

# University of Kalyani



**CBCS CURRICULUM FOR SEMESTERIZED UNDER-GRADUATE COURSE  
IN  
ECONOMICS (HONOURS)**

**WITH EFFECT FROM THE ACADEMIC SESSION  
2018-19**

**BA/B.Sc (Honours)**  
**Economics**  
**Under CBCS**

**INTRODUCTION ABOUT UG- CBCS SYLLABUS AS PER UGC GUIDELINES MAY BE GIVEN:**  
**A. TOTAL Number of courses in UG-CBCS (B.A./B.Sc Economics Hons.):**

Types of course	Core course (CC)	Elective course		Ability enhancement course		TOTAL
		Discipline specific elective course (DSE)	Generic elective course(GE)	Ability Enhancement compulsory course (AECC)	Skill Enhancement course (SEC)	
No. of course	14	4	4	2	2	26
Credit/course	6	6	6	2	2	140

**TABLE-1:DETAILS OF COURSES & CREDIT OF B.A./ B.SC ECONOMICS (HONOURS) UNDER CBCS**

S. No.	Particulars of Course	
<b>1.</b>	<b>Core Course: 14 Papers</b>	<b>Theory + Tutorial</b>
<b>1.A.</b>	Core Course: Theory ( 14 papers)	14x5 = 70
<b>1.B.</b>	Core Course ( Tutorial)* ( 14 papers)	14x1 = 14
<b>2.</b>	<b>Elective Courses: (8 papers)</b>	
<b>2.A.</b>	A. Discipline specific Elective(DSE)(4 papers)	4x5 = 20
<b>2.B.</b>	DSE ( Tutorial)* (4 papers)	4x1 =4
<b>2C.</b>	General Elective(GE) ( Interdisciplinary) (4 papers)	4x5 = 20
<b>2.D.</b>	GE ( Tutorial)* (4 papers)	4x1 =4
<b>A.</b>	AECC(2 papers of 2 credits each) ENVS, English Communication/ MIL	2x2 = 4
<b>B.</b>	Skill Enhancement Course(SEC) (2 papers of 2 credits each)	2x2 = 4
<b>Total Credit:</b>		<b>140</b>

**TABLE-2: SEMESTERWISE DISTRIBUTION OF COURSE & CREDITS IN B.A./B.SC. ECONOMICS (HONS)**

Courses/ (Credits)	Sem-I	Sem-II	Sem-III	Sem-IV	Sem-V	Sem-VI	Total No. of Courses	Total credit
<b>CC (6)</b>	2	2	3	3	2	2	14	84
<b>DSE (6)</b>	--	--	--	--	2	2	04	24
<b>GE (6)</b>	1	1	1	1	--	--	04	24
<b>AECC (2)</b>	1	1			--	--	02	04
<b>SEC (2)</b>	--	--	1	1	--	--	02	04
<b>Total No. of Course/ Sem.</b>	4	4	5	5	4	4	26	--
<b>Total Credit /Semester</b>	20	20	26	26	24	24	-----	140

❖ **COURSE CODE & COURSE TITLE:**

❖ *Each paper of any course denoted by-(2-4 letters Subject Code--Honours/General (H/G)--Course Type(CC/GE/DSE)-(Theory/Tutorial/Practical)-Number of course. Ex.-Chemistry-CHEM-H-CC-T-1)*

**A. Core courses (CC)**

1. ECON—H -CC- T -01: Introductory Microeconomics
2. ECON—H -CC- T -02:Mathematical Methods for Economics – I
3. ECON-H-CC-T-03: Introductory Macroeconomics
4. ECON-H-CC-T-04: Mathematical Methods for Economics – II
5. ECON-H-CC-T-05: Intermediate Microeconomics – I
6. ECON-H-CC-T-06: Intermediate Macroeconomics – I
7. ECON-H-CC-T-07: Statistical Methods for Economics
8. ECON-H-CC-T-08: Intermediate Microeconomics – II
9. ECON-H-CC-T-09: Intermediate Macroeconomics – II
10. ECON-H-CC-T-10: Introductory Econometrics
11. ECON-H-CC-T-11: International Economics
12. ECON-H-CC-T-12: Public Economics
13. ECON-H-CC-T-13: Indian Economy
14. ECON—H-CC-T-14: Development Economics

**B. Discipline specific elective courses (DSE)**

1. ECON—H -DSE- T -1A: Economic Development and Policy in India - I
1. ECON—H -DSE- T -1B: Money and Banking
2. ECON-H-DSE-T-2A: Public Finance
2. ECON—H -DSE- T-2B: Environmental Economics
3. ECON-H-DSE-T-3A: Economic Development and Policy in India - II
3. ECON-H-DSE-T-3B: Economic History of India
4. ECON-H-DSE-T-4A: Dissertation
4. ECON-H-DSE-T-4B: Financial Economics

**C. Generic elective courses (GE):**

1. ECON—H -GE- T -01: Introductory Microeconomics
2. ECON—H -GE- T -02: Introductory Macroeconomics
3. ECON-H-GE-T-3A: Intermediate Microeconomics – I
3. ECON-H-GE-T-3B: Intermediate Macroeconomics – I
4. ECON-H-GE-T-4A: Intermediate Microeconomics – II
4. ECON-H-GE-T-4B: Intermediate Macroeconomics - II

**D. Ability enhancement compulsory courses (AECC)**

1. AECC-01: English / Environmental Studies (ENVS)
2. AECC-02: English / Environmental Studies (ENVS)

**E. Skill enhancement courses (SEC)**

1. ECON—H -SEC-T-01: Financial Economics
2. ECON—H -SEC-T-02: Statistical Tools for Data Analysis - I

**TABLE-3: SEMESTER & COURSEWISE CREDIT DISTRIBUTION IN IN B.A./ B.SC ECONOMICS (Hons.)**

**(6 Credit: 75 Marks)**

<b>SEMESTER-I</b>			
<b>Course Code</b>	<b>Course Title</b>	<b>Course wise Class (L+T+P)</b>	<b>Credit</b>
ECON-H-CC-T-1	Introductory Microeconomics	Core	6(5L+1T)
ECON-H-CC-T-2	Mathematical Methods for Economics-I	Core	6 (5L+1T)
ECON-H-GE-T-1	Introductory Microeconomics	GE	6 (5L+1T)
AECC-01	English/Environmental Studies	AECC	2
<b>Total</b>	<b>4 courses</b>	<b>Total</b>	<b>20</b>
<b>SEMESTER-II</b>			
<b>Course Code</b>	<b>Course Title</b>	<b>Course Nature</b>	<b>Credit</b>
ECON-H-CC-T-3	Introductory Macroeconomics	Core	6(5L+1T)
ECON-H-CC-T-4	Mathematical Methods for Economics – II	Core	6(5L+1T)
ECON-H-GE-T-2	Introductory Macroeconomics	GE	6(5L+1T)
AECC-02	English/Environmental Studies	AECC	2
<b>Total</b>	<b>4 courses</b>	<b>Total</b>	<b>20</b>
<b>SEMESTER-III</b>			
<b>Course Code</b>	<b>Course Title</b>	<b>Course Nature</b>	<b>Credit</b>
ECON-H-CC-T-5	Intermediate Microeconomics - I	Core	6(5L+1T)
ECON-H-CC-T-6	Intermediate Macroeconomics - I	Core	6(5L+1T)
ECON-H-CC-T-7	Statistical Methods for Economics	Core	6(5L+1T)
ECON-H-GE-T-3A or ECON-H-GE-T-3B	Intermediate Microeconomics – I/ Intermediate Macroeconomics - I	GE	6(5L+1T)
ECON-H-SEC-T-1	Financial Economics	SEC	2
<b>Total</b>	<b>5 courses</b>	<b>Total</b>	<b>26</b>
<b>SEMESTER-IV</b>			
<b>Course Code</b>	<b>Course Title</b>	<b>Course Nature</b>	<b>Credit</b>
ECON-H-CC-T-8	Intermediate Microeconomics – II	Core	6(5L+1T)
ECON-H-CC-T-9	Intermediate Macroeconomics – II	Core	6(5L+1T)
ECON-H-CC-T-10	Introductory Econometrics	Core	6(5L+1T)
ECON-H-GE-T-4A or ECON-H-GE-T-4B	Intermediate Microeconomics – II/ Intermediate Macroeconomics – II	GE	6(5L+1T)
ECON-H-SEC-T-2	Statistical Tools for Data Analysis – I	SEC	2
<b>Total</b>	<b>5 courses</b>	<b>Total</b>	<b>26</b>
<b>SEMESTER-V</b>			
<b>Course Code</b>	<b>Course Title</b>	<b>Course Nature</b>	<b>Credit</b>
ECON-H-CC-T-11	International Economics	Core	6(5L+1T)
ECON-H-CC-T-12	Public Economics	Core	6(5L+1T)

ECON-H-DSE-T-1A or ECON-H-DSE-T-1B	Economic Development and Policy in India - I/ Money & Banking	DSE	6 (5L+1T)
ECON-H-DSE-T-2A or ECON-H-DSE-T-2B	Public Finance/ Environmental Economics	DSE	
<b>Total</b>	<b>4 courses</b>	<b>Total</b>	<b>24</b>
<b>SEMESTER-VI</b>			
<b>Course Code</b>	<b>Course Title</b>	<b>Course Nature</b>	<b>Credit</b>
ECON-H-CC-T-13	Indian Economy	Core	6(5L+1T)
ECON-H-CC-T-14	Development Economics	Core	6(5L+1T)
ECON-H-DSE-T-3A or ECON-H-DSE-T-3B	Economic Development and Policy in India - II / Economic History of India	DSE	6(5L+1T)
ECON-H-DSE-T-4A or ECON-H-DSE-T-4B	Dissertation/ Financial Economics	DSE	
<b>Total</b>	<b>4 courses</b>	<b>Total</b>	<b>24</b>
<b>Total (All semesters)</b>	<b>26 courses</b>	<b>Total</b>	<b>140</b>

*\*Detail Course & Contents of each subject specific syllabus will be given as per existing standard format as provided below.*

### **B.A./B.Sc.. ECONOMICS (Honours)**

#### **SEMESTER-I**

**Course: ECON—H-CC-T-1**

**Course title: Introductory Microeconomics**

**Core Course; Credit-6; Full Marks-75**

#### **COURSE OBJECTIVES:**

After completion of the course the learners will be able to:

- Learn the basic idea of Microeconomics in particular and Economics in general.

#### **COURSE CONTENT:**

##### **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**

Elementary theory of demand: determinants of household demand, market demand, and shifts in the market demand curve

Elementary theory of supply: factors influencing supply, derivation of the supply curve, and shifts in the supply curve

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.

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; consumers' 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 and Perfect Market Structure**

Defining a firm – firm's legal forms; profit maximization hypothesis, Contractual theories and organizational theories of firms (concepts only); Behaviour of profit maximizing firms and the production process; Short run costs and output decisions; Costs and output in the long run

### **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.

### **SUGGESTED READINGS:**

- Karl E. Case and Ray C. Fair, Principles of Economics, Pearson Education Inc., 8<sup>th</sup> Edition, 2007.

- N. Gregory Mankiw, Economics: Principles and Applications, Indian edition by South Western, a part of Cengage Learning, Cengage Learning India Private Limited, 4<sup>th</sup> Edition, 2007
- Joseph E. Stiglitz and Carl E. Walsh, Economics, W.W. Norton and Company Inc., New York, International Student Edition, 4<sup>th</sup> Edition, 2007.
- Samuelson and Nordhaus, Economics, Mc-Graw Hill

**Course: ECON—H-CC-T-2**

**Course title: Mathematical Methods for Economics - I**

**Core Course; Credit-6; Full Marks-75**

### **COURSE OBJECTIVES:**

After completion of the course the learner will be able to know the preliminary mathematical techniques required for economic analysis.

### **COURSE CONTENT:**

#### **Preliminaries**

Logic and proof techniques; sets and set operations; relations; functions and their properties; number systems. Convex sets; geometric properties of functions: convex functions; their characterizations; properties and applications; further geometric properties of functions: quasi-convex functions, their characterizations, properties and applications; limit and continuity.

#### **Functions of one real variable**

Continuous functions of different types and their graphs – quadratic, polynomial, power, exponential, and logarithmic; Derivatives of first and second order and their properties; convex, concave and linear function. Application in economics – concept of marginal.

#### **Single variable optimization**

Local and global optima; Geometric characterizations; characterizations using calculus; Applications in Economics – profit maximization and cost minimization.

#### **Integration of functions**

Integration of different types of functions; Methods of substitution and by parts; Applications in Economics – obtaining total from marginal.

#### **Difference Equations**

Finite difference; Equations of first and second orders and their solutions; Applications in Economics – Cobweb model.

#### **Elementary Probability Theory**

Sample space and events; Probability axioms and properties; Counting techniques; Conditional Probability; Bayes' rule and independence of events; Random variable and probability distributions; Discrete and continuous; Expectation of a random variable.

## **SUGGESTED READINGS:**

- K. Sydsaeter and P. Hammond, Mathematics for Economic Analysis; Pearson Educational Asia: Delhi, 2002.
- A. Mukherji and S. Guha, Mathematical Methods for Economic Theory, Oxford University Press, 2011.
- Apostol, T. M., Calculus – Volume I, One Variable Calculus, with an introduction to linear algebra, (1967), Wiley.
- K.G. Binmore, Mathematical Analysis, Cambridge University Press, 1991.
- R. V. Hogg and A. T. Craig, An Introduction to Mathematical Statistics, Third Edition, Amerind, New York, London.
- Kenny and Keeping, Mathematics for Statistics, Van Nostrand.

**Course: ECON—H-GE-T-1**  
**Course title: Introductory Microeconomics**  
**Generic Elective; Credit-6; Full Marks-75**

## **COURSE OBJECTIVES:**

After completion of the course the learners will be able to:

- Learn the basic idea of Microeconomics in particular and Economics in general.

## **COURSE CONTENT:**

### **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**

Elementary theory of demand: determinants of household demand, market demand, and shifts in the market demand curve

Elementary theory of supply: factors influencing supply, derivation of the supply curve, and shifts in the supply curve

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.

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; consumers' 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 and Perfect Market Structure**

Defining a firm – firm's legal forms; profit maximization hypothesis, Contractual theories and organizational theories of firms (concepts only); Behaviour of profit maximizing firms and the production process; Short run costs and output decisions; Costs and output in the long run

## **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.

## **SUGGESTED READINGS:**

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

Samuelson and Nordhaus, Economics, Mc-Graw Hill

**Course: ECON—H-AECC-T-1**

**Course title: English/ENVS**

**Ability Enhancement Compulsory Course; Credit-2; Full Marks-50**

## SEMESTER II

**Course: ECON-H-CC-T-03**  
**Course Title: Introductory Macroeconomics**  
**Core Course; Credit – 6; Full Marks – 75**

### **COURSE OBJECTIVES:**

After the completion of the course the learner will be able to be equipped with the knowledge of basic functioning of a market economy at the macro level including understanding of national income accounting.

### **COURSE CONTENT:**

#### **National Income Accounting, unemployment and open economy issues**

Macroeconomic data – National Income Accounting and Cost of Living; Concept of Growth – Role of Savings, Investment and Financial Intermediation; Open economy – Balance of Payments, exchange rates, and capital flow; Concept of unemployment – Types and their characteristics; Growth accounting and Solow residual

#### **Money and Inflation**

Theory of aggregate demand – components and their interrelations – crowding out – Factors causing shift in the function; Theory of aggregate supply – determinants of supply and shift factors; Interaction of aggregate demand and supply.

### **SUGGESTED READINGS:**

- Dornbusch, Fischer and Startz, Macroeconomics, McGraw Hill, 11<sup>th</sup> Edition, 2010
- N. Gregory Mankiw, Principles of Macroeconomics, Indian imprint of South Western by Cengage India, 6<sup>th</sup> Edition, 2015
- Richard T. Froyen, Macroeconomics, Pearson Education Asia, 2<sup>nd</sup> Edition, 2005
- Andrew B. Abel and Ben S. Bernanke, Macroeconomics, Pearson Education Inc., 7<sup>th</sup> Edition, 2011
- J. R. Hicks, The Social Framework: An Introduction to Economics, Clarendon Press, 3<sup>rd</sup> Edition, 1960
- Soumyen Sikdar, Principles of Macroeconomics, Oxford University Press.

**Course: ECON-H-CC-T-4**  
**Course Title: Mathematical Methods for Economics – II**  
**Core Course; Credit – 6; Full Marks – 75**

### **COURSE OBJECTIVES:**

After completion of the course the learner will be able to make economic analysis using mathematics. This is a sequel to the course Mathematical Methods for Economics – I.

### **COURSE CONTENT:**

#### **Matrix Algebra**

Matrix: its elementary operations; different types of matrix; Rank of a matrix; Determinants and inverse of a square matrix; solution of system of linear equations; Eigen values and Eigen vectors. System of non-linear equations – Jacobian determinant and existence of solution.

### **Functions of Several Variables**

Continuous and differentiable functions: partial derivatives and Hessian matrix; Homogenous and homothetic functions. Euler's theorem, implicit function theorem and its application to comparative static problems. Economic applications – theories of consumer behaviour and theory of production.

### **Multi-variable Optimization**

Optimization of non-linear functions: Convex, concave and quasi-concave functions; Unconstrained optimization; Constrained optimization with equality constraints – Lagrangean multiplier method; Role of Hessian determinant; Inequality constraints and Kuhn-Tucker conditions; Value function and Envelope theorem; Economic applications – consumer behaviour and theory of production.

Optimization of linear function: Linear programming; concept of slack and surplus variables (graphical solutions only); concept of convex set.

### **Differential Equations**

Solution of differential equations of first order and second order; Economic applications – price dynamics in a single market – multi-market supply demand model with two independent markets. Qualitative graphic solution to 2X2 linear simultaneous differential equation system – phase diagram, fixed point and stability.

### **SUGGESTED READINGS:**

- K. Sydsaeter and P. Hammond, Mathematics for Economic Analysis; Pearson Educational Asia: Delhi, 2002.
- Lawrence Blume and Carl Simon, Mathematics for Economists, W.W. Norton and Company, 1994
- Alpha Chiang and Kevin Wainwright, Fundamental Methods of Mathematical Economics, 4<sup>th</sup> Edition, McGraw Hill, 2005

**Course: ECON-H-GE-T-02**

**Course Title: Introductory Macroeconomics**  
**Generic Elective; Credit – 6; Full Marks – 75**

### **COURSE OBJECTIVES:**

After the completion of the course the learner will be able to be equipped with the knowledge of basic functioning of a market economy at the macro level including understanding of national income accounting.

### **COURSE CONTENT:**

## **National Income Accounting, unemployment and open economy issues**

Macroeconomic data – National Income Accounting and Cost of Living; Concept of Growth – Role of Savings, Investment and Financial Intermediation; Open economy – Balance of Payments, exchange rates, and capital flow; Concept of unemployment – Types and their characteristics; Growth accounting and Solow residual

## **Money and Inflation**

Theory of aggregate demand – components and their interrelations – crowding out – Factors causing shift in the function; Theory of aggregate supply – determinants of supply and shift factors; Interaction of aggregate demand and supply.

### **SUGGESTED READINGS:**

- Dornbusch, Fischer and Startz, Macroeconomics, McGraw Hill, 11<sup>th</sup> Edition, 2010
- N. Gregory Mankiw, Principles of Macroeconomics, Indian imprint of South Western by Cengage India, 6<sup>th</sup> Edition, 2015
- Richard T. Froyen, Macroeconomics, Pearson Education Asia, 2<sup>nd</sup> Edition, 2005
- Andrew B. Abel and Ben S. Bernanke, Macroeconomics, Pearson Education Inc., 7<sup>th</sup> Edition, 2011
- J. R. Hicks, The Social Framework: An Introduction to Economics, Clarendon Press, 3<sup>rd</sup> Edition, 1960
- Soumyen Sikdar, Principles of Macroeconomics, Oxford University Press.

**Course: ECON—H-AECC-T-2**

**Course title: English/ENVS**

**Ability Enhancement Compulsory Course; Credit-2; Full Marks-50**

### **SEMESTER III**

**Course: ECON-H-CC-T-5**

**Course Title: Intermediate Microeconomics – I**

**Core Course; Credit – 6; Full Marks – 75**

### **COURSE OBJECTIVES:**

After completion of the course the learner will be able to understand the fundamentals of microeconomic theories in the context of a market economy.

### **COURSE CONTENT:**

#### **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 homogeneous and homothetic production function and their properties; production with one and more variable inputs; isocost line and firm's 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 and the industry: with reference to external economies and diseconomies of scale.

### **Input market in 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.

### **SUGGESTED READINGS:**

- Hal R. Varian, Intermediate Microeconomics, A Modern Approach, W.W. Norton and Company/Affiliated East-West Press (India), 8<sup>th</sup> Edition, 2010. The workbook by Varian and Bergstrom may be used for problems.
- C. Snyder and W. Nichololson, Fundamentals of Microeconomics, Cengage Learning (India), 2010
- B. Douglas Bernheim and Michael D. Whinston, Microeconomics, Tata McGraw Hill (India), 2009.
- Hugh Gravelle and Ray Rees, Microeconomics, Prentice Hall (UK); 3<sup>rd</sup> Edition, 2004
- Anindya Sen, Microeconomics: Theory and Applications, Oxford University Press.
- Pindyck, Rubinfeld and Mehta, Microeconomics, Pearson.

**Course: ECON-H-CC-T-6**

**Course Title: Intermediate Macroeconomics – I**

**Core Course; Credit – 6; Full Marks – 75**

### **COURSE OBJECTIVES:**

After the completion of the course the learner will be able to understand the fundamental macroeconomic theories in the context of a market economy.

### **COURSE CONTENT:**

#### **Income Determination in the short run**

Simple Keynesian System: Multipliers; equilibrium in both closed and open economy and stability; autonomous expenditure, balanced budget, and net exports; paradox of thrift.

IS-LM Model – equilibrium, stability and comparative statics; effects of fiscal and monetary policies, real balance effects, IS-LM in the open economy under fixed and flexible exchange rate with perfect and imperfect capital mobility (Mundell-Fleming model)

## **Aggregate Demand and Aggregate Supply**

Derivation of aggregate demand assuming price flexibility; Derivation of aggregate supply curves both in the presence and absence of wage rigidity; equilibrium, stability, and comparative statics – effects of monetary and fiscal policies; Unemployment and its causes – possible solutions, including real balance effect and wage cut policy.

## **Inflation, Unemployment and Expectations**

Inflation and unemployment trade-off – short run and long run Phillips Curve under adaptive expectations – outcome under rational expectations (non-rigorous).

### **SUGGESTED READINGS:**

- Dornbusch, Fischer and Startz, Macroeconomics, McGraw Hill, 11<sup>th</sup> Edition, 2010
- N. Gregory Mankiw, Principles of Macroeconomics, Indian imprint of South Western by Cengage India, 6<sup>th</sup> Edition, 2015
- Richard T. Froyen, Macroeconomics, Pearson Education Asia, 2<sup>nd</sup> Edition, 2005
- Andrew B. Abel and Ben S. Bernanke, Macroeconomics, Pearson Education Inc., 7<sup>th</sup> Edition, 2011
- Soumyen Sikdar, Principles of Macroeconomics, Oxford University Press.
- Steven M. Sherffrin, Rational Expectations, Cambridge University Press, 2<sup>nd</sup> Edition, 1996.
- William Branson, Macroeconomic Theory and Policy, Indian Reprint, East West Press, 3<sup>rd</sup> Edition, 2014.

**Course: ECON-H-CC-T-7**  
**Course Title: Statistical Methods for Economics**  
**Core Course; Credit – 6; Full Marks – 75**

### **COURSE OBJECTIVES:**

After completion of the course the learner will be able to know the basic statistical applications necessary for economic data analysis.

### **COURSE CONTENT:**

#### **Descriptive Statistics**

Presentation of Data; Frequency Distribution; Measures of Central Tendency, Dispersion, Moments, Skewness and Kurtosis; Bivariate Frequency Distribution – Correlation and Regression.

#### **Univariate Probability Distribution**

Discrete distribution – Binomial, Poisson; Continuous Distributions – Uniform, Normal, Exponential (Properties of each distribution; mean and variance)

#### **Jointly Distributed Random Variables**

Density function of Bivariate normal distribution and obtaining mean, variances and correlation coefficients.

## **Sampling**

Concept of sampling and random sampling, Principal steps in a sample survey; Methods of sampling – SRSWR, SRSWOR, Stratified Sampling, Sampling vs. Non-Sampling Error

## **Index Number**

Price and quantity index number; Different formula; Tests for an ideal index; Application – Cost of Living index; Real GDP

## **Estimation**

Parameters and statistics; Point estimation – Properties of a good estimator; Maximum Likelihood Method and the method of moments; Estimation of population parameters using SRSWR and SRSWOR; Interval Estimation.

## **SUGGESTED READINGS:**

- Jay L. Devore, Probability and Statistics for Engineers, Cengage Learning, 2010.
- John E. Freund, Mathematical Statistics, Prentice Hall, 1992.
- Richard J. Larsen and Morris L. Marx, An Introduction to Mathematical Statistics and Its Applications, Prentice Hall, 2011
- William G. Cochran, Sampling Techniques, John Wiley, 2007.
- R.V. Hogg and A.T. Craig, An Introduction to Mathematical Statistics, 3<sup>rd</sup> Edition, New York, London.
- A.M. Mood, F.A. Greybill and D.C. Boes, Introduction to the theory of Statistics, McGraw Hill, 1974.

**Course: ECON-H-GE-T-3A**

**Course Title: Intermediate Microeconomics – I**

**Generic Elective; Credit – 6; Full Marks – 75**

## **COURSE OBJECTIVES:**

After completion of the course the learner will be able to understand the fundamentals of microeconomic theories in the context of a market economy.

## **COURSE CONTENT:**

### **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 homogeneous and homothetic production function and their properties; production with one and more variable inputs; isocost line and firm's 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 and the industry: with reference to external economies and diseconomies of scale.

### **Input market in 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.

### **SUGGESTED READINGS:**

- Hal R. Varian, Intermediate Microeconomics, A Modern Approach, W.W. Norton and Company/Affiliated East-West Press (India), 8<sup>th</sup> Edition, 2010. The workbook by Varian and Bergstrom may be used for problems.
- C. Snyder and W. Nicholason, Fundamentals of Microeconomics, Cengage Learning (India), 2010
- B. Douglas Bernheim and Michael D. Whinston, Microeconomics, Tata McGraw Hill (India), 2009.
- Hugh Gravelle and Ray Rees, Microeconomics, Prentice Hall (UK); 3<sup>rd</sup> Edition, 2004
- Anindya Sen, Microeconomics: Theory and Applications, Oxford University Press.
- Pindyck, Rubinfeld and Mehta, Microeconomics, Pearson.

### **Course: ECON-H-GE-T-3B**

**Course Title: Intermediate Macroeconomics – I**  
**Generic Elective; Credit – 6; Full Marks – 75**

### **COURSE OBJECTIVES:**

After the completion of the course the learner will be able to understand the fundamental macroeconomic theories in the context of a market economy.

### **COURSE CONTENT:**

#### **Income Determination in the short run**

Simple Keynesian System: Multipliers; equilibrium in both closed and open economy and stability; autonomous expenditure, balanced budget, and net exports; paradox of thrift.

IS-LM Model – equilibrium, stability and comparative statics; effects of fiscal and monetary policies, real balance effects, IS-LM in the open economy under fixed and flexible exchange rate with perfect and imperfect capital mobility (Mundell-Fleming model)

#### **Aggregate Demand and Aggregate Supply**

Derivation of aggregate demand assuming price flexibility; Derivation of aggregate supply curves both in the presence and absence of wage rigidity; equilibrium, stability, and comparative statics – effects of monetary and fiscal policies; Unemployment and its causes – possible solutions, including real balance effect and wage cut policy.



## **Inflation, Unemployment and Expectations**

Inflation and unemployment trade-off – short run and long run Phillips Curve under adaptive expectations – outcome under rational expectations (non-rigorous).

### **SUGGESTED READINGS:**

- Dornbusch, Fischer and Startz, *Macroeconomics*, McGraw Hill, 11<sup>th</sup> Edition, 2010
  - N. Gregory Mankiw, *Principles of Macroeconomics*, Indian imprint of South Western by Cengage India, 6<sup>th</sup> Edition, 2015
  - Richard T. Froyen, *Macroeconomics*, Pearson Education Asia, 2<sup>nd</sup> Edition, 2005
  - Andrew B. Abel and Ben S. Bernanke, *Macroeconomics*, Pearson Education Inc., 7<sup>th</sup> Edition, 2011
  - Soumyen Sikdar, *Principles of Macroeconomics*, Oxford University Press.
  - Steven M. Sherffrin, *Rational Expectations*, Cambridge University Press, 2<sup>nd</sup> Edition, 1996.
- William Branson, *Macroeconomic Theory and Policy*, Indian Reprint, East West Press, 3<sup>rd</sup> Edition, 2014.

**Course: ECON-H-SEC-T-1**

**Course title: Financial Economics**

**Skill Enhancement Course; Credit-2; Full Marks-50**

### **COURSE OBJECTIVES:**

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 CONTENT:**

#### **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; 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;

### **SUGGESTED READINGS:**

1. David G. Luenberger, *Investment Science*, Oxford University Press, USA, 1997.

2. Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance*, McGraw-Hill, 7<sup>th</sup> edition, 2002.
3. Burton G. Malkiel, *A Random Walk Down Wall Street*, W.W. Norton & Company, 2003.
4. Simon Benninga, *Financial Modeling*, MIT Press, USA, 1997.
5. Chandra, Prasanna, *Fundamentals of Financial Management*

## **SEMESTER – IV**

**Course: ECON-H-CC-T-8**

**Course Title: Intermediate Microeconomics – II**  
**Core Course; Credit – 6; Full Marks – 75**

### **COURSE OBJECTIVES:**

After completion of the course the learner will be able to:

- Learn the fundamentals of microeconomic theories.

### **COURSE CONTENT:**

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

- a) Exchange Economy, Consumption Allocation and Pareto Optimality; Edgeworth box and contract curve; Equilibrium and efficiency under pure exchange.
- b) Pareto efficiency with production: concepts of PPF, SIC, and resource allocation;
- c) Perfect competition, Pareto efficiency and market failure (externalities and public good); property right and Coase Theorem.

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

- a) Monopoly; pricing with market power; degree of monopoly; price discrimination-different degrees; multiplant monopoly; peak-load pricing; two-part tariff; monopolistic competition.
- b) 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, Stackleberg Equilibrium) ; concept of collusion and cartels; Solution by backward induction.

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

Monopsony, bilateral monopoly in labour market; Externalities; public goods and markets with asymmetric information.

### **SUGGESTED READINGS:**

- ▶ Hal Varian. *Microeconomic Analysis*, Third Edition, Selected chapters, W. W. Norton and Company, 2013.
- ▶ W.W. 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 (India), 2010
- ▶ Jean Tirole. Theory of Industrial Organization, MIT Press, 1988
- ▶ Robert Gibbons. A Primer in Game Theory, Princeton University Press, 1992.
- ▶ Erik Rasmusen. Games and Information: An Introduction to Game Theory, Basil Blackwell, 1999.
- ▶ K. Binmore. Fun and Games: A Text on Game Theory, OUP, 1991
- ▶ Anindya Sen, Microeconomics: Theory and Applications, OUP, 1999
- ▶ Pindyck and Rubinfeld, Microeconomics, Prentice Hall
- ▶ Mascollel and Green, Microeconomic Theory, OUP

**Course: ECON-H-CC-T-9**  
**Course Title: Intermediate Macroeconomics – II**  
**Core Course; Credit – 6; Full Marks – 75**

**COURSE OBJECTIVES:**

After completion of the course the learner will be able to:

- Learn the fundamentals of macroeconomic theories.

**COURSE CONTENT:**

**Schools of Macroeconomic Thoughts**

Classical System: Say's law and quantity theory; Friedman's restatement; classical dichotomy and neutrality of money; Keynesian vs classical system; basic tenets of New Classical and New Keynesian System.

**Macroeconomic Foundations**

Consumption: Keynesian consumption function; Fisher's theory of optimal intertemporal choice; life-cycle and permanent income hypotheses; Dusenberry's relative income hypothesis; rational expectations and random-walk of consumption expenditure.

Investment: MEC and MEI- Jorgenson's neo-classical theory- Acceleration principle-fixed and variable.

Demand for money: Regressive expectations and Tobin's portfolio choice models; Baumol's inventory theoretic money demand.

**Monetary Policy**

Government debt and Ricardian equivalence; high-powered money; money multiplier analysis; monetary policy – OMO, Bank rate, variable reserve ratio, repo and reverse repo.

## **Economic Growth**

Harrod- Domar model and Solow one sector growth models; golden rule; dynamic efficiency, technological progress and elements of endogenous growth theory.

### **SUGGESTED READINGS:**

- ▶ Snowden and Vane (ed), A Macroeconomics Reader, Routledge, Taylor and Francis Group.
- ▶ R. Barro. Macroeconomics, 5th edition, The MIT Press, 1989
- ▶ W.H. Branson. Macroeconomics, Haper and Row, 3rd edition, 1989
- ▶ A.K. Sen (ed). Growth Economics, Penguin, 1970
  
- ▶ Andrew B. Abel and Ben S. Bernanke, Macroeconomics, Pearson Education, Inc., 7th edition, 2011
- ▶ J.B Hall and R.E. Taylor. Macroeconomics, W.W. Nortan and Company, 5th revised edition, 1997
- ▶ Errol D'Souza. Macroeconomics, Pearson Education (New Delhi), 2009
- ▶ Dornbusch, Fischer and Startz, Macroeconomics, McGraw Hill, 11th edition, 2010

**Course: ECON-H-CC-T-10**

**Course Title: Introductory Econometrics**

**Core Course; Credit – 6; Full Marks – 75**

### **COURSE OBJECTIVES:**

After completion of the course the learner will be able to:

- Learn the basics of econometrics.

### **COURSE CONTENT:**

#### **Nature and Scope of Econometrics**

Definition and Scope of Econometrics; Importance of Error Term.

#### **Statistical Concepts**

Sampling Distributions- , t- and F-distributions and their application in testing of hypothesis; Defining hypothesis; Distribution of test-statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test. 2 □

#### **Classical Linear Regression Model: Two Variable Case**

The model and the role of disturbance term ; Estimation of model by method of ordinary least squares (OLS);Gauss-Markov theorem, Reverse Regression, properties of estimators; goodness of fit; testing of hypotheses and confidence intervals; scaling and units of measurement; prediction and forecasting, Problems in OLS Method

## **Violations of Classical Assumptions: Consequences, Detection and Remedies**

Problems of Multi-collinearity, Heteroscedasticity, and Auto correlation; Consequences of applying OLS under Heteroscedasticity and Autocorrelation and their detection– Durbin-Watson Test, Glesjer Test, Goldfeld-Quandt Test.

### **SUGGESTED READINGS:**

- ▶ Jay L. Devore, Probability and Statistics for Engineers, Cengage Learning, 2010.
- ▶ John E. Freund, Mathematical Statistics, Prentice Hall, 1992.
- ▶ Richard J. Larsen and Morris L. Marx, An Introduction to Mathematical Statistics and its Applications, Prentice Hall, 2011.
- ▶ D. N. Gujarati and D.C. Porter, Essentials of Econometrics, McGraw Hill, 4th edition, International Edition, 2009.
- ▶ Christopher Dougherty, Introduction to Econometrics, Oxford University Press, 3rd edition, Indian edition, 2007
- ▶ Jan Kmenta, Elements of Econometrics, Indian Reprint, Khosla Publishing House, 2nd edition, 2008
- ▶ Stock and Watson Maddala- Introduction to Econometrics, Wiley

### **Course: ECON-H-GE-T-4A**

**Course Title: Intermediate Microeconomics – II**  
**Generic Elective Course; Credit – 6; Full Marks – 75**

### **COURSE OBJECTIVES:**

After completion of the course the learner will be able to:

- Learn the fundamentals of microeconomic theories.

### **COURSE CONTENT:**

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

- a) Exchange Economy, Consumption Allocation and Pareto Optimality; Edgeworth box and contract curve; Equilibrium and efficiency under pure exchange.
- b) Pareto efficiency with production: concepts of PPF, SIC, and resource allocation;
- c) Perfect competition, Pareto efficiency and market failure (externalities and public good); property right and Coase Theorem.

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

- a) Monopoly; pricing with market power; degree of monopoly; price discrimination-different degrees; multiplant monopoly; peak-load pricing; two-part tariff; monopolistic competition.
- b) 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, Stackleberg Equilibrium) ; concept of collusion and

cartels; Solution by backward induction.

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

Monopsony, bilateral monopoly in labour market; Externalities; public goods and markets with asymmetric information.

#### **SUGGESTED READINGS:**

- ▶ Hal Varian. Microeconomic Analysis, Third Edition, Selected chapters, W. W. Norton and Company, 2013.
- ▶ W.W. 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 (India), 2010
- ▶ Jean Tirole. Theory of Industrial Organization, MIT Press, 1988
- ▶ Robert Gibbons. A Primer in Game Theory, Princeton University Press, 1992.
- ▶ Erik Rasmusen. Games and Information: An Introduction to Game Theory, Basil Blackwell, 1999.
- ▶ K. Binmore. Fun and Games: A Text on Game Theory, OUP, 1991
- ▶ Anindya Sen, Microeconomics: Theory and Applications, OUP, 1999
- ▶ Pindyck and Rubinfeld, Microeconomics, Prentice Hall
- ▶ Mascollel and Green, Microeconomic Theory, OUP

**Course: ECON-H-GE-T-9**

**Course Title: Intermediate Macroeconomics – II**  
**Generic Elective Course; Credit – 6; Full Marks – 75**

#### **COURSE OBJECTIVES:**

After completion of the course the learner will be able to:

- Learn the fundamentals of macroeconomic theories.

#### **COURSE CONTENT:**

##### **Schools of Macroeconomic Thoughts**

Classical System: Say's law and quantity theory; Friedman's restatement; classical dichotomy and neutrality of money; Keynesian vs classical system; basic tenets of New Classical and New Keynesian System.

## **Macroeconomic Foundations**

Consumption: Keynesian consumption function; Fisher's theory of optimal intertemporal choice; life-cycle and permanent income hypotheses; Dusenberry's relative income hypothesis; rational expectations and random-walk of consumption expenditure.

Investment: MEC and MEI- Jorgenson's neo-classical theory- Acceleration principle-fixed and variable.

Demand for money: Regressive expectations and Tobin's portfolio choice models; Baumol's inventory theoretic money demand.

## **Monetary Policy**

Government debt and Ricardian equivalence; high-powered money; money multiplier analysis; monetary policy – OMO, Bank rate, variable reserve ratio, repo and reverse repo.

## **Economic Growth**

Harrod- Domar model and Solow one sector growth models; golden rule; dynamic efficiency, technological progress and elements of endogenous growth theory.

## **SUGGESTED READINGS:**

▶ Snowden and Vane (ed), A Macroeconomics Reader, Routledge, Taylor and Francis Group.

▶ R. Barro. Macroeconomics, 5th edition, The MIT Press, 1989

▶ W.H. Branson. Macroeconomics, Haper and Row, 3rd edition, 1989

▶ A.K. Sen (ed). Growth Economics, Penguin, 1970

▶ Andrew B. Abel and Ben S. Bernanke, Macroeconomics, Pearson Education, Inc., 7th edition, 2011

▶ J.B Hall and R.E. Taylor. Macroeconomics, W.W. Norton and Company, 5th revised edition, 1997

▶ Errol D'Souza. Macroeconomics, Pearson Education (New Delhi), 2009

▶ Dornbusch, Fischer and Startz, Macroeconomics, McGraw Hill, 11th edition, 2010

**Course: ECON-H-SEC-T-2**

**Course title: Statistical Tools for Data Analysis - I**

**Skill Enhancement Course; Credit-2; Full Marks-50**

## **COURSE OBJECTIVES:**

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 CONTENT:**

1. Sources of data. Population census versus sample surveys. Random sampling.
2. Univariate frequency distributions. Measures of central tendency: mean, median and mode; arithmetic, geometric and harmonic mean. Measures of dispersion, skewness and kurtosis.

## **SUGGESTED READINGS:**

1. P.H. Karmel and M. Polasek (1978), *Applied Statistics for Economists*, 4th edition, Pitman.
2. M.R. Spiegel (2003), *Theory and Problems of Probability and Statistics* (Schaum Series).
3. Das, N.G, Statistical Methods
4. Goon, Gupta and Dasgupta, Fundamentals of Statistics (Volume I)
5. A.L. Nagar and R. K. Das, Basic Statistics, OUP, Second Edition

## **SEMESTER – V**

**Course: ECON-H-CC-T-11**  
**Course Title: International Economics**  
**Core Course; Credit – 6; Full Marks - 75**

## **COURSE OBJECTIVES:**

After completion of the course the learner will be able to:

- The fundamentals of international economics theories and some relevant empirical facts.

## **COURSE CONTENT:**

### **Basics of trade theory**

Arbitrage as basis and direction of trade; fundamental sources of cross-country price differences and arbitrage; concept of comparative advantage; externalities, regulation and perverse comparative advantage; International equilibrium; offer curves, ToT and stability; Gains from Trade (GFT) Theorem; Concepts of Production possibility Frontier and Community Indifference curves; Illustration of GFT; Decomposition of GFT; Substitution possibilities and magnitude of GFT.

### **Technology and Trade (Ricardian Model):**

Comparative versus Absolute Advantage, One-factor economy, production possibility



frontier, relative demand and relative supply, terms of trade; Trade in Ricardian world, Determination of intermediate ToT, Complete specialization & GFT

### **Factor Endowment & Trade (Heckscher-Ohlin-Samuelson Model):**

H-O theorem and physical vs. price definitions of factor abundance; Properties of the HO model: Factor intensity ranking, one-to-one correspondence between commodity price ratio & factor price ratio (Stolper-Samuelson theorem), One to one correspondence between endowment ratio and production proportion ( Rybczysky's theorem); Proof of HO theorem; Taste bias and invalidation of HO theorem; Empirical studies- Leontief Paradox; Effects of trade on factor price and income distribution, factor price equalization, factor intensity reversal & factor price equalization.

### **Trade Policy:**

Partial Equilibrium Analysis: Tariff - cost-benefit, Quota, Quota- Tariff equivalence & non-equivalence, effects of tariff, quota, subsidy and voluntary export restraint; General Equilibrium Analysis- distinction between large and small economy, welfare effects of a tariff on small country and large country, Offer curve and ToT, Tariff ridden offer curve, Tariff war, Optimum tariff for large economy, Metzler's Paradox.

### **Balance of Payments & Exchange Rate:**

Balance of Payment accounts in an open economy; Determination of National Income, Transfer problem, Introduction of foreign Country & repercussion effect - open economy multiplier with & without repercussion effect; Fixed & Flexible Exchange Rate: adjustment of demand and supply of Foreign Exchange, Effect of devaluation, Effects of exchange rate on domestic prices and ToT, Marshall-Lerner Condition, J-Curve effect.

### **SUGGESTED READINGS:**

- ▶ P. Krugman and M. Obstfeld- International Economics (8th Edition) ; Pearson Education
- ▶ R. Caves, J. Frankel and R.W. Jones – World Trades & Payments (9th Ed); Pearson Education.
- ▶ Rajat Acharyya- International Economics; Oxford University Press
- ▶ Giancarlo Gandolfo, International Trade Theory and Policy, Springer, 2014

Soderstein and Reid, International Economics

**Course: ECON-H-CC-T-12**  
**Course Title: Public Economics**  
**Core Course; Credit – 6; Full Marks – 75**

### **Nature and Scope of Public Economics**

Definition and Scope of Public Economics; Externalities, Market Failure and Government Intervention; Coase Theorem; Public Expenditure to finance Development.

## **Theory of Public Good**

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.

### **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

### **Public Expenditure and Public Debt:**

Meaning and Classification of Public Expenditure; government budget and its types; government expenditure and tax multipliers, balanced budget multiplier; Fiscal Federalism in India; Meaning of Public Debt; Sources of Public Borrowings: internal and external borrowing; Effects of Public Debt.

### **SUGGESTED READINGS:**

- ▶ A. B. Atkinson and J. E. Stiglitz, Lectures on Public Economics, McGraw-Hill Inc.,US, 1980.
- ▶ C. V. Brown and P. M. Jackson. Public Sector Economics, Wiley-Blackwell; 4th Edition, 1991.
- ▶ J. F. Due and A. F. Friedlander. Government Finance-Economics of Public Sector, AITBS Publishers and Distributors, 1994
- ▶ J. Hindriks and G. D. Myles. Intermediate Public Economics, The MIT Press; Annotated Edition, 2006.
  
- ▶ R.A. Musgrave and P.B. Musgrave, Public Finance in Theory & Practice, McGraw Hill Publications, 5th edition, 1989.
- ▶ Amaresh Bagchi (ed), Readings in Public Finance, OUP
- ▶ J. E. Stiglitz. Economics of Public Sector, W. W Norton and Company, 3rd Edition, 2000.
- ▶ R.J. Chelliah (ed), Towards Sustainable Growth, OUP, 2009
- ▶ A Ghosh and C. Ghosh, Public Finance, Prentice Hall India Learning Private Limited; 2nd Revised edition (2014)

**Course: ECON-H-DSE-T-1A**

**Course title: Economic Development and Policy in India - I**  
**Discipline Specific Elective; Credit-6; Full Marks-75**

### **COURSE OBJECTIVES:**

This course reviews major trends in aggregate economic indicators in India and places these against the backdrop of major policy debates in India in the post- Independence period.

## **COURSE CONTENT:**

### **1. Issues in Growth, Development and Sustainability**

### **2. Factors in Development**

Capital formation (Physical and Human); technology; institutions.

### **3. Population and Economic Development**

Demographic trends; urbanisation.

### **4. Employment**

Occupational structure in the organised and the unorganised sectors; open-, under and disguised unemployment (rural and urban); employment schemes and their impact.

### **5. Indian Development Experience**

Critical evaluation of growth, inequality, poverty and competitiveness, pre and post reforms era; savings and investment; mobilisation of internal and external finance; monetary and fiscal policies; centre-state financial relations.

## **SUGGESTED READINGS:**

1. Michael P Todaro and Stephen Smith. *Economic Development*, Pearson, 11<sup>th</sup> edition (2011).
2. Uma Kapila, *Indian Economy since Independence*, Academic Foundation, 19<sup>th</sup> edition (2009).
3. United Nations Development Programme, *Human Development Report 2010*, Palgrave Macmillan (2010).
4. Government of India, *Economic Survey* (latest)
5. Government of India, *Five Year Plan* (latest)
6. Government of India, *Finance Commission Report* (latest)
7. Dutt and Sundaram, *Indian Economy* (Latest Edition)
8. Mishra and Puri, *Indian Economy* (Latest Edition)

**Course: ECON-H-DSE-T-1B**

**Course Title: Money and Banking**

**Discipline Specific Elective; Credit-6; Full Marks-75**

## **COURSE OBJECTIVES:**

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 CONTENT:**

### **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.

## **SUGGESTED 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.

**Course: ECON-H-DSE-T-2A**  
**Course Title: Public Finance**  
**Discipline Specific Elective Course; Credit – 6; Full Marks – 75**

**COURSE OBJECTIVES:**

After completion of the course the learner will be able to:

- Know the theories of public finance which will help them to solve many real life problems facing fiscal policy and government budgets.

**COURSE CONTENT:**

**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)

**Issues from Indian Public Finance**

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

**SUGGESTED READINGS:**

- Musgrave, R.A. and P. B. Musgrave, *Public Finance in Theory and Practice*, Mc-Graw Hill, 1989
- Mahesh Purohit, "Value Added Tax: Experience of India and Other Countries", Gayatri Publications, 2007
- Kaushik Basu and A. Maertens (ed.), *The Oxford Companion to Economics in India*, Oxford University Press, 2007
- M.M. Sury, *Government Budgeting in India*, Commonwealth Publishers, 1990.
- 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 Commission*
- *Economic Survey*, Government of India (latest)
- *State Finances: A Study of Budgets*, Reserve Bank of India (latest)

**Course: ECON-H-DSE-T-2B**  
**Course Title: Environmental Economics**  
**Discipline Specific Elective Course; Credit – 6; Full Marks – 75**

**COURSE OBJECTIVES:**

After completion of the course the learner will be able to:

- Know the theories of environmental economics including the notion of sustainable development.

**COURSE CONTENT:**

**Introduction**

What is environmental economics; review of microeconomics and welfare economics

**The Theory of Externalities**

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

**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

**International Environmental Problems**

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

**Measuring the Benefits of Environmental Improvements**

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

**Sustainable Development**

Concepts; measurement

**SUGGESTED READINGS:**

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

## SEMESTER VI

**Course: ECON-H-CC-T-13**  
**Course Title: Indian Economy**  
**Core Course; Credit – 6; Full Marks – 75**

### **COURSE OBJECTIVES:**

After completion of the course the learner will be able to:

- Know the current issues and problems facing Indian economy.

### **COURSE CONTENT:**

#### **Economic Development since Independence**

Major features of the economy at independence; Planning: Evolution of India's development goals and strategies – Structural constraints and Indian development strategy: Debates between growth and distribution, Public Sector vs. Private Sector, Consumer Goods vs. Capital Goods, Import Substitution vs. Export promotion; growth and development under different policy regimes – goals, constraints, institutions and policy framework; an assessment of performance – sustainability and regional contrasts; structural changes, savings and investment including the saving-investment paradox.

#### **Population and Human Development**

Demographic trends and issues; education; health and malnutrition

#### **Growth and Distribution**

Trends and policies in poverty including Sen's Entitlement Analysis; inequality and unemployment

#### **Economic Reforms in India**

Monetary, Fiscal and Trade Policy Reforms

### **SUGGESTED READINGS:**

- Jean Dreze and Amartya Sen, India – An Uncertain Glory, Princeton University Press, 2013.
- Jean Dreze and Amartya Sen, India: Economic Development and Social Opportunity, OUP
- Sukhamoy Chakraborty, Development Planning: The Indian Experience, OUP
- Uma Kapila, Indian Economy since Independence, Academic Foundation
- Ahluwalia and Little (ed.), India's Economic Reforms and Development, OUP
- Joshi and Little, India's Economic Reforms, OUP
- Kashik Basu and A. Maertens (eds), The New Oxford Companion to Economics in India, Oxford University Press.
- Selected articles on the relevant topics from Economic and Political Weekly.

**Course: ECON-H-CC-T-14**  
**Course Title: Development Economics**  
**Core Course; Credit – 6; Full Marks – 75**

**COURSE OBJECTIVES:**

After completion of the course the learner will be able to:

- Know the current theoretical and empirical issues and problems concerning economic development.

**COURSE CONTENT:**

**Meaning of Economic Development**

Income Approach and Capability Approach, Construction and Interpretation of HDI; International Variations in Development Measures, Comparing Development Trajectories across Nations and within them; Dependency School of Development

**Economic Growth**

An overview and policy implications of one sector growth models – Harrod-Domar and Solow; Sources of Economic Growth, International Comparisons.

**Poverty and Inequality**

Inequality axioms; a comparison of commonly used inequality measures; Gender inequality; Connections between inequality and development; Poverty measurement, HPI; Poverty Traps and Path dependence of growth process

**Political Institutions and the State**

Definition of institutions, Evolution of Political and Economic Institutions, 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

**SUGGESTED READINGS:**

- Debraj Ray, Development Economics, Oxford University Press, 2009.
- Partha Dasgupta, Economics, A Very Short Introduction, Oxford University Press, 2007.
- Kaushik Basu, The Oxford Companion to Economics in India, OUP, 2007.
- Kaushik Basu, Analytical Development Economics, OUP
- Amartya Sen, Development as Freedom, OUP, 2000.
- Meier and Rauch (ed.), Leading Issues in Development Economics, OUP.
- Todaro and Smith, Economic Development, Pearson Education, 2009.
- Hayami and Godo, Development Economics, OUP
- Bardhan and Udry, Development Microeconomics, OUP.



**Course: ECON-H-DSE-T-3A**  
**Course title: Economic Development and Policy in India - II**  
**Discipline Specific Elective; Credit-6; Full Marks-75**

**COURSE OBJECTIVES:**

Building on the more aggregative analysis of trends in the Indian Economy offered in Economic Development and Policy–I, this course examines sector-specific trends in key indicators and their implications in the post-Independence period.

**COURSE CONTENT:**

**1. Agriculture: Policies and Performance**

Production and productivity; credit; labour; markets and pricing; land reforms; regional variations.

**2. Industry: Policies and Performance**

Production trends; small scale industries; public sector; foreign investment.

**3. Foreign Trade: Trends and Policies**

Balance of trade and balance of payments; India and the World Trade Organisation.

**SUGGESTED READINGS:**

1. Uma Kapila, *Indian Economy since Independence*, Academic Foundation, 19<sup>th</sup> edition (2009).
2. Government of India, *Economic Survey* (latest)
3. Government of India, *Five Year Plan* (latest)
4. Dutt and Sundaram, *Indian Economy* (Latest Edition)
5. Mishra and Puri, *Indian Economy* (Latest Edition)

**Course: ECON-H-DSE-T-3B**  
**Course title: Economic History of India (1857-1947)**  
**Discipline Specific Elective; Credit-6; Full Marks-75**

**COURSE OBJECTIVES:**

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 CONTENT:**

### **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.

## **SUGGESTED 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.
- 16 Daniel Thorner, *Agrarian Prospect in India*, 1977.
- 17. L. Visaria and P. Visaria, *Population*. CEHI, Chapter 5.

**Course: ECON-H-DSE-T-4A**

**Course Title: Dissertation**

**Discipline Specific Elective Course; Credit – 6; Full Marks – 75**

**COURSE OBJECTIVES:**

After completion of the course the learner will be able to:

- Analyse economic data and also to write on empirical problems of economic life – especially with reference to India

**COURSE CONTENT:**

A dissertation may be written on any issues pertaining to Indian economy and/or Global Economy in the present context or in the historical context. The students should be guided in how to analyse socio-economic data for this purpose.

The evaluation of the said dissertation will be done on the basis of power-point presentation before the external examiner. 50 marks should be allotted for the report writing and 25 marks should be allotted for presentation.

**Course: ECON-H-DSE-T-4B**

**Course Title: Financial Economics**

**Discipline Specific Elective Course; Credit – 6; Full Marks – 75**

**COURSE OBJECTIVES:**

After completion of the course the learner will be able to:

- Know the fundamental theories of finance which have great relevance in real life in the present context of globalization.

**COURSE CONTENT:**

**Introduction**

Evolution of limited liability companies; Time Value of Money and Concepts of Security Markets

### **Investment Theory and Portfolio Analysis**

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; Portfolio 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. CAPM: The Capital Market Line; the Capital Asset Pricing Model; the beta of an asset and of a portfolio; the Security Market Line; the Use of the CAPM model in investment analysis and as a pricing formula

### **Options and Derivatives**

Introduction to derivatives and options; forward and futures contracts; options; other derivatives; Forward and Futures Prices; Option markets; Call and Put Options; Factors affecting option prices; put-call parity; option trading strategies – spreads, straddles, strips and straps, strangles.

### **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

### **SUGGESTED READINGS:**

- Richard A. Brealey and Stewart C. Myers, Principles of Corporate Finance, McGraw-Hill, 7<sup>th</sup> Edition, 2002
- Stephen A. Ross, Randolph W. Westerfeld and Jaffey, Corporate Finance
- William Sharpe, Gordon Alexander and Jeffery Bailey, Investments, Prentice Hall of India, 6<sup>th</sup> Edition, 2003
- Prasanna Chandra, Fundamentals of Financial Management.

### **NOTES:**

- (1) It is compulsory for any student opting for BA/B.Sc (Honours) in Economics to study Mathematics as his/her Generic Elective Course Paper.
- (2) The discipline specific core papers in BA Programme in Economics are offered as GE papers for other subjects (Both Honours and Programme). This means Principles of Microeconomics – I in Semester I, Principles of Macroeconomics – I in Semester II, Principles of Microeconomics – II in Semester III and Principles of Macroeconomics – II in Semester IV in BA Programme in Economics will be offered as GE papers for other subjects in the relevant semesters for both Honours and Programme in other subjects.
- (3) In Semester III and Semester IV SEC papers have to be chosen from Financial Economics (Semester III) and Statistical Tools for Data Analysis –I (Semester

- IV) which are also offered in BA Programme in Economics.
- (4) In Semester V a student has to study two DSE papers. In BA Honours in Economics DSE-H-T-1A and DSE-H-T-1B will be same as the DSE papers offered in Semester V of BA Programme in Economics. This means for BA Honours in Economics DSE –H-T-1A will be Economic Development and Policy in India – I or Money and Banking. DSE-H-T-2A and DSE-H-T-2B will remain unaltered as Public Finance and Environmental Economics. A student has to study any one of these two. In Semester VI in BA Honours in Economics DSE-H-T-3A and DSE-H-T-3B will be same as the DSE papers offered in the BA Programme in Economics in Semester VI i.e. Economic Development and Policy in India – II and Economic History of India respectively. DSE-H-T-4A will remain unaltered i.e. Dissertation. But DSE-H-T-4B is changed. It is now Financial Economics.