Choice Based Credit System (CBCS)

UNIVERSITY OF DELHI

DEPARTMENT OF ECONOMICS

UNDERGRADUATE PROGRAMME
(Courses effective from Academic Year 2015-16)

SYLLABUS OF COURSES TO BE OFFERED
Core Courses, Elective Courses & Ability Enhancement Courses

Disclaimer: The CBCS syllabus is uploaded as given by the Faculty concerned to the Academic Council. The same has been approved as it is by the Academic Council on 13.7.2015 and Executive Council on 14.7.2015. Any query may kindly be addressed to the concerned Faculty.

Undergraduate Programme Secretariat
Preamble

The University Grants Commission (UGC) has initiated several measures to bring equity, efficiency and excellence in the Higher Education System of the country. The important measures taken to enhance academic standards and quality in higher education include innovation and improvements in curriculum, teaching-learning process, examination and evaluation systems, besides governance and other matters.

The UGC has formulated various regulations and guidelines from time to time to improve the higher education system and maintain minimum standards and quality across the Higher Educational Institutions (HEIs) in India. The academic reforms recommended by the UGC in the recent past have led to overall improvement in the higher education system. However, due to the diversity in the system of higher education, there are multiple approaches followed by universities towards examination, evaluation and grading system. While the HEIs must have the flexibility and freedom in designing the examination and evaluation methods that best fit the curriculum, syllabi and teaching-learning methods, there is a need to devise a sensible system for awarding the grades based on the performance of students. Presently, the performance of students is reported using the conventional system of marks secured in the examinations or grades or both. The conversion from marks to letter grades and the letter grades used vary widely across the HEIs in the country. This creates difficulty for the academia and the employers to understand and infer the performance of the students graduating from different universities and colleges based on grades.

The grading system is considered to be better than the conventional marks system and hence it has been followed in the top institutions in India and abroad. So it is desirable to introduce uniform grading system. This will facilitate student mobility across institutions within and across countries and also enable potential employers to assess the performance of students. To bring in the desired uniformity, in grading system and method for computing the cumulative grade point average (CGPA) based on the performance of students in the examinations, the UGC has formulated these guidelines.
CHOICE BASED CREDIT SYSTEM (CBCS):

The CBCS provides an opportunity for the students to choose courses from the prescribed courses comprising core, elective/minor or skill based courses. The courses can be evaluated following the grading system, which is considered to be better than the conventional marks system. Therefore, it is necessary to introduce uniform grading system in the entire higher education in India. This will benefit the students to move across institutions within India to begin with and across countries. The uniform grading system will also enable potential employers in assessing the performance of the candidates. In order to bring uniformity in evaluation system and computation of the Cumulative Grade Point Average (CGPA) based on student’s performance in examinations, the UGC has formulated the guidelines to be followed.

Outline of Choice Based Credit System:

1. **Core Course:** A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.

2. **Elective Course:** Generally a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domain or nurtures the candidate’s proficiency/skill is called an Elective Course.
   2.1 **Discipline Specific Elective (DSE) Course:** Elective courses may be offered by the main discipline/subject of study is referred to as Discipline Specific Elective. The University/Institute may also offer discipline related Elective courses of interdisciplinary nature (to be offered by main discipline/subject of study).

2.2 **Dissertation/Project:** An elective course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a candidate studies such a course on his own with an advisory support by a teacher/faculty member is called dissertation/project.

2.3 **Generic Elective (GE) Course:** An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is called a Generic Elective.

   P.S.: A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and vice versa and such electives may also be referred to as Generic Elective.

3. **Ability Enhancement Courses (AEC)/Competency Improvement Courses/Skill Development Courses/Foundation Course:** The Ability Enhancement (AE) Courses may be of two kinds: AE Compulsory Course (AECC) and AE Elective Course (AEEC). “AECC” courses are the courses based upon the content that leads to Knowledge enhancement. They ((i) Environmental Science, (ii) English/MIL Communication) are mandatory for all disciplines. AEEC courses are value-based and/or skill-based and are aimed at providing hands-on-training, competencies, skills, etc.

   3.1 **AE Compulsory Course (AECC):** Environmental Science, English Communication/MIL Communication.

   3.2 **AE Elective Course (AEEC):** These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based instruction.

**Project work/Dissertation** is considered as a special course involving application of knowledge in solving / analyzing /exploring a real life situation / difficult problem. A Project/Dissertation work would be of 6 credits. A Project/Dissertation work may be given in lieu of a discipline specific elective paper.
## Details of courses under B.A (Honors), B.Com (Honors) & B.Sc. (Honors)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td></td>
<td>Theory+ Practical</td>
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<tr>
<td><strong>I. Core Course</strong></td>
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<tr>
<td>(14 Papers)</td>
<td>14X4= 56</td>
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<tr>
<td>Core Course Practical / Tutorial*</td>
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<tr>
<td>(14 Papers)</td>
<td>14X2=28</td>
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<tr>
<td><strong>II. Elective Course</strong></td>
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<tr>
<td>(8 Papers)</td>
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<td>A.1. Discipline Specific Elective</td>
<td>4X4=16</td>
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<td>(4 Papers)</td>
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<td>A.2. Discipline Specific Elective</td>
<td>4 X 2=8</td>
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<tr>
<td>Practical/ Tutorial*</td>
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<tr>
<td>(4 Papers)</td>
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<tr>
<td>B.1. Generic Elective/ Interdisciplinary</td>
<td>4X4=16</td>
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<td>(4 Papers)</td>
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<tr>
<td>B.2. Generic Elective</td>
<td>4 X 2=8</td>
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<tr>
<td>Practical/ Tutorial*</td>
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<td>(4 Papers)</td>
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<tr>
<td>• Optional Dissertation or project work in place of one Discipline Specific Elective paper (6 credits) in 6th Semester</td>
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<tr>
<td><strong>III. Ability Enhancement Courses</strong></td>
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<tr>
<td>1. Ability Enhancement Compulsory</td>
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<tr>
<td>(2 Papers of 2 credit each)</td>
<td>2 X 2=4</td>
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<tr>
<td>Environmental Science</td>
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<tr>
<td>English/MIL Communication</td>
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<tr>
<td>2. Ability Enhancement Elective (Skill Based)</td>
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<td>(Minimum 2)</td>
<td>2 X 2=4</td>
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<td>(2 Papers of 2 credit each)</td>
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| Total credit                         | 140      | 140               |

Institute should evolve a system/policy about ECA/ General Interest/Hobby/Sports/NCC/NSS/related courses on its own.

* wherever there is a practical there will be no tutorial and vice-versa
## Course Structure for B.A. (Hons.) Economics

<table>
<thead>
<tr>
<th>Semester-I</th>
<th>Semester-II</th>
</tr>
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<tbody>
<tr>
<td>Economics Core Course 1 : Introductory Microeconomics</td>
<td>Economics Core Course 3 : Introductory Macroeconomics</td>
</tr>
<tr>
<td>Economics Core Course 2 : Mathematical Methods for Economics-I</td>
<td>Economics Core Course 4 : Mathematical Methods for Economics-II</td>
</tr>
<tr>
<td>Ability Enhancement Compulsory Course (AECC)-I</td>
<td>Ability Enhancement Compulsory Course (AECC)-II</td>
</tr>
<tr>
<td>Generic Elective (GE) Course-I</td>
<td>Generic Elective (GE) Course-II</td>
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<tr>
<th>Semester-III</th>
<th>Semester-IV</th>
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<tbody>
<tr>
<td>Economics Core Course 5 : Intermediate Microeconomics-I</td>
<td>Economics Core Course 8 : Intermediate Microeconomics-II</td>
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<tr>
<td>Economics Core Course 7 : Statistical Methods for Economics</td>
<td>Economics Core Course 10 : Introductory Econometrics</td>
</tr>
<tr>
<td>Skill Enhancement Course (SEC)-I</td>
<td>Skill Enhancement Course (SEC)-II</td>
</tr>
<tr>
<td>Generic Elective (GE) Course-III</td>
<td>Generic Elective (GE) Course-IV</td>
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<tr>
<th>Semester-V</th>
<th>Semester-VI</th>
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<tbody>
<tr>
<td>Economics Core Course 11 : Indian Economy-I</td>
<td>Economics Core Course 13 : Indian Economy-I</td>
</tr>
<tr>
<td>Economics Core Course 12 : Development Economics-I</td>
<td>Economics Core Course 14 : Development Economics-II</td>
</tr>
<tr>
<td>Discipline Specific Elective (DSE) Course-I (From List of Group-I)</td>
<td>Discipline Specific Elective (DSE) Course-III (From List of Group-II)</td>
</tr>
<tr>
<td>Discipline Specific Elective (DSE) Course-II (From List of Group-I)</td>
<td>Discipline Specific Elective (DSE) Course-IV (From List of Group-II)</td>
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<table>
<thead>
<tr>
<th>Group-I (Discipline Specific Elective (DSE) Courses)</th>
<th>Group-II (Discipline Specific Elective (DSE) Courses)</th>
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</thead>
<tbody>
<tr>
<td>(i) Economics of Health and Education</td>
<td>(vii) Public Economics</td>
</tr>
<tr>
<td>(ii) Applied Econometrics</td>
<td>(viii) Political Economy-II</td>
</tr>
<tr>
<td>(iv) Topics in Microeconomics-I</td>
<td>(x) Financial Economics</td>
</tr>
<tr>
<td>(v) Political Economy-I</td>
<td>(xi) Topics in Microeconomics-II</td>
</tr>
<tr>
<td>(vi) Money and Financial Markets</td>
<td>(xii) Environmental Economics</td>
</tr>
<tr>
<td>(vii) Public Economics</td>
<td>(xiii) International Economics</td>
</tr>
<tr>
<td>(viii) Political Economy-II</td>
<td>(xiv) Dissertation/Project</td>
</tr>
</tbody>
</table>
Core Economics Course 1: INTRODUCTORY MICROECONOMICS

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.

   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

Core Economics Course 2: MATHEMATICAL METHODS IN ECONOMICS–I

Course Description

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

Course Outline

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

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

3. Single-variable optimization
Geometric properties of functions: convex functions, their characterizations and applications; local and global optima: geometric characterizations, characterizations using calculus and applications.

4. Integration of functions

5. Difference equations

Readings:

Core Economics Course 3: 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:

Core Economics Course 4: MATHEMATICAL METHODS IN ECONOMICS - II

Course Description

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

Course Outline

1. Differential equations
2. Linear algebra
   Vector spaces: algebraic and geometric properties, scalar products, norms, orthogonality; linear transformations: properties, matrix representations and elementary operations; systems of linear equations: properties of their solution sets; determinants: characterization, properties and applications.
3. Functions of several real variables
   Geometric representations: graphs and level curves; differentiable functions: characterizations, properties with respect to various operations and applications; second order derivatives: properties and applications; the implicit function theorem, and application to comparative statics problems; homogeneous and homothetic functions: characterizations and applications.
4. Multi-variable optimization
   Convex sets; geometric properties of functions: convex functions, their characterizations, properties and applications; further geometric properties of functions: quasiconvex functions, their characterizations, properties and applications; unconstrained optimization: geometric characterizations, characterizations using calculus and applications; constrained optimization with equality constraints: geometric characterizations, lagrange characterization using calculus and applications; properties of value function: envelope theorem and applications.

Readings:

Core Economics Course 5: INTERMEDIATE MICROECONOMICS - I

Course Description

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

Course Outline

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

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

Readings:

Core Economics Course 6: INTERMEDIATE MACROECONOMICS - 1

Course Description

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

Course Outline

1. Aggregate Demand and Aggregate Supply Curves
   Derivation of aggregate demand and aggregate and supply curves; interaction of aggregate demand and supply.

2. Inflation, Unemployment and Expectations
   Phillips curve; adaptive and rational expectations; policy ineffectiveness debate.

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

Readings:

Core Economics Course 7: STATISTICAL METHODS FOR ECONOMICS

Course Description

This is a course on statistical methods for economics. It begins with some basic concepts and terminology that are fundamental to statistical analysis and inference. It then develops the notion of probability, followed by probability distributions of discrete and continuous random variables and of joint distributions. This is followed by a discussion on sampling techniques used to collect survey data. The course introduces the notion of sampling distributions that act as a bridge between probability theory and statistical inference. The semester concludes with some topics in statistical inference that include point and interval estimation.

Course Outline

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

2. Elementary Probability Theory
   Sample spaces and events; probability axioms and properties; counting techniques; conditional probability and Bayes’ rule; independence.

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

4. Random Sampling and Jointly Distributed Random Variables
   Density and distribution functions for jointly distributed random variables; computing expected values; covariance and correlation coefficients.

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

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

Readings:

Core Economics Course 8: INTERMEDIATE MICROECONOMICS - II

Course Description

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

Course Outline

1. General Equilibrium, Efficiency and Welfare
   Equilibrium and efficiency under pure exchange and production; overall efficiency and welfare economics.

2. Market Structure and Game Theory
   Monopoly: pricing with market power; price discrimination; peak-load pricing; two-part tariff; monopolistic competition and oligopoly; game theory and competitive strategy.

3. Market Failure
   Externalities; public goods and markets with asymmetric information.

Readings:

Core Economics Course 9: INTERMEDIATE MACROECONOMICS - II

Course Description

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

Course Outline

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

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

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

4. Schools of Macroeconomic Thoughts
Classicals; Keynesians; New-Classicals and New-Keynesians.

Readings:

Core Economics Course 10: INTRODUCTORY ECONOMETRICS

Course Description

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

Course Outline

1. Nature and Scope of Econometrics
2. Statistical Concepts

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

Core Economics Course 11: INDIAN ECONOMY-I

Course Description

Using appropriate analytical frameworks, this course reviews major trends in economic indicators and policy debates in India in the post-Independence period, with particular emphasis on paradigm shifts and turning points. Given the rapid changes taking place in India, the reading list will have to be updated annually.

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:

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.


Core Economics Course 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 aggregate models of growth and cross-national comparisons of the growth experience that can help evaluate these models. The axiomatic basis for inequality measurement is used to develop measures of inequality and connections between growth and inequality are explored. The course ends by linking political institutions to growth and inequality by discussing the role of the state in economic development and the informational and incentive problems that affect state governance.

Course Outline

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

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

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

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

Readings

Core Economics Course 13: INDIAN ECONOMY-II

Course Description

This course examines sector-specific polices 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:


Core Economics Course 14: DEVELOPMENT ECONOMICS-II

Course Description

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

Course Outline

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

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

3. Individuals, Communities and Collective Outcomes
Individual behavior in social environments, multiple social equilibria; governance in organizations and in communities; individual responses to organizational inefficiency.

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

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

Readings

DISCIPLINE SPECIFIC ELECTIVE (DSE) PAPERS: ECONOMICS

GROUP-I

(i) 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
(ii) APPLIED ECONOMETRICS

Course Description

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

Course Outline

1. Stages in Empirical Econometric Research

2. Regression Diagnostics and Specification
   Misspecification; functional forms; model selection.

3. Advanced Topics in Regression Analysis
   Selected Topics:
   Dynamic Econometric Models: distributed lag models; autoregressive models;
   instrumental variable estimation; simultaneous equation models.

4. Panel Data Models
   Methods of estimation; fixed effects model; random effects model.

5. Introduction to Econometric Software Package
   GRETL; E-VIEWS; STATA (any one).

Readings:

(iii) **ECONOMIC HISTORY OF INDIA (1857-1947)**

**Course Description**

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

**Course Outline**

1. **Introduction: Colonial India: Background and Introduction**
   Overview of colonial economy.

2. **Macro Trends**
   National Income; population; occupational structure.

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

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

5. **Economy and State in the Imperial Context**
   The imperial priorities and the Indian economy; drain of wealth; international trade, capital flows and the colonial economy – changes and continuities; government and fiscal policy.

**Readings:**

11. MD Morris, Emergence of an Industrial Labour Force in India, OUP 1965, Chapter 11, Summary and Conclusions.

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.
(iv) **TOPICS IN MICROECONOMICS - I**

**Course Description**

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

**Course Outline**

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

2. **Extensive form games with perfect information**  
The game tree; strategies; subgame perfection; backward induction in finite games; commitment; bargaining; other applications.

**Reading:**

(v) POLITICAL ECONOMY-I

Course Description

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

Course Outline

1. Introduction and Historical Overview
   Perspective on political economy with a historical overview: capitalist development in the pre-second world war period, the „golden age“ and later.

2. Changing Dynamics of Capitalist Production, Organisational Form and Labour Process
   Fordist and post-fordist production; changing dynamics of organisation of production, markets and labour process; the changing nature of job security and labour rights.

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

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

5. The Social Dimension
   Globalisation and uneven development – growth, inequality and exclusion.

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

Readings:

(vi) **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**
   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**

(vii) PUBLIC ECONOMICS

Course Description

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

Course Outline

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

2. Indian Public Finances
   a. Tax System: structure and reforms
   b. Budget, deficits and public debt
   c. Fiscal federalism in India

Readings:


DISCIPLINE SPECIFIC ELECTIVE (DSE) PAPERS: ECONOMICS

GROUP-II

(viii) POLITICAL ECONOMY-II

Course Description

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

Course Outline

1. Analysing Social Change in Historical Perspective
   The method of historical materialism; the transition from feudalism to capitalism; capitalism as a historical process – alternative perspectives.

2. Capitalism as an Evolving Economic System
   Basic features; accumulation and crisis; the modern corporation; monopoly capitalism—alternative perspectives.

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

Readings:


(ix) **COMPARATIVE ECONOMIC DEVELOPMENT (1850-1950)**

**Course Description**

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

**Course Outline**

1. **Introduction and Perspectives on Comparative Economic Development**
2. **An Overview of Economic Development of the countries selected for case studies**
3. **Agriculture**
   Agrarian surplus and the role of the peasantry in economic development.
4. **Industry**
   The industrial revolution in Britain; Industrialisation in late industrialisers.
5. **The Factory System and Making of the Industrial Working Class**
   Division of labour, structure of industrial authority, organisation of work and industrial production, relationship between workers and managers.
6. **The Role of the State in Industrial and Developmental Transition**

**Readings:**


Background readings for teachers:


**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:

Course Description

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

Course Outline

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

2. Simultaneous move games with incomplete information (Bayesian games).
   Strategies; Bayesian Nash equilibrium; auctions; other applications.

3. Extensive form games with imperfect information.
   Strategies; beliefs and sequential equilibrium; applications.

4. Information economics.
   Adverse selection; moral hazard; signalling games.

Readings:

Course Description

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

Course Outline

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

2. The Theory of Externalities
Pareto optimality and market failure in the presence of externalities; property rights and the coase theorem.

3. The Design and Implementation of Environmental Policy
Overview; pigouvian taxes and effluent fees; tradable permits; choice between taxes and quotas under uncertainty; implementation of environmental policy.

4. International Environmental Problems
Trans-boundary environmental problems; economics of climate change; trade and environment.

5. Measuring the Benefits of Environmental Improvements
Non-Market values and measurement methods; risk assessment and perception.

6. Sustainable Development
Concepts; measurement.

Readings:

Course Description

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

Course Outline

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

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

3. Trade Policy
Instruments of trade policy; political economy of trade policy; controversies in trade policy.

4. International Macroeconomic Policy
Fixed versus flexible exchange rates; international monetary systems; financial globalization and financial crises.

Readings:

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

### Generic Elective Courses in Economics

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Generic Elective in Economics I: Introductory Microeconomics

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.

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

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:

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

Course Description

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

Course Outline

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

2. Population and Human Development
   Demographic trends and issues; education; health and malnutrition.

3. Growth and Distribution
   Trends and policies in poverty; inequality and unemployment.

4. International Comparisons

Readings:

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.


**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**
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


*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
Generic Elective in Economics IV(a): Indian Economy-II

Course Description

This course examines sector-specific polices 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:

8. Ramesh Chand, 2010, Understanding the Nature and Causes of Food Inflation,
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.

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.


11. MD Morris, _Emergence of an Industrial Labour Force in India_, OUP 1965, Chapter 11, Summary and Conclusions.


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

Part 2: Issues from Indian Public Finance
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

8. State Finances: A Study of Budgets, Reserve Bank of India (latest).
Skill Enhancement Course (SEC) I: FINANCIAL ECONOMICS

Course Description

This course introduces students to the economics of finance. The course does not require any prior knowledge of economics. This course should be accessible to anyone with an exposure to elementary mathematics. The course is designed to impart the essential aspects of financial asset valuation. The students will be introduced to numerical techniques in finance using spreadsheet programmes such as Microsoft Excel. The course will impart skills that will be useful in a variety of business settings including investment banks, asset management companies and in the field of financial and business journalism.

Course Outline

1. 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.

2. 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.

3. Capital Asset Pricing Model (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.

Readings

Skill Enhancement Course (SEC) II: DATA ANALYSIS

Course Description:
This course introduces the student to collection and presentation of data. It also discusses how data can be summarized and analysed for drawing statistical inferences. The students will be introduced to important data sources that are available and will also be trained in the use of free statistical software to analyse data.

Course Outline:

5. Estimation of population parameters from sample data. Unbiased estimators for population mean and variance.
6. Basics of index numbers: price and quantity index numbers.

Readings: