WEST BENGAL STATE UNIVERSITY

Barasat, North 24 Parganas, West Bengal

DEPARTMENT OF ECONOMICS

SYLLABUS

Four-Year Undergraduate Programme (Honours / Honours with Research)

in

ECONOMICS (MAJOR)

Under the Curriculum and Credit Framework for Undergraduate Programmes (CCFUP) based on the National Education Policy (NEP), 2020

(With effect from the Academic Session: 2023–2024)

Approved in the Board of Studies Meeting held on 25 March 2026

This syllabus is subject to revision as per university regulations and academic requirements.

Preface

This Economics (Major) programme at West Bengal State University is designed following the principles of Outcome-Based Education (OBE), which emphasizes the knowledge, skills, and competencies students are expected to acquire upon completion of the programme. The curriculum is structured to ensure holistic learning and the development of critical thinking, analytical abilities, and practical skills essential for higher studies, research, and professional careers.

The programme defines Programme Outcomes (POs) as broad abilities students should achieve, while Programme Specific Outcomes (PSOs) identify subject-specific competencies in Economics. Each course within the programme has clearly stated Course Objectives and Course Outcomes (COs), which contribute systematically to attaining the POs and PSOs. Learning progression is guided by Bloom's Taxonomy (K1–K6), moving students from basic recall of facts (K1) to comprehension (K2), application (K3), analysis (K4), evaluation (K5), and creation or research (K6).

Mapping of COs to POs ensures that every course contributes meaningfully to the overall learning goals, maintains academic quality, and facilitates effective assessment of student achievement. This structured approach helps students understand learning expectations, track progress, and apply theoretical knowledge to practical and real-world situations.

By integrating POs, PSOs, COs, and Bloom's Taxonomy within the OBE framework, the syllabus promotes a student-centric, comprehensive, and forward-looking educational experience, preparing graduates for meaningful participation in society, the economy, and higher academic pursuits.

…….
Board of UG Studies (BOUGS) in Economics
West Bengal State University

1. Programme Structure

The Four-Year Undergraduate Programme (FYUGP) in Economics is designed in accordance with NEP 2020 and follows a multidisciplinary and flexible curriculum structure. The programme allows multiple entry and exit options and integrates disciplinary knowledge with skill development and research.

Exit Options:

- After 1 year: Certificate
- After 2 years: Diploma
- After 3 years: Bachelor's Degree
- After 4 years: Bachelor's Degree with Honours / Honours with Research

2. Credit Framework

Component	Description
Major (Core) Courses	Discipline-specific compulsory courses
Minor Courses	Interdisciplinary courses
Multidisciplinary Courses (MDC)	Courses from other disciplines
Ability Enhancement Courses (AEC)	Language/communication skills
Skill Enhancement Courses (SEC)	Skill-based and applied learning
Value Added Courses (VAC)	Ethics, values, environment, etc.
Research Project/Dissertation	In 4th year (for Honours with Research)

3. Programme Outcomes (POs)

After successful completion of the programme, students will be able to:

PO1: Disciplinary Knowledge
Understand and apply core concepts of microeconomics, macroeconomics, and related fields.

PO2: Analytical and Quantitative Skills
Use economic reasoning along with mathematical and statistical tools to analyze economic issues.

PO3: Research and Problem-Solving Ability
Formulate and investigate economic problems using appropriate research methods and data.

PO4: Communication and Digital Skills
Effectively communicate economic ideas and use ICT tools for analysis and presentation.

PO5: Ethics, Sustainability and Employability
Demonstrate ethical awareness, understanding of sustainability issues, and skills relevant for employment and lifelong learning.

4. Programme Specific Outcomes (PSOs)

After completion of the Economics Major, students will be able to:

PSO1: Application of Economic Theory
Apply microeconomic and macroeconomic theories to real-world economic situations.

PSO2: Quantitative and Econometric Analysis
Use mathematical, statistical, and econometric techniques in economic analysis.

PSO3: Policy and Development Analysis
Evaluate economic policies and development issues, with special reference to the Indian economy.

PSO4: Global Economic Perspective
Analyze international trade, finance, and globalization issues.

PSO5: Data Analysis and Research Skills
Collect, interpret, and analyze economic data for research and decision-making.

Table–1: Structure of the 4-Year Undergraduate Programme (Honours in Economics): Semester-wise and Course Category-wise Distribution of Credits

SEM	Major (DSC)	Minor	MDC	AEC	SEC	VAC	Internship	Total Credits
I	**DS-1 (5)** Introductory Microeconomics	MA-1 (5) MB-1 (5)	MD-1 (3)	AE-1 (3)	SE-1 (3)	VA-1 (3)		**27**
II	**DS-2 (5)** Introductory Macroeconomics	MA-2 (5) MB-2 (5)	MD-2 (3)	AE-2 (3)	SE-2 (3)	VA-2 (3)	(4**)	**27**
Exit with Certificate								**(4**) +54**
III	**DS-3 (5)** Mathematical Methods for Economics -I	MA-3 (5) MB-3 (5)	MD-3 (3)	AE-3 (3)	SE-3 (3)			**24**
IV	**DS-4 (5)** Intermediate Microeconomics–I **DS-5 (5)** Intermediate Macroeconomics–I **DS-6 (5)** Statistical Methods for Economics–I **DS-7 (5)** Development Economics						(4**)	**20**
Exit with Diploma								**(4**) +98**
V	**DS-8 (5)** Intermediate Microeconomics–II **DS-9 (5)** Intermediate Macroeconomics–II **DS-10 (5)** Mathematical Methods For Economics–II **DS-11(5)** Indian Economy–I							**20**
VI	**DS-12 (5)** International Economics–I						(4**)	**20**

	DS-13 (5) Statistical Methods for Economics –II **DS-14 (5)** Introductory Econometrics **DS-15 (5)** Public Finance							
Exit with Major after 3years	**75**	**30**	**9**	**9**	**9**	**6**		**(4**)+138**
VII	**DS-16 (5)** Contemporary Development Economics **DS-17 (5)** Research Methodology with Application	SM-1 (5) SM-2 (5)						**20**
VIII	**DS-18 (5)** International Economics–II **DS-19 (5)** Resource Economics **DS-20 (5)** Indian Economy–II **DS-21 (5)** History of Economic Thought							**20**
Credits	**105**	**40**	**9**	**9**	**9**	**6**	**4**	**182**

Note: Figures in parentheses ( ) indicate credits.

DS: Discipline-Specific Core Course

MA: Core Course from Discipline–1

MB: Core Course from Discipline–2

MC: Core Course from Discipline–3

Credit Distribution (5 Credits):

(a) **Lab-based Courses:** L = 3, T/P = 2

(b) **Non-Lab Courses:** L = 4, T = 1

(c) **Field-based Courses:** P = 5

(d) **Music (as Major/Minor):** L = 1/2, P = 4/3

Table–2: Structure of the 4-Year Undergraduate Programme (Honours with Research in Economics): Semester-wise and Course Category-wise Distribution of Credits

SEM	Major (DSC)	Minor	MDC	AEC	SEC	VAC	Internship/ Research	Total Credits
I	**DS-1 (5)** Introductory Microeconomics	MA-1 (5) MB-1 (5)	MD-1 (3)	AE-1 (3)	SE-1 (3)	VA-1 (3)		**27**
II	**DS-2 (5)** Introductory Macroeconomics	MA-2 (5) MB-2 (5)	MD-2 (3)	AE-2 (3)	SE-2 (3)	VA-2 (3)	(4**)	**27**
Exit with Certificate								**(4**) +54**
III	**DS-3 (5)** Mathematical Methods for Economics -I	MA-3 (5) MB-3 (5)	MD-3 (3)	AE-3 (3)	SE-3 (3)			**24**
IV	**DS-4 (5)** Intermediate Microeconomics–I **DS-5 (5)** Intermediate Macroeconomics–I **DS-6 (5)** Statistical Methods for Economics–I **DS-7 (5)** Development Economics						(4**)	**20**
Exit with Diploma								**(4**) +98**
V	**DS-8 (5)** Intermediate Microeconomics–II **DS-9 (5)** Intermediate Macroeconomics–II **DS-10 (5)** Mathematical Methods For Economics–II **DS-11(5)** Indian Economy–I							**20**
VI	**DS-12 (5)** International Economics–I						(4**)	**20**

	DS-13 (5) Statistical Methods for Economics –II **DS-14 (5)** Introductory Econometrics **DS-15 (5)** Public Finance							
Exit with Major after 3years	**75**	**30**	**9**	**9**	**9**	**6**	**(4**)**	**(4**)+138**
VII	**DS-16 (5)** Contemporary Development Economics **DS-17 (5)** Research Methodology with Application	SM-1 (5) SM-2 (5)						**20**
VIII	**DS-18 (5)** International Economics–II **DS-19 (5)** Resource Economics						Research Project (15)	**25**
Credits	**95**	**40**	**9**	**9**	**9**	**6**	**19**	**187**

Note: Figures in parentheses ( ) indicate credits.

DS: Discipline-Specific Core Course

MA: Core Course from Discipline–1

MB: Core Course from Discipline–2

MC: Core Course from Discipline–3

Credit Distribution (5 Credits):

(a) **Lab-based Courses:** L = 3, T/P = 2

(b) **Non-Lab Courses:** L = 4, T = 1

(c) **Field-based Courses:** P = 5

(d) **Music (as Major/Minor):** L = 1/2, P = 4/3

Semester I

ECONOMICS MAJOR (DSC)

DS-1: INTRODUCTORY MICROECONOMICS

5 Credits (4L+1T) ECODSC101T

Total Number of Lecture Hours=75

Course Objectives

This course introduces the subject matter of economics, focusing on scarcity, choice, and market mechanisms. It develops understanding of demand–supply analysis, consumer behaviour using indifference curves, production and cost theory, and different market structures for price determination.

Course Outcomes (COs)

Students will be able to:

CO1.1: Explain fundamental economic problems, concepts of scarcity, choice, and basic market mechanisms. **(K2)**
CO1.2: Apply demand and supply analysis to examine price determination, elasticity, taxation, and welfare measures. **(K3)**
CO1.3: Analyze consumer behaviour using indifference curves, budget constraints, and income–substitution effects. **(K4)**
CO1.4: Analyze production functions, cost structures, and economies of scale in short-run and long-run contexts. **(K4)**
CO1.5: Evaluate different market structures and their implications for price determination and efficiency. **(K5)**

Course Contents:

1. **Exploring the subject matter of Economics: (6L+2T)**
   Why study economics? Scope and method of economics; the economic problem: scarcity and choice; distinction between Microeconomics and Macroeconomics; the question of what to produce, how to produce and how to distribute output; the basic competitive model; prices, property rights and profits; incentives and information; rationing; opportunity sets; economic systems.

2. **Supply and Demand: (16L+4T)**
   How Markets work, Markets and Welfare, Markets and Competition; determinants of individual demand/supply; demand/supply-schedule and demand/supply curve; market versus individual demand/supply; shifts in the

demand/supply curve, demand and supply together; how prices allocate resources; elasticity and its application; controls on prices; taxes and the costs of taxation; consumer surplus; producer surplus and the efficiency of the markets.

3. **The Households:** **(18L+4T)**

The consumption decision - budget constraint, consumption and income/price changes, demand for all other goods and price changes; description of preferences (representing preferences within difference curves); properties of indifference curves; Consumer's optimum choice; income and substitution effects (Hicks & Slutsky); Ordinary and Compensated demand curves, Inferior goods and Giffen goods, Price consumption and Income consumption curves.

4. **Production and Cost:** **(12L+3T)**

Production function, Total, Average and Marginal products, Isoquants and economic regions of production, Cost minimization and expansion path, Elasticity of substitution, Economies of scale, Cobb Douglas, Fixed coefficient and CES functions, short run and long run costs, Derivation of the cost function from production function.

5. **Market Structure:** **(8L+2T)**

Different types of market structures- Perfect competition, Monopoly, Monopolistic Competition and Oligopoly (concepts only)

Suggested Readings:

1. Lipsey, R.G–An Introduction to Positive Economics. Widenfeld and Nicholson, London.
2. Maddala and Miller - Microeconomics.
3. Koutsoyiannis – Modern Microeconomics
4. Ryan and Pearce – Price Theory
5. Henderson and Quandt – Microeconomic Theory: A Mathematical Approach
6. Ferguson and Gould–Microeconomic Theory

Semester II

ECONOMICS MAJOR (DSC)

DS-2: INTRODUCTORY MACROECONOMICS

5 Credits (4L+1T) ECODSC202T

Total Number of Lecture Hours=75

Course Objectives

This course introduces macroeconomic concepts including national income accounting, money and inflation, and short-run income determination. It aims to develop analytical understanding of macroeconomic aggregates and policy mechanisms.

Course Outcomes (COs)

Students will be able to:

CO2.1: Explain national income concepts, measurement methods, and circular flow of income. **(K2)**
CO2.2: Apply concepts of money supply, credit creation, and monetary policy tools. **(K3)**
CO2.3: Analyze inflation, unemployment, and their interrelationships using macroeconomic indicators. **(K4)**
CO2.4: Analyze short-run income determination using Keynesian framework and multiplier concepts. **(K4)**
CO2.5: Evaluate the role of fiscal and monetary policies in macroeconomic stabilization. **(K5)**

Course Contents:

1. **Introduction to Macroeconomics and National Income Accounting: (16L+4T)**
   Basic issues studied in macroeconomics; measurement of gross domestic product; different methods of calculating National Income; NI- Where it comes from and where it goes–The circular flow of income; measurement of cost of living–CPI, GDP deflator; measuring joblessness– Unemployment rate, Unemployment and GDP– Okun's Law; national income accounting for an open economy; balance of payments: current and capital accounts; NI as a measure of economic welfare.

2. **Money: (12L+3T)**
   Functions of money; quantity theory of money; determination of money supply and demand; credit creation; tools of monetary policy. Seigniorage -The revenue from printing money.

3. Inflation: (8L+2T)

Inflation and its social costs; Demand Pull andCost Push inflation; hyperinflation; anti-inflationary policies. Inflation and Interest Rates- Fisher Effect.

4.The Closed Economy in the Short Run: (24L+6T)

Classical and Keynesian systems (difference in concepts); Simple Keynesian model of income determination, Multipliers; IS-LM model; Fiscal and Monetary Multipliers

Suggested Readings:

1. Dornbusch, Fischer and Startz - Macroeconomics, McGraw Hill,11th edition, 2010.
2. N. Gregory Mankiw - Macroeconomics, Worth Publishers, 7th edition, 2010.
3. Olivier Blanchard - Macroeconomics, Pearson Education Inc., 5thedition, 2009.
4. RichardT.Froyen, Macroeconomics, Pearson Education Asia, 2ndedition,2005.
5. Errol D'Souza - Macroeconomics, Pearson Education, 2009.
6. Branson– Macroeconomics (2nd) edition.

Semester III

ECONOMICS MAJOR (DSC)

DS-3: ECODSC303T

MATHEMATICAL METHODS FOR ECONOMICS-I

5 Credits (4L+1T)
Total number of Lecture hours=75

Course Objectives

This course provides mathematical foundations including set theory, functions, calculus, and matrix algebra. It aims to develop the ability to apply mathematical tools in economic analysis, optimization, and model formulation.

Course Outcomes (COs)

Students will be able to:

CO3.1: Explain basic concepts of sets, relations, functions, and number systems. **(K2)**
CO3.2: Apply differential and integral calculus to analyze economic functions and relationships. **(K3)**
CO3.3: Solve systems of linear equations using matrix algebra and determinants. **(K3)**
CO3.4: Analyze optimization problems involving maxima and minima in economic contexts. **(K4)**
CO3.5: Apply mathematical techniques to economic models such as demand, cost, and production functions. **(K3)**

Course Contents:

1. Preliminaries: (10L+2T)

Concept: Sets and set operations; relations; functions and their properties; number systems. Set Theory: Definition of a set and discussion of related concepts; Set types; Operations on sets; Nested sets; Cartesian product; Concept of Euclidean Space Functions and Relations: Definitions; Concepts of 'range', 'domain' and 'mapping'; Explicit and implicit functions; Types of polynomial functions and correspondences.

1. Brief Review of Differential and Integral Calculus: (12L+3T)
Concepts of limits and continuity', 'derivative', 'partial derivative', 'total differential' and 'integral' (stress on both intuitive and mathematical understanding); differentiable functions: Applications of differential and integral calculus to the study of functions: level curves; slope and curvature of functions, area under a curve etc. second order derivatives.

Applications: Slutsky equation and decomposition of price effect; Properties of

demand functions.; savings function, Total average and marginal Cost & Production, Consumption function, saving & investment function.

2. **Simultaneous Linear Systems and Related Applications of Matrix Algebra: (10L+2T)**

Vector spaces: algebraic and geometric properties, scalar products, norms, orthogonality; linear transformations: properties, matrix representations and elementary operations; systems of linear equations and their solution sets; determinants: characterization, properties and applications (Example-Multipliers in IS-LM model).

3. Single-variable optimization: (12L+3T)

Geometric properties of functions: convex functions, distinction between concave and convex functions; their characterizations and applications; local and global optima (maxima and minima).

Applications: Equilibrium under cardinal utility theory; Maximization of Revenue and Profit, Minimization of cost of production in short run.

4. **Multi-variable optimization: (12L+3T)**

Free and constrained optimization; Static optimization problems; applications

Applications: Equilibrium under cardinal and ordinal utility theory; Maximization of Profit in perfect market form, Minimization of cost of production in long run.

Suggested Readings:

1. K.Sydsaeter and P.Hammond, Mathematics for Economic Analysis, Pearson Educational Asia: Delhi, 2002.
2. Blume, Lawrence and Carl Simon (1994), Mathematics for Economists, Norton.
3. Chiang, Alpha and Kevin Wainwright (2005), Fundamental Methods of Mathematical Economics, Fourth Edition, McGraw-Hill
4. Baldani, Bradfield and Turner, An Introduction to Mathematical Economic, Cengage Leaening: 2007.
5. James M. **Henderson** and Richard E.**Quandt**, Microeconomic Theory A Mathematical Approach, ED 3rd, McGraw Hill Book Company.
6. E.Silberberg, The Structure of **Economics**: A **Mathematical** Analysis," 2nd Edition, McGraw Hill, Boston, 1990

Semester IV

ECONOMICS MAJOR (DSC)

DS-4: ECODSC404T

INTERMEDIATE MICROECONOMICS–I

5 Credits (4L+1T)
Total number of Lecture hours = 75

Course Objectives

This course deepens understanding of consumer theory, including intertemporal choice and risk, and examines firm behaviour under different market structures such as perfect competition and monopoly. It also introduces pricing strategies and welfare implications.

Course Outcomes (COs)

Students will be able to:

CO4.1: Analyze advanced consumer behaviour including intertemporal choice and decision-making under risk. **(K4)**
CO4.2: Apply revealed preference theory and substitution effects in consumer analysis. **(K3)**
CO4.3: Analyze equilibrium of firms under perfect competition in short and long run. **(K4)**
CO4.4: Evaluate monopoly behaviour, pricing strategies, and welfare loss. **(K5)**
CO4.5: Analyze monopolistic competition and product differentiation. **(K4)**

Course Contents:

1. **Consumer Theory Revisited: (20L+5T)**
   i) Application of indifference curve approach: Derivation of labour supply and intertemporal choice- Saving and borrowing
   ii) Choice under risk: Describing Risk, Preferences towards risk, Reducing risk, the demand for Risky assets-the trade-off between Risk & Return
   iii) Revealed Preference–the weak axiom and substitution effect.

2. **Market Structure: Perfect Competition (12L+3T)**
   Features, Short run and long run equilibrium of the firm, Short run supply function, Industry equilibrium; Long run industry supply with or without external economies or diseconomies.

3. **Imperfect Market Structure: Monopoly (20L+5T)**
   i) Monopoly and anti-trust policy; government policies towards competition; Sources of monopoly power, Index of monopoly power.

ii) Equilibrium with single plant, multiple plants, Constrained revenue maximisation, Natural monopoly; Dead-weight loss of Monopoly

iii) Price discrimination; peak-load pricing; bundling; two-part tariff.

iv) Monopsony.

4. Imperfect Market Structure: Monopolistic Competition (8L+2T)

Concept: Product diversification; Short-run & Long-run equilibrium; Excess capacity.

Suggested Readings:

1. Hal R.Varian, Intermediate Microeconomics, a Modern Approach,
2. Pindyck & Rubinfeld–Microeconomics
3. Koutsoyiannis–Modern Microeconomics
4. Henderson & Quandt–Microeconomic Theory-A Mathematical Approach

Semester IV

ECONOMICS MAJOR (DSC)

DS 5: ECODSC405T

INTERMEDIATE MACROECONOMICS–I

5 Credits (4L+1T)
Total Number of Lecture Hours=75

Course Objectives

This course develops theoretical understanding of classical and Keynesian systems, inflation–unemployment dynamics, and open economy macroeconomic models. It aims to analyze macroeconomic equilibrium and policy impacts.

Course Outcomes (COs)

Students will be able to:

CO5.1: Explain classical and Keynesian models of output, employment, and price determination. **(K2)**
CO5.2: Analyze aggregate demand and supply framework and Keynesian equilibrium. **(K4)**
CO5.3: Analyze inflation–unemployment trade-off using Phillips Curve and expectations. **(K4)**
CO5.4: Apply open economy models such as Mundell–Fleming to exchange rate determination. **(K3)**
CO5.5: Evaluate macroeconomic policy effectiveness in closed and open economy contexts. **(K5)**

Course Contents:

1. **The classical system:** **(12L+3T)**

   The Classical view of macroeconomics in respect of the determination of employment, output and prices. Say's law and Walras' law–The dichotomy between the real sector and monetary sector – neutrality of money.

2. **The Complete Keynesian model:** **(16L+4T)**

   Derivation of aggregate demand and aggregate supply curve –Keynesian labour supply function – determination of equilibrium– wage rigidity – involuntary unemployment–Underemployment equilibrium–effects of change in money supply and other factors on complete Keynesian model – money illusion.
   Comparison with the Classical system–price flexibility–Real balance effect.

3. Inflation, Unemployment and Expectations: **(16L+4T)**

i) Phillips curve; adaptive and rational expectations; policy ineffectiveness debate

ii) Aggregate supply and Phillips curve; Inflation, unemployment and Phillips curve Shift of Phillips curve, Phillips curve, Expectations and Inflation Inertia, Disinflation and sacrifice ratio. Rational expectations and Painless Disinflation, Natural Rate Hypothesis, Hysteresis.

4. Open Economy Models **(16L+4T)**

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.

Suggested Readings:

1. N.Gregory Mankiw. Macroeconomics, Worth Publishers, 7th edition, 2010.
2. Dornbusch, Fischer and Startz, Macroeconomics, McGraw Hill, 11th edition, 2010.
3. Olivier Blanchard, Macroeconomics, Pearson Education, Inc., 5th edition, 2009.
4. Errol D'Souza, Macroeconomics, Pearson Education, 2009
5. Branson, Macroeconomics(2nd)edition
6. Soumyen Sikdar- Principles of Macroeconomics (OUP)
7. R.T. Froyen. Macroeconomics-Theories and Policies, Prentice Hall; 9th Edition, 2008.

Semester IV

ECONOMICS MAJOR (DSC)

DS-6: ECODSC406T

STATISTICAL METHODS FOR ECONOMICS – I

5 Credits (4L+1T)
Total number of Lecture hours =75

Course Objectives

This course introduces statistical concepts including data collection, presentation, descriptive statistics, correlation, regression, time series, and index numbers. It develops skills for analyzing and interpreting economic data.

Course Outcomes (COs)

Students will be able to:

CO6.1: Explain concepts of data collection, classification, and presentation. **(K2)**
CO6.2: Apply measures of central tendency and dispersion to economic data. **(K3)**
CO6.3: Analyze correlation and regression relationships between variables. **(K4)**
CO6.4: Apply time series analysis and index number construction. **(K3)**
CO6.5: Interpret statistical results for economic decision-making. **(K4)**

Course Contents:

1. **Basic concepts:** **(4L+1T)**

   Population and sample, parameter and statistic; Data Collection: primary and secondary data, methods of collection of primary data; Presentation of Data: Univariate frequency distribution; cumulative frequency; graphic and diagrammatic representation of data

2. **Measures of Central tendency:** **(12L+3T)**

   Measures of Central Tendency: mean, median, mode and other quartile measures; geometric mean, harmonic mean, their relative merits and demerits

3. **Measures of Dispersion:** **(8L+2T)**

   Measures of Dispersion: absolute and relative- range, mean deviation, standard deviation, coefficient of variation, quartile deviation, their merits and demerits

4. **Measures of Skewness and Kurtosis; Interpolation:** **(8L+2T)**

   Moments- Central moments & Non-central moments- Skewness & kurtosis

5. Bivariate frequency distribution: (12L+3T)

Simple Correlation: scatter diagram, simple correlation coefficient - Karl Pearson‟s correlation coefficient and its properties, probable error of correlation coefficient, Spearman's rank correlation coefficient, partial and multiple correlation, Regression Analysis: Properties of linear regression, explained and unexplained variation regression in bivariate frequency distribution.

6. Time series: (8L+2T)

Meaning, Components of time series and their measurement, measurement of trend and statistical fluctuations; Two variable linear curve fitting analysis

7. Index Numbers: (8L+2T)

Meaning, Methods of construction (Price and quantity Index Numbers): Problems in the Construction of Index Numbers, Tests for index Numbers, Chain based Index, Cost of Living Index Number, Wholesale Price Index, Uses of Index Numbers (Example-Index numbers as indices of wellbeing, Stock market indices).

Suggested Readings:

1. Kenny and Keeping: Mathematical Statistics, Part 1 & Part II
2. Giri and Banergee: Statistical Methods
3. Das, N.G., Statistical Methods, The World Press Pvt. Ltd., Calcutta.
4. Fundamentals of Statistics: Goon, Gupta, Dasgupta, The World Press, 1996

Semester IV

ECONOMICS MAJOR (DSC)

DS- 7: ECODSC407T

DEVELOPMENT ECONOMICS

5 Credits (4L+1T)
Total number of Lecture hours=75

Course Objectives

This course examines concepts of economic development, growth theories, poverty, inequality, and globalization. It focuses on development strategies, human development indicators, and structural issues in developing economies.

Course Outcomes (COs)

Students will be able to:

CO7.1: Explain concepts of economic development, growth, and human development indicators such as HDI and GDI. **(K2)**
CO7.2: Analyze theories of development including stages of growth, dual economy models, and trap models. **(K4)**
CO7.3: Analyze poverty and inequality using measures such as Lorenz curve and Gini coefficient. **(K4)**
CO7.4: Evaluate development strategies including balanced/unbalanced growth and globalization policies. **(K5)**
CO7.5: Assess policy approaches to poverty alleviation and inclusive development. **(K5)**

Course Contents:

1. Basic concepts of development (12L+3T)

Different concepts of development –Sustainable development, Participatory development, Inclusive development, Human development, Growth and Development– Broad Indicators of Economic Development–Per capita Income– Human Development Index, construction and interpretation of HDI; –Gender Development Index–Gender Empowerment Measure

2. Persistence of Underdevelopment and Strategies of Development (24L+6T)

Characteristics of underdevelopment –Stages of growth- Obstacles to development –Trap Models–Vicious circle of poverty–Critical minimum effort

thesis–Low level equilibrium trap–Process of cumulative causation–Big push argument targeting the big push-balanced vs. unbalanced growth; Hirschman model, Choice of technique and investment criteria, Concept of surplus labour–Surplus labour as potential saving–Economic development with unlimited supplies of labour (Lewis Model). Harris-Todaro model.

3. Poverty and Inequality (20L+5T)

Meaning of inequality, Inequality measures: Lorenz Curve, Range, Coefficient of variation, Gini-coefficient, Poverty, relative and absolute deprivation with respect to income, Poverty line, Poverty measures –Head count ratio, Poverty gap ratio, Income gap ratio, Sen's Index, Human Poverty Index, Hunger index, Multidimentional poverty index etc. Tackling Poverty – The World Bank Approach

4. Globalization (4L+1T)

Globalization in historical perspective-Brettonwoods and its aftermath, the economics and politics of multilateral agreements;

Suggested Readings

1. Thirlwall: Growth and Development
2. Debraj Roy: Development Economics
3. G.M. Meier and J.E. Rauch. Leading Issues in Economic Development. Oxford University Press. (8th edition or latest)
4. K. Basu: Analytical Development Economics, OUP
5. Debesh Bhattacharya: Political Economy of Development
6. Todaro and Smith: Economic Development, Pearson Education, 2009
7. Y.Hayami, "Development Economics" (Oxford University Press)
8. Soumyen Sikdar (2013): Contemporary Issues in Globalization: An Introduction to Theory and Policy in India, OUP

Semester V

ECONOMICS MAJOR (DSC)

DS 8: ECODSC508T
INTERMEDIATE MICROECONOMICS–II
Credit:5 (4L+1T)
Total number of Lecture hours=75

Course Objectives

This course analyzes oligopoly, game theory, market failures, input markets, and general equilibrium. It aims to develop understanding of strategic behaviour, welfare economics, and efficiency conditions.

Course Outcomes (COs)

Students will be able to:

CO8.1: Analyze oligopoly models such as Cournot and Stackelberg and strategic interactions. **(K4)**
CO8.2: Apply game theory concepts including Nash equilibrium and prisoner's dilemma. **(K3)**
CO8.3: Analyze market failures due to externalities, public goods, and asymmetric information. **(K4)**
CO8.4: Analyze input demand and factor pricing under different market structures. **(K4)**
CO8.5: Evaluate general equilibrium conditions and welfare efficiency (Pareto optimality). **(K5)**

Course Contents:

1. **Market Structure: Oligopoly and Strategic Behaviour of Firms (20L+5T)**
   Conjectural Variation & Reaction functions, Analysis of Cournot & Stackelberg; Collusive Oligopoly & Prisoners' dilemma in cartel stability, Nash equilibrium of game.

2. **Market Failure: (12L+3T)**
   Externalizes; public goods and markets with asymmetric information-Moral hazard and adverse selection (concepts only)-Market for Lemons

3. **Input Markets: (16L+4T)**
   Derived demand for a single input & multiple input in competitive & imperfectly competitive markets, Firm demand & industry demand, Adding up problem, Collective bargaining & exploitation, Rent & Quasi-rent.

4. **General Equilibrium, Efficiency and Welfare (12L+3T)**
   Equilibrium and efficiency under pure exchange and production; Conditions of Pareto optimality; overall efficiency and welfare economics.

Suggested Readings:

1. Robert Gibbons. A Primer in Game Theory, Princeton University Press, 1992.
2. Gravelle & Ress, Microeconomics (3rd Edition)
3. Pindyck & Rubinfeld–Microeconomics
4. Koutsoyiannis–Modern Microeconomics
5. Maddala & Miller–Microeconomics

Semester V

ECONOMICS MAJOR (DSC)

DS-9: ECODSC509T

INTERMEDIATE MACROECONOMICS–II

5 Credits (4L++1T)

Total Number of Lecture Hours=75

Course Objectives

This course focuses on economic growth models, micro-foundations of macroeconomics, and schools of macroeconomic thought. It develops analytical understanding of long-run growth and macroeconomic behaviour.

Course Outcomes (COs)

Students will be able to:

CO9.1: Explain growth models such as Harrod-Domar and Solow. **(K2)**
CO9.2: Analyze consumption, investment, and money demand theories. **(K4)**
CO9.3: Apply intertemporal choice and rational expectations in macroeconomic analysis. **(K3)**
CO9.4: Analyze macroeconomic behaviour using different theoretical frameworks. **(K4)**
CO9.5: Evaluate competing schools of macroeconomic thought. **(K5)**

Course Contents:

1. **Economic Growth** **(20L+5T)**

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

2. **Microeconomic Foundations** **(32L+8T)**

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

   Investment: determinants of business fixed investment; residential investment and inventory investment. Tobin's q, Accelerator model of investment.

   Demand for money: Transaction demand for money, Precautionary demand for money,

   Speculative demand for money, The Regressive Expectations Model, The portfolio balance approach, The Baumol-Tobin models of Cash Management, Money as a consumer's and producer's good.

3. **Schools of Macroeconomic Thoughts (concept only) (8L+2T)**
Mercantilism, Physiocracy, Classicals; Keynesians; New-Classicals and New-Keynesians.

Suggested Readings:

1. N. Gregory Mankiw. Macroeconomics,Worth Publishers,7th edition, 2010.
2. Dornbusch, Fischer and Startz, Macroeconomics, McGraw Hill, 11th edition, 2010.
3. Olivier Blanchard, Macroeconomics, Pearson Education, Inc., 5th edition, 2009.
4. Charles I. Jones, Introduction to Economic Growth, W.W. Norton & Company, 2nd edition, 2002.
5. Errol. D'Souza, Macroeconomics, Pearson Education, 2009.

Semester V

ECONOMICS MAJOR (DSC)

DS-10: ECODSC510T
MATHEMATICAL METHODS FOR ECONOMICS-II
5 Credits (4L+1T)
Total Number of Lecture hours=75

Course Objectives

This course introduces advanced mathematical tools such as multivariable optimization, linear programming, dynamic systems, and game theory for economic analysis.

Course Outcomes (COs)

Students will be able to:

CO10.1: Apply multivariable calculus and implicit functions in economic models. **(K3)**
CO10.2: Solve constrained optimization problems using Lagrange and Kuhn-Tucker methods. **(K3)**
CO10.3: Apply linear programming and duality in economic decision-making. **(K3)**
CO10.4: Analyze dynamic systems using differential and difference equations. **(K4)**
CO10.5: Apply game theory concepts in economic models. **(K3)**

Course Contents:

1. Multi-variable function: some concept (10L+2T)
Convex sets; properties and applications; quasi convex functions and applications; the implicit function; homogeneous and homothetic functions: characterizations and application to comparative statics problems: Envelope theorem and applications.

2. Classical Optimization (10L+2T)
First Order condition for optimum; Second Order Condition and sufficiency requirement; Local and Global Optima and Local-Global Theorem; Constraint qualification and Kuhn Tucker condition; Lagrangean Technique for optimization and its interpretation.

3. Linear Programming and Duality (8L+2T)
Basic concepts and solution methods (graphical and simplex); Duality theorem.

Applications: Duality in Consumer Theory: Producer's Theory.

4. Simultaneous Equation Systems: (12L+3T)

Systems of linear equations: properties of their solution sets, Eigen Values, Eigenvectors.

Applications: Simple Linear Input-Output models with fixed coefficients and their Solutions (Leontief Static open and closed model). Two good general equilibrium systems: existence of equilibrium, and comparative statics.

5. Dynamical Methods: algebraic and geometric exposition (12L+3T)

Single Equation linear Difference and Differential equations systems: Monotonic and oscillatory convergence, divergence and stability.

Applications: Cobweb models, Samuelson Multiplier-acceleration model and their existence of equilibrium and comparative statics

6. Game Theory and its Applications: (9L+2T)

Constant and non-constant sum game, two-person zero sum game, concept of pure strategy and mixed strategy, Nash equilibrium method and method of dominance.

Application: Cournot model, problem of prisoner's dilemma.

Suggested Readings:

1. Intrilligator, Mathematical Optimization and Economic Theory, (1971).
2. Dixit, Optimization in Economic Theory, OUP, (1995).
3. Dorfman, Samuelson and Solow, Linear Programming and Economic Analysis.
4. Simon and Blume, Mathematics for Economists, Norton and Company, 1994.
5. K.Sydsaeter, P Hammond, Mathematics for economic analysis, Pearson Education, (2002).
6. A.C.Chiang, Mathematical Economics, McGraw Hill, 1995.

Semester V

ECONOMICS MAJOR (DSC)

DS-11: ECODSC511T
INDIAN ECONOMY-I
5 Credits (4L+1T)
Total Number of Lectures=75

Course Objectives

This course provides an overview of India's economic structure, sectoral development, policy reforms, and institutional framework since independence.

Course Outcomes (COs)

Students will be able to:

CO11.1: Explain structural features of the Indian economy and changes since independence. **(K2)**
CO11.2: Analyze sectoral trends in agriculture, industry, and services. **(K4)**
CO11.3: Analyze demographic trends, poverty, and unemployment issues. **(K4)**
CO11.4: Evaluate economic reforms, planning, and policy initiatives. **(K5)**
CO11.5: Assess financial and external sector developments in India. **(K5)**

Course Contents:

1. **Structure of Indian Economy** **(12L+3T)**
   Introduction (a brief overview of Indian Economics History 1857-1947); Major features of the economy at independence, Structural constraints; Changes in the pattern of intersectoral distribution of National Income since Independence; Changes in the pattern of occupational structure; A brief overview of Indian Planning: achievements and failures, Niti Aayog; Background of Indian Economic Reforms - New Economic Policy, Redefining India's development strategy, changing role of state and market, Pattern of growth in post-liberalisation era, growth of the service sector

2. **Population and Human Development** **(8L+2T)** Size and growth rate of population in India, Changes in sex composition since inception of planning, Population policy and population projections for India, Demographic Dividend; Trends in poverty , inequality and unemployment, different estimates of poverty nature and types of unemployment in India, Policies undertaken for poverty eradication and employment generation

3. **Agriculture** **(8L+2T)**

Causes for low productivity in Indian agriculture, Problems of institutional credit in agriculture; Green revolution and its appraisal; Land reforms and its appraisal; Targeted public distribution system; Impact of Globalisation on Indian Agriculture, Post-reform Agricultural performance and its crisis

4. **Industry** **(8L+2T)**

Review of Industrial growth under planning regime; Industrial sickness in India; Role of small scale industries, in economics development; Government schemes for small scale industries, SMEs, MSMEs and Entrepreneurship development schemes; Role of trade union and social security measures in India; Post reform Industrial policy, Disinvestment policy and Privatisation.

5. **Financial Sector** **(8L+2T)**

An overview of the Indian Financial System; Reserve Bank of India, role of RBI and Monetary Policy; Role of commercial banks in India, Bank Nationalisation and associated problems, Profitability of commercial banks in India; Role of Development Banks in India.

6. **External Sector** **(8T+2T)**

Volume, composition and trends in India‘s foreign trade in the pre and post-Liberalisation period; Issues related to Foreign Exchange market, Balance of Payment, Rupee Convertibility, Foreign Direct investment, Export-Import policies

7. **Indian Public Finance** **(8T+2T)**

Sources of Revenue of Union and State Governments; Introduction of GST and its implication; Union-State Financial Relation; Centre-State conflict on Finances; Central Finance Commission; Public expenditure and Public debt

Suggested Readings:

1. Uma Kapila, Indian Economy: Performance and Policies (latest Ed.)
2. Uma Kapila, Indian Economy Since Independence (latest Ed.)
3. Jean Dreze and Amartya Sen, 2013. An Uncertain Glory: India and its Contradictions Princeton University Press.
4. Jean Dreze and Amartya Sen, Economic Development and Social Opportunity, OUP
5. Datt & Sundaram, Indian Economy (latest Ed.)
6. Mishra & Puri, Indian Economy (latest Ed.)
7. Desai V., 'The Indian Financial System and Development', Himalaya Publishing House, 5th edition)

Semester VI

ECONOMICS MAJOR (DSC)

DS-12: ECODSC612T

INTERNATIONAL ECONOMICS-I

5 Credits (4L+1T)

Total number of lectures hours – 75

Course Objectives

This course introduces international trade theories, trade policy instruments, and balance of payments. It develops analytical understanding of global trade and exchange rate mechanisms.

Course Outcomes (COs)

Students will be able to:

CO12.1: Explain concepts of international trade, terms of trade, and gains from trade. **(K2)**
CO12.2: Analyze classical and modern trade theories such as Ricardian and Heckscher-Ohlin. **(K4)**
CO12.3: Analyze effects of tariffs, quotas, and trade policies. **(K4)**
CO12.4: Apply balance of payments and exchange rate determination models. **(K3)**
CO12.5: Evaluate trade policies and their welfare implications. **(K5)**

Course Contents

1. **International Trade–concepts and ideas** **(12L+3T)**

   i) Meaning and scope of international economics.

   ii) Equilibrium in international trade- concept of PPF, SIC, concept of the internal equilibrium, equilibrium with trade. Derivation of offer curve.

   iii) Concept of TIC and derivation of offer curve using TIC and equilibrium ToT.

   iv) Elasticity of the offer curve.

   v) ToT and the real income.

   vi) Gains from trade- decomposition of GFT – gains from exchange and gains from production specialization and gains from exchange, substitution possibilities and magnitude of GFT.

   vii) Exceptional cases where there is only one gain or no gain.

2. **Theories of International Trade** **(20L+5T)**

   i) Technology and trade – Ricardian Theory of comparative advantage, limitation of Ricardian Theorem.

   ii) Factor Endowment and Trade: Hecksher –Ohlin Theorem of Trade using price and

physical definition. Effect of international trade on income distribution Stolper – Samuelson theory, relation between factor price and commodity price ratio, factor price equalization, factor intensity reversal, factor price equalization and complete specialization.,

iii) Leontief Paradox.

3. Trade policy-effects of implementation of instruments of trade policy: **(15L+5T)**

   i) Effect of tariff – partial equilibrium effect and general equilibrium effects in small country and large country, Stolper Samuelson theory on income redistribution after tariff, Metzlers Paradox, effective rate of tariff, optimum rate of tariff.

   ii) Quota-quota tariff equivalence.

   iii) Effect of voluntary export restraint

   iv) Effect of export subsidy in partial equilibrium set up.

4. Balance of payment and exchange rate: **(12L+3T)**

   i) Balance of payment accounts.

   ii) Determination of national income in an open economy, foreign trade multiplier with and without repercussion effect.

   iii) Fixed and flexible exchange rate, effects of devaluation.

   iv) Pegged exchange rate and BoP: Expenditure switching (elasticity approach) and expenditure reducing policy (Absorption Approach).

Suggested reading

1. Soderstein, Bo: International Economics, 2nd Edition
2. Caves, Frankel, Jones: world Trade and Payments
3. Krugmanand Obstfeld: International Economics Theory and Policy, 8th Edition
4. Rajat Acharyya: International Economics. Oxford University Press
5. Dominik Salvatore: International Economics, Trade and Finance ….11th Edition, Wiley Publication
6. Chacholiades.M: International Economics, McGraw-Hill (1990)

Semester VI

ECONOMICS MAJOR (DSC)

DS-13: ECODSC613T

STATISTICAL METHODS FOR ECONOMICS-II

5 Credits (4L+1T)
Total number of Lecture hours=75

Course Objectives

This course advances statistical methods including probability theory, sampling, and statistical inference for economic analysis.

Course Outcomes (COs)

Students will be able to:

CO13.1: Apply probability theory and distributions in economic problems. **(K3)**
CO13.2: Analyze properties of random variables and joint distributions. **(K4)**
CO13.3: Apply sampling techniques and sampling distributions. **(K3)**
CO13.4: Conduct statistical inference using estimation and hypothesis testing. **(K3/K4)**
CO13.5: Interpret statistical results in economic contexts. **(K4)**

Course Contents

1. **Vital Statistics: Elementary concepts of vital statistics (8L+2T)**
2. **Elementary Probability Theory (12L+3T)**

   Random variable, Sample spaces and events; probability axioms and properties; counting techniques; Permutations and Combinations; conditional probability and Bayes' rule.

3. **Random Variables and Probability Distributions (12L+3T)**

   Defining random variables; probability distributions; properties of discrete and continuous distributions, expected values of random variables; Concepts of some special distributions (Uniform distribution; Binomial and related Distributions; Poisson, Normal and Bivariate Normal distributions); (Chi-Square, t and F distributions).

4. **Random Sampling and Jointly Distributed Random Variables (8L+2T)**

   Properties of distribution functions, mass functions and density functions for jointly distributed random variables; Computation of expected values; covariance and correlation coefficients. Concept of independence.

5. **Sampling (8L+2T)**

a) Principal steps in a sample survey; methods of sampling; the role of sampling theory;

b) Distributions of sample mean and sample variance, properties of random samples.

6. **Introduction to statistical Inference (12L+3T)**

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

Suggested Readings:

1. John E. Freund's Mathematical Statistics with Applications (7th Edition), Irwin Miller (Author), Marylees Miller (Author), Prentice Hall (2003).
2. Kenny and Keeping: Mathematical Statistics, Part 1 &Part II
3. R.G. Hogg and A.T.Craig : Introduction to Mathematical Statistics, Pearson Education (Indian Edition)
4. V. K. Rohatgi and A. K. M. E. Saleh, An Introduction to Probability and Statistics, 2nd Edition, Wiley (2000).
5. Jay L. Devore, Probability and Statistics for Engineers, Cengage Learning, 2010.
6. John E. Freund, Mathematical Statistics, Prentice Hall, 1992.
7. Richard J. Larsen and Morris L. Marx, An Introduction to Mathematical Statistics

Semester VI

ECONOMICS MAJOR (DSC)

DS-14: ECODSC614T
INTRODUCTORY ECONOMETRICS

5 Credits (4L+1T)

Total number of lectures hours-75

Course Objectives

This course introduces econometric methods including regression analysis, hypothesis testing, and model specification issues.

Course Outcomes (COs)

Students will be able to:

CO14.1: Explain basic concepts of statistical inference and hypothesis testing. **(K2)**
CO14.2: Apply OLS regression techniques for estimation and prediction. **(K3)**
CO14.3: Analyze problems such as autocorrelation, heteroscedasticity, and multicollinearity. **(K4)**
CO14.4: Apply regression models with qualitative variables. **(K3)**
CO14.5: Evaluate model specification and diagnostic testing. **(K5)**

Course Contents

1. **Classical Statistical Inference:** **(12L+3T)**

   Testing of Hypothesis- p-values- Type-I and Type-I errors- Simple applications of tests for the mean and variance of Univariate Normal Population. Non-parametric tests.

2. **ANOVA Tables (concepts only)** **(4L+1T)**

3. **Linear Regression:** **(12L+3T)**

   Specifications of the model- Assumptions- Ordinary Least Squares (OLS) Estimation- Gauss Markov Theorem- Estimation of the Error Variance- Statistical Inference in the Linear Regression Model- Confidence Intervals for the Estimated Parameters and the Testing of Hypotheses- Coefficient of Determination- Prediction with the Simple Regression model.

4. **Problems in OLS Method:** **(15L+5T)**

   Violation of assumptions and simple least-squares methods in two variable linear regression models: Analysis of Residuals and consequences of applying OLS under autocorrelation, heteroscedasticity, test of autocorrelation and heteroscedasticity, multicollinearity problem, consequences and testing

5. **Multiple Regression with qualitative information: (12L+3T)**
   Describing qualitative information, single and multiple dummy independent variable, interaction of dummy independent variables, A binary Dependent variable: the linear probability model.

6. **Specification Analysis: (4L+1T)**

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

Suggested Readings

1. G.S. Maddala, Introduction to Econometrics, 3rd edition, John Wiley & Sons Ltd (2005).
2. Jan Kmenta, Elements of Econometrics, Macmillan Publishing company (1991)
3. D. Gujrati, Basic Econometrics, McGraw Hill Higher Education (2003)
4. Greene W.H.: Econometric Analysis, 4th edition, Pearson Education (2000)

Semester VI

ECONOMICS MAJOR (DSC)

DS-15: ECODSC615T

PUBLIC FINANCE

5 Credits (4L+1T)
Total number of Lecture hours=75

Course Objectives

This course examines government intervention, public goods, taxation, public expenditure, and public debt.

Course Outcomes (COs)

Students will be able to:

CO15.1: Explain concepts of public economics and market failure. **(K2)**
CO15.2: Analyze provision and allocation of public goods. **(K4)**
CO15.3: Apply principles of taxation and analyze tax incidence. **(K3/K4)**
CO15.4: Analyze public expenditure and fiscal policy mechanisms. **(K4)**
CO15.5: Evaluate public debt and fiscal federalism issues. **(K5)**

Course Contents

1. **Nature and Scope of Public Economics** **(12L+3T)**

   Definition and Scope of Public Economics; Externalities, Market Failure and Government Intervention; Coase Theorem; Fiscal functions: an overview.

2. **Theory of Public Good** **(16L+4T)**

   Definition of Public Good; Characteristics of Pure Public Good; Distinction between Pure Public Good, impure public good and Private Good; Free riding problem; Market Failure in case of Pure Public Good; Optimal provision of Public Goods; Private Provision and Public Provision of Public Goods; Lindahl Equilibrium.

3. **Taxation** **(16L+4T)**

   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; dead weight loss and distortion, efficiency and equity considerations, tax incidence, optimal taxation; the Laffer curve.

4. Public Expenditure and Public Debt (16L+4T)

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

Suggested Readings:

1. J. Hindriks, G. Myles: Intermediate Public Economics, MIT Press, 2006.
2. H. Rosen, T. Gayer: Public Finance, 9th ed., McGraw-Hill/Irwin, 2009.
3. J.E. Stiglitz, Economics of the Public Sector, W.W. Norton & Company, 3rd edition, 2000. 4. R.A. Musgrave and P.B. Musgrave, Public Finance in Theory &Practice, McGraw Hill Publications, 5th edition, 1989.
4. Mahesh Purohit, Value Added Tax: Experiences of India and Other Countries,2007.
5. M.M. Sury, Government Budgeting in India, 1990.
6. A.B.Atkinson and J.E.Stiglitz,Lectures on Public Economics, McGraw-Hill Inc.,US, 1980.
7. J. F. Due and A. F. Friedlander. Government Finance-Economics of Public Sector, AITBS Publishers and Distributors, 1994
8. Amaresh Bagchi (ed), Readings in Public Finance, OUP
9. R.J. Chelliah (ed), Towards Sustainable Growth, OUP, 2009
10. A Ghosh and C. Ghosh, Public Finance, Prentice Hall India Learning Private Limited; 2nd Revised edition (2014)

Semester VII

ECONOMICS MAJOR (DSC)

DS-16: ECODSC716T

CONTEMPORARY DEVELOPMENT ECONOMICS

5 Credits (4L+1T)
Total number of Lecture hours=75

Course Objectives

This course explores advanced issues in development including institutions, inequality, sustainability, and globalization.

Course Outcomes (COs)

Students will be able to:

CO16.1: Explain alternative approaches to development including capability approach. **(K2)**
CO16.2: Analyze inequality, poverty traps, and development dynamics. **(K4)**
CO16.3: Analyze role of institutions and governance in development. **(K4)**
CO16.4: Evaluate environmental sustainability and climate change issues. **(K5)**
CO16.5: Evaluate globalization and international development frameworks. **(K5)**

Course Contents

1. **Meaning of Economic Development: (8L+2T)**
   Income Approach and Capability Approach, construction and interpretation of HDI; international variations in development measures; comparing development trajectories across nations and within them, Poverty traps & path dependence of growth processes

2. **Poverty and Inequality: (8L+2T)**
   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 processes.

3. **Political Institutions and the State: (8L+2T)**
   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.

4. Individuals, Communities and Collective Outcomes: (8L+2T)

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

5. Environment and Sustainable Development: (12L+3T)

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.

6. Globalization: (12L+3T)

i) Development as historical processes - Dependency Approach (Baran and Frank), Unequal exchange (Emanuel).

ii) Evolution of New international economic order- Post Second World War Development Scenario Neo liberalism, Washington consensus, North-South Divide, formation of IMF, WB, UNCTAD, GATT and the Dunkel Draft controversy-World Trade Organization (WTO).

iii) Foreign Finance, Investment and Development: Private foreign direct investment and Multinational Corporations, private portfolio investment, development assistance debate.

Suggested Readings

1. Debraj Ray, Development Economics, Oxford University Press, 2009.
2. Partha Dasgupta, Economics, a Very Short Introduction, Oxford University Press, 2007.
3. Abhijit Banerjee, Roland Benabou and Dilip Mookerjee, Understanding Poverty, Oxford University Press, 2006.
4. Kaushik Basu, The Oxford Companion to Economics in India, OUP, 2007.
5. Kaushik Basu, Analytical Development Economics, OUP
6. Amartya Sen, Development as Freedom, OUP, 2000.
7. Meier and Rauch (ed) Leading Issues in Development Economics, OUP
8. Todaro and Smith: Economic Development, Pearson Education, 2009
9. Hayami and Godo, Development Economics, OUP , 2005
10. Bardhan and Udry, Development Microeconomics, OUP , 199

Semester VII

ECONOMICS MAJOR (DSC)

DS-17: ECODSC717T

RESEARCH METHODOLOGY WITH APPLICATION
5 Credits (4T+3P)
Total number of lectures hours-75
No. of Lecture hours: 30

No. of Practical contact hours: 45

Course Objectives

This course develops research skills including problem identification, data collection, statistical analysis, and use of econometric software.

Course Outcomes (COs)

Students will be able to:

CO17.1: Explain research methods, design, and data collection techniques. **(K2)**
CO17.2: Apply sampling methods and survey techniques. **(K3)**
CO17.3: Analyze data using statistical and econometric tools. **(K4)**
CO17.4: Apply software (Excel/SPSS/R) for empirical analysis. **(K3)**
CO17.5: Design and conduct independent research studies. **(K6)**

Course Contents

1: Research in Economics: (12L+3T)

Meaning of research in economics: Types of research, methods and techniques, differences among them, the logical framework of investigation, the nature of problem and appropriate methodology, macro-level vs. micro level research, problems in aggregation, methodology leading to methods and then techniques, analysis of historical records, participant or nonparticipant observation, mass observation, questionnaires: reliability and validity, personal interviews, group interviews, Triangulation, case studies, Data collection & Sampling, types of Sampling, Sampling Procedure, Choice of Sampling technique, Ethics in research.

2: Identifying Research Problem: [8L+2T]

Formulation of research problem-identification and operationalization of the problem, survey of literature, development of working hypotheses, preparation of research design, investigation in availability of information, sampling design, error minimization, evaluation of time and cost, collection of information, processing of collected information.

3. Application of Statistics: (15P)

Estimation of descriptive statistics using Excel: mean, median, mode, standard deviation, simple correlation, rank correlation. Graphical representation of data sets: pie-chart, bar chart, linear and nonlinear curve fitting, random sampling using random number, Testing of hypothesis.

4. Applications in empirical research: (5L+10P)

Use of econometric models in empirical research – some basic concepts
The basic commands in EViews/SPSS/Stata / R
Use of software application in violations of Classical Assumptions in Regression Analysis (Multicollinearity, Heteroscedasticity and Autocorrelation)

5. Application of Regression Analysis: (20 P)

Cross section analysis – Linear regression model with two regressors (by using survey data like NSSO with EViews/SPSS/Stata / R)
Time series analysis –Meaning, Components of time series and their measurement (by using NAS with EViews/SPSS/Stata / R)

Applications of use of softwares EViews/SPSS/STATA/R will be demonstrated in the computer laboratory in practical classes and the practical examination will be conducted in the usual manner.

Suggested Readings:

1. Christopher F. Baum, (2006), An Introduction to Modern Econometrics Using Stata, Stata Press
2. Maddala, G. S. (2002), Introduction to Econometrics, Macmillan Publishing Company
3. Wooldridge, Jeffrey M. (2013), Introductory Econometrics – A Modern Approach, CENGAGE Learning
4. Bhaumik, Sankar, K. (2015) Principles of Econometrics: A Modern Approach Using EViews, OUP.
5. Pandya, K.; Joshi, Prashant; Bulsari, Smruti (2018) Statistical Analysis in Simple Steps Using R, SAGE.

Semester VIII

ECONOMICS MAJOR (DSC)
DS-18: ECODSC818T
INTERNATIONAL ECONOMICS-II

5 Credits (4L+1T)
Total number of Lecture hours=75

Course Objectives

This course examines the relationship between trade and development, global institutions, and financial globalization.

Course Outcomes (COs)

Students will be able to:

CO18.1: Explain theories linking trade and development. **(K2)**
CO18.2: Analyze trade-growth relationships and development models. **(K4)**
CO18.3: Analyze global trade institutions such as WTO and GATT. **(K4)**
CO18.4: Evaluate trade policies and global economic challenges. **(K5)**
CO18.5: Assess implications of financial globalization and crises. **(K5)**

Course Contents

1. **Introduction :** **(20L+5T)**

   Rethinking of international trade- Background Mercantilists obsession with trade surplus Brief analysis analysis of Adam Smith, Ricardo, Mill, Marx, Rosenstein Rodan, Nurkse, Hircsmann, Myrdal. Trade for vent of surplus The core periphery interpretation of trade and development and the drain theory The Prebisch Singer argument Unequal exchange theories Trade and economic development in newly industrialized countries.

2. **Trade and growth:** **(20L+5T)**

   i) Effect of international trade on the Solow model
   ii) Trade in the endogenous growth model
   iii) Pro-trade vs anti trade growth in the neo-classical model
   iv) Immiserizing growth; Bhagawati Johnson - Brecher and Alejandro

3. **GATT, WTO and the less developed countries:** **(20L+5T)**

   Background of GATT from GATT to WTO, The negotiation process in the WTO Less developed countries and the WTO International financial system, Financial globalization and financial crisis.

Suggested Readings:

1. Ronald Findley, International Trade and Development Theory, Columbia University Press 1973
2. Paul Krugman, Rethinking International Trade, 1994.MIT Press
3. Jagadish N. Bhagwati , T.N Srinivasan and Arvind Panagariya, Lectures on International Trade, MIT Press, 1998
4. R. Jones, International Trade : Essays in Theory , North Holand, 1979
5. R. Johns, R. Caves and J. Frenkel (CIF), World Trade and Payments, 4th edition.

Semester VIII

ECONOMICS MAJOR (DSC)

DS-19: ECODSC819T

RESOURCE ECONOMICS

5 Credits (4L+1T)
Total number of Lecture hours=75

Course Objectives

This course analyzes economic aspects of natural resources, environmental issues, and sustainability.

Course Outcomes (COs)

Students will be able to:

CO19.1: Explain concepts of resource economics and scarcity. **(K2)**
CO19.2: Analyze models of renewable and non-renewable resource use. **(K4)**
CO19.3: Apply economic models to pollution and environmental valuation. **(K3)**
CO19.4: Analyze resource management and sustainability issues. **(K4)**
CO19.5: Evaluate policies related to climate change and environmental protection. **(K5)**

.

Course Contents

1. **Basic Concepts of Natural Resource: (8L+2T)**

Natural resource economics – definition, subject matter and scope; Malthusian and Ricardian scarcity, Physical measures and economic measures; Resource scarcity mitigation, recycling and substitution; Regulation under Imperfect Market and Transaction Cost: Issues of allocation efficiency; An Optimal Depletion Problem; An Optimal Harvest Problem.

2. Economics of Non-Renewable Resource (12L+3T)

i) Basic concepts – Hotelling rule – The concept of backstop - A simple model of optimal depletion
ii) Perfect competition and monopoly in non-renewable resource market.
iii) Optimum extraction of exhaustible resources - General model, imperfect competition
iv) Exploration and externality, non-convexity, efficiency and equilibrium in exhaustible resource depletion

3. Economics of Renewable Resource (16L+4T)

i) Static Model of Open Access
ii) Dynamic Model of Open Access
iii) Market structure
iv) Comparative Dynamics

Ex:1 Economics of forestry – The volume function and the mean annual increment – optimal single rotation – The rotation, Timber supply in the short run and in long run – The comparative static effects

Ex:2 Economic of fishery – Growth function – logistic model, The sustained yield function – Schaefer model - Underlying assumptions – Drawbacks of MSY, Static model of fishery – Profit maximization, Comparison of MSY and open access condition

4. Environmental Valuation, Pollution and Impact Assessment (12L+3T)

i) Environmental Valuation and Cost-benefit Analysis;
ii) Revealed preference Approach (Household Production Function, Travel cost, Hedonic Price, Statistical value of life);
iii) Stated Preference Approach (Contingent Valuation Method);
iv) Stock Pollutants, Fund Pollutants: Water Pollution, Air pollution,
v) Environmental Impact Assessment: Case Studies in Indian Context

5. Economics of Climate Change and Sustainability (12L+3T)

i) Climate Change - Scientific Evidences, Likely Impact on Economy, Adaptation & Mitigation
ii) Economics of Climate Change – Why policies differ, Cost & Burden Sharing
iii) UNFCC and the Global Protocols Sustainable
iv) Development as a Steady State,
v) A Requiem for Sustainable Development?

Suggested Reading

1. Text Book: Tietenberg, Tom and Lynne Lewis. Environmental and Natural Resource Economics, (11th Edition). Publisher: Routledge, 2018.
2. Conrad, Jon M. Resource Economics, (2nd Edition). Publisher: Cambridge University Press, 2010.
3. Purnamita Dasgupta ―Natural Resource Dependence on Common Pool Resources: An Empirical Study EPW Feb 23-29, 2008.
4. Dasgupta. P.S. and G.M. Heal. 1979. Economic theory and exhaustible resources, Cambridge, Cambridge University Press,
5. Chapter 6. Solow, R.M. and F.Y. Wan. 1976. Extraction costs in the theory of exhaustible resources. Bell Journal of Economics 7, 359-370.

6. Gerking & Stanley (1986): An Economic Analysis of Air Pollution and Health: The Case of St. Louis. REStat.
7. Chakravorty, U. and D.L. Krulce. 1994. Heterogeneous demand and the order of resource extraction. Econometrica 62, 1445-1452.
8. Chakravorty, U., M. Moreaux and M. Tidball. 2008. Ordering the extraction of polluting nonrenewable resources. American Economic Review 98, 1128-1144.
9. Harrington &Portney (1987): Valuing the Benefits of Health and Safety Regulations, J. of Urban Economics.
10. IEA: World Energy Outlook: International Energy Organization, Paris, 2002.
11. India Development Report – Recent Issues
12. IPCC Reports

Semester VIII

ECONOMICS MAJOR (DSC)

DS-20: ECODSC820T

INDIAN ECONOMY- II
5 Credits (4L+1T)
Total number of Lecture hours=75

Course Objectives

This course examines social sector development, rural and urban issues, and labour market dynamics in India.

Course Outcomes (COs)

Students will be able to:

CO20.1: Explain role of health and education in human development. **(K2)**
CO20.2: Analyze rural development policies and institutional mechanisms. **(K4)**
CO20.3: Analyze urbanization issues and infrastructure challenges. **(K4)**
CO20.4: Evaluate employment trends and migration patterns. **(K5)**
CO20.5: Assess policy interventions in social and labour sectors. **(K5)**

Course Contents

1. **Economics of Social Sector – Health (12L+3T)**

   Concept of health outcomes in poverty alleviation; Inequalities in health – class and gender perspectives; Uncertainly and Health Insurance, market failure and rationale for public intervention; Financing of healthcare and resource constraints; National level health policies and National Family Health Surveys

2. **Economics of Social Sector – Education (12L+3T)**

   Concept of education outcomes in poverty alleviation; Investment in human capital, rate of return to education; Gender and caste discrimination in education – literacy rates and school participation; Problem of school drop-outs and measures taken to address it; Government programmes to provide universal primary education (Sarvasiksha Abhiyan, MidDay Meal) and other education sector policies; Importance of vocational training, technical education and entrepreneurship development and schemes available

3. Rural Development (12L+3T)

Understanding Rural communities – Structure, Culture and Polity; Decentralised Planning and Participatory approach to Rural Development, Role of Government and NGOs; Rural credit, micro-finance, SHG-Bank linkage, Role of NABARD; Rural Development Programmes since Independence – IRDP, NREP, SGSY, MGNREGA, PMGSY; Development of the Rural Non-Farm Sector and structural transformation of Rural economy

4. Issues in Urbanisation (12L+3T)

Trends and Patterns of Urbanisation in India; Urban poverty, slum development, house-less population and infrastructure delivery, National Urban Livelihood Mission, Jawaharlal Nehru National Urban Renewal Mission; Urban sustainability, environment and pollution control

5. Employment, Underemployment and Labour Migration (12L+3T)

Types of Employment, Unemployment and Underemployment in India - concepts used by MoSPI; Rural-Urban Migration – changes in volume over time; Within-state and Inter-state informal sector migration in India over time; Problems faced by migrant labourers and policies to address the issues – One Nation One Ration Card, Ayushman Bharat

Suggested Readings:

1. United Nations Development Programme (2010), Human Development Report, OUP, New York
2. Halder, S.K. (2008), 'Effect of Health-Human Capital Expenditure on Economic Growth in India: A state-level analysis' Asia Pacific Social Science Review 8(2), 79-97
3. Rural Health Statistics, Ministry of Health and Family Welfare, GoI, 2016
4. National Family Health Survey Reports (various rounds, available on website of Ministry of Health and Family Welfare)
5. Blaugh M (1972), 'An Introduction to the Economics of Education', Penguin, London
6. Schultz T P (1988), 'Education, Investments and Returns', Chapter 13, Handbook of Development Economics, Vol.1, 543-630
7. Chattopadhyay S (2012), Education and Economics, OUP, New Delhi
8. National Policy on Education (1968, 1986, 1992, 2016), Ministry of Human Resource Development, GoI
9. National Sample Survey Reports on Social Consumption of Health and Education (various rounds, available on website of Ministry of Statistics and

Programme Implementation)

10. Dantwala M.L., Rural Development: The Indian Experience
11. Jhodka, S.S, A Handbook of Rural Economy in India
12. Mishra and Sharma, Problems and Prospects of Rural Development
13. Shukla V, Urbanisation and Economic Growth, Himalaya Publishers
14. Hartwick John M, (2015), 'Urban Economics', Routledge, 1st Edition Handbook of Urban Statistics, 2019, Ministry of Housing and Urban Affairs, GoI
15. NSSO survey reports on Employment Unemployment rounds (MoSPI website)
16. NSSO survey reports on Migration (MoSPI website)
17. Sarvekshan (different issues available on MoSPI website)

Semester VIII

ECONOMICS MAJOR (DSC)

DS-21: ECODSC821T

HISTORY OF ECONOMIC THOUGHT
5 Credits (4L+1T)
Total number of Lecture hours=75

Course Objectives

This course traces the evolution of economic thought from classical to modern schools.

Course Outcomes (COs)

Students will be able to:

CO21.1: Explain major schools of economic thought from mercantilism to modern economics. **(K2)**
CO21.2: Analyze contributions of classical economists such as Smith, Ricardo, and Marx. **(K4)**
CO21.3: Analyze Keynesian and neoclassical developments. **(K4)**
CO21.4: Evaluate competing economic theories and their relevance. **(K5)**
CO21.5: Assess recent developments such as behavioural and institutional economics. **(K5)**

Course Contents

1. **Introduction: Pre classical economic thought (6L+1T)**
   a) Mercantilism
   b) Physiocracy

2. **Classical Political Economics – Smith, Ricardo, Marx and Malthus (15L+3T)**
   a) The Division of labour and the extent of market: Smith
   b) Theory of Value: Smith, Ricardo, Mill
   c) Determinants of Economic Growth: Smith, Malthus, Ricardo
   d) Theories of Income Distribution: Ricardo, Malthus, Mill
   e) Marx: Labor Theory of Value, Theory of Money, Distribution and Capital accumulation

3. **Classical Economics: (6L+2T)**
   a) Say's Law and Business Cycles
   b) Monetary Theory and Public Finance

4. **Marginalists and Neoclassical Economics (13L+3T)**
   a) Marginalist and Walrasian General Equilibrium Analyses

b) Business Cycles: Schumpeter, Fischer and Kalecki
c) Welfare economics and Coase theorem
d) Growth theories: Schumpeterian growth theory; innovation

5. Macroeconomics: Keynes and the Classics: (6L+2T)
a) The Great Depression: Keynes Versus Say's Law and Classical Economics
b) Keynes: Theory of Investment, Money, Speculation and Business Cycles

6. **Neoclassical Synthesis and Monetarist Challenge (6L+2T)**
a) IS-LM Transformation and Phillips Curve Debates
b) Milton Friedman: Monetarism and Critique

7. **Recent developments: Concepts only (8L+2T)**
a) Experimental and behavioral economics;
b) Institutional economics,
c) Information economics

Suggested Readings:

1. Economic Theory in Retrospect by Mark Blaug
2. History of Economic Thought by Landreth and Colander
3. Wither Socialism by Joseph Stiglitz
4. S. Medema and W. Samuels, The History of Economic Thought: A Reader,
5. Routledge, 2003
6. Duncan Foley, Understanding Capital: Marxíst Economic Theory, Harvard Univ. Press, 1986.
7. J. M Keynes, General Theory of Employment, Interest and Money, Prometheus Books, 2005
8. B. Snowdon and H. Vane, Modern Macroeconomics, Elgar Publishers, 2005.
9. Friedman, Milton Friedman on Economics, Univ. Chicago Press, 2007
10. Worldly Philosophers by R. Heilbroner.
11. A History of Economic Thought; LSE lectures by Lionel Robbins
12. Olivier Blanchard and Stanley Fisher: Lectures on Macroeconomics, MIT Press, 1989

Skill Enhancement Course (SEC) in Economics
(For Odd Semesters)

SE-1: SURVEY METHODOLOGY

Course Code: ECOHSE101M

3 Credits (36L + 9T)

Total Number of Lecture Hours = 45

Course Objectives

This course introduces the principles and practices of survey methodology, including survey design, sampling techniques, data collection methods, and error analysis. It aims to develop practical skills in conducting field surveys, processing survey data, and preparing research reports.

Course Outcomes (COs)

Students will be able to:

COSE1.1: Explain survey methodology concepts, validity, reliability, and sources of error. **(K2)**
COSE1.2: Apply sampling techniques in survey design. **(K3)**
COSE1.3: Analyze modes of data collection and response behaviour. **(K4)**
COSE1.4: Apply techniques to handle nonresponse and improve response rates. **(K3)**
COSE1.5: Analyze post-survey processing and estimation methods. **(K4)**
COSE1.6: Design and conduct a field survey and prepare a project report. **(K6)**

Course contents:

1. Introduction, Inference and Error in Surveys: (8L+2T)

Introduction to survey methodology; Steps of the process of a survey, Examples of Large-Scale Survey Instruments, Introducing the Concepts of Validity and Reliability, Sources of Error: Sampling and Measurement, Different Theories of Measurement
Readings: Groves, et al. (2009), Chapters 1 and 2

2. Sampling in Survey Research: (10L+3T)

Being Clear about the Population of Interest, Developing a Sampling Frame, Probability sampling; Simple Random and Systematic sampling; Stratification, Cluster and multistage sampling; Other probability designs, Sampling frames; Selection weights; Computing sampling errors, Examples of sample designs

Readings: Groves, et al. (2009), Chapters 3 and 4

3. Mode of Data Collection: (10L+5T)

Face-to-face, Telephone, Self-administered, and Administrative records, Methods of computer assisted data collection; Impact on survey errors, Web surveys, Overview of response behavior; Comprehension; Memory search, Estimation and judgment; Delivery of response Pretesting: Focus groups; Cognitive interviews; Expert review; Pre-tests; Pilot tests

Readings: Groves, et al. (2009), Chapter 5, 7 & 8

4. Nonresponse: (4L+2T)

Contacting sample units; Gaining the cooperation of sample units, Monitoring the progress of data collection; Response rates

Readings: Groves, et al. (2009), Chapter 6

5. Post-Survey Processing; Estimation (Lepkowski): (4L+3T)

Lecture: Editing data; Coding; Imputation; Construction of unit weights, Variance estimation; Analysis of survey data

Readings: Groves, et al. (2009), Chapter 10

(Preferably students should be given an exposure of field survey to understand the process of survey methodology in a better way)

Reference Materials:

1. Groves, Robert et al. (2009): Survey Methodology, 2nd Edition. New York: Wiley The textbook will be available online.

2. Converse, J., & Presser, S. (1986). Survey Questions: Handcrafting the Standardized Questionnaire. Newbury Park: Sage Publications. (available online: http://mirlyn.lib.umich.edu/Record/012841736)

3. Kalton, G. (1983). An Introduction to Survey Sampling, Beverly Hills: Sage Publications. (available online: http://mirlyn.lib.umich.edu/Record/012841441)

4. Fowler, F., &Mangione, T. (1990). Standardized Survey Interviewing, Newbury Park: Sage Publications. (available online: http://mirlyn.lib.umich.edu/Record/012841712)

Skill Enhancement Course (SEC) in Economics
(For Even Semesters)

SE-2: INDIAN OFFICIAL STATISTICS

Course Code: ECOHSE202M

3 Credits (36L + 9T)
Total Number of Lecture Hours = 45

Course Objectives

This course provides an understanding of the Indian official statistical system, including data collection methods, institutional framework, and major statistical publications. It develops the ability to analyze demographic and economic data for policy and research.

Course Outcomes (COs)

Students will be able to:

COSE2.1: Explain the concept and framework of official statistics in India. **(K2)**
COSE2.2: Describe methods and sources of official statistical data. **(K2)**
COSE2.3: Analyze economic and demographic data from official sources. **(K4)**
COSE2.4: Apply demographic measures for analysis. **(K3)**
COSE2.5: Evaluate the role of official statistics in policy formulation. **(K5)**
COSE2.6: Analyze international statistical indicators and comparisons. **(K4)**

Course Contents

1. Introduction: **(8L+2T)**

What is Official Statistics? Methods of Collecting Official Statistics, Aims and Objectives, Indian Statistical System: Main functions of Statistical System in Indian, Institutional Framework; Official organizations for collecting/compiling/ publishing national/state level data on different variables

2. Economic Census: **(14L+6T)**

Economic Statistics, Population Statistics, Employment Statistics, Agriculture Statistics, Financial Statistics - Main Publications, Who collects - Periodicity and Features

3. Sources of demographic data: **(8L+4T)**

Registration of Vital events. Rates and ratios. Measures of mortality. Measures of fertility and Reproduction. Use of demographic data for policy formulation.

4. International Statistical System: (6L+3T)

Comparison of major macro variables - National Income/GDP. Selected topics from: Purchasing power parity; Indicators relating to Energy, environment, Gender, Industry, National accounts, Social Statistics and Trade.

Reference Materials:

1. M. R. Saluja: Indian Official Statistical Systems.
2. CSO (MOSPI) Publication: Statistical System in India.
3. United Nations publications
4. RBI: Handbook of Statistics for the Indian Economy (various years)
5. Economic Survey, Govt. of India, Ministry of Finance (various years)
6. R. Ramkumar: Technical Demography.
7. K. Srinivasan: Demographic Techniques and Applications.
8. B. D. Mishra: An Introduction to the Study of Population.
9. H. S. Shryock: The Methods and Materials in Demography

MULTI-DISCIPLINARY COURSE IN ECONOMICS

(MDC) MD-1: UNDERSTANDING ECONOMICS

ECOMDC101M
3 Credits (36L+9T)
Total Number of Lecture Hours = 45

Course Objectives

This course provides a foundational understanding of economic principles including scarcity, demand and supply, macroeconomic aggregates, and basic features of the Indian economy.

Course Outcomes (COs)

Students will be able to:
COMD1.1: Explain basic economic concepts including scarcity, choice, and economic systems. **(K2)**
COMD1.2: Apply demand and supply analysis to understand market equilibrium. **(K3)**
COMD1.3: Explain macroeconomic concepts such as GDP, inflation, and national income. **(K2)**
COMD1.4: Analyze basic economic problems such as poverty and unemployment in India. **(K4)**
COMD1.5: Describe the structure of the Indian financial system and key institutions. **(K2)**

Course Contents:

1. Exploring the subject matter of Economics (2L+0T)
Why should one study Economics; Scope and methods of Economics; Distinction between Microeconomics and Macroeconomics; Problem of Scarcity and Choice – what to produce, how to produce and how to distribute the output; Economic systems (Capitalism, Socialism, Mixed Economy)

2. Supply and Demand: How Markets Work (8L+2T)
Laws of Demand and Supply; Determinants of Individual Demand and Supply; Concept of Equilibrium; Process of trial and error and Determination of Equilibrium Price and Quantity; Shifts in the Demand and Supply curves; Markets and Competition; Types of Markets - Perfect Competition, Monopoly, Oligopoly (concepts only)

3. Macroeconomics: An Overview (10L+3T)
Concepts of Gross National Product, Gross Domestic Product, National Income; Circular Flow of National Income; Real and Nominal National Income; Problem of Inflation – causes and its remedies; Difference between Growth and Development; Concept of Human Development Index

4. Indian Economy (16L+4T)
Characteristic features of Indian Economy as a Developing Country; Sectoral Composition of National Income of India; Problem of Poverty, Unemployment and Underemployment in India (overview only); Introduction to Indian Financial System; Reserve Bank of India, Commercial Banks, Development Banks; Financial Instruments – Bank Deposits, Equity Market, Mutual Funds (concepts only)

Suggested Readings:

1. Mukherjee, Debesh – Essentials of Micro and Macro Economics, New Central Book Agency (P) Ltd.
2. Ahuja, H.L. – Macroeconomics

3. Gupta,S..B – Monetary Economics, S.Chand& Co., New Delhi
4. Majumder, Siddhartha - Indian Financial System and Financial Market Operations
5. Mishra and Puri – Indian Economy (latest edition)
6. Datt and Sundaram – Indian Economy (latest edition)
7. Sarkhel Joydeb – Byastigato o Samastigato Arthaniti

MINOR COURSES IN ECONOMICS

ECONOMICS MINOR – SEM I

(MIN/COR) MA-1: INTRODUCTORY MICROECONOMICS

ECOMIN101T/ECOCOR101T

5 Credits (4L+1T)

Total Number of Lecture Hours = 75

Course Objectives

This course introduces basic economic concepts, demand–supply analysis, consumer behaviour based on utility theory, production and cost concepts, and market structures. It aims to develop foundational understanding of price determination and factor pricing.

Course Outcomes (COs)

Students will be able to:

COMA1.1: Explain basic economic concepts including scarcity, demand, supply, and elasticity. **(K2)**
COMA1.2: Apply marginal utility theory to derive demand behaviour. **(K3)**
COMA1.3: Analyze production functions, laws of production, and cost relationships. **(K4)**
COMA1.4: Analyze equilibrium under perfect competition and basic features of imperfect markets. **(K4)**
COMA1.5: Evaluate theories of factor pricing such as rent and wages. **(K5)**

Course Contents

1. Basic Concepts: (8L+2T)

What is economics? Scope and method of economics; The economic problem: scarcity and choice; Distinction between Microeconomics and Macroeconomics; Concept of Market, Demand &Supply – Market Equilibrium; Elasticity of Demand: Price Elasticity of Demand, Factors affecting the Price Elasticity of Demand- Measurement of Point Price Elasticity of Demand - Income Elasticity of Demand.

2. Consumers' Behaviour: (14L+4T)

Marginal Utility- Law of Diminishing Marginal Utility- Derivation of Demand Curve from Marginal Utility Curve - Consumers' Surplus; Indifference Curve: Definition and Characteristics –Budget Line –Consumers' Equilibrium; Price effect, Income effect and Substitution effect- Inferior goods and Giffen goods (definitions only).

3. Producers' Behaviour : (14L+4T)

Concept of Production- Factors of Production- Production Function: Concepts of Total Product, Average Product and Marginal Product; Derivation of AP and MP curve from TP curve graphically - Law of Variable Proportions; Isoquants and its propertiesExpansion Path- Laws of Returns to Scale; Concepts of Revenue- Total Revenue, Average Revenue, Marginal

Revenue; Derivation of AR and MR curve from TR curve – Relation between AR, MR and Price Elasticity of Demand; Cost of Produ

1. Market Structure: Perfect Competition (8L+2T)

Characteristics of Perfectly Competitive Market; Short-run and Long-run equilibrium of Perfectly Competitive firm and industry.

2. Market Structure: Imperfect Competition (4L+1T)

Concepts and Characteristics of Monopoly and Oligopoly Markets.

3. Theory of Factor Prices: Rent and Wages (10L+4T)

Rent: Ricardian Theory, Modern Theory, Quasi-Rent; Wage: Marginal Productivity Theory of Wages – Role of Trade Union in Wage Determination under competitive set up.

Suggested Readings:

1. Lipsey, R.G – An Introduction to Positive Economics . Widenfeld and Nicholson, London.
2. Ahuja, H.L – Advanced Economic Theory.
3. Stonier Hague – Economics
4. Mukherjee, Debes – Essentials of Micro and Macroeconomics New Central Book Agency (P) Ltd.
5. Dewett , K.K –Modern Economic Theory 6. Joydev Sarkhel – Adhunik Orthonitir Bhumika (Bengali version)

ECONOMICS MINOR – SEM II

(MIN/COR) MA-2: INTRODUCTORY MACROECONOMICS

ECOMIN202T/ECOCOR202T

5 Credits (4L+1T)

Total Number of Lecture Hours = 75

Course Objectives

This course introduces national income accounting, classical and Keynesian theories, money and banking, and inflation. It develops understanding of macroeconomic aggregates and policy mechanisms.

Course Outcomes (COs)

Students will be able to:

COMA2.1: Explain concepts and measurement of national income. **(K2)**

COMA2.2: Analyze classical and Keynesian theories of income determination. **(K4)**

COMA2.3: Apply concepts of money supply, banking, and credit creation. **(K3)**

COMA2.4: Analyze inflation, its causes, and economic effects. **(K4)**

COMA2.5: Evaluate anti-inflationary fiscal and monetary policies. **(K5)**

Course Contents

1. National Income: (16L+4T)

National Income and its measurement-different methods and their drawbacks; GDP and GNP; Difference between Nominal and real GNP/GDP; The circular flow of income and expenditure.GNP/GDP as a true index of Nation's welfare; Concept of HDI.

2. Macroeconomic Theories: (16L+4T)

Classical Macroeconomic Theory and Keynesian Theory (concepts and historical background how they are different); Simple Keynesian Model (SKM) of Income Determination-Consumption Function–Relation between Average and Marginal Propensity to Consume-Multiplier Theory

3. Money and Banking: (16L+4T)

Functions of Money–Value of Money Different Concepts of Money: M1, M2, M3 and M4; Concepts of Bank and Non-bank Financial Intermediaries–Functions of and Credit Creation by Commercial Banks–Central Bank-Functions and Credit Control Measures.

4. Inflation: (12L+3T)

Concepts of Inflation, Deflation and Stagflation–Inflationary Gap – Distinction between Demand Pull and Cost Push Inflation-Effects of Inflation; Anti-inflationary Fiscal and Monetary Policies.

Suggested Readings:

1. Gupta,S.B –Monetary Economics, S.Chand & Co., NewDelhi
2. Ahuja, H.L – Macroeconomics
3. Mukherjee, Debes – Essentials of Micro and Macroeconomics, New Central Book Agency (P) Ltd.
4. Joydev Sarkhel – Adhunik Orthonitir Bhumika (Bengali version)

ECONOMICS MINOR – SEM III

(MIN/COR) MA-3: DEVELOPMENT ECONOMICS

ECOMIN303T/ECOCOR303T

5 Credits (4L+1T)

Total Number of Lecture Hours = 75

Course Objectives

This course introduces concepts of economic development, planning strategies, population dynamics, capital formation, foreign investment, and gender issues in development.

Course Outcomes (COs)

Students will be able to:

COMA3.1: Explain concepts of economic growth, development, and HDI. **(K2)**
COMA3.2: Analyze development planning strategies including balanced and unbalanced growth. **(K4)**
COMA3.3: Analyze the relationship between population and economic development. **(K4)**
COMA3.4: Analyze capital formation and role of foreign investment in development. **(K4)**
COMA3.5: Evaluate gender-related development issues using GDI concepts. **(K5)**

Course Contents

1. Basic Concepts of Development: (12L+3T)

Meaning of growth and development, Distinction between Economic Growth and Economic Development-Growth indicators-NNI and PCI, Concept and formulation of HDI.

2. Development Planning and its necessity (12L+3T)

Balanced vs. Unbalanced growth.Complementary Roles of Agriculture and Industry -Role of Technology in Agriculture and Industry.

3. Population and Economic Development: (8L+2T)

The Two Way Relation.

4. Capital Formation in an Underdeveloped Country: (8L+2T)

Concept, stages of capital formation, role in underdeveloped economy, sources, problems of domestic capital formation in underdeveloped economy; Problems -Incentives for Savings and Investment.

5. Foreign Investment: (12L+3T)

Different forms -Their roles in Economic Development.

6. Gender Related Issues: (8L+2T)

Concept of GDI & instances of Gender Discrimination in the society

Suggested Readings:

1. Todaro, M.P.: Economic Development in the Third World, Longman, New York.
2. Salvatore, D. and E. Dowling: Development Economics, Schaum's, Outline Series in Economics, McGraw Hill, New York.
3. Agarwala, A.N. and S.P. Singh: Economics of Underdevelopment, (eds.) Oxford University Press, London.
4. Meier, G.M. (ed.): Leading Issues in Economic Development, Oxford University Press, New York.
5. United Nations Development Programme, Human Development Report (Recent Years)

ECONOMICS MINOR – SEM IV

(MIN/COR) MA-4: INDIAN ECONOMY

ECOMIN202T/ECOCOR202T

5 Credits (4L+1T)

Total Number of Lecture Hours = 75

Course Objectives

This course examines structural features of the Indian economy, sectoral trends, human development, agriculture, industry, financial system, public finance, and foreign trade.

Course Outcomes (COs)

Students will be able to:

COMA4.1: Explain structural features and sectoral changes in the Indian economy. **(K2)**

COMA4.2: Analyze poverty, inequality, and unemployment trends. **(K4)**

COMA4.3: Analyze issues in agriculture and industrial development. **(K4)**

COMA4.4: Apply concepts of banking, financial system, and monetary policy. **(K3)**

COMA4.5: Evaluate public finance and foreign trade policies in India. **(K5)**

Course Contents

1. Structure of Indian Economy (12L+3T)

Sectoral distribution of National Income and its change since inception of Planning; Occupational pattern in India- A trend analysis since Independence; Inequalities in India – income, consumption and wealth; Poverty in India; Poverty eradication programmes and their effectiveness; Nature and trend of unemployment in India

2. Human resources and economic development (8L+2T)

Size and growth rate of population in India; Changes in sex composition since inception of planning; Population policy and population projections for India; Demographic dividend; Issues in labour migration

3. Agriculture (8L+2T)

Causes for low productivity in Indian agriculture; Green revolution and its appraisal; Land reforms and its appraisal; Targeted public distribution system.

4. Industry (8L+2T)

Review of Industrial growth under planning regime; Industrial sickness in India; Role of small scale industries, SMEs and MSMEs in economics development; Government schemes for small scale industries and entrepreneurship development; Role of trade union and social security measures in India.

5. Banking (8L+2T)

Structure of the Indian Financial System; Role of commercial Banks in India; Bank Nationalisation; profitability of banks in India; Role of Reserve Bank of India and Monetary Policy

6. Indian Public Finance (8L+2T)

Sources of Revenue of Union and State Governments; Introduction of GST and its implication; Union-State Financial Relation; Centre-State conflict on Finances; Central Finance Commission; Public expenditure and Public debt

7. Foreign Trade: (8L+2T)

Economic Liberalisation and Economic Reforms of 1991; Volume and direction of India's foreign trade in the post-Liberalization period.

***Suggested Readings*:**

1. Dutta R. and K.P.M. Sundaram: Indian Economy, S. Chand and Co. New Delhi
2. Misra S.K.and V. K. Puri: Indian Economy, Himalayas Publishing Co. Mumbai.
3. Agarwal A.N: Indian Economy, Vikash Publishing Co. Delhi
4. Gupta, S.B.: Monetary Planning in India, Oxford University Press, Delhi.
5. Mukherjee, Ghosse and Dutta, ACompendium of Indian Economy. Asian Humanities Press.
6. Sarkhel J. and S. Seikh Salim: Bharatiya Arthaniti, Book Syndicate Pvt.Ltd, Kolkata.

ECONOMICS MINOR – SEM V

(MIN/COR) MA-5: INTERNATIONAL ECONOMICS AND ELEMENTARY STATISTICS

ECOMIN505T/ECOCOR505T

Group-A, International Economics

Total Number of Lecture Hours = 50 (40L + 10T)

Course Objectives

This course introduces basic theories of international trade, trade policies, balance of payments, and international financial institutions.

Course Outcomes (COs)

Students will be able to:

COMA5A.1: Explain basic concepts of international trade and terms of trade. **(K2)**

COMA5A.2: Analyze theories of absolute and comparative advantage. **(K4)**

COMA5A.3: Analyze effects of tariffs, quotas, and trade policies. **(K4)**

COMA5A.4: Apply balance of payments accounting and exchange rate concepts. **(K3)**

COMA5A.5: Evaluate the role of international institutions such as IMF and World Bank. **(K5)**

Course Contents

1. Trade theory and development: Traditional arguments: (16L+4T)

Why trade occurs between nations, Distinction between internal trade & international trade, Concept of Terms of Trade; Gains from Trade: Exchange gain & Specialization gain (concept only), Static gains from trade; Absolute Advantage & Comparative Advantage theory of International trade (concept only).

2. Trade Policy: (8L+2T)

Arguments for protection, Tariff and non- tariff trade barriers (Quota), Partial equilibrium effect of imposition of Tariff and Quota on importable ; Export promotions Import Substitution industrialization strategy Regional Trading Blocks (concept only with its different types and examples)

3. Balance of Payment: (10L+2T)

BOP Accounting - current & capital account balance, Why BOP balances itself? Autonomous & Accommodating transactions – BOP equilibrium; Concept of Exchange Rate – Nominal and Real exchange rate, Concept of Depreciation / Devaluation of currency

4. International Institutions: (6L+2T)

Salient features and functions of IMF & World bank.

***Suggested Readings*:**

1. International Economics : Trade & Finance, Dominick Salvatore, 11th Edn Wiley Publication

2. International Economics :Theory and policy, Krugman and Obstfeld, 8th Edn Pearson

3. International Economics : Rajat Acharyya , - - Oxford University Press

4. World Trade and Payments : Caves, Frandel and Jones
5. Principles of Macroeconomics : Soumyen Sikdar.

Group-B: Elementary Statistics

Total Number of Lecture hours: 25 (18L + 7T)

Course Objectives

This course introduces basic statistical concepts, data presentation, frequency distribution, and measures of central tendency and dispersion.

Course Outcomes (COs)

Students will be able to:

COMA5B.1: Explain basic statistical concepts including data types and sampling. **(K2)**
COMA5B.2: Apply diagrammatic and graphical methods for data presentation. **(K3)**
COMA5B.3: Construct frequency distributions and graphical representations. **(K3)**
COMA5B.4: Apply measures of central tendency such as mean, median, and mode. **(K3)**
COMA5B.5: Analyze dispersion using range and standard deviation. **(K4**

Course Contents

1. Meaning and scope of statistics: (4L+2T)
Variable and Attribute, Primary and secondary data. Population and Sample, Complete enumeration (census) and Sample Survey, Classification, Tabulation.

2. Charts and Diagrams: (3L+1T)
Objectives of Diagrammatic Representation-Types of Chart and Diagram, Line diagram, Bar diagrams, Pie diagram.

3. Frequency Distribution: (4L+2T)
Construction of Frequency Distribution-Cumulative Frequency Distributions. Diagrammatic representation of frequency distribution. Histogram, Frequency polygon and ogive.

4. Measure of central tendency: (4L+1T)
Mean (A.M.) Median, and Mode.

5. Measures of Dispersion: (3L+1T)
Range, and Standard Deviation. Relative measures of Dispersion: Coefficient of Variation.

Suggested Readings:

1. Goon, A.M. , Gupta, M.K. & Dasgupta B. : Basic Statistics, The World Press Pvt. Limited.
2. Das, N.G.: Statistical Methods, M. Das & Co.

ECONOMICS MINOR – SEM VI

MA-6: ECOCOR606T

PUBLIC FINANCE

5 Credits (4L+1T)

Total number of lecture hours = 75

Course Objectives

This course introduces the scope and functions of public economics, including public goods, taxation, public expenditure, and public debt. It aims to develop an understanding of government intervention, fiscal policies, and the role of public finance in economic development.

Course Outcomes (COs)

Students will be able to:

COMA6.1: Explain the nature and scope of public economics, including externalities and market failure. **(K2)**
COMA6.2: Analyze the characteristics and provision of public goods and the concept of Lindahl equilibrium. **(K4)**
COMA6.3: Apply principles of taxation including canons, incidence, and tax structures. **(K3)**
COMA6.4: Analyze effects of taxation on income distribution, savings, and economic efficiency. **(K4)**
COMA6.5: Evaluate public expenditure, public debt, government budgeting, and fiscal federalism in India. **(K5)**

Course Contents

1. **Nature and Scope of Public Economics** (8L+2T)
   Definition and Scope of Public Economics; Externalities, Market Failure and Government Intervention.

2. **Theory of Public Good** **(15L+5T)**
   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; Lindahl Equilibrium.

3. **Taxation** **(15L+5T)**

   Classification of Taxes; Canons of Taxation; Benefit Principle; Ability to PayPrinciple; Incidence and Burden of Taxes; Effects of taxation on income distribution and on savings; the Laffer curve; Optimal Taxation.

4. **Public Expenditure and Public Debt** (20L+5T)
   Meaning and Classification of Public Expenditure; government budget and its types; Sources of revenue of Central and State governments in India; Fiscal Federalism in India; Meaning of Public Debt; Sources of Public Borrowings: internal and external borrowing; Effects of Public Debt.

Suggested Readings:

1. J. Hindriks, G. Myles: Intermediate Public Economics, MIT Press, 2006.
2. J. E. Stiglitz, Economics of the Public Sector, W.W. Norton & Company, 3rd edition, 2000.
3. R.A. Musgrave and P.B. Musgrave, Public Finance in Theory & Practice, McGraw Hill Publications, 5th edition, 1989.
4. J. F. Due and A. F. Friedlander. Government Finance-Economics of Public Sector, AITBS Publishers and Distributors, 1994
5. A Ghosh and C. Ghosh, Public Finance, Prentice Hall India Learning Private Limited; 2ndRevised edition (2014)
6. হরিদাস আচার্য, আধুনিক অর্থনীতির ভূমিকা
7. দেবাশিস মজুমদার ও সুজাতা ভট্টাচার্য, সরকারি আয়ব্যয় তত্ত্বের ভূমিকা, ABS Publishing House.
8. রাধাশ্যাম সামন্ত, আন্তর্জাতিক অর্থনীতি ও রাষ্ট্রীয় অর্থনীতি, শ্রীধর পাবলিশিং কোম্পানি
9. সুব্রত গুপ্ত, আন্তর্জাতিক অর্থনীতি ও সরকারি অর্থব্যবস্থা, বাণী প্রকাশন

Appendix:

Guidelines for the Research Project / Dissertation (15 Credits)

(Semester VIII | UG Programme in Economics – Honours with Research)

Course Description

The Research Project/Dissertation is a mandatory component of the Honours with Research programme. It is designed to provide students with an opportunity to undertake **independent research** in Economics by applying theoretical, statistical, and econometric tools to real-world issues.

Credits

15 Credits (Field/Research-based)

Course Objectives

The course aims to:

1. Develop the ability to identify and formulate research problems
2. Apply appropriate research methods and analytical tools
3. Enhance skills in data collection, analysis, and interpretation
4. Promote academic writing and presentation skills
5. Prepare students for higher studies and research-oriented careers

Course Outcomes (COs)

After completion of the course, students will be able to:

CO1: Formulate a research problem in Economics *(K6)*
CO2: Design appropriate research methodology *(K6)*
CO3: Collect and analyze data using statistical/econometric tools *(K4/K5)*
CO4: Interpret findings and draw conclusions *(K5)*
CO5: Prepare and present a structured research report *(K6)*

Nature of the Project

The project may be empirical, analytical, theoretical, policy-oriented, or based on field/case studies. Preference may be given to **data-based empirical studies**.

Research Process

The project shall broadly follow these stages:

1. Topic selection and approval
2. Review of literature
3. Design of methodology
4. Data collection and analysis
5. Report writing
6. Presentation and viva voce

Dissertation Format (Indicative)

- Introduction
- Review of Literature
- Data and Methodology
- Analysis and Results
- Conclusion and Policy Implications
- References/Bibliography

Evaluation Scheme

Component	Marks
Proposal and Progress Review	50
Dissertation (Written Report)	100
Presentation and Viva Voce	50
Total	**200 Marks**

Supervision

Each student shall work under the guidance of a faculty supervisor. Regular consultation and progress monitoring are required.

Academic Integrity

The dissertation must be the student's **original work**. Proper citation and referencing are mandatory. Plagiarism in any form shall not be permitted.

Note

This component is essential for the award of the Bachelor's Degree with Honours with Research in Economics and is intended to develop advanced analytical, research, and communication skills.

The Department may issue additional instructions/guidelines from time to time.