A. World economy in the 20th century,

Module V:
• Barro, Robert J. & Sala-i-Martin, Xavier (1995), Economic Gorwth, MacGrow Hill

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Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
A-08: PUBLIC ECONOMICS

Objective
The objective of this course is to familiarize students about the rationale for and role of government intervention in economic activities and how the government makes economic decisions. The course will examine the recent developments in both theoretical and empirical literature in the area. The Indian case studies will be discussed in detail for a better familiarity with Indian public economics.

Module 1: Economic Rationale of the Modern State and Macro Economic Perspective of Public Finance
- Issues related to market failure and the government intervention
- The role of State in Allocation, Distribution, Regulation and Stabilization.
- The changing role of the State: Issues in a globalizing world with special emphasis on global public goods.
- Macroeconomics of Public Finance: The interaction between fiscal and monetary policy and fiscal stabilization.

Module 2: Economic Analysis of Public Goods
- Public goods: pure and impure public goods.
- The theory of clubs and local public goods.
- Public goods and the private cost of public goods- Pseudo- market mechanism for Preference Revelation.

Module 3: Economic decision making in government
- Normative social choice theory – Arrow’s theorem – majority voting – The median voter model – representative democracy.
- Positive social choice theory: The Leviathan hypothesis – rent – seeking – lobbying and interest groups.

Module 4: Theory of Taxation
- The conflict between efficiency and equity - horizontal and vertical equity- welfare analysis with uncertainty.
- Shifting and Incidence of Tax: The Partial and General Equilibrium Analysis- the Harberger model
- Canons of taxation
- Theory of Optimal Taxation.
- Taxation and economic efficiency.
- Issues related to tax policy in developing countries.

Module 5: Tax Policy Issues in India
- Indian Tax System: An assessment
- Practical Issues of Tax reforms in India
- An introduction to Value Added Tax
- Value Added Tax: Design, Issues and Options.
- An introduction to MODVAT, CENVAT and Goods and Services Tax (GST)
- Issues in the taxation of Services in India.
Module 6: Public Expenditure Theory

- Pure theory of public expenditure - Empirical evidence on public expenditure theories.
- Public Sector Pricing - Pricing of Public Utilities.
- Public expenditure management and control
- Concept, measurement and magnitude of subsidies.
- Social infrastructure and financing of human development.
- Growth, nature and composition of public expenditure in India
- Sustainability issues of Centre and State expenditure in India
- Issues related to subsidies in India
- Social Security and State level pension reforms in India.

Module 7: Fiscal Federalism

- Theory of Fiscal Federalism: The decentralization theorem.
- Economic efficiency issues in multilevel government.
- Assignment issues in multilevel government.
- Theory of intergovernmental transfers.

Module 8: Fiscal Federalism in India

- Centre-State Financial relations in India - Constitutional provisions and various committee recommendations on sharing of revenue.
- Fiscal Decentralization in India in the context of 73rd and 74th Constitutional Amendments.
- Implication of recommendations of Finance Commission.
- Centrally Sponsored Schemes and its implications for federalism.
- Sub national fiscal reforms in India.

Module 9: Fiscal Imbalance and Management of Public Debt

- Measurement and macro-economic impact of deficits - alternative paradigms.
- The concept of budget.
- Fiscal deficit and interest rates: Analytical and empirical issues.
- Public debt burden and intergenerational equity.
- Issues related to public debt sustainability.
- Trends and developments in Indian Fiscal Policy.
- Recent experience with stabilization functions of India government.
- Fiscal Responsibility and Budget Management Act: An Evaluation.
- Trends in and Financing pattern of deficits in India and its macro-economic implications.

Basic Readings

Books

• Thompson, F. And Green, M. T. (1998), Handbook of Public Finance, Marcel Dekker, New York.

Articles

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018

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A-10: INTERNATIONAL ECONOMICS – PURE THEORY

PREAMBLE
The course provides a deep understanding about the broad principles and theories, which tend to govern the flow of trade in goods, services and capital — both short-term and long-term — at the global level. The contents of the paper, spread over different modules, lay stress on the theory and nature of the subject which, in turn, will greatly help them to examine the impact of the trade policies followed both at the national and international levels as also their welfare implications at macro level and the distribution of gains from trade to North and South with particular reference to India. The study of the paper under the present era of globalization will train the students about the likely consequences on income, employment and social standards and possible policy solutions.

Module 1:
Inter-regional versus international trade - Mercantilist doctrine of balance of trade - Adam Smith and absolute advantage theory of trade - Ricardo and comparative advantage, its limitations - production possibility curve - Community indifference curve - Gain from trade - Offer curve - Determination of international equilibrium price - Different concepts of terms of trade - Factors affecting terms of trade.

Module 2:
Comparative advantage in Heckscher Ohlin Model - definitions of factor abundance - relationship between factor prices and commodity prices - Factor price equilisatation theorem - Factor intensity reversal - the empirical evidence on Heckscher Ohlin theory - the Leontief Paradox.

Module 3:
Recent explanations of the basis of trade in terms of technological lead, domestic market size and product cycle approach – Linder’s hypothesis – Intra-industry trade.

Module 4:

Module 5:
Effects of quotas and other quantitative restrictions – tariffs versus quotas.

Module 6:

Module 7:

Module 8:
Formation of regional trade blocs – European Economic Community, NAFTA, PAFTA, ASEAN, SAARC – Regional trade blocs and barriers to free flows of trade.

Module 9:

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BASIC READING LIST


ADDITIONAL READING LIST

Module 1:

Module 2:


Module 3:
• Krugman, Paul R. (1994), Rethinking international trade, MIT Press.
• Linder, Staffan Burenstam (1961), An Essay on Trade and Transformation, Wiley and Sons, New York

Module 4:
• Bhagwati, Jagdish (1969), Trade tariffs & growth, The MIT Press, November 15
• Pearce & Batra, Theory of nominal tariffs & subsidies.

Module 5:
• Helpman & Krugman (1989), Trade policy and market structure, The MIT Press, March 30
Module 6:

Module 7:

Module 8:
- Bhandari, S. (1998), WTO & Developing Countries, 1st edition, Deep & Deep Publications, June 1, Ch.2,
- South centre (1998), The WTO multilateral trade agenda & the South, Geneva : South Centre.
- Whalley, John (1985), Trade Liberalization Among Major Trading Areas, Cambridge University Press, Massachusetts

Module 9:
- Bhandari, S. (1998), WTO & Developing Countries, 1st edition, Deep & Deep Publications, June 1, Ch.2,
- Hoekman & Kastecki (1996), The political economy of the World trading system from GATT to WTO, Oxford University Press.

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A-11: INTERNATIONAL ECONOMICS – MONEY AND FINANCE

PREAMBLE
International Economics – Money and Finance covers the monetary (as opposed to pure aspects of trade covered in Paper I) aspects of international economic relations. Detailed treatment of balance of payment data and foreign exchange markets and their functioning is given. Modern developments in forex markets including forex derivatives markets are also covered. The three dominant theories of balance of payment adjustments under fixed and floating exchange rates viz. the Keynesian, the Monetary and Monetarist Approach and their policy implications are discussed. Finally the changing roles of IMF and World Bank in the evolving global order are covered.

Module 1: Nature and concept of Balance of Payment (BOP)
Equilibrium and disequilibrium in BOP – role of international reserves – preliminary concepts about payments adjustments – domestic monetary and fiscal policies and BOP.

Module 2: The market for foreign exchange
The demand for and supply of foreign exchange – fixed and flexible exchange rates – spot and forward markets for foreign exchange – speculation and arbitrage – role of expectations.

Module 3: Foreign trade and national income
Foreign trade multiplier, national income and BOP – multiplier in the presence of foreign repercussions – international transmission of business cycles.

Module 4: International economic policy and BOP adjustment mechanism

Module 5: Recent theories of exchange rate determination
Monetary model of BOP under fixed and floating exchange rate – Portfolio balance model – controversy regarding order in opening up of current and capital accounts – Effectiveness of domestic monetary and fiscal policies.

Module 6:

Module 7:

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BASIC READING LIST

Module 1:

Module 1 & 2:

Module 2:
- Stern, R.M., Forward Exchanges, Speculation and Arbitrage, Quantitative International Economies, Boston Ally and Bacon.

Module 2 & 4:

Module 2 & 5:
- Pilbearn, Keith (2006), International Finance, Palgrave Macmillan

Module 3:

Module 3 & 4:

Module 4:

Module 5:

Module 6:

**Module 7:**
• Batiz & Batiz, Balance of Payment Adjustments & International Capital Movements
• Qanik, Peter J., Ower (1995)
  1. Issues in Capital Account Convertibility
• Mukherjee Smriti, Capital Account Liberalization & Flexible Exchange Rate

**ADDITIONAL READING LIST:**
• Caves & Johnson, (1968), Readings in International Trade, Homewood, IL-Irwin
• Salvatore, D., International Economics 8th edition John Wiley and Sons, Inc
• Clement, M. O (1967), Theoretical Issues in International Economics, Houghton Mifflin Boston
• Zhang Peter G. (1998), IMF & Asian Financial Crisis, World Scientific, Singapore

********
A-13: MATHEMATICS FOR ECONOMIC ANALYSIS

Objective: The course aims at providing students an understanding of mathematical concepts along with economic applications, and introduce them to mathematical thinking and vocabulary. The concepts and techniques discussed in this course will find applications in the various branches of Economics.

Module 1: Linear Algebra
1. Review of Matrices
2. Eigenvalues and Eigenvectors, Principal Minors and Sign Definiteness
3. Introduction to Vector Spaces
4. Applications of Linear Algebra in Economics and Econometrics

Module 2: Real Analysis
1. Open and Closed Sets, Compact Sets, Convex Sets
2. Rolle’s Theorem and Mean Value Theorem
3. Taylor Series
4. Convex and Concave Functions,
5. Brouwer and Kakutani Fixed Point Theorems

Module 3: Static Optimization and Comparative Statics
1. Introduction to Linear Programming and Game Theory
2. Unconstraint and Constraint Optimization
3. Euler’s Theorem
4. Kuhn-Tucker Conditions and Non-Linear Programming
5. Maximum Value Functions and Envelope Theorem
6. Comparative Statics
7. Applications in Microeconomics
8. An Overview of Matrix Differentiation and Applications to Econometrics

Module 4: Dynamic Optimization
1. First and Second Order Differential Equations and Difference Equations
2. Simultaneous Differential and Difference Equations
3. Optimal Control Theory
4. Applications in Macroeconomics and Growth Theory
5. Dynamic Programming
6. Applications in Macroeconomics

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Readings
5. Intriligator, Michael D., Mathematical Optimization and Economic Theory, Prentice Hall, 1971

Additional Readings
1. Anton H. and Chris Rorres, Elementary Linear Algebra, Wiley India, 2005

**********
A-14: POPULATION STUDIES

Objective:
This course seeks to impart a clear understanding of the interplay between demographic processes and economic development. It introduces major developments in demographic concepts and techniques by highlighting both quantitative and the qualitative aspects and characteristics of human population as well as population processes. The course is designed to enable students to gain a sound command over the basic tenets of demography as well as key demographic issues and illustrations in Indian context. This is also to understand health care market – role of government, market failures.

Module 1: Introduction and Sources of Data
Evolution of demography as a scientific discipline
Nature and scope of demography and changes in it over the time
Multi-disciplinary nature of demography and its links with other social science disciplines
Basic demographic concepts
Components of population change
Sources of Data – Population Census, Sample Registration System, Vital registration System, National Sample Survey, Large sample demographic and health surveys
Quality of demographic data
Demographic transition

Module 2: Population Size, Growth and Characteristics
Overview of the size and growth of world population by regions and Size and growth of India’s population
Composition by age and sex
Age pyramids
Determinants of age and sex structure and its economic and social implications
Population momentum
Demographic window of opportunity
Population ageing
Social and economic implications of population ageing
Population sex ratios and its variation; Child sex ratio, Sex ratio at birth, Sex ratio of elderly
Changing patterns of sex ratio in India, North-south divide, ‘Missing women’

Module 3: Fertility and Nuptiality
Concepts and measurements of cohort and period fertility
Fertility levels and differentials in developed and developing countries
Fertility levels and differentials in India
Intermediate variables affecting fertility
Intergenerational flow of wealth
Nuptiality – Concept and analysis of marital status, Singulate mean age at marriage; Trends in age at marriage and its significance

Module 4: Mortality
Concepts and measurement of mortality
Standardization of death rates; Life tables
Levels, trends and determinants of mortality in modern times
Causes of death and epidemiological transition
Differentials in mortality
Infant and child mortality in India - levels, trends, and determinant
Maternal mortality
Life tables
Model life tables

Module 5: Migration
Concepts and measurement of migration
Theories of migration related to internal migration
Causes and consequences of internal migration
Differentials in migration
Trends and patterns of internal migration in India
Urbanization – growth and distribution of rural-urban population in developed and developing countries
Urbanization in India - its determinants and consequences

Module 6: Population Projection
Importance of population projection
Component method of population projection
Ratio method of population projection
Projection of population at the sub-national level

Module 7: Population and Development
How is population related to economic development – stimulus, unrelated, detrimental?
Optimists, pessimists and revisionists; Optimum population
Theory of Demographic transition – Notestein, Libenstein, Becker, Easterlin, Caldwell; Cleland and Wilson models
Population and environment
Population and Health

Module 8: Population Policy in India
Evolution of population policy in India – the shift in policy from population control to family welfare, to women empowerment
Coercion versus cooperation as elements in population policy
From population control to reproductive health; Safe motherhood
National Population Policy 2000

Reading List: Population Studies

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
• Pressat, R. (1972), Demographic Analysis, Chicago: Aldine-Atherton
• Jacob S. Siegel and David a. Swanson (2004): The Methods and Materials of Demography, Second Edition, Chapters 1, 2, 3, 7, 9,10, Elsevier Science, USA.
• United Nations, World Population Ageing, 1950-2050

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
• United Nations, (1999), Below Replacement Fertility, Population Bulletin of the UN, Special Issue Nos. 40/41, Department of Economic and Social Affairs, UN, New York.
A-15: ACCOUNTANCY AND FINANCIAL STATEMENT ANALYSIS

Objectives: The course aims at providing basic understanding of various essential concepts of accountancy and preparation of accounting statements, introduction to accounting standards and IFRS framework of accounting.

Contents

Module 1: Basic Principles

Module 2: The Accounting Process

Module 3: Preparation of Final Accounts/Statement
Sole traders with Basic Adjustments – Preparation of Final Accounts / Statement of Companies (Both Horizontal & Vertical Form of Financial Statements) – Brief Introduction to Partnership Account- Accounting for small, medium and large companies

Module 4: Statement of Changes in Funds

Module 5: Depreciation & Inventory Valuation

Module 6: Analysis of Companies’ Annual Reports


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Reading List:

- *Case studies of IFRS implementation in Brazil, Germany, India, Jamaica, Kenya, Pakistan, South Africa and Turkey*, United Nations Intergovernmental Working Group on International Standards of Accounting and Reporting (ISAR). (Various years)
**PREAMBLE**
The course on Financial Economics is designed with 3 objectives in mind. Firstly, to familiarize students with the financial system and its components viz. financial instruments, financial institutions, financial markets and financial regulations. Secondly, to familiarize them with contemporary theories about the workings of different financial markets including money market, capital markets (bonds, stocks and hybrids) and derivative markets. Thirdly, familiarize them with the policy and regulatory framework within which financial institutions are required to function.

**Module 1: The demand for securities**

**Module 2: The supply of securities**
Regulations governing supply of securities – General characteristics of securities – Government bonds – Index linked bonds – Corporate Securities – equities, bonds, convertible securities – Stock market operations – Money market funds – Claims on financial institutions.

**Module 3: Securities markets and their efficiency**
Stock exchanges – The over the counter stock market – Operational efficiency and the Efficient Market Hypothesis(EMH) – The weak, semi-strong and the strong form of EMH.

**Module 4: The determination of equity prices**

**Module 5: Security analysis and market efficiency**

**Module 6: Derivatives**
Uses of Derivatives – Futures contracts and futures markets – Forward contracts – The origins of Futures trading – Basic elements and organization of futures contracts.

**Module 7: Futures prices**
Relation among spot and futures prices – financial futures – commodity futures – Closing out with futures – Hedgers, speculators, market equilibrium – The role of expectations – Futures and portfolio management.

**Module 8: Options and option pricing**
Institutional aspects – Exchange traded stock options – The payoffs from buying and selling options – Boundary conditions on option prices – The put-call parity theorem – The Black-Scholes formula – Other option models.
Module 9: Swaps, Currency and Interest Rate Swaps
Vanilla Interest Rate Swaps – Swaptions – Other types of swaps – Currency, Equity and Commodity Swaps.

Module 10: Regulation of financial markets

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BASIC READING LIST
• Chandra, Prasanna (2008), Investment Analysis and Portfolio Management, Tata McGraw Hills

ADDITIONAL READING LIST
Module 1, 2 & 3

Module 2:

Module 3 & 4:
• Fabozzi (2009), Bond Markets, 7th revised edition, Pearson Publications, USA, February 27

Module 3:

Module 4:

Module 5:

Module 6, 7, 8, 9:

Module 7:

Module 8:
• Simon Benninga (1997), Financial Modeling, MIT Press

Module 10:

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ADDITIONAL READING LIST:
• Cox. Ingersoll, and Ross, “A Re-examination of Traditional Hypothesis,” pp. 774-775.

ADDITIONAL REFERENCES:
• All India Management Association, Global Trends in Finance: Opportunities for India, Excel Books, New Delhi, 1998.

• Damodaran, Aswath (1997), Corporate Finance, Theory and Practice, John Wiley and Sons, (Chap. 27, Option Pricing Theory).


• Pike, Richard and Neele, Bill (1998), Corporate Finance and Investment Decisions and Strategies, Prentice Hall of India

• Somanathan T.V. (1998), Derivatives


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**A-17: STATISTICS AND OPERATIONS RESEARCH**

**Objective**
The objective of this course is to familiarize students with statistical theory and its application as the foundations for data analysis, as well as to acquaint them with basic and intermediate techniques from the field of operations research. Students at the end of the course should be familiar with the analysis and interpretation of data, along with hands on training in both of these fields.

**Module 1:** Testing of hypothesis: Simple versus composite hypothesis, critical region, type I and type II errors, power of a test, The Decision Rule, trinity of classical tests (Wald test, Lagrange multiplier, likelihood ratio), application of hypothesis testing with known and unknown variances, test for correlation,


**Module 4:** Bivariate Distributions; Contingency tables, joint and conditional distributions, odds ratio, test of independence, Analysis of Variance (ANOVA), analysis of covariance.


**Module 6:** Introduction to OR; Basic algorithms; Linear programming (LP), Graphical and Simplex; LP Formulation and LP with solver and sensitivity analysis; Transportation and transshipment models; Simulation; Decision Analysis

**Module 7:** Advanced algorithms in OR; Goal Programming; Queuing Theory; Networking Models; Markov chains; Data Envelopment Analysis (DEA); Analytical Hierarchical processing (AHP)

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**Reading List**
- Quantitative Analysis for Managerial Decision Making By Render and Stair
- Operations Research by Hiller and Liberman
- Operations Research by Hamdy and Taha

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A-22: BUSINESS ANALYTICS

Description:

This Learning path enables participants to gain three critical skills: data analysis and problem solving framework, the ability to perform descriptive analytics and visualization, and the expertise to build and implement the most widely used data science and machine learning algorithms in use today, with R

Module 1: The need for Analytics and Understanding Analytics
1. Decision Making – Heuristics and Biases
2. The need for analytics
3. Impact of analytics on business
4. Being analytically competitive
5. The difference between analytics and BI
6. Introduction to the business Analytics model
7. Types of analytics
8. Models and algorithms in Analytics
9. The Analytics Methodology

Module 2: Tool and Tech Landscape
1. A review of technology used in data storage, data processing, and data science
2. Popular tools used in Data Science and when to use each

Module 3: Descriptive Analytics with excel and Tableau
1. An introduction to Tableau
2. Using descriptive statistics in analysis and reporting
3. Advanced reporting with Tableau

Module 4: R programming
1. An introduction to R
2. Importing and exporting data in R
3. Data Manipulation with R
4. Advanced Data Manipulation with R
5. Data Visualization with R

Module 5: Data Preprocessing
1. Data Exploration and Assessment for Data Science
2. Identifying and dealing with noise in Data
3. Preparing data for Data Science Modeling

Model 6: Predictive Models in R
1. Linear Regression Models and their applications
2. Logistics Regression Models and Their applications
3. Time Series Forecasting
Model 7: ML Models in R
1. Clustering Algorithms and application
2. Decision Tree Algorithms and applications
3. Random Forest Algorithms and applications

Model 8: Storytelling with Data
1. Communicating data science results
2. Effective presentation skills
3. Using Data visualizations for storytelling

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B-01: INDIAN AGRICULTURAL ECONOMICS

**PREAMBLE:** The objective of this course is to provide a detailed treatment of issues in agricultural economics to those intending to specialize in this area. Its objective is to familiarize students with policy issues that are relevant to Indian agricultural economics and enable them to analyze the issues, using basic micro-economic concepts.

**Module 1:**
Growth of agricultural production and income in India during pre and post-independence period. Comparison of India with other countries. Types of Production Functions – Estimation procedures and interpreting the results of production functions. Total Factor Productivity – concept and measurement.

**Module 2: Irrigation and its development over the years**
Irrigation and expansion of cultivation. Changing importance of sources of irrigation. Water saving technologies. The economics of surface and other irrigation development and use of water.

**Module 3:**
New technology (seeds, fertilizers and pesticides) including GM crops in agriculture. The economic logic of change in it. The performance, problems and prospects of technological change in Indian agriculture, including the experience of other countries.

**Module 4:**
Patterns of cropping in different regions. Economic logic of cropping pattern. Shift in cropping pattern and its implications on food security.

**Module 6:**
Farm capital structure in agriculture and its changes. Issues on capital formation in Indian agriculture. Issues on the mechanization of agriculture. Rural infrastructure and agricultural development nexus.

**Module 7:**
Employment and unemployment in agriculture and its measurement. Agricultural wages in India.

**Module 8: Institutional settings of Indian agriculture**
Organization of agricultural economy, land ownership pattern, brief accounts of land tenures and changes in it.
The economic logic of tenancy in agriculture, types of tenancy and tenancy reform. Ceiling on land holdings. The size-productivity relation in Indian agriculture. Special problems of small and marginal farmers and measures to tackle the same. Experience of other countries on tenancy reforms.

**Module 9: Credit in Indian agriculture**
Purposes of loans, sources of finance and changes in these over the plan period. Factors determining demand for credit. Recent policy changes in regard to farm credit and their implications.

**Module 10: Marketing**

*Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018*
Characteristics of primary agricultural markets in India. Regulated markets and market intervention. The integration of different markets in India and the structure of marketing agencies.

**Module 11:**

**Module 12:**
Income distribution in Indian agriculture. Subsidies. Poverty in rural India. Taxation of agriculture.

**Module 13:**
Overview of approach to agricultural development, with reference to international experience. Agricultural exports and imports. WTO and Indian Agriculture.

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**READING LIST**

**Module 1:**
- Deshpande, R.S., Performance of Indian Agriculture through Plan Periods

**Module 5:**

Module 6:

Module 9:

Module 10:
Module 12:

- Bhalla, G.S. (1994), Economic Liberalisation and Indian Agriculture, EPW, Aug. 20
- Deodhar, Satish (2001), WTO Agreements on Indian Agriculture: Retrospection and Prospects, in Dutta and Deodhar (eds.), Implications of WTO Agreements for Indian Agriculture, Oxford and IBH Publishing Company, New Delhi

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**B-02: TRANSPORT ECONOMICS**

**Module 1: Development Objectives and the Role of Transportation**

**Module 2: Theoretical Analysis of the Location of Economic Activities**
Concept of economic space – Location theory: structure of transport costs, concept of market areas, concentration and dispersion of industry – The urban and regional spatial structure – Principles of Transport planning: distinctive features of transport planning – deriving an optimal plan – The systems approach to transport planning: macro planning.

**Module 3: Application of Economic Theory to Transportation**

**Module 4: Theory and Application of Decision Making Principles and Evaluation of Large-scale Transport Projects**

**Module 5: Transport and Energy**
Efficient energy modes – Transport and the environment: External effects and the social costs of transportation: efficiency and equity, Transport and environmental sustainability.

**Module 6: Role of Public Policy**

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BASIC READING LIST

- Stubbs, Tyson & Dalvi, Transport Economics
- Verma, K.B., Indian Railway Finance
- Mohan, Rakesh (1996), The India’s Infrastructure Report
- Pickering, D., Park J. M and Bannister, D. H, Utility Mapping & Record Keeping for Infrastructure
- Davey, Kenneth J., Elements of Urban Management
- Stuart, Chapel, Urban Growth Dynamic in a Regional Cluster of Cities
- Kozlowski, J., Threshold Analysis: Quantitative Planning Methods
- Rebelo, George, M, Reforming the Urban Transport Sector in The Rio De Janeiro Metropolitan Region
- World Bank, Sustainable Transport
- Pouliquen, Louisy, Rural Infrastructure from a World Bank Perspective
- World Commission on Environment and Development, Our Common Future
- Kneafsey, James T., The Economics of the Transportation Firm
- Sengupta, Ramprasad, Sustainable Transport Pricing in India
- Bruton, Michael J., Introduction to Transportation Planning
- Button, K.J. & Gillingwater D. Ed., Transport, Location & Spatial Policy
- Hensher, David A., Urban Transport Economics
- Wilfred, Owen, Distance & Development
- Foster, C.D., The Transport Problem
- Saxena, R.N, Indian Railways: Financial & Commercial Profile

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B-03: INDUSTRY: ORGANIZATION, STRUCTURE, AND PROBLEMS

PREAMBLE
This course will first critically examine the industrial scenario in India and discuss debates involved in the industrial development of India. Next, it will study what determines market structure and how firms may be able to act strategically, in choosing their prices, products or advertising, to affect market structure and market outcomes. The course will be a mixture of theory and empirics. The course will jump from one to the other so that the empirical sections will complement the theory sections and vice versa.

Module 1

Module 2
Constraints on growth – shortages of raw material, lack of demand, shortage of capital, inadequate infrastructure.

Module 3
Regional disparities – measure for dispersal – inadequate contribution of large/capital intensive enterprises to regional spread – promotional and public financial institutional support – consequences of liberal credit and finance – emphasis on capital-intensive enterprises.

Module 4
Growth of small scale and household sector – role in Indian economy – problems like demand constraints – linkage with large and medium.

Module 5
Strategic interaction – full Information and incomplete information

Module 6: Market structure & models of market entry
What are the welfare effects of more firms? What determines the degree of product differentiation? Is it optimal? How does the number of firms change as market size increases? Why do we see firms of different sizes? Some facts on entry and exit. Static (2-period) Entry games with firms, which are non-explicitly differentiated. Dynamic entry games. Entry models with explicit product differentiation.

Module 7
Empirical analysis of price discrimination and non-linear pricing.

Module 8: Mergers and Antitrust
Horizontal mergers – Horizontal mergers with homogeneous goods, differentiated goods mergers. Vertical restraints. Incomplete contracts and the boundaries of the firm.

Module 9: Research and development and adoption of new technologies
Patents and R&D incentives, network effects and technology adoption.

Module 10: Advertising
Views on advertising: persuasive view, informative view, and complementary view. Empirical regularities: direct effects of advertising and the indirect effects of advertising. Monopoly
Empirical analyses: advertising and firm conduct.

Module 11: Regulations

Module 12: Law and Economics of Corporate Law

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BASIC READING LIST:

Books:
- Oz Shy: Industrial Organization, MIT Press.
- Donald A. Hay and Derek J. Morris: Industrial economics and organization; theory and evidence, Oxford University Press.

Papers:
• S. Borenstein and J. Netz, “Why Do All the Flights Leave at 8 a.m.? Competition and Departure-Time Differentiation in Airline Markets,” International Journal of Industrial Organization, 1999, 611-640
• Klemperer P., "How broad should the scope of patent protection be?" *Rand Journal of Economics*, 1990, 21(1), 113-130.
• K. Bagwell, “*The Economic Analysis of Advertising*”, 2006 (forthcoming)
• Competition Act, 2002, India

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B-05: ECONOMICS OF LABOUR

**PREAMBLE**
This course provides an introduction to labour economics and surveys existing research on a number of topics of current (if not perennial) interest in labor economics. The course is both empirical and theoretical: for each of the topics in the program, we will study some theoretical and some empirical papers, making links between the two. It will emphasise on labour market institutions and government policies that regulate the labour market.

Students will develop an appreciation of the application of economic analysis to understanding the functioning of labor markets. They will deepen their understanding of the theoretical concepts they gained in principles of economics through an in-depth study of the behavior of households and businesses in the labor market. Students will become familiar with publicly available sources of labor market data and their use in understanding labor market conditions. Knowledge of the distinctive institutional structure of labor markets in India will be obtained. Students will be able to identify and understand the major theoretical and policy issues in labor economics.

**Module 1: Supply**

**Module 2: Demand**
Static Cost, Profit and Labour Demand Functions – Elasticity of Derived demand: the Hicks-Marshall Rules – Adjustment Costs and Dynamic Labour Demand

**Module 3: Equilibrium**
Compensating Differences – Adam Smith – Evidence on Premium for Risky or Nasty Jobs – Efficiency Wages – Segmented Labour markets – Migration

**Module 4: Wage Structure**

**Module 5: The Distribution of Income**
Earnings by Size – The Roy Model – Functional Distribution – Intergenerational Income Mobility

**Module 6: Cyclical Fluctuations**
Equilibrium Models of Employment Fluctuations – Real Wages over the Business Cycle

**Module 7: Discrimination**
Economic Effects of Prejudice: Theoretical Analysis – Wage Differentials by Race and Sex

**Module 8: Unemployment**
Definition and Measurement – Variations over time and Space – Job Search – Effects of Unemployment Insurance

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
**Module 9: Macroeconomics of Labour Market**

**Module 10: Unions**

**Module 11: Labour Contracts**

**Module 12: Regulations and International Labour Standards**
Regulation of Labour – Experience of India vis-à-vis Other Countries – Entry and Product Market Regulation – International Labour Standards – Comparative Analysis – International Trade and Labour Markets

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BASIC READING LIST

Part A:

1. Indian Labour Market: Concepts, Definitions and Statistics

2. Classical View on Employment - Say's Law and Free Market Theory

3. Keynesian View on the Labour Market

Extra Readings:

Extra Readings:

5. Dual Labour Markets and Segmented Labour Market Theory

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
Extra Readings


6. Marxian Labour Theory of Value


7. Flexibility and Institutions in the Labour Market


8. Wage Determination


9. Unemployment


Part B:

10. Economics of Trade Unions

**Compulsory Readings:**


**Supportive Readings:**


**Extra Readings:**


11. Labour Contracts

**Compulsory Readings:**


**Supportive Readings:**


**Extra Readings:**


12. Regulation and Standards

Compulsory Readings:


Supportive Readings:


Extra Readings:


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Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
B-06: FINANCIAL INSTITUTIONS AND MARKETS

PREAMBLE
The positive and significant role of financial institutions & markets in the process of growth and development has been very well recognized in the literature and indeed has become more important during the last two decades as the financial systems of different countries have become integrated in the process of globalization. India is no exception and has taken far reaching measures since 1991 in this direction. It is, therefore, essential that the students of economics should be well conversant with the theory and practice of different financial institutions and markets to understand and analyse the interconnection between the monetary forces and real forces, their developmental role and limitations in shaping and influencing the monetary and related policies both at the national and international levels.

Module 1: Financial System and Market Risk Management

Module 2: Rate of interest – International transactions – Exchange rates

Module 3: The Central Bank, Commercial Banks and Co-operative Banks
Functions of Central Banks- The aims and objectives of the monetary policy in developed and developing countries - Instrument of monetary policy - Effectiveness of monetary policy - Credit creation and its control; Commercial Banks- Profitability and efficiency of banks- role in the economy; Co-operative Banks- Role in the economy.

Module 4: Specialized Financial Institutions
Industrial Finance Corporation of India (IFCI), Industrial Development Bank of India (IDBI), Industrial Credit and Investment Corporation of India (ICICI), Industrial Investment Bank of India (IIBI), Small Industries Development Bank of India (SIDBI), SCICI Ltd., National Bank for Agriculture and Rural Development (NABARD), Export Import Bank of India, National Housing Bank.

Module 5: Other Financial Institutions
Insurance Companies- types of insurance companies, Securities Firms and Investment Banks, Finance Companies, Mutual Funds, Pensions Funds.

Module 6: International Financial Institutions
International Financial Institutions - IMF, World Bank, IFC, ADB, IDA, BIS (Bank of International Settlements) and their role; international financial standards and codes and issues of financial contagion.

Module 7: Financial Markets and Market Regulations

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
Capital Market Regulations, Money Market Regulations, and Stock Market Regulations; Role of SEBI - Its impact on the working of capital market in India; IRDA and its role in financial markets; Management of liquidity and risk; bank safety and prudential regulations; the role of central banks; government guarantees, deposit insurance, security market regulation; pension fund regulation, insurance regulation and accounting practices.

Module 8: International Markets

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BASIC READING LIST

- Bhattacharya, H. Banking Strategy, Credit Appraisal and Lending Decisions, April 8, 1999, Oxford University Press, USA.
- Joshi, P. R., Global Capital Markets: Shopping for Finance, (2nd edt.), Tata McGraw-Hill.
- Escott, Reid, Strengthening the World Bank, Adlai Stevenson Institute Chicago, IL (1111)
• Chandavarkar, Anand (1996), Central Banking in Developing Countries, Palgrave Macmillan, December
• Khoury & Ghosh (1989), Recent Development in International Banking & Finance, 3 edition (September), Irwin Professional Publishing.
• Kothari, C. R., Indian Banking, Vol. I & II
• Ghosh, D. N. (1979), Banking Policy in India: An Evaluation, Allied.
• Vasudevan, A. (2003), Central Banking for Emerging Market Economies, (October 1), Academic Foundation.
• RBI, Report on Trend & Progress of Banking in India 2005-06
• India Ministry of Finance, India – Economic Survey

ADDITIONAL READING LIST

Module 1

Module 2

Module 3

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
- RBI (1983), Functions and Working of RBI.

Module 5

Module 7

Module 8

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B-07: LAW AND ECONOMICS - I

PREAMBLE:
The hallmark of the new interdisciplinary field of law and economics is the application of the theories and empirical methods of economics to the legal system across the board, for example, the common law fields such as torts, contracts, property, etc. In fact, Ronald Coase's paper on "The Problem of Social Cost" (1960), Guido Calabresi's article on "Some Thoughts on Risk Distribution and the New Law" (1961), and the work of Alchian on "Some Economics of Property Rights" (1961) had applied the methods of economics to some of the areas of law. One endeavor, which is gaining momentum and respectability, is the application of economic analysis to legal problems. The works of Richard Posner’s book on Economic Analysis of Law (1972) widely contributed to the introduction of the Law and Economics course. In addition, the economic analysis of law has extended to non-market behaviour, particularly influenced by the theoretical framework of Gary Becker on the economic analysis of crime, racial discrimination, and marriage and divorce.

Economics provides a scientific theory to predict the effects of legal sanctions on behavior. In addition to a scientific theory of behaviour, economics provides a useful normative standard for evaluating law and policy. Laws are not just arcane technical arguments. They are instruments for achieving important social goals. In order to know the effects of laws on those goals, judges and other law-makers must have a method of evaluating effects of laws on important social values. Economics predicts the effects of policies on efficiency and distribution. Economic analysis often takes for granted such legal institutions as property and contract, which dramatically affect the economy. For instance, the absence of secure property and reliable contracts paralyses the economies of some nations in third world. Economist, besides substance, can learn techniques from lawyers. For example, economists frequently support the merits of voluntary exchange, but they do not have a detailed account of what it means for exchange to be voluntary. In case of contract law, it has a complex and well-articulated theory of violation. So the economists, to find their models closer to reality, will have to listen to what the law has to teach them.

The benefits of interdisciplinary study can be had only when lawyers learn economics and economists learn something about law. Module 1 is an introduction to the concepts of economics as well as law. Modules 2 to 6 will focus on economic analysis of property law, contract law, tort law, and criminal law. Finally, Module 7 will put emphasis on competition law. Overall the course deals with the explanation of established links between the subjects of Economics and Law, and development of efficient rules and regulations.

Module 1: Introduction to Law and Economics

Economic Analysis of Law: An Introduction
Why do economists need to be concerned about law? - Relationship between law and economics
Economic Concepts and their relevance to Law
Module 2: Economic Analysis of Contract Law
Introduction - Economic Theory of Contract - Perfect Contracts, Imperfect Contracts
Economics of Remedies for Breach of Contract - Expected Damages, Opportunity Cost, Reliance Damages, Restitution, Specific Performance
Differences between Contracts and Torts - The Foreseeability Rule in Contract Law, Pure Economic loss in Torts

Module 3: Economic Analysis of Tort Law

Module 4: Economic Analysis of Property Law
Introduction, An Economic Theory of Property, Economics of Property Law - Market strategies, Non-market strategies, Allocation of Property Rights - First come first served, Good faith purchase, Title to Land, Establishment of entitlements - Property Rule, Liability Rule, Inalienability Rule

Module 5: The Coase Theorem
Externalities, Transaction Costs, Efficiency Hypothesis & Invariance Hypothesis.

Module 6: Economic Analysis of Criminal Law

Module 7: Economic Analysis of Competition Law

Module 8: Competition Policy in India
Monopolies and Restrictive Trade Practices Act, and Competition Policy Report, Divestment of Public Sector Units and Deregulation, Regulated Competitions and Regulatory Authorities (Power, Telecom, Insurance, Banking)
BASIC READING LIST
- Friedman David D. – Law’s Order (2000)

Further Readings
- Bouckaert, B. & De Geest, G., Encyclopedia of Law and Economics

Articles:

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018


**Additional Reading List.**


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**B-08: LAW AND ECONOMICS - II**

**PREAMBLE**
The primary aim of this enlargement is to develop greater applied research of legal system from economic viewpoint and also build up the Indian experience based slant to the discipline of “Law and Economics”. This course will provide not only deeper and more complex view of the subject, but also afford to take up meaningful researches in specific type of law that has immense economic bearing and implications. In particular, this course will be dealing with Indian Environmental Laws, land related legislations (including land acquisition, town-planning, SEZ) and corporate laws. This will enable more all-round perspective of the subject with rich empirical analysis. It also deals with vital areas of concern, namely economics of litigation, economic costs of “administering or not administering justice”, question of back-log of cases, alternative procedures of administering justice. Similarly, the economic analysis of law making process, machinery and its efficiency will be a distinguishing feature of this course.

**Module 1: Economic Theory of Legislation:** Legislative process, Delegated legislation, Precedents, Rules v/s Standard, Interpretation of Statute

**Module 2: Economic Analysis of Litigation:** Rules of procedure, Rules of Evidence, The adversarial and inquisitorial trial mode, Alternative dispute resolution (ADR), Lok Adalat, Arbitration, Conciliation and mediation, Settlement, Appeals and error correction, Cost of litigation, Case load and Court Delay Crisis

**Module 3: Economic approach to Contract law in India:** Contract Act, Specific Relief Act, Court approach to formation, validity, performance, interpretation, breach of contract and remedies for breach

**Module 4: Economic Approach to Environmental Protection Laws:** Environmental protection laws and Court decisions, Principles and doctrines evolved by Supreme Court for protection of Environment, Air pollution, Water pollution, Sound pollution, Automobile and industrial pollution, Climate change, Carbon credits – emerging market

**Module 5: Economic Approach to Issues in Land Acquisition Laws:** Acquisition of land for public purpose, Acquisition for companies, Purpose and suitability, Market value and compensation

**Module 6: Town Planning Laws:** Allocation of land – for residential, industrial, commercial, agricultural purposes, Reservation of land for public purpose

**Module 7: Special Economic Zones:** Concept, Law, Policy and Problems

**Module 8: Intellectual Property Rights:** Patents, Copyrights, Trademark, Trade secrets, Plant varieties & Farmers’ Rights, Salient features of Indian Laws

**Module 9: Economic Analysis of Corporate Law Issues:** Formation of a company, share capital and fund raising, Separation of ownership and control, Majority power and minority protection, Corporate governance, Regulation of security markets and protection of investors and SEBI, Management of foreign investment and foreign exchange under FEMA

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BASIC READING LIST
- Friedman David D. – Law’s Order (2000)
- S Shanthakumar’s – Introduction to Environmental Law.

Module wise Reading List.
**Module 1: Economic Theory of Legislation**
- Shavel: chapter 25.

**Module 2: Economic Analysis of Litigation**
- Posner: chapters 21, 22, 23.
- Cooter: chapter 10.
- Shavel: chapters 17, 18, 19.
- Harison: chapters 22, 23.
- Salient Features of Civil Procedure Code, 1908 and Indian Evidence Act, 1872.

**Module 3: Economic approach to Contract law in India**
- Salient features of Contract Act & their analysis applying Law & Economic methodology.
- Specific Performance and Injunctions, Research of decided cases from Law Reporters & analysis of landmark cases decided by Supreme Court & High Courts with economic approach.

**Module 4: Economic Approach to Environmental Protection Laws**

**Module 8: Intellectual Property Rights**
- Copyrights: chapters 2 to 6
- Trademark: chapters 7 & 8

**Module 9: Economic Analysis of Corporate Law Issues**

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
- Posner: chapters 14 & 15, Economic Analysis of Law selected reading Part V.

Additional Reading List.
- Mulla – Indian Contract and Specific Relief Acts.
- Copyright Act, 1957.
- Indian Companies Act- Salient Features.
- SEBI.
- FEMA.
- Land Acquisition Act.
- Maharashtra Town Planning Act.
- Special Economic Zones.
- Air (Prevention and Control of Pollution) Act, 1981.

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B-09: ECONOMIC SOCIOLOGY

PREAMBLE:
This course provides a broad overview of the complex relationship between economy and society. It intends to enrich the understanding of the students studying economics about how economic activities and institutions are embedded in, and affected by social structure, and enable them to apply sociological perspectives to economic phenomenon.

Module 1: Emergence of economic sociology and its boundaries; sociological approaches to the study of economy.

Module 2: Classical sociological views of the economy: Marx: critique of political economy; Durkheim: division of labour; Weber: sociology of capitalism, religious ethics and economic rationality; Polanyi: economy as instituted process.

Module 3: Social contexts of economic action: Economic action, varieties of embeddedness, social networks in economic behaviour, social structure and competition

Module 4: Sociology of labour markets: Sociological approaches to labour market; social determinants of inequalities in wage and earning

Module 5: Sociology of consumption: Sociological theories of consumption (Marry Douglas and Baron Isherwood: the use of goods, Jean Baudrillard: the system of objects, Pierre Bourdieau: forms of capital, Veblen: conspicuous consumption); socio-cultural aspects of consumer spending

Module 6: Socio-cultural aspects of economic development: Impact of religion, caste, gender, ethnicity, family on economy, social background of business groups and entrepreneurship, debate on influence of social capital and public action on economic progress; social movements and economic development

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BASIC READING LIST

Module 1:


Module 2:


Module 3:


**Module 4:**

**Module 5:**

**Module 6:**
- Dreze Jean and Amartya Sen 2002, India Development and Participation, Delhi: Oxford University Press. (Chapter 3)


**ADDITIONAL READING LIST:**

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B-10: ENVIRONMENT AND NATURAL RESOURCE ECONOMICS

Course Objectives:
The course is designed to introduce graduate students to the theory and problems of environmental and natural resource economics and the analytical procedures used to assess natural resource issues. Specifically:
1. to review the economic principals and concepts that form the basis of environmental and natural resource economics;
2. to become familiar with the analytic tools used in analyzing environmental and natural resource management problems; this will include both non-market and market models of resource valuation;
3. to assess and evaluate the workability of various solutions and policies.

Module 1: Introduction to Natural Resource and Environmental Economics

Module 2: The Sustainability Problem
Economy-Environment interdependence, The Drivers of Environmental Impact, Limits to Growth, Sustainable Development

Module 3: Welfare Economics and the Environment
Efficiency and Optimality, Allocation in a Market Economy, Market Failure, Public Policy and the Environment

Module 4: Pollution Control: Targets and Instruments
Air pollution, Water pollution, Modeling pollution within an economic efficiency framework, efficient levels of pollution, pollution policy, criteria for choice of pollution control instruments, cost efficiency and cost effective pollution abatement instruments, economic incentive instruments

Module 5: Benefit-Cost Analysis

Module 6: Valuing the Environment
Types of values, classifying valuation methods, Stated Preference Methods, Revealed Preference Methods, Benefit Transfer and Meta-analysis

Module 7: Case Studies
The efficient and optimal use of natural resources, Simple optimal resource depletion model, extraction cost and renewable resources, non-renewable resource extraction in various markets
Module 8: Renewable Resources
The dynamics of renewable resource harvesting-fishery models, problem of fisheries and underlying causes, instruments, policies and programmes for fisheries management, forestry resources, socially and privately optimal multiple-use plantation forestry, natural forest and deforestation, Alternatives to mitigate depletion of forests

Module 9: Recyclable Resources – Minerals, Paper and E-Waste
Factors Mitigating Resource Scarcity, Market Imperfection, Corrective Policies, markets for recycled materials, Pollution damage Field Visit to Landfill sites at Samdoli and Bedag, and Sangli Miraj Kupwad Corporation

Module 10: Economy-wide Modeling
Input-output analysis, Environmental input-output analysis, Computable General Equilibrium Analysis, Environmental Accounting, Integration of Environmental Accounts into the System of National Accounts

Module 11: International Environmental Problems
International Environmental Agreements, Global Climate Change, Economic policy and action in Stratospheric Ozone Depletion, Acid Rain, Biological Diversity Conservation, Solid Waste Management, Deforestation and Desertification.

Module 12: Trade and the Environment
Traditional Trade Theory and Extension of Environment, Economic Approaches of Trade and Environment, Banning Trade on Endangered Species, GATT and WTO, Environmental Regulations and Patterns of Trade, trading environmental permits/carbon credits, ecological and carbon debt, international forums and role of developed and developing nations, Application of trade and environment-case of India and other countries in Asia

Module 13: Seminar presentation on specific resource valuation

Suggested Readings
Module 1


Property Rights


Module 2: Ecosystem Services and Sustainable Development

Module 3

Module 4

Module 5

Module 6: Non-Market Valuation – Contingency Valuation


Choice Modelling


Benefit Transfer


Module 8: Resource Modelling


Module 10: System of Environmental-Economic Accounts


**Applications**
A number of selected papers and case studies on such topics as: Safe Minimum Standard, The Precautionary Principle, and Economic-Ecological Modelling.

**Module 12**
The Welfare Economics of Public Policy by Richard E. Just, Darrell L.Hueth and Andrew Schmitz
Natural Resource and Environmental Economics by Roger Perman, Yue Ma, Michael Common, David Maddison, and James McGilvray Environment and Natural Resource Economics, Tom Tietenberg and Lynne Lewis T.B.A

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B-11: SOCIAL EXCLUSION AND INCLUSIVE POLICY

Preamble: Indian society is characterized by a highly entrenched system of social stratification. This created the hindrances and denied the access to economical, cultural and educational resources to the disadvantaged groups of the society particularly, the scheduled castes, scheduled tribes, women, minorities, physically challenged and old aged groups. To understand their problems, we need to study the components of social exclusion and to formulate policy paradigms for their inclusion in the economy. This course is designed to give basic understanding of the phenomenon of 'social exclusion'. It will make possible to create awareness about the social excluded people from an economic and social policy perspective as well as to analyze social inclusive policy for them.

UNIT I: Understanding Social Exclusion
Conceptualising Social Exclusion, Origin and Basis of Social Exclusion; Forms of Social Exclusion: Religion, Race, Caste, Gender, Ethnicity, Region, Culture, Language, Disability, Migrants and Refugees; Excluded Groups and Socio-Economic Disparities: Scheduled Castes, Tribals, Minorities, Women, Old Aged and the Physically Challenged; Contemporary Discussions on Social Exclusion

UNIT II: Theoretical Perspectives on discrimination
Economics of Discrimination; Marxist and Liberal Perspective; Capability Approach and Theories of Poverty; Economic Justice, Economic Freedom and Welfare; Social Choice and Human Rights Approach

UNIT III: Social Exclusion of Caste, Tribe and Minority
Indian society: Social Order in Caste, Tribe and Minority; Caste System as an Institution of Exclusion; Exclusion of Tribes: Nation-State Formation, Industrialization, Urbanization, Globalization etc.; Dimensions of Exclusion for Marginality: Development, Issues of Identity and Human Rights Violation

UNIT IV: Dimensions of exclusions and inclusive policy perspectives

UNIT V: Physically challenged and Old Aged Social Exclusion

UNIT VI: Institutions and Inclusive Policies
READING LIST

UNIT I

UNIT II

UNIT III

UNIT IV

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
- NABARD (2008), ‘Report of the Committee on Financial Inclusion’ (Rangarajan Committee Report), NABARD

UNIT V

UNIT VI

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Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
PREAMBLE
This course is designed to offer a broad structure of major issues, debates, dilemmas, relating to the key trends, aspects, features, and the future of India’s economy. The course, which is oriented in a political economy perspective, aims at imparting rich analytical insights and understanding about India’s economy so that students can develop a strong sense of potential, possible, and useful areas for further research on India’s development from political economy perspective.

Module 1: Evolution of the debate over the role and ramifications of the British colonial rule for India’s economy.

Module 2: India’s population/demography since Independence
Broad features, major trends, and regional dimensions.

Module 3: Planning in India up to 1991
Historical roots, evolution of plan models, limitations and lessons.

Module 4: Poverty and inequality in India
Diversity of measures and estimates; debates over the trends in the post-liberalisation period; poverty alleviation programmes and REGS and their efficacy; Self-Help Groups.

Module 5: Reforms/Liberalisation in India
Its political economy and impact, roles of market, state, and planning in India’s development and its future.

READING LIST

Module 1:

Module 2:
Module 3:

Module 4:
- India Development Reports, Oxford University Press.

Module 5:
- Bardhan (1999), Political Economy of Reforms in India, New Delhi: NCAER.
- Basu, K. (ed) (2004), India’s Emerging Economy, New Delhi: OUP.
- Dreze, J. and A. Sen (2003), Development and Participation, Delhi: OUP.
- Human Development Reports (various years).
B-13: URBAN ECONOMICS

Preamble

The objective of this course is to understand the contemporary issues confronting urban areas and exploring possible economic solutions to the problems of housing, transportation, education, employment, poverty, and crime. Along the way, this course also aims to provide an introductory look to the theories and concepts related to Urban Economics. The course is not necessarily grounded in any particular reality, however for pedagogical purpose, explanation and illustration will naturally come from the Indian Situation.

Module 1: Introduction
Urban Economics, Existence and importance of cities, 5 axioms of urban economics, Case Studies and Reports related to important Indian cities.

Module 2: The Development of Cities: Clusters & Agglomeration; City Size and Urban Growth
Development of a factory town, firm clustering, labor pooling, localization and urbanization economies, differences in city sizes

Urban employment growth and the multiplier, the effects of taxes and subsidies on location choices

Module 3: Land Rent & Markets and Land use pattern
Land rent and urban structure, Residential Land Market, Urban Land Markets with Factor Substitution
The Spatial Distribution of Employment and Population, The Monocentric City- Rise and Demise, Urban Sprawl, Neighborhood Choice, Zoning and Growth controls
Case study of Mumbai and Pune

Module 4: Urban Transportation
Congestion Externalities, Congestion Tax and Alternatives, Autos and Air Pollution, Automobiles and Poverty.
Commuting and transit Ridership- the Cost of Travel and Model Choice, Efficient Volume of Ridership, Designing a Transit System

Module 5: Urban Infrastructure
Spending and Educational Achievement- Education Production Function, Spending Inequalities and Public Policy
Crime Facts, the Rational Criminals, the Equilibrium Quantity of Crime, Legal Opportunities and Education
Water supply and sanitation, Access to basic urban amenities

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
Module 6: Housing
Importance of Housing- Durability, Detritions and Maintenance, the Filtering Model of Housing Market
Housing Policy- Public Housing, Housing Vouchers, Rent Control and Rent Regulation

Model 7: Local Government
The Role of Local Government, Local Government Revenue and Expenditure, The Tiebout Model and Property tax
Financial Instruments (municipal Bonds)

*Students would be encouraged to go through the case studies on Indian Cities related to above mentioned topics.

Text Books
Jan K Brueckner, Lectures on Urban Economics, the MIT Press, 2011

Reference Books
(Focus on Mathematical Modeling)


Module wise reading list
Module 1: Introduction


Module 2: The Development of Cities: Clusters & Agglomeration; City Size and Urban Growth
Adam Jaffee et al. (1993) “Geographic Localization of Knowledge Spillovers as Evidenced by Patent


Book_ Saxenian_ Regional Network and Industrial Adaptation in Silicon valley and Route 128 ISBN 9780674753402   Publication: March 1996

Module 3: Land Rent & Markets and Land use pattern


Module 4: Urban Transportation


Module 5: Urban Infrastructure


Module 6: Housing


Module 7: Local Government


B-14: BEHAVIOURAL ECONOMICS

Objectives

This course introduces the concepts of behavioural economics and their importance in economic decision-making in case of risk, uncertainty and strategic interactions. It particularly tries to explain economic choices which deviate from predictions of neo-classical economics. It also attempts to incorporate insights from sociology, institutions, evolutionary psychology to understand human behaviour and offer directives for better developmental outcomes. It also discusses standard research methods of the subject viz. laboratory and field experiments to understand their contribution to the advancement of the subject.

Module 1: Introduction: decision-making theories

Neo-classical economics – rationality assumption, optimization
Origin of Behavioural economics - Bounded Rationality, Rationality in Psychology and Economics by H. Simon
Duel System theory, Prospect theory

Module 2: Decision-making under risk and uncertainty

Heuristics and Biases programme- Representativeness, Availability, Anchoring and adjustment, mental accounting
Biases: Overconfidence, Confirmation bias, Framing, Status Quo Bias, Endowment Bias, Self-Control Bias
Fallacies: conjunction and disjunction fallacies, gambler’s fallacies

Module 3: Inter-temporal choices

The discounted utility model, exponential discounting
Hyperbolic discounting

Module 4: Strategic interactions

Fairness, trust, cooperation, reciprocity, altruism
Norms and Culture

Module 5: Applications of Behavioural Economics

Introduction to Behavioural Labour Economics, Behavioural Finance
Taxation and the contribution of Behavioural Economics
Choice architecture: The role of nudging
Public Policies: Psychological and social perspectives on policy in the area of Poverty, Health, Climate Change

Module 6: Research methods for behavioural economics

Survey: hypothetical choices, self-reported perceptions & biases
Laboratory experiments – Precepts of laboratory experiments, internal and external validity
Field experiments – Randomized Control Trails

Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
Reading List:

Books:
- M. Altman, Handbook of Contemporary Behavioral Economics: Foundation and Developments (2007), Prentice Hall India
- E. Cartwright, Behavioral Economics (2011), Routledge
- D. Kahneman, Thinking Fast and Slow (2011), Allen Lane, Penguin Books
- Erik Angner, “A Course in Behavioral Economics”, Palgrave Macmillan

Reports:
World Development Report 2015: Mind, Society, and Behavior

Articles:
- Richard H. Thaler: Misbehaving

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Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018
B-16: LINEAR ECONOMICS – I

Preamble

This course exposes students to developments in economic theory that have been inspired by the classical economists like Adam Smith and David Ricardo. The course begins by an exposition of the fallacies in the neo-classical theories of value and distribution and the limitations of standard general equilibrium theory. It then proceeds to cover input-output analysis and its empirical applications. Finally it covers alternatives to the neo-classical theories such including the Kaldor Pasinetti theory of income distribution and the Sraffa and Von Neumann models. Finally an alternative general equilibrium model is covered which determines prices, outputs, growth and income distribution.

Model 1


Module 2


Module 3

The Von Neumann model. The Sraffa system and its properties Standard Commodity. Reduction to dated labour.

Module 4

Alternative theories of income distribution. The Kaldor Pasinetti model and its developments.

Module 5

Closure for the Sraffa system. An alternative general equilibrium model and its empirical relevance.
**Reading List:**

**Books:**

Hadley, G (1961), Linear algebra, Addison-Wesley Massachusetts

Namboodiri, Krishnan (1984), Matrix algebra: An introduction, Sage publication, Volume -38

Lipachutz, Seymour, Linear Algebra ,Third Edition, Schaum Outlines Series


Yan, Chiou Shaung (1969), Introduction to -Input-output economics, Holt, Rinehart, and Winston


Carter & Brody (1972), Applications of Input-output analysis, North Holland/Elsevier, Amsterdam United Nations, Input-output and analysis


Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018

Mathur P.N. & Bharadwaj R. (1968), An application with dynamic Input-output model for planning

Mathur P.N. & Kulkarni A.R. etc., An inter industry capital coefficient Matrix for India


**Article:**


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Module 1

Critique of the Heckscher-Ohlin-Samuelson trade model. ‘Twoness’ in trade theory. Non-viability of reduction of reality to 2 x 2 x 2 models. Critique of exchange rate theories: the demand supply diagram, the purchasing power parity theory, etc.

Module 2

Frank D. Graham’s theory of multicountry multicommodity trade. Extensions of the theory to tariffs, intercountry transfers and taxation. Trade in intermediate and final goods.

Module 3


Module 4

The Static Keynesian economy with money. Critique of -ISLM model. Possibility of unemployment equilibrium. Fiscal Policy. General ineffectiveness of monetary policy instruments including TARP, etc.

Module 5

Dichotomy in the theories of the level and theories of the term structure of interest rates. Integrated model of the level and structure of spot interest rates.

Module 6

The dynamic Keynesian economy with money and several financial assets. General disequilibrium. Role of fiscal and monetary policies.
Reading List:

Books:

Graham, F. D. (1948), The theory of International Values; Princeton University Press


Article:


R.W. Jones (1979), International Trade: Essays in Theory, North-Holland, Amsterdam,


Syllabus: M.Sc. (Economics) w.e.f. AY 2018-19. Approved by Board of Studies 21-3-2018; Academic Council 28-3-2018


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