



**Department of Economics & Politics  
Vidya-Bhavana  
Visva-Bharati**

**BA (HONS) (ECONOMICS) SYLLABUS**

(FOLLOWING UGC UNDERGRADUATE CBCS SYLLABUS)

*(As adopted in the BOS meeting held on 6<sup>th</sup> March, 2017 and subsequently at the Institute Board and Academic Council and effective from the academic year 2017-18)*

**Course Structure for B.A. (Hons.) Economics**

There will be **fourteen (14) economics core courses** that students are required to take across six semesters. All the core courses are compulsory.

In addition to core courses in economics, a student of B.A. (Hons.) Economics will choose **(4) four Discipline Specific Elective (DSE) Courses**. The DSE Courses are offered in the **Semesters V and VI** and two such courses will be selected by a student from a set of courses specified for each of these semesters (Groups I and II in the attached table). The Department will offer at least three DSE Courses in **semesters V and VI** to allow the students some minimal element of choice. The syllabi for the DSE Courses are provisional and subject to revision.

A BA (Hons) Student will also choose **(2) two Ability Enhancing Compulsory Course (AECC)**. In **Semesters I and II** students will choose one Ability Enhancing Compulsory Course (AECC) each which are I (English/ Hindi/MIL) and II (Environmental Science). These are compulsory.

A BA (Hons) student in Economics will also choose **(2) two Skill Enhancing Compulsory Course (SECC)** determined by the Department one each in Semester III and IV. These Courses will be Mathematical Methods-I (Sem III) and Statistical Methods- II (Sem IV)

All BA (Hons) students must also choose **(4) four Generic Elective (GE)** courses in an unrelated discipline or subject. These include one course each in Semesters I to IV. The Department of Economics will also offer a Generic Elective in Economics for students of other Departments. The Department of Economics & Politics will also offer a Generic Elective course in Political Science for students of other Departments as well as students of Economics (Honours).

**Contact Hours:** Each course has 5 lectures and 1 tutorial (per group) per week (6 credits). Each course at Visva Bharati will be of 75 marks (60 for end semester exam + 15 for internal assessment)

**Eligibility for admission to B.A. (Hons) Economics:** Given the quantitative requirements of the program, only students who have passed mathematics at the Class XII level are eligible for admission subject to fulfilment of aggregate qualifying marks requirement to be fixed by the department / admission committee.

**Course Structure for B.A. (Hons.) Economics**

<b>Semester-I</b>	<b>Semester-II</b>
CC01 : Introductory Microeconomics CC02 : Mathematical Methods for Economics-I	CC03: Introductory Macroeconomics CC04 : Mathematical Methods for Economics-II
AECC-I English	AECC-II Environmental Science
Generic Elective (GE) Course-I	Generic Elective (GE) Course-II

<b>Semester-III</b>	<b>Semester-IV</b>
CC-05 : Intermediate Microeconomics-I CC-06: Intermediate Macroeconomics-I CC-07: Statistical Methods for Economics	CC-8 : Intermediate Microeconomics-II CC-9 : Intermediate Macroeconomics-II CC-10 : International Economics
SECC-I Mathematical Methods III	SECC-II Statistical Methods II
Generic Elective (GE) Course-III	Generic Elective (GE) Course-IV

<b>Semester-V</b>	<b>Semester-VI</b>
CC-11 : Indian Economy-I	CC-13 : Indian Economy-II
CC-12 : Development Economics	CC-14 : Introduction to Econometrics
Discipline Specific Elective (DSE) Course-I (From List of Group-I)	Discipline Specific Elective (DSE) Course-III (From List of Group-II)
Discipline Specific Elective (DSE) Course-II (From List of Group-I)	Discipline Specific Elective (DSE) Course-IV (From List of Group-II)
<b>Group-I (Discipline Specific Elective (DSE) Courses)</b>	<b>Group-II (Discipline Specific Elective (DSE) Courses)</b>
(i) Public Economics	(viii) Environmental Economics
(ii) Money and Financial Markets	(ix) Development Economics –II
(iii) Economic History of India (1857-1947)	(x) Comparative Economic Development (1850-1950)
(iv) Economics of Health and Education	(xi) Financial Economics
(v) Political Economy-I	(xii) Dissertation/Project
(vi) Topics in Microeconomics-I	(xiii) Political Economy-II
(vii) Applied Econometrics	(xiv) Topics in Microeconomics-II

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**CORE COURSES (14)**

## SEMESTER-I

### Core Course 1 (CC-01): INTRODUCTORY MICROECONOMICS

**Course objectives:** The emphasis of the course will be on thinking like an economist and the course will illustrate how microeconomic concepts can be applied to analyse real-life situations.

**Learning Outcomes:** This course is designed to expose first-year students, who may be new to economics, the basic principles of microeconomic theory.

#### **Exploring the subject matter of Economics**

Why study economics? Scope and method of economics; the economic themes: scarcity and efficiency; thinking like an economist: the question of what to produce, how to produce and how to distribute output; marginal benefits and marginal costs; opportunity cost (private and social); the basic competitive model; prices, property rights, the role of property rights in markets and profits; incentives and information; rationing; opportunity sets; economic systems; reading and working with graphs.

#### **Supply and Demand: How Markets Work, Markets and Welfare**

1. Elementary theory of demand: determinants of household demand, market demand, and shifts in the market demand curve
2. Elementary theory of supply: factors influencing supply, derivation of the supply curve, and shifts in the supply curve
3. The elementary theory of market price: determination of equilibrium price in a competitive market; the effect of shifts in demand and supply; the excess demand function: Existence, uniqueness, and stability of equilibrium; consumer surplus, producer surplus and efficiency of competitive markets (graphical approach); the idea of market failure; Elasticities and their applications.
4. Government intervention and their impact on market equilibrium and efficiency:- controls on prices (Price ceilings and price floors); indirect taxation.

#### **The Households**

The consumption decision - budget constraint, consumption and income and price changes, demand for all other goods and price changes; description of preferences- most preferred bundle and its properties; consumer's optimum choice; income and substitution effects; Marshallian and compensated demand curves; Price consumption curve, income consumption curve, and Engel Curve; Homothetic tastes; labour supply and savings decision - choice between leisure and consumption.

#### **The Firm, Production and Cost**

Defining a firm- firm's legal forms; production with one variable input, production with two variable inputs. The cost of production— the short run and long run analysis.

#### **Theory of the Firm and the Market Organisation**

Profit maximization of the firm under perfect Competition — short run and long analysis; the short run supply curve of the competitive firm and the industry.

#### **Imperfect Market Structure**

Monopoly and anti-trust policy; measuring monopoly power; government policies towards competition; various types of imperfect competition.

## **Input Markets**

Theory of rent-Ricardo, Marshall, and Modern theory of rent; Labour and land markets - basic concepts (derived demand, productivity of an input, marginal productivity of labour, marginal revenue product); demand for labour; input demand curves; shifts in input demand curves, competitive labour markets; labour market and public policy.

## **Reference Books**

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, Cengage Learning India Private Limited, 4th edition, 2007.
3. Robert Pindyck, Daniel Rubinfeld and P L Mehta, Microeconomics, 7th Edition. Pearson.2009.
4. Joseph E. Stiglitz and Carl E. Walsh, Economics, W.W. Norton & Company, Inc., New York, International Student Edition, 4th Edition, 2007.

## **Core Course 2 (CC-02): MATHEMATICAL METHODS IN ECONOMICS-I**

### **1. Preliminaries**

- a) Logic and proof techniques;
- b) sets and set operations; relations;
- c) Convex Sets and Relations
- d) functions and their properties; number systems.

### **2. Functions of one real variable**

- a) elementary types of functions: quadratic, polynomial, power, exponential, logarithmic;
- b) sequences and series: convergence, algebraic properties and applications;
- c) Limit and Continuity of Functions

### **3. Derivative of functions of one variable**

- a) Derivative using first principles
- b) Derivative of important types of functions: polynomial functions, logarithmic functions,
- c) exponential functions etc
- d) Rules of differentiation
- e) Successive differentiation: Higher Order Derivatives
- f) Expansion of Functions; Rolle's Theorem, Mean Value Theorem, Taylor's & Maclaurin's series
- g) Indeterminate Forms

### **4. Single-variable optimization**

Maximum/ Minimum of a function of single variable  
First order and Second order Conditions\  
Global and Local Maximum and Minimum

### **5. Solution of Simultaneous Linear Equations**

- a) System of simultaneous linear equations
- b) Solution by elimination
- c) Geometric interpretation

### **6. Vectors**

- a) Ordered set and its geometric interpretation
- b) Length of a Vector
- c) Basic Vector Operations
- d) Linear dependence and Independence
- e) Vector Space and its Basis
- f) Orthogonality

**Readings:**

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

**SEMESTER-II****Core Course 3 (CC-03): INTRODUCTORY MACROECONOMICS****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. Commodity market: Keynesian view versus classical view.**

Classical View – barter economy model, Say’s Law– demand and supply. Wage-price flexibility and full employment

Keynesian View – Effective demand, demand determined output, Role of Inventory, Simple Keynesian Model – multipliers.

**3. Money**

What is money?  $M_1$   $M_2$   $M_3$   $M_4$ ; Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy.

**4. Fiscal and monetary policy under IS-LM framework:** IS and LM curves, derivation of IS and LM, Slopes, Policy effectiveness, Brief introduction to open economy macroeconomic policies under Mundell-Flemming with perfect capital mobility.

**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.

**Core Course 4 (CC-04): MATHEMATICAL METHODS IN ECONOMICS – II****Course Objectives**

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 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. This course teaches the method of applying mathematical techniques to economic theory in general.

## **Learning Outcomes**

The course provides the mathematical foundations necessary for further study of postgraduate economics, statistics, computer science, finance and data analytics. The analytical tools introduced in this course have applications wherever optimization techniques are used in business decision-making for managers and entrepreneurs alike. These tools are necessary for anyone seeking employment as an analyst in the corporate world.

### **1. Matrices and Determinants**

- a) Matrices: Definition and Examples
- b) Basic Matrix Operations: Addition, subtraction, Scalar and Matrix Multiplication, Transposition
- c) Special Matrices: Idempotent Matrices, Symmetric and Skew-Symmetric Matrices, Identity Matrix, Partitioned Matrices, Trace of a Matrix
- d) The determinant of a Matrix
- e) Properties of Determinants
- f) Minors and Cofactors
- g) Adjoint of a Matrix
- h) Rank of a Matrix
- i) Matrix Inversion
- j) Solution of Systems of Simultaneous Equations using Matrix Methods

### **2. Partial Derivatives (8 classes)**

- a) Functions of Several Variables
- b) Partial Derivatives
- c) Rules of Partial Differentiation
- d) Second Order partial derivatives
- e) Level Curves / Sets
- f) Homogeneous Functions and Euler's Theorem
- g) Total Differential
- h) Taylor's Series for Several Variables
- i) The tangent to a curve
- j) The normal to a curve
- k) The envelope to a family of curve

### **3 Implicit Function Theorem and Comparative Statics**

- a) Systems of Equations / Relations
- b) Equilibrium and Solution of Systems of Equations
- c) Stability of Equilibrium
- d) Implicit Function Theorem
- e) Comparative Statics

#### **4. Optimisation of Functions of Several Variables**

- a) Convex and concave functions of several variables
- b) Second Order Conditions for Convex and Concave Functions of several Variables
- c) Maximum / Minimum of a function of several variables
- d) First order and Second Order conditions
- e) Maximum and Minimum of a Function with (Equality) constraints
- f) Lagrangian Functions and First and Second Order Conditions
- g) Inequality constraints and Kuhn-Tucker Conditions
- h) Optimisation and the Envelope Theore

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



## Semester-III

### **Course:CC-05:INTERMEDIATE MICROECONOMICS – I** (Mathematical Approach)

#### **Course Objective**

It is aimed to be a foundation course on using mathematical tools to understand more clearly various microeconomic analyses and models that students are previously introduced to in a logical way. The discipline of economics is increasingly relying on mathematical techniques to explain complex phenomenon relating to micro and macro issues. The broad objective of this course is to equip the students with basic tools of mathematics and showing examples of how they help in understanding the rational decision making process of an economic agent.

#### **Learning Outcome**

At the end of the course, students are expected to be familiar with basic mathematical techniques like differential and integral calculus and how mathematics deals with limiting situation of a continuous variable. They also learn the techniques and logic of unconstrained optimization, constrained optimization and can deal with discrete and continuous time in analysing inter-temporal decision making. These mathematical tools are shown to be applied to analyse the behaviour of different economic agents like buyers and sellers. These techniques prepare the students to deal with more complex economic systems like General Equilibrium models and Dynamic Optimization, which are covered in different other courses down the line in their pursuit for higher degrees.

#### **Consumer Theory**

Cardinal utility; Preference: ordering and properties of ordinal utility; existence of utility functions, different utility functions and their properties, compensating and equivalent variation, Slutsky equation; consumption-leisure choice and labour supply; choice under uncertainty (expected utility and risk aversion), inter- temporal choice and savings decision; revealed preference approach.

#### **Production and Costs**

Technology- general concept of production function; returns to factor and returns to scale, isoquants and diminishing rate of factor substitution – elasticity of substitution –some examples of technology (fixed proportion, perfect substitute, Cobb– Douglas Production Function, CES Production Function), General concept of homogenous and homothetic production function and their properties; production with one and more variable inputs; iso-cost line and firms equilibrium and expansion paths; short run and long run costs; cost curves in the short run and long run; relation between short run and long run costs.

#### **Competitive Equilibrium**

Short run and long run equilibrium; determination of the supply curve of the firm in the long run and the industry with reference to external economies and diseconomies of scale.

#### **Reference Books:**

**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.)

**Hugh Gravelle and Ray Rees**. Microeconomics, Prentice Hall (UK); 3rd edition, 2004.

**C. Snyder and W. Nicholson**, Fundamentals of Microeconomics, Cengage Learning (India), 2010.  
**B. Douglas Bernheim and Michael D. Whinston**, Microeconomics, Tata McGraw- Hill (India), 2009.  
**Anindya Sen**, Microeconomics: Theory and Applications, Oxford University press.  
**Pindyck, Rubinfeld and Mehta**, Microeconomics, Pearson.

### Course-CC-06

## INTERMEDIATE MACROECONOMICS - I

### 1. Microeconomic Foundations

**Consumption:** Keynesian consumption function; Fisher's theory of optimal inter-temporal choice; Life-cycle and Permanent Income and Relative Income hypotheses; Policy debate.

**2. Integration of labour market, money market and commodity markets:** AD and AS curves under Keynesian framework, corresponding policy analysis.

**3. Monetarism:** Basic framework. Policy analysis under short and long run with Adaptive expectations.

**4. Policy effectiveness:** AD--AS framework and fiscal and monetary policies in different schools of macroeconomic thought: Classics, Keynes, Monetarism.

### 5. Inflation, Unemployment and Expectations

Phillips curve; adaptive and rational expectations; policy relevance debate: basic ideas of Keynes, Friedman, Lucas, Barro.

### 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. **Branson, W.** Macroeconomics
6. **Helmut Frisch**, Theories of Inflation, Cambridge University Press, 1983

### Course: CC-07

## STATISTICAL METHODS FOR ECONOMICS

### Course Objective

The discipline of economics largely depends on information to be processed by the tools of statistics. The objective of this course is to introduce the students to the discipline of statistics and to familiarize them with techniques of information processing that has wide application in economics.

### Learning Outcome

This course introduces the types of information that are collected for various economics

analyses and the standard and basic ways to produce and represent summary information hidden in a raw dataset. The course also prepares them to various statistical terms which in their later days become a common language in communicating economic results. The course also prepares the students to venture into more sophisticated statistical analyses like Econometric tools that are integral part of the syllabus in higher classes.

## **1. Collection of data and descriptive statistics:**

1.1 Types of statistical data, Primary and Secondary data, Sampling and Census, methods of collecting primary data.

1.2 Data compilation, Classification, Tabulation and Diagrammatic representation of data (line, bar and pie diagram), semi-logarithmic line diagram and ratio charts.

1.3 Frequency Distribution, discrete (ungrouped) and grouped frequency distribution, Cumulative Distribution.

1.4 Graphical representation of frequency distribution, Histogram, Frequency Polygon, Frequency Curve and Ogive.

## **2. Analysis of Univariate quantitative data:**

2.1 Measures of Central Tendency: Concept of central tendency of statistical data: Statistical average, characteristics of a good statistical average Simple and weighted Arithmetic, geometric and harmonic mean. Median and Mode for simple and grouped frequency distribution.

2.2 Measures of Dispersion: Introduction and meaning, absolute and relative measures. Absolute Measures - Range, Quartile Deviation, Mean Deviation and Standard Deviation – merits and limitations. Relative measures – Coefficient of quartile and mean deviation, Coefficient of variation

2.3 Moments, Skewness and Kurtosis: Moments of a frequency distribution. Moments about arbitrary point, Raw moments and Central Moments. Meaning and measurement of skewness – Bowley's measure and measure of moments. Concepts of kurtosis - leptokurtic, mesokurtic and platykurtic frequency distributions. Measures of kurtosis based on moments.

## **3. Analysis of Bivariate quantitative data:**

3.1 Concept of Bivariate data and bivariate frequency distribution.

3.2 Concept of correlation between two variables,

3.3 Scatter diagram and its use.

3.4 Covariance between two variables - Definition and computation

3.5 Karl Pearson's coefficient of correlation ( $r$ ) : Definition and computation

3.6 Spearman's rank correlation coefficient : Definition and computation (with and without ties)

3.7 Concept of regression, lines of regression, fitting of lines of regression by the least squares method, interpretation of slope and intercept.

3.8 Analysis of variance: explained and unexplained variation - Mean residual sum of squares (s.s.), Explained and unexplained variation, coefficient of determination.

**4. Elementary Probability Theory:** Sample spaces and events; Probability axioms and properties; counting techniques; Conditional probability & Bayes' Rule; independence.

## **5. Random Variable and its Probability Distribution**

5.1 Concept of a random variable - discrete and continuous random variables

5.2 Probability distribution - mass function density function and distribution function

5.3 Moments of a random variable – moment generating functions - expectation and variance

- 5.4 Theoretical distributions of a discrete random variable - Binomial, Poisson and Hypergeometric – MGF of theoretical distributions.
- 5.5. Distribution of a continuous random variable - Normal and Standard Normal Distribution –Moments of a normal distribution.
- 5.6. Limiting form of binomial and Poisson distribution, importance of Normal Distribution in Statistics, Central Limit Theorem (statement only)

**References:**

1. Goon A.M., Gupta M. & Dasgupta B (2010): Fundamentals of Statistics (Vol 1), World Press.
2. Gupta and Kapoor (2005): Fundamentals of Mathematical Statistics, Sultan Chand and Sons, New Delhi.
3. Richard J. Larsen and Morris L. Marx, *An Introduction to Mathematical Statistics and its Applications*, Prentice Hall, 2011.
4. William G. Cochran, *Sampling Techniques*, John Wiley, 2007.

## **SKILL ENHANCING COMPULSORY COURSE**

### **SEMESTER III/ (SECC-I)**

#### **MATHEMATICAL METHODS-III**

#### **Course Objective**

In this course students are introduced to the basic mathematical tools necessary to analyze dynamic economic models as well as stochastic models that are crucial to empirical studies. These skills are not only essential prerequisites for many courses on economic growth, development as well as econometrics but also crucial to handle statistical data that is important requirement in various jobs available for students of economics.

#### **Learning Outcome**

At the end of this course the student is ready to deal with issues in dynamic economics and to proceed to learn more about statistical methods that analyze empirical data.

### **I INTEGRAL CALCULUS**

- a) Integral: Basic Concept and Examples
- b) Indefinite Integrals
- c) Integration of key functions; polynomials, exponential and logarithmic functions etc
- d) Rules of integration
- e) Method of substitution
- f) Integration by Parts
- g) Definite Integrals
- h) Improper Integrals

## II. DIFFERENTIAL EQUATIONS

- a) First Order Linear (1<sup>st</sup> Degree) Differential Equations
  - Autonomous Equations
  - Homogenous Solutions
  - Exact Equations and Conditions of Exactness
  - General Solution and Particular solution
  - Initial Value Problem
  - Steady State and Convergence
  - Nonautonomous Equations
- b) First Order Nonlinear (Higher Degree) Differential Equations
  - Bernoulli's Equation
  - Separable Equations
- c) Second (and higher order) Linear Differential Equations

## III Difference Equations

## IV Probability Theory

- a) **Elementary Probability Theory**
- b) Sample spaces and events; probability axioms and properties; counting techniques; conditional probability and Bayes' rule; independence.

## Readings

1. Goon A M, Gupta M K and Dasgupta B: *Basic Statistics*, World Press Private Ltd.
2. Goon A M, Gupta M K and Dasgupta B: *Fundamental of Statistics (Vol I & II)*, World Press Private Ltd.
3. Mathai & Rathie – Probability and Statistics
4. Gupta S C and Kapoor V K: *Fundamental of Mathematical Statistics*, Sultan Chand & Sons.
5. Spiegel, M R and Stephen, L.J.: *Statistics*, Schaum Series

## **SEMESTER-IV**

### **Course : CC-08: INTERMEDIATE MICROECONOMICS - II**

#### **Course Objective:**

This course builds on the microeconomic principles studied in the previous Microeconomics courses and provides an analysis of the way in which the market system functions as a mechanism for coordinating the independent choices of individual economic agents. It develops a basis for evaluating the efficiency and equity implications of competition and other market structures, and a perspective on the appropriate role of government. Included are the study of consumer choice, production and cost, market structure, and market failure. Given the emphasis on applications in earlier courses this course will put more emphasis on the mastery of theoretical concepts and analytical tools, although their application to real world problems remains an important part of the course.

#### **Learning Outcomes**

Upon successful completion, students will have the knowledge and skills to: apply economic concepts to solve for choices made by consumers and producers; assess the economic efficiency of market outcomes for different market structures, also in the presence of externalities, and/or when influenced by government intervention

#### **Market Structure and Game Theory**

1. Monopoly; pricing with market power; degree of monopoly; price discrimination-different degrees; multiplant monopoly; peak-load pricing; two-part tariff; monopolistic competition. Taxation under Monopoly
2. Oligopoly and game theory (Cooperative and Non-cooperative static games; simultaneous move and sequential move games; non-cooperative games of perfect information; the Prisoner's dilemma, Nash equilibrium in pure and mixed strategies; Backward induction solutions and SPNE); Applications of game theory in oligopolistic markets (Cournot Equilibrium, Bertrand Equilibrium, StacklebergEquilibrium) ; concept of collusion and cartels; Solution by backward induction.

#### **Input Market under Perfect Competition**

Derived demand for input, marginal product and marginal revenue product, input demand for competitive firm and competitive industry, returns to scale and product exhaustion theorem.

#### **Input Market under Imperfect Competition**

Monopsony, bilateral monopoly in labour market;

## **General Equilibrium, Efficiency, and Welfare**

1. Exchange Economy, Consumption Allocation and Pareto Optimality; Edgeworth box and contract curve; Equilibrium and efficiency under pure exchange.
2. Pareto efficiency with production: concepts of PPF, SIC, and resource allocation;
3. Perfect competition and Pareto efficiency

## **Market Failure, Externalities**

Externalities and Market Failure, Markets with asymmetric information.

## **Readings:**

- **Pindyck and Rubinfeld**, Microeconomics, Prentice Hall/ Pearson Education, 8<sup>th</sup> Edition,
- **J M Perloff**, Microeconomics: Theory and Applications with Calculus (4th Edition) (The Pearson Series in Economics) 4th Edition, 2016.
- **Anindya Sen**, Microeconomics: Theory and Applications, OUP, 1999
- **Hal Varian**. Microeconomic Analysis, Third Edition, Selected chapters, W. W. Norton and Company, 2013. Norton and Company/Affiliated East-West Press (India), 2010.[The workbook by Varian and Bergstrom could be used for problems].
- **C. Snyder and W. Nicholson**, Fundamentals of Microeconomics, Cengage Learning, 2010
- **Robert Gibbons**. A Primer in Game Theory, Princeton University Press, 1992.

## **Course CC-09: INTERMEDIATE MACROECONOMICS - II**

**Course Objective:** The objective of this course is to teach the foundations of Macroeconomics -- its basic schools of thought like Keynes, Classics, Monetarism, Rational expectations etc.

**Learning outcome:** Students should be able to understand the fundamental debates of Macroeconomics especially focusing on policy discourse -- policy relevance/irrelevance debate across different schools. Thus, not only the theoretical complexities, but also the practical relevance of Macroeconomics could be comprehended.

### **1. Basic tenets of New Classical and New Keynesian Theories**

- New Classical Theory: basic concepts and models of aggregate supply - the theory of real business cycle – introductory ideas.
- New Keynesian Theory – nominal rigidities and real rigidities, rigidities in interest rates and credit rationing – introductory ideas(coordination failure, menu cost, staggered price).

## 2. Macroeconomic Foundation

- Investment: PDV, IRR, MEC and MEI – Jorgenson's neo-classical theory – Acceleration principle – fixed and flexible.
- Demand for money: Regressive expectation and Tobin's portfolio choice models; Baumol's inventory theoretic money demand; Friedman's restatement.

## 3. Economic Growth

- Harrod and Domar models of economic growth
- Solow one sector growth model – golden rule – dynamic efficiency.
- Technological progress
- Elements of endogenous growth theory – basic ideas – the AK model.

### Readings:

1. **Dornbusch, Fischer and Startz**, *Macroeconomics*, McGraw Hill, 11<sup>th</sup> edition, 2010.
2. **N. Gregory Mankiw**, *Macroeconomics*, Worth Publishers, 7<sup>th</sup> edition, 2010.
3. **Olivier Blanchard**, *Macroeconomics*, Pearson Education, Inc., 5<sup>th</sup> edition, 2009.
4. **Steven M. Sheffrin**, *Rational Expectations*, Cambridge University Press, 2<sup>nd</sup> Edition, 1996.
5. **Errol D'Souza**, *Macroeconomics*, Pearson Education, 2009
6. **Richard T. Froyen**, *Macroeconomics*, Pearson Education Asia, 2<sup>nd</sup> edition, 2005.
7. **Debraj Ray**, *Development Economics*, Oxford University Press, Princeton University Press
8. **Charles I. Jones**, *Introduction to Economic Growth*, 2<sup>nd</sup> Edition, 2015, Viva Books/ W. W. Norton & Company

### **Course: CC-10: INTERNATIONAL ECONOMICS**

**Course objectives:** This course makes the students familiar with the basic theories of International trade. Starting with the Absolute Advantage of Adam Smith and Comparative Advantage of David Ricardo the course covers most of the fundamental trade theories such as the Heckscher-Ohlin trade theory to the International Product Life cycle theory. They also study the various trade policies such as tariff and quota. They are also taught the basics of international finance that includes study of balance of payments accounts and exchange rate theories. From this course the students get an overall idea of the trade theories developed over time..

### **Learning Outcomes:**

Upon successful completion of the course, students will have the

1. knowledge and skills to be familiar with the basic models of international trade and their essential properties;
2. Understand the tools taught in class and be able to recognise their application to the analysis of real world fact situations;
3. Read and understand professional economics articles in the field of international trade theory.



### **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, Balance of payments, Foreign Trade Multiplier (with or without repercussions)

### **4. International Macroeconomic Policy**

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

### **Readings:**

1. Paul Krugman, Maurice Obsfeld and Marc Melitz, International Economic: Theory and Policy, Addison-Wesley (Pearson Education Indian Edition), 9<sup>th</sup> edition, 2012.
2. Domonick Salvatore, International Economics: Trade and Finance, John Wiley International Student Edition, 10<sup>th</sup> edition, 2011.
3. Caves, Frankel and Jones; World Trade and Payments: An Introduction, Pearson, 10<sup>th</sup> edition.
4. Miltiades Chacholiades, International Economics, McGrawhill Education.
5. Rajat Acharya, International Economics: An Introduction to Theory and Policy, Oxford University Press.

## **SKILL ENHANCING COMPULSORY COURSE**

### **SEMESTER IV / STATISTICAL METHODS-II (SECC II)**

#### **Course Objectives**

The discipline of economics largely depends on information to be processed by the tools of statistics. The objective of this course is to introduce the students to the sampling techniques, problem of inferences and testing of hypothesis - all of these have wide application in economics.

## **Learning Outcomes**

This course introduces the types of sampling methods and the standard and basic ways to perform testing of hypotheses. The course prepares the students to various statistical techniques which in their later days become a common language in communicating economic results.

### **1. Sampling**

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

### **2. Random Sampling and Jointly Distributed Random Variables**

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

### **3. Classical Statistical Inference**

4.1 Estimators – point estimation and interval estimation

4.2 Properties of a good estimator -Unbiasedness, Minimum Variance, Consistency and Sufficiency

4.3 Maximum Likelihood Estimators and their properties

### **4. Testing of hypothesis:**

5.1 Null hypothesis and alternative hypothesis

5.2 One-tailed and two tailed tests – confidence limits and concept of p-value

5.3 Error in hypothesis testing - Type-I and Type –II errors

5.4 Applications of tests for the Mean and Variance – tests for comparison of mean and proportion of two groups

### **Readings**

5. Goon A M, Gupta M K and Dasgupta B: *Basic Statistics*, World Press Private Ltd.

6. Goon A M, Gupta M K and Dasgupta B: *Fundamental of Statistics (Vol I & II)*, World Press Private Ltd.

7. Mathai & Rathie – Probability and Statistics

8. Gupta S C and Kapoor V K: *Fundamental of Mathematical Statistics*, Sultan Chand & Sons.

5. Spiegel, M R and Stephen, L.J.: *Statistics*, Schaum Series

## SEMESTER-V

### Course: CC-11: INDIAN ECONOMY-I

#### **Course Objectives**

This course gives an overview of India economy. It aims at showing the picture of our economy right from the eve of independence – as underdeveloped one, with low growth as one of the important characteristics – to the present one – as being one of the fastest growing economies. As such, the syllabus covers the plans and strategies taken for the development of the country since independence, with particular focus on paradigm shifts and turning points. Furthermore, the objective is also to equip students with other contemporary issues of our economy such as, human development, inequality, employment and population growth.

#### **Learning Outcomes**

- (a) To understand the basic characteristics of economic development and growth of Indian economy.
- (b) To be able to understand economic planning in India.
- (c) To analyze new economic policies (privatization ,liberalization and globalization) in India.
- (d) To gain knowledge about the contemporary issues of our economy.

#### **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, Jean Dreze and Amartya Sen, 2013. *An Uncertain Glory: India and its Contradictions*, Princeton University Press.
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*, 19<sup>th</sup> 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 and A. Maertens, eds, 2013, *The New Oxford Companion to Economics*, Oxford University Press.

## **Course: CC- 12: DEVELOPMENT ECONOMICS-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 strategies and models of development. 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 economic and political institutions to development by discussing the role of the state and market in economic development.

### **Course Outline**

**1. Meaning of Development**—distinction between growth and development—alternative concepts of economic development: income based approach and capability based approach (different aspects of per capita income & HDI as indices of development). Broad features of under-development. Development experiences of less developed countries in the recent past.

**2. Stages of Development and Structural Change**—Clark, Fisher and Rostow's Stages of Growth, Industrialisation & 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. Problems of labour surplus economy**—the trap models and their criticisms (models of Nelson & Leibenstein) —Lewis model and its criticism—Nurkse’s idea of disguised saving potential – concept of labour surplus (disguised unemployment)—Sen’s model—labour migration and Hariss-Todaro model.

**5. Development Strategy**—balanced vs. unbalanced growth—choice of technique in a labour surplus economy.

### **6. Institutions and the Functioning of the State and Market**

Definition of institutions. Evolution of Political and Economic Institutions. Alternative institutional trajectories and their relationship with economic performance. State ownership and regulation. Government and Market failures and Corruption.

#### **Text Books:**

1. A. P. Thirlwall (1999): *Growth and Development* (7<sup>th</sup> Edition or later); Mc Millan.
2. Todaro and Smith(2003): *Economic Development*, Pearson Education

#### **Selected References:**

1. Debraj Ray(1998): *Development Economics*; Oxford University Press (OUP)
2. Hayami and Godo (2005): *Development Economics*, OUP.
3. H. Myint (1987), *Economics of Developing Countries*, B. I. Publications Pvt. Ltd.
4. A. K. Sen (1988), ‘The Concept of Development’ in Chenery and Srinivasan (Eds) *Handbook of Development Economics*.
5. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, *Understanding Poverty*, OUP, 2006.
6. Kaushik Basu, *The Oxford Companion to Economics in India*, OUP, 2007.
7. Daron Acemoglu and James Robinson, *Economic Origins of Dictatorship and Democracy*, Cambridge University Press, 2006.

## **DISCIPLINE SPECIFIC ELECTIVE (DSE) PAPERS: GROUP-I**

**(Students are to choose any two courses from the following four courses offered)**

**Course: DSE- (i)**

**Paper: PUBLIC ECONOMICS**

#### **Course Objectives**

The focus of the course, which draws on microeconomic theory, is on the development of analytical tools and their application to key policy issues relating to the spending, taxing and financing activities of government. Particular emphasis is given to recent developments in public

economics, including findings from current research, in areas such as behavioural public economics, new empirical methods and policy innovations.

### **Learning Outcomes**

The course aims to give students an appreciation of the analytical methods in economics for the study of the public sector and the role of the state in principle and in practice; to provide a thorough grounding in the principles underlying the role of the state, the design of social insurance and the welfare state and the design of the tax system and to enable students to understand the practical problems involved in implementing these principles.

### **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. **Overview of Public Good;** Characteristics of Pure Public Good; Distinction between Pure Public Good and Private Good; Market Failure in case of Pure Public Good; Optimal provision of Public Goods; Private Provision and Public Provision of Public Goods; Lindahl Equilibrium, Voting Equilibrium.
2. **Public Economic Theory**
  - a. Fiscal functions: an overview.
  - b. Public Goods: definition, Characteristics of Pure Public Good; Distinction between Pure Public Good and Private Good; Market Failure in case of Pure Public Good; Optimal provision of Public Goods; Private Provision and Public Provision of Public Goods; Lindahl Equilibrium, 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: Classification of Taxes; Canons of Taxation; Benefit Principle; Equal Sacrifice Principle; Ability to Pay Principle; Incidence and Burden of Taxes; Effects of taxation on income distribution, work efforts, and on savings; the Laffer curve; Optimal Taxation

### **3. Indian Public Finances**

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

### **Readings:**

1. J. Hindriks, G. Myles: *Intermediate Public Economics*, MIT Press, 2006.
2. H. Rosen, T. Gayer: *Public Finance*, 9<sup>th</sup> ed., McGraw-Hill/Irwin, 2009.
3. Joseph E. Stiglitz, *Economics of the Public Sector*, W.W. Norton & Company, 3<sup>rd</sup> edition, 2000.
4. R.A. Musgrave and P.B. Musgrave, *Public Finance in Theory & Practice*, McGraw Hill Publications, 5<sup>th</sup> edition, 1989.
5. John Cullis and Philip Jones, *Public Finance and Public Choice*, Oxford University Press, 1<sup>st</sup> edition, 1998.
6. Harvey Rosen, *Public Finance*, McGraw Hill Publications, 7<sup>th</sup> edition, 2005.
7. Mahesh Purohit, *Value Added Tax: Experiences of India and Other Countries*, 2007.
8. Kaushik Basu and A. Maertens (ed.), *The New Oxford Companion to Economics in India*, Oxford University Press, 2013.
10. M. Govinda Rao, *Changing Contours of Federal Fiscal Arrangements in India*, Amaresh Bagchi (ed.), *Readings in Public Finance*, Oxford University Press, 2005.
11. Paul Samuelson, 1955, —Diagrammatic Exposition of a theory of Public Expenditure, *Review of Economics and Statistics*, Volume 37.
12. Shankar Acharya, 2005, —Thirty Years of Tax Reform in India, *Economic and Political Weekly*, May 14-20.
13. Rangarajan and D.K. Srivastava, 2005, —Fiscal Deficit and Government Debt: Implications for Growth and Stabilization”, *Economic and Political Weekly*, July 2-8.
14. M. Govinda Rao, 2011, —Goods and Services Tax: A Gorilla, Chimpanzee or a Genius like Primates?, *Economic and Political Weekly*, February 12-18.
15. Report of the 13<sup>th</sup> Finance Commission, 2010-15.
16. *Economic Survey*, Government of India (Latest).
17. *State Finances: A Study of Budgets*, Reserve Bank of India (Latest).

**Course: DSE (ii)**

**Paper: MONEY AND FINANCIAL MARKETS**

### **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, 6<sup>th</sup> edition, 2009.
  2. F. J. Fabozzi, F. Modigliani, F. J. Jones, M. G. Ferri, *Foundations of Financial Markets and Institutions*, Pearson Education, 3<sup>rd</sup> 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, 5<sup>th</sup> edition, 2011.
  6. M. Y. Khan, *Indian Financial System*, Tata McGraw Hill, 7<sup>th</sup> 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.
- R.B.I. Bulletin, Annual Report and Report on Currency and Finance (latest).

#### **Course-DSE (iii)**

#### **Paper: ECONOMIC HISTORY OF INDIA (1857-1947)**

#### **Course Objective**

It is aimed to be a foundation course on the understanding of the history of India, especially the British colonial era from an economics perspective. The objective of the course is to enable them to look at colonial history from a very rational perspective. They are taught economic issues like the theory of economic drain that was actually calculated by Dadabhai Naoroji, trade restrictions, land revenue related policies, etc. It is an important course for the students to understand the foundation of the independent India.

#### **Learning Outcome**

At the end of the course, students are expected to look at Indian history more rationally and from an economic perspective. This will help them in their argument and in their thinking process when they discuss about the history of the country.

#### **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 20<sup>th</sup> 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, —Deindustrialization in India in the nineteenth century: Some theoretical implications, *Journal of Development Studies*, 1976.
11. MD Morris, *Emergence of an Industrial Labour Force in India*, OUP 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*, OUP 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.

## **Course- DSE (iv) Paper: 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 analyze, 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.

## **Semester-VI**

## CC- 13: INDIAN ECONOMY-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. Given the rapid changes taking place in the country, the reading list will have to be updated annually.

### 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 and A. Maertens, eds, 2013, *The New Oxford Companion to Economics in India*, Oxford University Press.

## **CC-14:INTRODUCTORY ECONOMETRICS**

### **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: 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.

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

## **DISCIPLINE SPECIFIC ELECTIVE (DSE) PAPERS: ECONOMICS**

### **GROUP-II**

**Course: DSE-VIII**

**Subject: ENVIRONMENTAL ECONOMICS**

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

**Course: DSE-IX**

**Subject: DEVELOPMENT ECONOMICS- II**

**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. Social Sector Development: Education, Health and Nutrition**

2.1 Education and health as joint investments on human capital for development.

2.2 The role of human capital on economic development: evidence from aggregate cross-country data.

2.3 Improving health and education; why income alone is not sufficient?

2.4 Economic impact of education—nature of schooling in developing countries.

2.5 Health systems and development—measurement and distribution—disease burden—health, nutrition and productivity—investing in health.

## **3. Gender Issues and Development**

3.1 Women's education in developing countries: an overview.

3.2 Women in the labour force

3.3 Women, poverty and development in the third world; women in developing countries and 'missing women'.

3.4 Empowerment of women.

## **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. Dani Rodrik, *The Globalization Paradox: Why Global Markets, States and Democracy Can't Coexist*, Oxford University Press, 2011.

**Course: DSE-X Subject: 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 20<sup>th</sup> 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*. 2<sup>nd</sup> 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, 3<sup>rd</sup> edition, 1986.
11. Timothy W. Guinnane, 2002, —Delegated Monitors, Large and Small: Germany's banking System, 1800 –1914, *Journal of Economic Literature*, Volume XL: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, 4<sup>th</sup> 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*, XV 3:291-333.

**Course: DSE-XI**

**Subject: 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, 6<sup>th</sup> edition, 2005.
3. Thomas E. Copeland, J. Fred Weston and Kuldeep Shastri, *Financial Theory and Corporate Policy*,



- Prentice Hall, 4<sup>th</sup>edition, 2003.
4. Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance*, McGraw-Hill, 7<sup>th</sup> edition, 2002.
  5. Stephen A. Ross, Randolph W. Westerfield and Bradford D. Jordan, *Fundamentals of Corporate Finance*. McGraw-Hill, 7<sup>th</sup>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, 6<sup>th</sup> edition, 2003.

**Course: DSE-XII**

**Subject: Dissertation /Project**

## Syllabus for B.A. (Hons.)

### Generic Elective Courses in Economics

<b>Semester I</b>	<b>Semester II</b>
<b>Generic Elective in Economics I: Introductory Microeconomics</b>	<b>Generic Elective in Economics II: Introductory Macroeconomics</b>
<b>Semester III</b>	<b>Semester IV</b>
<b>Generic Elective in Economics III:</b> <b>(a) Indian Economy-I OR</b> <b>(b) Money and Banking OR</b> <b>(c) Environmental Economics</b>	<b>Generic Elective in Economics IV:</b> <b>(a) Indian Economy-II OR</b> <b>(b) Economic History of India 1857-1947 OR</b> <b>(c) Public Finance</b>



## **Generic Elective in Economics I: Introductory Microeconomics**

### **Course Objectives**

The course provides an introduction to a core area of economics known as microeconomics. It considers the operation of a market economy and the problem of how best to allocate society's scarce resources. The course considers the way in which various decision making units in the economy (individuals and firms) make their consumption and production decisions and how these decisions are coordinated. It considers the laws of supply and demand, and introduces the theory of the firm, and its components, production and cost theories and models of market structure. The various causes of market failure are assessed, and consideration is given to public policies designed to correct this market failure.

### **Learning Outcomes**

This course aims to develop an understanding of the framework that economists use to analyse choices made by individuals in response to incentives and consider how these choices can also serve the social interest. The course introduces students to models of how individuals and firms interact within markets, when markets fail, and how government policy may improve outcomes for society. A theoretical framework is developed in which students acquire an understanding of how economic agents interact and by doing so develop the literacy and verbal communication skills necessary for presenting arguments of an economic nature.

### **Course Description**

This course is designed to expose the students to 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 analyze real-life situations.

### **Course Outline**

#### **1. Exploring the subject matter of Economics**

Why study economics? Scope and method of economics; the economic problem: scarcity and choice; the question of what to produce, how to produce and how to distribute output; science of economics; 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**

Markets and competition; determinants of individual demand/supply; demand/supply schedule and demand/supply curve; market versus individual demand/supply; shifts in the demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency of the markets.

#### **3. The Households**

The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences (representing preferences with indifference curves); properties of indifference curves; consumer's optimum choice; income and

substitution effects; labour supply and savings decision - choice between leisure and consumption.

#### **4. The Firm 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 - basic concepts (derived demand, productivity of an input, marginal productivity of labour, marginal revenue product); demand for labour; input demand curves; shifts in input demand curves; competitive labour markets; and labour markets and public policy.

### **Readings**

1. Karl E. Case and Ray C. Fair, *Principles of Economics*, Pearson Education Inc., 8<sup>th</sup> 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, 4<sup>th</sup> edition, 2007.
3. Joseph E. Stiglitz and Carl E. Walsh, *Economics*, W.W. Norton & Company, Inc., New York, International Student Edition, 4<sup>th</sup> Edition, 2007.

## **Generic Elective in Economics II: Introductory Macroeconomics**

### **Course Description**

This course aims to introduce the 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, 11<sup>th</sup> edition, 2010.
2. N. Gregory Mankiw. *Macroeconomics*, Worth Publishers, 7<sup>th</sup> edition, 2010.
3. Olivier Blanchard, *Macroeconomics*, Pearson Education, Inc., 5<sup>th</sup> edition, 2009.
4. Richard T. Froyen, *Macroeconomics*, Pearson Education Asia, 2<sup>nd</sup> edition, 2005.
5. Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education, Inc., 7<sup>th</sup> edition, 2011.
6. Errol D'Souza, *Macroeconomics*, Pearson Education, 2009.
7. Paul R. Krugman, Maurice Obstfeld and Marc Melitz, *International Economics*, Pearson Education Asia, 9<sup>th</sup> edition, 2012.

## **Generic Elective in Economics III(a): Indian Economy-I**

### **Course Objective**

This course gives an overview of India economy. It aims at imparting knowledge about the development process of our economy from the eve of independence. As such, the syllabus covers the plans and strategies taken for the development of the country since independence, with particular focus on paradigm shifts and turning points. Furthermore, the objective is also to equip students with other contemporary issues of our economy such as, human development, inequality, employment and population growth.

#### **Learning Outcome:**

- (a) To have idea of the basic nature of Indian economy.
- (b) To know about the current five year plan and new economic policies.
- (c) To able to understand about the contemporary issues of our Indian economy.

### **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, 2013. *An Uncertain Glory: India and its Contradictions*, Princeton University Press.
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*, 19<sup>th</sup> 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 and A. Maertens, eds, 2013, *Oxford Companion to Economics*, Oxford University Press.
- 17.

## **Generic Elective in Economics III(b): Money and Banking**

### **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, 6<sup>th</sup> edition, 2009.
2. F. J. Fabozzi, F. Modigliani, F. J. Jones, M. G. Ferri, *Foundations of Financial Markets and Institutions*, Pearson Education, 3<sup>rd</sup> edition, 2009.
3. L. M. Bhole and J. Mahukud, *Financial Institutions and Markets*, Tata McGraw Hill, 5<sup>th</sup> edition, 2011.
4. M. Y. Khan, *Indian Financial System*, Tata McGraw Hill, 7<sup>th</sup> edition, 2011.
5. Various latest issues of R.B.I. Bulletins, Annual Reports, Reports on Currency and Finance and Reports of the Working Group, IMF Staff Papers.

## **Generic Elective in Economics III(c): Environmental Economics**

### **Course Description**

This course introduces students to concepts, methods and policy options in managing the environment using tools of economic analysis. This course should be accessible to anyone with an analytical mind and familiarity with basic concepts of economics. Since several environmental problems are caused by economic activity (for instance, carbon emissions, over-harvesting of renewable resources and air and water pollution as a by-product of industrial activity), this course examines different approaches to adjusting behaviour through economic institutions such as markets and incentives as well as through regulation, etc. It also addresses the economic implications of environmental policies through practical applications of methods for valuation of environmental goods and services and quantification of



environmental damages. Conversely, the impact of economic growth on the environment is also addressed under the rubric of sustainable development. Environmental problems and issues from the Indian and international context (especially global warming) are used to illustrate the concepts and methods presented in the course. The course will be useful for students aiming towards careers in the government sector, policy analysis, business, journalism and international organisations.

## **Course Outline**

### **1. Introduction**

Key environmental issues and problems, economic way of thinking about these problems, basic concepts from economics; Pareto optimality and market failure in the presence of externalities; property rights and other approaches.

### **2. The Design and Implementation of Environmental Policy**

Overview, Pigouvian taxes and effluent fees, tradable permits, implementation of environmental policies in India and international experience; transboundary environmental problems; economics of climate change.

### **3. Environmental Valuation Methods and Applications**

Valuation of non-market goods and services--theory and practice; measurement methods; cost-benefit analysis of environmental policies and regulations.

### **4. Sustainable Development**

Concepts; measurement; perspectives from Indian experience

## **Readings**

1. Roger Perman, Yue Ma, Michael Common, David Maddison and James McGilvray, "*Natural Resource and Environmental Economics*", Pearson Education/Addison Wesley, 4<sup>th</sup> edition, 2011.
2. Charles Kolstad, "*Intermediate Environmental Economics*", Oxford University Press, 2<sup>nd</sup> edition, 2010.
3. Robert N. Stavins (ed.), "*Economics of the Environment: Selected Readings*", W.W. Norton, 6<sup>th</sup> edition, 2012.
4. Robert Solow, "An Almost Practical Step toward Sustainability," Resources for the Future 40th anniversary lecture, 1992.
5. Kenneth Arrow et al., "Are We Consuming Too Much?" *Journal of Economic Perspectives*, 18(3): 147-172, 2004.
6. IPCC (Intergovernmental Panel on Climate Change), Fifth Assessment Report (forthcoming 2014).

## **Generic Elective in Economics IV(a): Indian Economy-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*.
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 and A. Maertens, eds, 2013. *The New Oxford Companion to Economics in India*, Oxford University Press.

## **Generic Elective in Economics IV(b): 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.

## CourseOutline

### **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 20<sup>th</sup> 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, ‘Deindustrialization in India in the nineteenth century: Some theoretical implications’, *Journal of Development Studies*, 1976.
11. MD Morris, *Emergence of an Industrial Labour Force in India*, OUP 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*, OUP 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.

## Generic Elective in Economics IV(c): Public Finance

## **Course Description**

This course is a non-technical overview of government finances with special reference to India. The course does not require any prior knowledge of economics. It will look into the efficiency and equity aspects of taxation of the centre, states and the local governments and the issues of fiscal federalism and decentralisation in India. The course will be useful for students aiming towards careers in the government sector, policy analysis, business and journalism.

## **Course Outline**

### **Part-1: Theory**

1. Overview of Fiscal Functions, Tools of Normative Analysis, Pareto Efficiency, Equity and the Social Welfare.
2. Market Failure, Public Good and Externalities.
3. Elementary Theories of Product and Factor Taxation (Excess Burden and Incidence).

### **Part -2: Issues from Indian Public Finance**

4. Working of Monetary and Fiscal Policies.
5. Current Issues of India's Tax System.
6. Analysis of Budget and Deficits
7. Fiscal Federalism in India
8. State and Local Finances

## **Readings**

1. Musgrave, R.A. and P.B. Musgrave, *Public Finance in Theory and Practice*, Mc-Graw Hill, 1989.
  2. Mahesh Purohit , “*Value Added Tax: Experience of India and Other Countries*”, Gayatri Publications, 2007.
  3. Kaushik Basu, and A. Maertens (ed.), *The Oxford Companion to Economics in India*, Oxford University Press, 2007.
  4. M.M Sury, *Government Budgeting in India*, Commonwealth Publishers, 1990
  5. Shankar Acharya, “Thirty years of tax reform” in India, *Economic and Political Weekly*, May 2005.
- Government of India, *Report of the 13<sup>th</sup> Finance*
5. *Economic Survey*, Government of India (latest edition)
  6. State Finances: A Study of Budgets, *Reserve Bank of India* (latest).