

B.A. (HONOURS) ECONOMICS

(Three Year Full Time Programme)



COURSE CONTENTS

(Effective from the Academic Year 2011-2012 onwards)

**DEPARTMENT OF ECONOMICS
UNIVERSITY OF DELHI
DELHI – 110007.**

University of Delhi

Course: B.A. (Hons.) Economics

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	Paper 02- Statistical Methods in Economics-I
	Paper 03 - Mathematical Methods for Economics-I
	Paper 04 - Concurrent – Qualifying Language
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SEMESTER BASED UNDER-GRADUATE HONOURS COURSES

Distribution of Marks & Teaching Hours

The Semester-wise distribution of papers for the B.A. (Honours), B.Com. (Honours), B. Com., B.Sc. (Honours) Statistics and B.Sc. (Honours) Computer Science will be as follows:

Type of Paper	Max. Marks	Theory Exam.	I.A.	Teaching per week
Main Papers	100	75	25	5 Lectures 1 Tutorial
Concurrent Courses	100	75	25	4 Lectures 1 Tutorial
Credit Courses for B.Sc.(Hons.) Mathematics	100	75	25	4 Lectures 1 Tutorial

- Size of the Tutorial Group will be in accordance with the existing norms.
- The existing syllabi of all Concurrent/Credit Courses shall remain unchanged.
- The existing criteria for opting for the Concurrent /Credit Courses shall also remain unchanged.

Paper 01: INTRODUCTORY MICROECONOMICS

Course Description

This course is designed to expose first-year students, who may be new to economics, the basic principles of microeconomic theory. The emphasis will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyse real-life situations.

Course Outline

1. Exploring the subject matter of Economics

Why study economics? The scope and method of economics; scarcity and choice; questions of what, how and for whom to produce and how to distribute output; the basic competitive model; prices, property rights and profits; incentives and information; rationing; opportunity sets; economic systems; reading and working with graphs.

2. Supply and Demand: How Markets Work, Markets and Welfare

Individual demand and supply schedules and the derivation of market demand and supply; shifts in demand and supply curves; the role prices in resource allocation; the concept of elasticity and its application; consumer and producer surplus; taxes and their efficiency costs

3. Households

The consumption decision: preferences and their representation with indifference curves; budget constraints; a consumer's optimum choice; income and substitution effects; labour supply and savings decisions.

4. Firms and Perfect Market Structure

Behaviour of profit maximizing firms and the production process; short-run costs and output decisions; costs and output in the long run.

5. Imperfect Market Structure

Monopoly and anti-trust policy; government policies towards competition; imperfect competition.

6. Input Markets

Labour and land markets; concepts of derived demand, input productivity and marginal revenue product and input demand curves; competitive input markets and public policy.

Readings

1. Karl E. Case and Ray C. Fair, *Principles of Economics*, Pearson Education, Inc., 8th edition, 2007.
2. N. Gregory Mankiw, *Economics: Principles and Applications*, India edition by South Western, a part of Cengage Learning, Cengage Learning India Private Limited, 4th edition, 2007.
3. Joseph E. Stiglitz and Carl E. Walsh, *Economics*, W.W. Norton & Company, Inc., New York, International Student Edition, 4th edition, 2007.

Paper 02: STATISTICAL METHODS IN ECONOMICS –I

Course Description

This is the first of a two-part sequence on statistical methods. It begins with some basic concepts and terminology that are fundamental to statistical analysis and inference. It then develops the notion of probability, followed by probability distributions of discrete and continuous random variables. The semester concludes with a discussion of joint distributions.

Course Outline

1. Introduction and Overview

The distinction between populations and samples and between population parameters and sample statistics; the use of measures of location and variation to describe and summarize data; population moments and their sample counterparts.

2. Elementary Probability Theory

Sample spaces and events; probability axioms and properties; counting techniques; conditional probability and Bayes' rule; independence.

3. Random Variables and Probability Distributions

Defining random variables; probability distributions; expected values of random variables and of functions of random variables; properties of commonly used discrete and continuous distributions (uniform, binomial, normal, poisson and exponential random variables).

4. Random Sampling and Jointly Distributed Random Variables

Density and distribution functions for jointly distributed random variables; computing expected values; covariance and correlation coefficients.

Readings:

1. Jay L. Devore, *Probability and Statistics for Engineers*, Cengage Learning, 2010.
2. John E. Freund, *Mathematical Statistics*, Prentice Hall, 1992.
3. Richard J. Larsen and Morris L. Marx, *An Introduction to Mathematical Statistics and its Applications*, Prentice Hall, 2011.

Paper 03: MATHEMATICAL METHODS IN ECONOMICS –I

Course Description

This is the first of a compulsory two-course sequence. The objective of this sequence is to transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. The level of sophistication at which the material is to be taught is indicated by the contents of the prescribed textbook.

Course Outline

1. Preliminaries

Logic and proof techniques; sets and set operations; relations; functions and their properties; number systems.

2. Functions of one real variable

Graphs; elementary types of functions: quadratic, polynomial, power, exponential, logarithmic; sequences and series: convergence, algebraic properties and applications; continuous functions: characterizations, properties with respect to various operations and applications; differentiable functions: characterizations, properties with respect to various operations and applications; second and higher order derivatives: properties and applications.

3. Single-variable optimization

Geometric properties of functions: convex functions, their characterizations and applications; local and global optima: geometric characterizations, characterizations using calculus and applications.

4. Integration of functions

Areas under curves; indefinite integrals; the definite integral.

5. Difference equations

First order difference equations.

Readings:

K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia, Delhi, 2002.

PAPER 04

**CONCURRENT - QUALIFYING
LANGUAGE**

Paper 05: INTRODUCTORY MACROECONOMICS

Course Description

This course aims to introduce the first year students to the basic concepts of macroeconomics. Macroeconomics deals with the aggregate economy. This course discusses the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variable like savings, investment, GDP, money, inflation, and the balance of payments.

Course Outline

1. Introduction to Macroeconomics and National Income Accounting

Basic issues studied in macroeconomics; measurement of gross domestic product; income, expenditure and the circular flow; real versus nominal GDP; price indices; national income accounting for an open economy; balance of payments: current and capital accounts.

2. Money

Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy.

3. Inflation

Inflation and its social costs; hyperinflation.

4. The Closed Economy in the Short Run

Classical and Keynesian systems; simple Keynesian model of income determination; IS-LM model; fiscal and monetary multipliers.

Readings:

1. Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11th edition, 2010.
2. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7th edition, 2010.
3. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5th edition, 2009.
4. Richard T. Froyen, *Macroeconomics*, Pearson Education Asia, 2nd edition, 2005.
5. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7th edition, 2011.
6. Errol D'Souza, *Macroeconomics*, Pearson Education, 2009.
7. Paul R. Krugman, Maurice Obstfeld and Marc Melitz, *International Economics*, Pearson Education Asia, 9th edition, 2012.

Paper 06: STATISTICAL METHODS IN ECONOMICS - II

Course Description

This is the second course in the two part sequence on statistical methods. It begins with a discussion on sampling techniques used to collect survey data. It introduces the notion of sampling distributions that act as a bridge between probability theory and statistical inference. It then covers topics in inference that include point estimation, statistical intervals and hypothesis testing. It concludes with a discussion of the simple linear regression model.

Course Outline

1. Sampling

Principal steps in a sample survey; methods of sampling; the role of sampling theory; properties of random samples.

2. Point and Interval Estimation

Estimation of population parameters using methods of moments and maximum likelihood procedures; properties of estimators; confidence intervals for population parameters.

3. Hypothesis Testing

Defining statistical hypotheses; distributions of test statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test; tests for comparing parameters from two samples.

4. Simple Linear Regression

Estimation of the slope and intercept parameters; inference and prediction.

Readings:

1. Jay L. Devore, *Probability and Statistics for Engineers*, Cengage Learning, 2010.
2. William G. Cochran, *Sampling Techniques*, John Wiley, 2007.
3. Richard J. Larsen and Morris L. Marx, *An Introduction to Mathematical Statistics and its Applications*, Prentice Hall, 2011.

Paper 07: MATHEMATICAL METHODS IN ECONOMICS - II

Course Description

This course is the second part of a compulsory two-course sequence. This part is to be taught in Semester II following the first part in Semester I. The first course covered single variable functions and optimization and this course covers the essentials of linear algebra and optimization techniques required for the analysis of functions of several variables that are commonly used in economics.

Course Outline

1. Differential equations

First-order differential equations; integral curve, direction diagram and slope field; qualitative theory and stability.

2. Linear algebra

Vector spaces: algebraic and geometric properties, scalar products, norms, orthogonality; linear transformations: properties, matrix representations and elementary operations; systems of linear equations: properties of their solution sets; determinants: characterization, properties and applications.

3. Functions of several real variables

Geometric representations: graphs and level curves; differentiable functions: characterizations, properties with respect to various operations and applications; second order derivatives: properties and applications; the implicit function theorem, and application to comparative statics problems; homogeneous and homothetic functions: characterizations and applications.

4. Multi-variable optimization

Convex sets; geometric properties of functions: convex functions, their characterizations, properties and applications; further geometric properties of functions: quasiconvex functions, their characterizations, properties and applications; unconstrained optimization: geometric characterizations, characterizations using calculus and applications; constrained optimization with equality constraints: geometric characterizations, Lagrange characterization using calculus and applications; properties of value function: envelope theorem and applications.

Readings:

K. Sydsaeter and P. Hammond, *Mathematics for Economic Analysis*, Pearson Educational Asia, Delhi, 2002.

PAPER 08

CONCURRENT – CREDIT LANGUAGE

Paper 09: INTERMEDIATE MICROECONOMICS - I

Course Description

The course is designed to provide a sound training in microeconomic theory. Since students are already familiar with the quantitative techniques in the previous semesters, mathematical tools are used to facilitate understanding of the basic concepts. This course looks at the behaviour of the consumer and the producer and also covers the behaviour of a competitive firm.

Course Outline

1. Consumer Theory

Preference; utility; budget constraint; choice; demand; Slutsky equation; buying and selling; choice under risk and intertemporal choice; revealed preference.

2. Production, Costs and Perfect Competition

Technology; isoquants; production with one and more variable inputs; returns to scale; short run and long run costs; cost curves in the short run and long run; review of perfect competition.

Readings:

1. Hal R. Varian, *Intermediate Microeconomics: A Modern Approach*, W.W. Norton and Company/Affiliated East-West Press (India), 8th edition, 2010. The workbook by Varian and Bergstrom may be used for problems.
2. C. Snyder and W. Nicholson, *Fundamentals of Microeconomics*, Cengage Learning (India), 2010.
3. B. Douglas Bernheim and Michael D. Whinston, *Microeconomics*, Tata McGraw-Hill (India), 2009.

Paper 10: INTERMEDIATE MACROECONOMICS - I

Course Description

This course introduces the students to formal modeling of a macro-economy in terms of analytical tools. It discusses various alternative theories of output and employment determination in a closed economy in the short run as well as medium run, and the role of policy in this context. It also introduces the students to various theoretical issues related to an open economy.

Course Outline

1. Aggregate Demand and Aggregate Supply Curves

Derivation of aggregate demand and aggregate and supply curves; interaction of aggregate demand and supply.

2. Inflation, Unemployment and Expectations

Phillips curve; adaptive and rational expectations; policy ineffectiveness debate.

3. Open Economy Models

Short-run open economy models; Mundell-Fleming model; exchange rate determination; purchasing power parity; asset market approach; Dornbusch's overshooting model; monetary approach to balance of payments; international financial markets.

Readings:

1. Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11th edition, 2010.
2. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7th edition, 2010.
3. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5th edition, 2009.
4. Steven M. Sheffrin, *Rational Expectations*, Cambridge University Press, 2nd edition, 1996.
5. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7th edition, 2011.
6. Errol D'Souza, *Macroeconomics*, Pearson Education, 2009
7. Paul R. Krugman, Maurice Obstfeld and Marc Melitz, *International Economics*, Pearson Education Asia, 9th edition, 2012.

Paper 11: ECONOMIC HISTORY OF INDIA: 1857-1947

Course Description

This course analyses key aspects of Indian economic development during the second half of British colonial rule. In doing so, it investigates the place of the Indian economy in the wider colonial context, and the mechanisms that linked economic development in India to the compulsions of colonial rule. This course links directly to the course on India's economic development after independence in 1947.

Course Outline

1. Introduction: Colonial India: Background and Introduction

Overview of colonial economy.

2. Macro Trends

National Income; population; occupational structure.

3. Agriculture

Agrarian structure and land relations; agricultural markets and institutions – credit, commerce and technology; trends in performance and productivity; famines.

4. Railways and Industry

Railways; the de-industrialisation debate; evolution of entrepreneurial and industrial structure; nature of industrialisation in the interwar period; constraints to industrial breakthrough; labor relations.

5. Economy and State in the Imperial Context

The imperial priorities and the Indian economy; drain of wealth; international trade, capital flows and the colonial economy – changes and continuities; government and fiscal policy.

Readings:

1. Lakshmi Subramanian, *History of India 1707-1857*, Orient Blackswan, 2010, Chapter 4.
2. Sumit Guha, 1991, "Mortality decline in Early 20th Century India", *Indian Economic and Social History Review (IESHR)*, pp. 371-74 and 385-87.
3. Tirthankar Roy, *The Economic History of India 1857-1947*, Oxford University Press, 3rd edition, 2011.
4. J. Krishnamurty, *Occupational Structure*, Dharma Kumar (editor), The Cambridge Economic History of India, Vol. II, (henceforth referred to as CEHI), 2005, Chapter 6.
5. Irfan Habib, *Indian Economy 1858-1914: A People's History of India*, Vol.28, Tulika, 2006.
6. Ira Klein, 1984, "When Rains Fail: Famine Relief and Mortality in British India", *IESHR*, 21.
7. Jean Dreze, *Famine Prevention in India* in Dreze and Sen (eds.) *Political Economy of Hunger*, WIDER Studies in Development Economics, 1990, pp.13-35.

8. John Hurd, *Railways*, CEHI, Chapter 8, pp.737-761.
9. Rajat Ray (ed.), *Entrepreneurship and Industry in India*, 1994.
10. AK Bagchi, 1976, "Deindustrialization in India in the Nineteenth century: Some Theoretical Implications", *Journal of Development Studies*.
11. MD Morris, *Emergence of an Industrial Labour Force in India*, Oxford University Press, 1965, Chapter 11, Summary and Conclusions.
12. K.N. Chaudhuri, *Foreign Trade and Balance of Payments*, CEHI, Chapter 10.
13. B.R. Tomlison, 1975, *India and the British Empire 1880-1935*, IESHR, Vol.XII.
14. Dharma Kumar, *The Fiscal System*, CEHI, Chapter 12.
15. Basudev Chatterjee, *Trade, Tariffs and Empire*, Oxford University Press, 1992, Epilogue.

Background reading for students:

- Irfan Habib, *Indian Economy 1858-1914: A People's History of India*, Vol.28, Tulika 2006.
Daniel Thorner, *Agrarian Prospect in India*, 1977.
L. Visaria and P. Visaria, *Population*, CEHI, Chapter 5.

Paper 12: INTRODUCTORY ECONOMETRICS

Course Description

This course provides a comprehensive introduction to basic econometric concepts and techniques. It covers estimation and diagnostic testing of simple and multiple regression models. The course also covers the consequences of and tests for misspecification of regression models.

Course Outline

1. Nature and Scope of Econometrics

2. Statistical Concepts

Normal distribution; chi-sq, t- and F-distributions; estimation of parameters; properties of estimators; testing of hypotheses.

3. Simple Linear Regression Model: Two Variable Case

Estimation of model by method of ordinary least squares; properties of estimators; goodness of fit; tests of hypotheses; scaling and units of measurement; confidence intervals; Gauss-Markov theorem; forecasting.

4. Multiple Linear Regression Model

Estimation of parameters; properties of OLS estimators; goodness of fit - R^2 and adjusted R^2 ; partial regression coefficients; testing hypotheses – individual and joint; functional forms of regression models; qualitative (dummy) independent variables.

5. Violations of Classical Assumptions: Consequences, Detection and Remedies

Multicollinearity; heteroscedasticity; serial correlation.

6. Specification Analysis

Omission of a relevant variable; inclusion of irrelevant variable; tests of specification errors.

Readings

1. D. N. Gujarati and D.C. Porter, *Essentials of Econometrics*, McGraw Hill, 4th edition, International Edition, 2009.
2. Christopher Dougherty, *Introduction to Econometrics*, Oxford University Press, 3rd edition, Indian Edition, 2007.
3. Jan Kmenta, *Elements of Econometrics*, Indian Reprint, Khosla Publishing House, 2nd edition, 2008.

PAPER 13

CONCURRENT – INTERDISCIPLINARY

Paper 14: INTERMEDIATE MICROECONOMICS - II

Course Description

This course is a sequel to Intermediate Microeconomics I. The emphasis will be on giving conceptual clarity to the student coupled with the use of mathematical tools and reasoning. It covers general equilibrium and welfare, imperfect markets and topics under information economics.

Course Outline

1. General Equilibrium, Efficiency and Welfare

Equilibrium and efficiency under pure exchange and production; overall efficiency and welfare economics.

2. Market Structure and Game Theory

Monopoly; pricing with market power; price discrimination; peak-load pricing; two-part tariff; monopolistic competition and oligopoly; game theory and competitive strategy.

3. Market Failure

Externalities; public goods and markets with asymmetric information.

Readings:

1. Hal R. Varian, *Intermediate Microeconomics: A Modern Approach*, 8th edition, W.W. Norton and Company/Affiliated East-West Press (India), 2010. The workbook by Varian and Bergstrom could be used for problems.
2. C. Snyder and W. Nicholson, *Fundamentals of Microeconomics*, Cengage Learning (India), 2010.

Paper 15: INTERMEDIATE MACROECONOMICS - II

Course Description

This course is a sequel to Intermediate Macroeconomics I. In this course, the students are introduced to the long run dynamic issues like growth and technical progress. It also provides the micro foundations to the various aggregative concepts used in the previous course.

Course Outline

1. Economic Growth

Harrod-Domar model; Solow model; golden rule; technological progress and elements of endogenous growth.

2. Microeconomic Foundations

- a. Consumption: Keynesian consumption function; Fisher's theory of optimal intertemporal choice; life-cycle and permanent income hypotheses; rational expectations and random-walk of consumption expenditure.
- b. Investment: determinants of business fixed investment; residential investment and inventory investment.
- c. Demand for money.

3. Fiscal and Monetary Policy

Active or passive; monetary policy objectives and targets; rules versus discretion: time consistency; the government budget constraint; government debt and Ricardian equivalence.

4. Schools of Macroeconomic Thoughts

Classicals; Keynesians; New-Classicals and New-Keynesians.

Readings:

1. Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11th edition, 2010.
2. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7th edition, 2010.
3. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5th edition, 2009.
4. Charles I. Jones, *Introduction to Economic Growth*, W.W. Norton & Company, 2nd edition, 2002.
5. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7th edition, 2011.
6. Errol. D'Souza, *Macroeconomics*, Pearson Education, 2009.
7. Robert J. Gordon, *Macroeconomics*, Prentice-Hall India Limited, 2011.

Paper 16: ECONOMY, STATE AND SOCIETY

Course Description

Employing perspectives from alternative schools of thought, this course explores the development of the structure and institutions of capitalist economies and their relationship to social and political forces. Students are expected to read some classic texts as well as more recent commentaries.

Course Outline

1. Analysing Social Change in Historical Perspective

The method of historical materialism; the transition from feudalism to capitalism; capitalism as a historical process – alternative perspectives.

2. Capitalism as an Evolving Economic System

Basic features; accumulation and crisis; the modern corporation; monopoly capitalism—alternative perspectives.

3. The State in Capitalism

The state and the economy – contestation and mutual interdependence; the state as an arena of conflict; imperialism – the basic foundations.

Readings:

1. J. Gurley, 1978, "The Materialist Conception of History", Ch.2.1 in R. Edwards, M. Reich and T. Weisskopf (ed.), *The Capitalist System*, 2nd edition.
2. O. Lange, *Political Economy*, Vol. 1, 1963, Chapters 1 and 2.
3. E.K. Hunt, *History of Economic Thought*, M.E. Sharpe, Indian edition, Shilpi Publications, 2004.
4. Irfan Habib, 1995, "Capitalism in History", *Social Scientist*, Vol. 23, pp. 15-31.
5. R.L. Heilbroner, 1987, "Capitalism", in *The New Palgrave Dictionary of Modern Economics*, Macmillan. Also reprinted as Chapter 2 in *Behind the Veil of Economics* by R.L. Heilbroner, W.W. Norton, 1988.
6. P. Sweezy, *The Theory of Capitalist Development*, Monthly Review Press, 1942, chapters 2, 4, 5, 6, 8 and 10.
7. Anwar Shaikh, 2000, Entries on "Economic Crises" and "Falling Rate of Profit" in T. Bottomore et al. (eds.), *The Dictionary of Marxist Thought*, OUP, Indian edition, Maya Blackwell.
8. Vamsi Vakulabharanam, 2009, "The Recent Crisis in Global Capitalism: Towards a Marxian Understanding", *Economic and Political Weekly*, March 28, Vol. 44, pp. 144-150.
9. J. Schumpeter, *Capitalism, Socialism and Democracy*, George Allen and Unwin 1976, Chapters 6, 7 and 8.

10. P. Baran (1957), *The Political Economy of Growth*, Chapter 3, Pelican edition, 1973.
11. R. Heilbroner, 1985, "The Role of the State", Ch.4 in *The Nature and Logic of Capitalism*.
12. M. Kalecki, 1972, "Political Aspects of Full Employment", in E.K. Hunt and J.G. Schwarz (eds.), *A Critique of Economic Theory*, Penguin Books.
13. Amit Bhaduri, 2002, "Nationalism and Economic Policy in the Era of Globalization", Ch. 2 in Deepak Nayyar (ed.), *Governing Globalization: Issues and Institutions*, Oxford University Press [also WIDER Working Paper no.188, WIDER website (2000)].
14. Prabhat Patnaik, 1986, "Introduction", in *Lenin and Imperialism*, Orient Longman.
15. James O'Connor, 1970, "The Meaning of Economic Imperialism", in Robert Rhodes, ed., *Imperialism and Underdevelopment*, New York: Monthly Review Press, pp. 101 to 111.

Paper 17: INDIAN ECONOMIC DEVELOPMENT SINCE 1947 - I

Course Description

Using appropriate analytical frameworks, this course reviews major trends in economic indicators and policy debates in India in the post-Independence period, with particular emphasis on paradigm shifts and turning points.

Course Outline

1. Economic Development since Independence

Major features of the economy at independence; growth and development under different policy regimes—goals, constraints, institutions and policy framework; an assessment of performance—sustainability and regional contrasts; structural change, savings and investment.

2. Population and Human Development

Demographic trends and issues; education; health and malnutrition.

3. Growth and Distribution

Trends and policies in poverty; inequality and unemployment.

4. International Comparisons

Readings:

1. Jean Dreze and Amartya Sen, *India: Development and Participation*, Oxford University Press, 2nd edition, 2002.
2. Pulapre Balakrishnan, 2007, “The Recovery of India: Economic Growth in the Nehru Era”, *Economic and Political Weekly*, November.
3. Rakesh Mohan, 2008, “Growth Record of Indian Economy: 1950-2008. A Story of Sustained Savings and Investment”, *Economic and Political Weekly*, May.
4. S.L. Shetty, 2007, “India’s Savings Performance since the Advent of Planning”, in K.L. Krishna and A. Vaidyanathan, editors, *Institutions and Markets in India’s Development*.
5. Himanshu, 2010, “Towards New Poverty Lines for India”, *Economic and Political Weekly*, January.
6. Jean Dreze and Angus Deaton, 2009, “Food and Nutrition in India: Facts and Interpretations”, *Economic and Political Weekly*, February.
7. Himanshu, 2011, “Employment Trends in India: A Re-examination”, *Economic and Political Weekly*, September.
8. Rama Baru et al., 2010, “Inequities in Access to Health Services in India: Caste, Class and Region”, *Economic and Political Weekly*, September.
9. Geeta G. Kingdon, 2007, “The Progress of School Education in India”, *Oxford Review of Economic Policy*.
10. J.B.G. Tilak, 2007, “Post Elementary Education, Poverty and Development in India”, *International Journal of Educational Development*.

11. T. Dyson, 2008, "India's Demographic Transition and its Consequences for Development" in Uma Kapila, editor, *Indian Economy Since Independence*, 19th edition, Academic Foundation.
12. Kaushik Basu, 2009, "China and India: Idiosyncratic Paths to High Growth", *Economic and Political Weekly*, September.
13. K. James, 2008, "Glorifying Malthus: Current Debate on Demographic Dividend in India", *Economic and Political Weekly*, June.
14. Reetika Khera, 2011, "India's Public Distribution System: Utilisation and Impact", *Journal of Development Studies*.
15. Aniruddha Krishna and Devendra Bajpai, 2011, "Lineal Spread and Radial Dissipation: Experiencing Growth in Rural India, 1992-2005", *Economic and Political Weekly*, September.
16. Kaushik Basu, 2012, editor, *The New Oxford Companion to Economics*, Oxford University Press.

PAPER 18

CONCURRENT – DISCIPLINE CENTERED – I

Paper 19: INDIAN ECONOMIC DEVELOPMENT SINCE 1947 - II

Course Description

This course examines sector-specific policies and their impact in shaping trends in key economic indicators in India. It highlights major policy debates and evaluates the Indian empirical evidence.

Course Outline

1. Macroeconomic Policies and Their Impact

Fiscal Policy; trade and investment policy; financial and monetary policies; labour regulation.

2. Policies and Performance in Agriculture

Growth; productivity; agrarian structure and technology; capital formation; trade; pricing and procurement.

3. Policies and Performance in Industry

Growth; productivity; diversification; small scale industries; public sector; competition policy; foreign investment.

4. Trends and Performance in Services

Readings:

1. Shankar Acharya, 2010, "Macroeconomic Performance and Policies 2000-8", in Shankar Acharya and Rakesh Mohan, editors, *India's Economy: Performances and Challenges: Development and Participation*, Oxford University Press.
2. Rakesh Mohan, 2010, "India's Financial Sector and Monetary Policy Reforms", in Shankar Acharya and Rakesh Mohan, editors, *India's Economy: Performances and Challenges: Development and Participation*, Oxford University Press.
3. Pulapre Balakrishnan, Ramesh Golait and Pankaj Kumar, 2008, "Agricultural Growth in India Since 1991", *RBI DEAP Study no. 27*.
4. B.N. Goldar and S.C. Aggarwal, 2005, "Trade Liberalisation and Price-Cost Margin in Indian Industries", *The Developing Economics*, September.
5. P. Goldberg, A. Khandelwal, N. Pavcnik and P. Topalova, 2009, "Trade Liberalisation and New Imported Inputs", *American Economic Review, Papers and Proceedings*, May.
6. Kunal Sen, 2010, "Trade, Foreign Direct Investment and Industrial Transformation in India", in Premachandra Athukorala, editor, *The Rise of Asia*, Routledge.
7. A. Ahsan, C. Pages and T. Roy, 2008, "Legislation, Enforcement and Adjudication in Indian Labour Markets: Origins, Consequences and the Way Forward", in D. Mazumdar and S. Sarkar, editors, *Globalization, Labour Markets and Inequality in India*, Routledge.
8. Dipak Mazumdar and Sandeep Sarkar, 2009, "The Employment Problem in India and the Phenomenon of the Missing Middle", *Indian Journal of Labour Economics*.
9. J. Dennis Rajakumar, 2011, "Size and Growth of Private Corporate Sector in Indian Manufacturing", *Economic and Political Weekly*, April.

10. Ramesh Chand, 2010, “Understanding the Nature and Causes of Food Inflation”, *Economic and Political Weekly*, February.
11. Bishwanath Goldar, 2011, “Organised Manufacturing Employment: Continuing the Debate”, *Economic and Political Weekly*, April.
12. Kaushik Basu, 2012, editor, *The New Oxford Companion to Economics in India*, Oxford University Press.

Paper 20: DEVELOPMENT THEORY AND EXPERIENCE - I

Course Description

This is the first part of a two-part course on economic development. The course begins with a discussion of alternative conceptions of development and their justification. It then proceeds to aggregate models of growth and cross-national comparisons of the growth experience that can help evaluate these models. The axiomatic basis for inequality measurement is used to develop measures of inequality and connections between growth and inequality are explored. The course ends by linking political institutions to growth and inequality by discussing the role of the state in economic development and the informational and incentive problems that affect state governance.

Course Outline

1. Conceptions of Development

Alternative measures of development, documenting the international variation in these measures, comparing development trajectories across nations and within them.

2. Growth Models and Empirics

The Harrod-Domar model, the Solow model and its variants, endogenous growth models and evidence on the determinants of growth.

3. Poverty and Inequality: Definitions, Measures and Mechanisms

Inequality axioms; a comparison of commonly used inequality measures; connections between inequality and development; poverty measurement; characteristics of the poor; mechanisms that generate poverty traps and path dependence of growth processes.

4. Political Institutions and the Functioning of the State

The determinants of democracy; alternative institutional trajectories and their relationship with economic performance; within-country differences in the functioning of state institutions; state ownership and regulation; government failures and corruption.

Readings

1. Debraj Ray, *Development Economics*, Oxford University Press, 2009.
2. Partha Dasgupta, *Economics: A Very Short Introduction*, Oxford University Press, 2007.
3. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, *Understanding Poverty*, Oxford University Press, 2006.
4. Kaushik Basu, 2012, editor, *The New Oxford Companion to Economics in India*, Oxford University Press.
5. Amartya Sen, *Development as Freedom*, Oxford University Press, 2000.
6. Daron Acemoglu and James Robinson, *Economic Origins of Dictatorship and Democracy*, Cambridge University Press, 2006.
7. Robert Putnam, *Making Democracy Work: Civic Traditions in Modern Italy*, Princeton University Press, 1994.

Paper 21: PUBLIC ECONOMICS

Course Description

Public economics is the study of government policy from the points of view of economic efficiency and equity. The paper deals with the nature of government intervention and its implications for allocation, distribution and stabilization. Inherently, this study involves a formal analysis of government taxation and expenditures. The subject encompasses a host of topics including public goods, market failures and externalities. The paper is divided into two sections, one dealing with the theory of public economics and the other with the Indian public finances.

Course Outline

1. Public Economic Theory

- a. Fiscal functions: an overview.
- b. Public Goods: definition, models of efficient allocation, pure and impure public goods, free riding.
- c. Externalities: the problem and its solutions, taxes versus regulation, property rights, the Coase theorem.
- d. Taxation: its economic effects; dead weight loss and distortion, efficiency and equity considerations, tax incidence, optimal taxation.

2. Indian Public Finances

- a. Tax System: structure and reforms
- b. Budget, deficits and public debt
- c. Fiscal federalism in India

Readings:

1. Joseph E. Stiglitz, *Economics of the Public Sector*, W.W. Norton & Company, 3rd edition, 2000.
2. R.A. Musgrave and P.B. Musgrave, *Public Finance in Theory & Practice*, McGraw Hill Publications, 5th edition, 1989.
3. John Cullis and Philip Jones, *Public Finance and Public Choice*, Oxford University Press, 1st edition, 1998.
4. Harvey Rosen, *Public Finance*, McGraw Hill Publications, 7th edition, 2005.
5. Mahesh Purohit, *Value Added Tax: Experiences of India and Other Countries*, 2007.
6. Kaushik Basu and A. Maertens (ed.), *The Oxford Companion to Economics in India*, Oxford University Press, 2007.
7. M.M. Sury, *Government Budgeting in India*, 1990.
8. M. Govinda Rao, *Changing Contours of Federal Fiscal Arrangements in India*, Amaresh Bagchi (ed.), *Readings in Public Finance*, Oxford University Press, 2005.
9. Paul Samuelson, 1955, "Diagrammatic Exposition of a theory of Public Expenditure", *Review of Economics and Statistics*, Volume 37.
10. Shankar Acharya, 2005, "Thirty Years of Tax Reform in India", *Economic and Political Weekly*, May, pp. 14-20.

11. Rangarajan and D.K. Srivastava, 2005, "Fiscal Deficit and Government Debt: Implications for Growth and Stabilization", *Economic and Political Weekly*, July 2-8.
12. M. Govinda Rao, 2011, "Goods and Services Tax: A Gorilla, Chimpanzee or a Genius like Primates?", *Economic and Political Weekly*, February, pp. 12-18.
13. Report of the 13th Finance Commission, 2010-15.
14. *Economic Survey*, Government of India (Latest).
15. *State Finances: A Study of Budgets*, Reserve Bank of India (Latest).

PAPER 22(OPTIONAL)

GROUP – I (ANY ONE FROM THE FOLLOWING)

22A ECONOMICS OF HEALTH AND EDUCATION

Course Description

The importance of education and health in improving well being is reflected in their inclusion among the Millennium Development Goals adopted by the United Nations member states, which include among other goals, achieving universal primary education, reducing child mortality, improving maternal health and combating diseases. This course provides a microeconomic framework to analyse, among other things, individual choice in the demand for health and education, government intervention and aspects of inequity and discrimination in both sectors. It also gives an overview of health and education in India.

Course Outline

1. Role of Health and Education in Human Development

Importance in poverty alleviation; health and education outcomes and their relationship with macroeconomic performance.

2. Microeconomic Foundations of Health Economics

Demand for health; uncertainty and health insurance market; alternative insurance mechanisms; market failure and rationale for public intervention; equity and inequality.

3. Evaluation of Health Programs

Costing, cost effectiveness and cost-benefit analysis; burden of disease.

4. Health Sector in India: An Overview

Health outcomes; health systems; health financing.

5. Education: Investment in Human Capital

Rate of return to education: private and social; quality of education; signaling or human capital; theories of discrimination; gender and caste discrimination in India.

6. Education Sector in India: An Overview

Literacy rates, school participation, school quality measures.

Readings:

1. William, Jack, *Principles of Health Economics for Developing Countries*, World Bank Institute Development Studies, 1999.
2. World Development Report, *Investing in Health*, The World Bank, 1993.
3. Ronald G., Ehrenberg and Robert S., Smith, *Modern Labor Economics: Theory and Public Policy*, Addison Wesley, 2005.

22B POLITICAL ECONOMY

Course Description

This course builds on the foundations of Course 13 (Economy, State and Society). It explores changes in the organisation of production, labour market institutions and corporate structure. It goes on to study the consequences of globalization, especially of financial flows, for the role of the state, economic performance, gender issues, environment, human welfare and development.

Course Outline

1. Introduction and Historical Overview

Perspective on political economy with a historical overview: capitalist development in the pre-second world war period, the ‘golden age’ and later.

2. Changing Dynamics of Capitalist Production, Organisational Form and Labour Process

Fordist and post-fordist production; changing dynamics of organisation of production, markets and labour process; the changing nature of job security and labour rights.

3. The State in the Era of Globalisation: Welfare, Development and Autonomy

Globalisation and the limits of the welfare state, development and state autonomy.

4. The Changing Role of Finance

The changing role of finance in capital accumulation and corporate structure; finance and globalisation - financialisation, financial liberalisation and financial crisis.

5. The Social Dimension

Globalisation and uneven development – growth, inequality and exclusion.

6. New Perspectives

Gender in work, accumulation and globalisation; issues in environment and sustainability; alternatives ahead.

Readings:

1. Michel Beaud, *A History of Capitalism, 1500-2000*, trans. by Tom Dickman and Anny Lefebvre, New York: Monthly Review Press, 2001.
2. Ash Amin (ed.), *Post-Fordism: A Reader*, Blackwell, 1994.
3. Fran Tonkiss, *Contemporary Economic Sociology: Globalisation, Production, Inequality*, Chapter 4 (Fordism and After), Routledge India 2008 reprint, 2006.
4. S. Hymer, 1975, "The Multinational Corporation and the Law of Uneven Development", in H. Radice (ed.) *International Firms and Modern Imperialism*, Penguin Books.
5. G. Gereffi, J. Humphrey and T. Sturgeon, 2005, "The Governance of Global Value Chains", *Review of International Political Economy*, Volume 12, pp. 78–104.

6. Narasimha Reddy, 2003, “Economic Globalisation, Past and Present – The Challenges to Labour” in Jomo K.S. & Khoo Khay Jin (ed.) *Globalization and Its Discontents, Revisited*, Sepsis -Tulika Books.
7. David Harvey, *A Brief History of Neoliberalism*, Oxford University Press, 2005.
8. Andrew Glyn, 2006, “Challenges to Capital”, in *Capitalism Unleashed: Finance, Globalization and Welfare*, Oxford: Oxford University Press, (Ch. One, pp. 1-24).
9. G Dumenil and D Levy, *The Crisis of Neoliberalism*, Harvard University Press, 2011.
10. K.S. Jomo (ed.), *The Long Twentieth Century: The Great Divergence: Hegemony, Uneven Development and Global Inequality*, Oxford University Press, 2006.
11. Gary Dymisky, 2005, “Financial Globalization, Social Exclusion and Financial Crisis”, *International Review of Applied Economics*, Vol. 19, pp. 439–457.
12. E. Stockhammer, 2010, “Financialization and the Global Economy”, in G. Epstein and M.H. Wolfson (ed.) *The Political Economy of Financial Crises*, Oxford University Press. [Also in Working Paper Series, No. 240, Political Economy Research Institute, University of Massachusetts Amherst]
13. J.P. Smith and M.P. Ward, 1989, “Women in the Labour Market and in the Family”, *Journal of Economic Perspectives*, Volume 3, pp. 9-23.
14. Marilyn Power, 2004, “Social Provisioning as a Starting Point for Feminist Economics”, *Feminist Economics*, Volume 10, pp. 3-19.
15. John Bellamy Foster, *Ecology against Capitalism*, Monthly Review Press, 2002.

22C TOPICS IN MICROECONOMICS - I

Course Description

Game theory is an integral part of modern economic analysis. Topics in Microeconomics - I introduces the students to elementary game theory under complete information. This course introduces the basic concepts of game theory in a way that allows students to use them in solving simple problems. The course will deal with the solution concepts for normal form and extensive form games along with a variety of economic applications.

Course Outline

1. Normal form games

The normal form; dominant and dominated strategies; dominance solvability; mixed strategies; Nash equilibrium; symmetric single population games; applications.

2. Extensive form games with perfect information

The game tree; strategies; subgame perfection; backward induction in finite games; commitment; bargaining; other applications.

Reading:

1. Martin J. Osborne, *An Introduction to Game Theory*, Oxford University Press, New Delhi, 2004.

22D ADVANCED MACROECONOMICS

Course Description

The course is intended to prepare the student for higher studies in economics. Some of the important areas of research in macroeconomics in the last few decades are introduced that have fundamentally altered our understanding of macroeconomic issues. Modern macroeconomics requires a basic understanding of systems of difference and differential equations and techniques of intertemporal optimization. The course provides an elementary introduction to these techniques through some models that use them. The emphasis is on developing formal models that are dynamic in nature. Special emphasis is placed on the role of expectations, information and implications of intertemporal optimization in macroeconomic models of labour markets, investment, exchange rates and growth.

Course Outline

1. Review of Aggregate Supply-Aggregate Demand Model

Aggregate labour market, adaptive expectations, nominal wage rigidities; aggregate demand: review of IS-LM model, effectiveness of fiscal and monetary policy; adaptive expectations hypothesis and stability in the AS-AD model.

2. Rational Expectations and Implications for Economic Policy

Rational expectations hypothesis, policy ineffectiveness proposition; overlapping wage contracts.

3. Introduction to Dynamic Models

Dynamic investment theory, investment subsidy, dynamic IS-LM model; open economy and international financial markets, Dornbusch overshooting model.

4. Economic Growth

Stylized facts; Solow-Swan model; Ramsey model: phase diagram, efficiency properties of the Ramsey model, fiscal policy in the Ramsey model; Ricardian equivalence, some reasons for non-equivalence; endogenous growth; some issues in growth for open economies.

5. Overlapping Generations Model

Diamond-Samuelson model: equilibrium, dynamics and stability, efficiency.

Readings:

1. Heijdra, Ben J., *The Foundations of Modern Macroeconomics*, Oxford University Press, 2nd edition, 2009.
2. Blanchard, Olivier Jean and Fischer, Stanley. *Lectures on Macroeconomics*, Prentice Hall of India Private Limited, 2000.
3. Barro, Robert J. and Sala-i-Martin, Xavier. *Economic Growth*, Prentice Hall of India Private Limited, 2nd edition, 2007.
4. Romer, David, *Advanced Macroeconomics*, McGraw-Hill, 3rd edition, 2006.
5. Hoy, Michael et al., *Mathematics for Economics*, The MIT Press, 2nd edition, 2001.

Course Description

This course exposes students to the theory and functioning of the monetary and financial sectors of the economy. It highlights the organization, structure and role of financial markets and institutions. It also discusses interest rates, monetary management and instruments of monetary control. Financial and banking sector reforms and monetary policy with special reference to India are also covered.

Course Outline**1. Money**

Concept, functions, measurement; theories of money supply determination.

2. Financial Institutions, Markets, Instruments and Financial Innovations

- a. Role of financial markets and institutions; problem of asymmetric information – adverse selection and moral hazard; financial crises.
- b. Money and capital markets: organization, structure and reforms in India; role of financial derivatives and other innovations.

3. Interest Rates

Determination; sources of interest rate differentials; theories of term structure of interest rates; interest rates in India.

4. Banking System

- a. Balance sheet and portfolio management.
- b. Indian banking system: Changing role and structure; banking sector reforms.

5. Central Banking and Monetary Policy

Functions, balance sheet; goals, targets, indicators and instruments of monetary control; monetary management in an open economy; current monetary policy of India.

Readings

1. F. S. Mishkin and S. G. Eakins, *Financial Markets and Institutions*, Pearson Education, 6th edition, 2009.
2. F. J. Fabozzi, F. Modigliani, F. J. Jones, M. G. Ferri, *Foundations of Financial Markets and Institutions*, Pearson Education, 3rd edition, 2009.
3. M. R. Baye and D. W. Jansen, *Money, Banking and Financial Markets*, AITBS, 1996.
4. Rakesh Mohan, *Growth with Financial Stability- Central Banking in an Emerging Market*, Oxford University Press, 2011.
5. L. M. Bhole and J. Mahukud, *Financial Institutions and Markets*, Tata McGraw Hill, 5th edition, 2011.

6. M. Y. Khan, *Indian Financial System*, Tata McGraw Hill, 7th edition, 2011.
7. N. Jadhav, *Monetary Policy, Financial Stability and Central Banking in India*, Macmillan, 2006.
8. R.B.I. – *Report of the Working Group: Money Supply Analytics and Methodology of Compilation*, 1998.
9. *R.B.I. Bulletin, Annual Report and Report on Currency and Finance (latest)*.

Paper 23: INTERNATIONAL ECONOMICS

Course Description

This course develops a systematic exposition of models that try to explain the composition, direction, and consequences of international trade, and the determinants and effects of trade policy. It then builds on the models of open economy macroeconomics developed in courses 08 and 12, focusing on national policies as well as international monetary systems. It concludes with an analytical account of the causes and consequences of the rapid expansion of international financial flows in recent years. Although the course is based on abstract theoretical models, students will also be exposed to real-world examples and case studies.

Course Outline

1. Introduction

What is international economics about? An overview of world trade.

2. Theories of International Trade

The Ricardian, specific factors, and Heckscher-Ohlin models; new trade theories; the international location of production; firms in the global economy — outsourcing and multinational enterprises.

3. Trade Policy

Instruments of trade policy; political economy of trade policy; controversies in trade policy.

4. International Macroeconomic Policy

Fixed versus flexible exchange rates; international monetary systems; financial globalization and financial crises.

Readings:

1. Paul Krugman, Maurice Obstfeld, and Marc Melitz, *International Economics: Theory and Policy*, Addison-Wesley (Pearson Education Indian Edition), 9th edition, 2012.
2. Dominick Salvatore, *International Economics: Trade and Finance*, John Wiley International Student Edition, 10th edition, 2011.

Paper 24: DEVELOPMENT THEORY AND EXPERIENCE - II

Course Description

This is the second module of the economic development sequence. It begins with basic demographic concepts and their evolution during the process of development. The structure of markets and contracts is linked to the particular problems of enforcement experienced in poor countries. The governance of communities and organizations is studied and this is then linked to questions of sustainable growth. The course ends with reflections on the role of globalization and increased international dependence on the process of development.

Course Outline

1. Demography and Development

Demographic concepts; birth and death rates, age structure, fertility and mortality; demographic transitions during the process of development; gender bias in preferences and outcomes and evidence on unequal treatment within households; connections between income, mortality, fertility choices and human capital accumulation; migration.

2. Land, Labor and Credit Markets

The distribution of land ownership; land reform and its effects on productivity; contractual relationships between tenants and landlords; land acquisition; nutrition and labor productivity; informational problems and credit contracts; microfinance; inter-linkages between rural factor markets.

3. Individuals, Communities and Collective Outcomes

Individual behavior in social environments, multiple social equilibria; governance in organizations and in communities; individual responses to organizational inefficiency.

4. Environment and Sustainable Development

Defining sustainability for renewable resources; a brief history of environmental change; common-pool resources; environmental externalities and state regulation of the environment; economic activity and climate change.

5. Globalization

Globalization in historical perspective; the economics and politics of multilateral agreements; trade, production patterns and world inequality; financial instability in a globalized world.

Readings

1. Debraj Ray, *Development Economics*, Oxford University Press, 2009.
2. Partha Dasgupta, *Economics: A Very Short Introduction*, Oxford University Press, 2007.
3. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, *Understanding Poverty*, Oxford University Press, 2006.
4. Thomas Schelling, *Micromotives and Macrobehavior*, W. W. Norton, 1978.

5. Albert O. Hirschman, *Exit, Voice and Loyalty: Responses to Decline in Firms, Organizations and States*, Harvard University Press, 1970.
6. Raghuram Rajan, *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, 2010.
7. Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press, 1990.
8. Dani Rodrik, *The Globalization Paradox: Why Global Markets, States and Democracy Can't Coexist*, Oxford University Press, 2011.
9. Michael D. Bordo, Alan M. Taylor and Jeffrey G. Williamson (ed.), *Globalization in Historical Perspective*, University of Chicago Press, 2003.

PAPER 25(OPTIONAL)

GROUP –II (ANY ONE FROM THE FOLLOWING)

25A COMPARATIVE ECONOMIC DEVELOPMENT: 1850-1950

Course Description

This course investigates selected issues in comparative historical perspective over the 19th century and the first few decades of the 20th century. The course focuses on a set of countries, which followed clearly diverse trajectories and patterns of growth to achieve their industrial transition and compares the outcomes of these diverse trajectories on sectoral change, inter-sectoral relations, labour processes and industrial relations and also compares the role of the state in facilitating the respective trajectories.

Course Outline

1. Introduction and Perspectives on Comparative Economic Development

2. An Overview of Economic Development of the countries selected for case studies

3. Agriculture

Agrarian surplus and the role of the peasantry in economic development.

4. Industry

The industrial revolution in Britain; Industrialisation in late industrialisers.

5. The Factory System and Making of the Industrial Working Class

Division of labour, structure of industrial authority, organisation of work and industrial production, relationship between workers and managers.

6. The Role of the State in Industrial and Developmental Transition

Readings:

1. E.J. Hobsbawm, *World of Labour: Further Studies in the History of Labour*, London Weidenfeld & Nicholson, 1984.
2. E.J. Hobsbawm, *Industry and Empire: An Economic History of Britain since 1750*, Weidenfeld & Nicholson, 1968.
3. Peter Mathias, *The First Industrial Nation, An Economic History of Britain, 1700-1914*, 2nd edition Methuen, 1983.
4. T. Nakamura, *Economic Growth in Pre-War Japan*, Tr. by Robert A Feldman, Yale University Press, 1983.
5. Okochi, Karsh and Levine, *Workers and Employees in Japan, The Japanese Employment Relations System*, University of Tokyo, 1965.

6. Y. Hayami, *A Century of Agricultural Growth in Pre-War Japan: Its Relevance to Asian Development*, University of Minnesota Press, 1975.
7. Chalmers Johnson, *MITI and the Japanese Miracle: The Growth of Industrial Policy 1925-1975*, Stanford University Press, 1982.
8. W.W. Lockwood, *Economic Development of Japan*, Expanded edition, Princeton University Press, 1966.
9. Dobb M., *Soviet Economic Development since 1917*, Universal Book Stall, New Delhi, 1995.
10. Paul R. Gregory and Robert C. Stuart, *Soviet Economic Structure and Performance*, Harper & Row, 3rd edition, 1986.
11. Timothy W. Guinnane, 2002, "Delegated Monitors, Large and Small: Germany's banking System, 1800 –1914", *Journal of Economic Literature*, Volume XL, pp.73-124.
12. Richard A. Easterlin, Davis and Parker, *American Economic Growth: An economist's History of the United States*, Harper & Row, 1972.
13. Hughes and Cain, *American Economic History*, HarperCollins College Publishers, 4th edition, 1994.

Background readings for teachers:

Angus Maddison, *Dynamic Forces in Capitalist Development, A Long-Run Comparative View*, Oxford University Press, 1991.

P.K.O'Brien, 1986, "Do We Have a Typology for the Study of European Industrialization in the XIXth Century?" *Journal of European Economic History*, Volume XV, pp. 291-333.

25A APPLIED ECONOMETRICS

Course Description

The aim of this course is to provide a foundation in applied econometric analysis and develop skills required for empirical research in economics. Topics include specification and selection of regression models, dynamic econometric models, advanced methods in regression analysis and panel data models. Since the emphasis is on application of methods, this course requires understanding of econometric software and computing skills.

Course Outline

1. Stages in Empirical Econometric Research

2. Regression Diagnostics and Specification

Misspecification; functional forms; model selection.

3. Advanced Topics in Regression Analysis

Selected Topics:

Dynamic Econometric Models: distributed lag models; autoregressive models; instrumental variable estimation; simultaneous equation models.

4. Panel Data Models

Methods of estimation; fixed effects model; random effects model.

5. Introduction to Econometric Software Package

GRETLM; E-VIEWS; STATA (any one).

Readings:

1. Jeffrey M. Wooldridge, *Econometrics*, Cengage Learning, India Edition, 2009.
2. Dimitrios Asteriou and Stephen Hall, *Applied Econometrics: A Modern Approach*, Palgrave Macmillan, 2007.
3. Damodar Gujarati, *Econometrics by Example*, Palgrave Macmillan, 2011.

25C TOPICS IN MICROECONOMICS - II

Course Description

This course deals with repeated games and games with incomplete information. Ideas related to asymmetric information among the interacting economic agents would be the main focus of this course. Students learn the concept of Bayesian and Perfect Bayesian equilibrium. The course ends with the application of game theory to analyse moral hazard, adverse selection and signaling problems.

Course Outline

1. Repeated Games.

Finitely repeated games and backward induction; infinitely repeated games; history dependent strategies; one-step deviation property; the repeated prisoners' dilemma; idea of folk theorem.

2. Simultaneous move games with incomplete information (Bayesian games).

Strategies; Bayesian Nash equilibrium; auctions; other applications.

3. Extensive form games with imperfect information.

Strategies; beliefs and sequential equilibrium; applications.

4. Information economics.

Adverse selection; moral hazard; signalling games.

Readings:

1. Martin J. Osborne, *An Introduction to Game Theory*, Oxford University Press, New Delhi, 2004.
2. Hugh Gravelle and Ray Rees, *Microeconomics*, Pearson Education, 2nd edition, 1992.

25D FINANCIAL ECONOMICS

Course Description

This course introduces students to the economics of finance. Some of the basic models used to benchmark valuation of assets and derivatives are studied in detail; these include the CAPM, and the Binomial Option Pricing models. The course ends with a brief introduction to corporate finance.

Course Outline

1. Investment Theory and Portfolio Analysis

a. Deterministic cash-flow streams

Basic theory of interest; discounting and present value; internal rate of return; evaluation criteria; fixed-income securities; bond prices and yields; interest rate sensitivity and duration; immunisation; the term structure of interest rates; yield curves; spot rates and forward rates.

b. Single-period random cash flows

Random asset returns; portfolios of assets; portfolio mean and variance; feasible combinations of mean and variance; mean-variance portfolio analysis: the Markowitz model and the two-fund theorem; risk-free assets and the one-fund theorem.

c. CAPM

The capital market line; the capital asset pricing model; the beta of an asset and of a portfolio; security market line; use of the CAPM model in investment analysis and as a pricing formula.

2. Options and Derivatives

Introduction to derivatives and options; forward and futures contracts; options; other derivatives; forward and future prices; stock index futures; interest rate futures; the use of futures for hedging; duration-based hedging strategies; option markets; call and put options; factors affecting option prices; put-call parity; option trading strategies: spreads; straddles; strips and straps; strangles; the principle of arbitrage; discrete processes and the binomial tree model; risk-neutral valuation.

3. Corporate Finance

Patterns of corporate financing: common stock; debt; preferences; convertibles; capital structure and the cost of capital; corporate debt and dividend policy; the Modigliani-Miller theorem.

Readings:

1. David G. Luenberger, *Investment Science*, Oxford University Press, USA, 1997.
2. Hull, John C., *Options, Futures and Other Derivatives*, Pearson Education, 6th edition, 2005.
3. Thomas E. Copeland, J. Fred Weston and Kuldeep Shastri, *Financial Theory and Corporate Policy*, Prentice Hall, 4th edition, 2003.
4. Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance*, McGraw-Hill, 7th edition, 2002.

5. Stephen A. Ross, Randolph W. Westerfield and Bradford D. Jordan, *Fundamentals of Corporate Finance*. McGraw-Hill, 7th edition, 2005.
6. Burton G. Malkiel, *A Random Walk Down Wall Street*, W.W. Norton & Company, 2003.
7. William Sharpe, Gordon Alexander and Jeffery Bailey, *Investments*, Prentice Hall of India, 6th edition, 2003.

25E ENVIRONMENTAL ECONOMICS

Course Description

This course focuses on economic causes of environmental problems. In particular, economic principles are applied to environmental questions and their management through various economic institutions, economic incentives and other instruments and policies. Economic implications of environmental policy are also addressed as well as valuation of environmental quality, quantification of environmental damages, tools for evaluation of environmental projects such as cost-benefit analysis and environmental impact assessments. Selected topics on international environmental problems are also discussed.

Course Outline

1. Introduction

What is environmental economics; review of microeconomics and welfare economics.

2. The Theory of Externalities

Pareto optimality and market failure in the presence of externalities; property rights and the Coase theorem.

3. The Design and Implementation of Environmental Policy

Overview; Pigouvian taxes and effluent fees; tradable permits; choice between taxes and quotas under uncertainty; implementation of environmental policy.

4. International Environmental Problems

Trans-boundary environmental problems; economics of climate change; trade and environment.

5. Measuring the Benefits of Environmental Improvements

Non-Market values and measurement methods; risk assessment and perception.

6. Sustainable Development

Concepts; measurement.

Readings:

1. Charles Kolstad, *Intermediate Environmental Economics*, Oxford University Press, 2nd edition, 2010.
2. Robert N. Stavins (ed.), *Economics of the Environment: Selected Readings*, W.W. Norton, 5th edition, 2005.
3. Roger Perman, Yue Ma, James McGilvray and Michael Common, *Natural Resource and Environmental Economics*, Pearson Education/Addison Wesley, 3rd edition, 2003.
4. Maureen L. Cropper and Wallace E. Oates, 1992, "Environmental Economics: A Survey", *Journal of Economic Literature*, Volume 30, pp. 675-740.

PAPER 26

CONCURRENT-

DISCIPLINE CENTRED -II