DEPARTMENT OF ECONOMICS

CATEGORY-I BA (HONS.) ECONOMICS

DISCIPLINE SPECIFIC CORE COURSE -4 (DSC-4): INTRODUCTORY MACROECONOMICS

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course
		Lecture	Tutorial	Practical/ Practice		(if any)
Introductory Macroeconomics ECON004	4	3	1	0	Class XII pass	NIL

Learning Objectives

The Learning Objectives of this course are as follows:

- To introduce students to the basic concepts of macroeconomics
- To discuss the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variables like GDP, savings, investment, money, inflation, unemployment and the balance of payments
- To introduce the simple analytical frame- work (e.g., the IS-LM model) for analysing the relationships among key macroeconomic variables

Learning outcomes

The Learning Outcomes of this course are as follows:

- The students would be able to familiarise the broad macroeconomic concepts like GDP, inflation, money supply, interest rate and their inter-linkages and their interrelationships.
- By studying the course, the students will able to critically evaluate various macroeconomic policies and their effects on output and interest rate in the economy.

SYLLABUS OF DSC-4

UNIT – I: Introduction to Macroeconomic issues and National Income Accounting (12 Hours)
Basic issues studied in macroeconomics; measurements of gross domestic product, income, expenditure and the circular flow; real versus nominal GDP; price indices; national income accounting for open economy, balance of payments accounts; cur- rent, capital and financial accounts.

UNIT – II: Money (10 Hours)

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

UNIT – III: Simple Theory of Income Determination (11 Hours)

Classical and Keynesian systems; simple Keynesian model of income determination

UNIT – IV: IS-LM Analysis and Aggregate Demand (12 Hours)

Derivations of the IS and LM curves; fiscal and monetary multipliers; derivation of aggregate demand

Practical component (if any) - NIL

Essential/recommended readings:

- Andrew Abel, Ben Bernanke and Dean Croushore (2011). *Macroeconomics* (7th edition), Pearson.
- Richard T. Froyen (2013). *Macroeconomics: Theories and Policies* (10th ed.), Pearson.
- Blanchard, O. (2006). *Macroeconomics* (6th edition). Pearson
- Blanchard, O. (2017). Macroeconomics (7th edition). Pearson
- Dornbusch, R., S. Fischer and R. Startz. *Macroeconomics* (6th edition). McGraw-Hill
- Dornbusch, R., S. Fischer and R. Startz. *Macroeconomics* (11th edition). McGraw-Hill

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.

DISCIPLINE SPECIFIC CORE COURSE – 5 (DSC-5): INTERMEDIATE MATHEMATICAL METHODS FOR ECONOMICS

CREDIT DISTRIBUTION, ELIGIBILITY AND PREREQUISITES OF THE COURSE

Course title & Code	Credits	Credi	it distribut course		Eligibility criteria	Pre- requisite of
		Lecture	Tutorial	Practical/ Practice		the course (if any)
Intermediate Mathematical Methods for Economics ECON005	4	3	1	0	Class XII pass with Mathematics	NIL

Learning Objectives

The Learning Objectives of this course are as follows:

- To transmit the body of basic mathematics that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomic theory, macroeconomic theory, statistics and econometrics set out in this syllabus
- Particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general
- The sophistication would be maintained at a standard level to grow in the profession

Learning outcomes

The Learning Outcomes of this course are as follows:

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

SYLLABUS OF DSC-5

UNIT –I: Linear Algebra (15 Hours)

Vector spaces: algebraic and geometric properties, scalar product, norm, orthogonality; linear transformations: properties, matrix representation and elementary operations; systems of linear equations: properties of their solution sets; determinants: characterization, properties and applications; eigenvalues and eigenvectors, diagonalization, spectral theorem.

UNIT – II: Functions of several real variables (15 Hours)

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

UNIT – III: Multivariate optimization (15 Hours)

Convex sets; geometric properties of functions: convex functions, their characterisation, properties and applications; quasi convex functions, their characterisation, properties and applications; unconstrained optimisation: geometric characterisation, characterisation using calculus, applications.

Essential/recommended readings

- Sydsaeter, K., Hammond, P. (2002). *Mathematics for economic analysis*, Pearson Educational.
- Hoy, M., Livernois, J., McKenna, C., Rees, R., Stengos, T. (2001). *Mathematics for Economics*, Prentice-Hall India.

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.

DISCIPLINE SPECIFIC CORE COURSE— 6 (DSC-6): INTERMEDIATE STATISTICS FOR ECONOMICS

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title	Credits	Credit di	istribution	of the course	Eligibility	Pre-requisite of
& Code		Lecture	Tutorial	Practical/	criteria	the course (if
				Practice		any)
Intermediate	4	3	1	0	Class XII	NIL
Statistics for					pass with	

Economics			Mathematics	
ECON006				

Learning Objectives

The Learning Objectives of this course are as follows:

• This course focuses on techniques for statistical inference. The main objective of the course is to help students understand how to draw inference from samples regarding the underlying populations using point estimation, interval estimation and hypothesis testing.

Learning outcomes

The Learning Outcomes of this course are as follows:

• An important learning outcome of the course will be the capacity to use and analyse statistics in everyday life. The course will improve students' ability to analyse data, make decisions, form predictions, and conduct research.

SYLLABUS OF DSC-6

UNIT - 1: Sampling distribution of a Statistic (12 Hours)

Concept of Statistic and parameter, Sampling distributions, Central Limit Theorem.

UNIT - 2: Estimation (12 Hours)

Estimator and methods of estimation, Point Estimation: method of moments and method of maximum likelihood; Interval Estimation, Properties of an estimator: Consistency, Unbiasedness, Efficiency and Sufficiency, confidence level and sample size, intervals based on Z-distribution, t-distribution and chi-squared distribution, F-distribution.

UNIT – 3: Inference (9 Hours)

Meaning of a statistical hypothesis, errors in hypothesis testing: Type 1 and Type 2 errors, power of a test.

UNIT - 4: Hypothesis Testing (12 Hours)

Testing of a population Mean, proportions - small and large sample tests, P-value; Testing for variance; Testing hypothesis for two samples, testing for equality of means; testing for ratio of variances.

Practical component (if any) - NIL

Essential/recommended readings

- Devore, J. (2012). Probability and statistics for engineers, 8th ed. Cengage Learning.
- John A. Rice (2007). *Mathematical Statistics and Data Analysis*, 3rd ed. Thomson Brooks/Cole
- Larsen, R., Marx, M. (2011). An introduction to mathematical statistics and its applications. Prentice Hall.
- Miller, I., Miller, M. (2017). J. Freund's mathematical statistics with applications, 8th ed. Pearson.
- Demetri Kantarelis, D. and Malcolm O. Asadoorian, M. O. (2009). Essentials of

- Inferential Statistics, 5th edition, University Press of America.
- Hogg, R., Tanis, E., Zimmerman, D. (2021) *Probability and Statistical inference*, 10TH Edition, Pearson

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.

Category II

B.A. Programmes with Economics as Major discipline

DISCIPLINE SPECIFIC CORE COURSE -3 (DSC-3) -: INTRODUCTORY MACROECONOMICS

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title &	Credits	Credi	it distribut	Eligibility	Pre-	
Code		course			criteria	requisite of
		Lecture	Tutorial		the course	
				Practice		(if any)
Introductory	4	3	1	0	Class XII	NIL
Macroeconomics					pass	
ECON004						

Learning Objectives

The Learning Objectives of this course are as follows:

- To introduce students to the basic concepts of macroeconomics
- To discuss the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variables like GDP, savings, investment, money, inflation, unemployment and the balance of payments
- To introduce the simple analytical framework (e.g., the IS-LM model) for analysing the relationships among key macroeconomic variables

Learning outcomes

The Learning Outcomes of this course are as follows:

- The students would be able to familiarise the broad macroeconomic concepts like GDP, inflation, money supply, interest rate and their inter-linkages and their interrelationships.
- By studying the course, the students will be able to critically evaluate various macroeconomic policies and their effects on output and interest rate in the economy.

SYLLABUS OF DSC-3

UNIT – I: Introduction to Macroeconomic issues and National Income Accounting (12 Hours) Basic issues studied in macroeconomics; measurements of gross domestic product, income, expenditure and the circular flow; real versus nominal GDP; price indices; national income accounting for open economy, balance of payments accounts; cur- rent, capital and financial accounts.

UNIT – II: Money (10 Hours)

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

UNIT – III: Simple Theory of Income Determination (11 Hours)

Classical and Keynesian systems; simple Keynesian model of income determination

UNIT – IV: IS-LM Analysis and Aggregate Demand (12 Hours)

Derivations of the IS and LM curves; fiscal and monetary multipliers; derivation of aggregate demand

Practical component (if any) - NIL

Essential/recommended readings:

- Andrew Abel, Ben Bernanke and Dean Croushore (2011). *Macroeconomics* (7th edition), Pearson.
- Richard T. Froyen (2013). *Macroeconomics: Theories and Policies* (10th ed.), Pearson.
- Blanchard, O. (2006). *Macroeconomics* (6th edition). Pearson
- Blanchard, O. (2017). Macroeconomics (7th edition). Pearson
- Dornbusch, R., S. Fischer and R. Startz. *Macroeconomics* (6th edition). McGraw-Hill
- Dornbusch, R., S. Fischer and R. Startz. *Macroeconomics* (11th edition). McGraw-Hill

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.

DISCIPLINE SPECIFIC CORE COURSE - 4 (DSC-4): BASIC STATISTICS FOR ECONOMICS

CREDIT DISTRIBUTION, ELIGIBILITY AND PREREQUISITES OF THE COURSE

Course title	Credits	Credit d	istribution	of the course	Eligibility	Pre-requisite of
& Code		Lecture	Lecture Tutorial Practical/		criteria	the course
				Practice		(if any)
Basic	4	3	1	0	Class XII	NIL
Statistics for					pass	
Economics						
ECON022						

Learning Objectives

The Learning Objectives of this course are as follows:

• The course teaches students the basics of probability theory and statistical inference based on simple technical rigor. It includes introductory probability theories, sample

distribution and hypothesis testing that set a necessary foundation for the econometrics course taught as a General Elective.

Learning outcomes

The Learning Outcomes of this course are as follows:

• The student will be able to analyse the data using basic statistical concepts. They will understand sampling characteristics, estimation as well as examine the hypotheses using discrete and continuous distributions.

SYLLABUS OF DSC-4

UNIT – I: Introduction and overview (09 Hours)

Populations and samples; sample statistics; Descriptive Statistics.

UNIT – II: Basic concepts of probability (12 Hours)

Spaces and events; probability concepts, conditional probabilities

UNIT – III: Probability distributions and Sampling (12 Hours)

Random variables – discrete and continuous, various probability distributions - functions and characteristics; Commonly used distributions - uniform, binomial, exponential, Poisson, hypergeometric and Normal random variables. Jointly distributions- conditional distributions and expectations, covariance and correlation

Unit – IV: Estimation and Hypothesis testing (12 Hours)

Estimation of population parameters - methods of moments and maximum likelihood procedures; properties of estimators; confidence intervals; Defining statistical hypotheses; distributions of test statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test

Practical component (if any) - NIL

Essential/recommended readings

- Larsen, R., Marx, M. (2011). An Introduction to Mathematical Statistics and its Applications, Prentice Hall.
- James McClave, P. George Benson, Terry Sincich (2017), Statistics for Business and Economics, Pearsons Publication.
- Anderson D. R, Sweeney D.J. et. al (2019), Statistics for Business & Economics, 13th ed. Cengage Learning.
- Sheldon Ross (2017), Introductory Statistics, 4th Edition, Academic Press

Category III

B.A. Programmes with Economics as Non-Major or Minor discipline

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title &	Credits	Credi	it distribut	Eligibility	Pre-	
Code		course			criteria	requisite of
		Lecture Tutorial Practical/				the course
				Practice		(if any)
Introductory	4	3	1	0	Class XII	NIL
Macroeconomics					pass	
ECON004						

Learning Objectives

The Learning Objectives of this course are as follows:

- To introduce students to the basic concepts of macroeconomics
- To discuss the preliminary concepts associated with the determination and measurement of aggregate macroeconomic variables like GDP, savings, investment, money, inflation, unemployment and the balance of payments
- To introduce the simple analytical framework (e.g., the IS-LM model) for analysing the relationships among key macroeconomic variables

Learning outcomes

The Learning Outcomes of this course are as follows:

- The students would be able to familiarise the broad macroeconomic concepts like GDP, inflation, money supply, interest rate and their inter-linkages and their interrelationships.
- By studying the course, the students will be able to critically evaluate various macroeconomic policies and their effects on output and interest rate in the economy.

SYLLABUS OF DSC-3

UNIT – I: Introduction to Macroeconomic issues and National Income Accounting (12 Hours) Basic issues studied in macroeconomics; measurements of gross domestic product, income, expenditure and the circular flow; real versus nominal GDP; price indices; national income accounting for open economy, balance of payments accounts; cur- rent, capital and financial accounts.

UNIT – II: Money (10 Hours)

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

UNIT – III: Simple Theory of Income Determination (11 Hours)

Classical and Keynesian systems; simple Keynesian model of income determination

UNIT – IV: IS-LM Analysis and Aggregate Demand (12 Hours)

Derivations of the IS and LM curves; fiscal and monetary multipliers; derivation of aggregate demand

Practical component (if any) - NIL

Essential/recommended readings:

- Andrew Abel, Ben Bernanke and Dean Croushore (2011). *Macroeconomics* (7th edition), Pearson.
- Richard T. Froyen (2013). *Macroeconomics: Theories and Policies* (10th ed.), Pearson.
- Blanchard, O. (2006). *Macroeconomics* (6th edition). Pearson
- Blanchard, O. (2017). Macroeconomics (7th edition). Pearson
- Dornbusch, R., S. Fischer and R. Startz. Macroeconomics (6th edition). McGraw-Hill
- Dornbusch, R., S. Fischer and R. Startz. *Macroeconomics* (11th edition). McGraw-Hill

Category-IV

COMMON POOL OF GENERIC ELECTIVES (GE) COURSES OFFERED BY DEPARTMENT OF ECONOMICS

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit	t distributi course	on of the	Eligibility criteria	Pre-requisite of the course			
GENERIC ELECTIVES (GE-4): PRINCIPLES OF MACROECONOMICS I									
		Lecture	Tutorial	Practical/					
				Practice					
Principles of	4	3	1	0	Class XII	NIL			
Macroeconomics I					pass				
ECON026									
Learning Objectives									

The Learning Objectives of this course are as follows:

This course introduces the basic concepts in Macroeconomics both in closed and open economy. It deals with the behaviour and characteristics of aggregate economy. This course introduces the definition, measurement of the macroeconomic variables like GDP, consumption, savings, investment and balance of payments. The course also discusses various theories and approaches of determining GDP.

Learning outcomes

The Learning Outcomes of this course are as follows:

The students will learn the broad understanding of macroeconomic variables and their measurement issues like GDP, inflation, money supply, interest rate and their interlinkages. It will also allow them to critically evaluate various macroeconomic policies and their effects on output and interest rate in the economy.

SYLLABUS OF GE-4

UNIT – I: Introduction (05 Hours)

What is macroeconomics? Macroeconomic issues in an economy

UNIT – II: National Income Accounting (10 Hours)
Concepts of GDP and National Income; measurement of national income and related aggregates; nominal and real income; limitations of the GDP concept

UNIT – III: Determination of GDP (10 Hours)

Actual and potential GDP; aggregate expenditure; consumption function; investment function; equilibrium GDP; concepts of MPS, APS, MPC, APC; autonomous expenditure; Concept of multiplier

UNIT – IV: National Income Determination in an Open Economy with Government (10 Hours) Income determination; Fiscal Policy: impact of changes in government expenditure and taxes; net exports function; net exports and equilibrium national income.

UNIT – V: Money in a Modern Economy (10 Hours)

Concept of money in a modern economy; monetary aggregates; demand for money; quantity theory of money; liquidity preference and rate of interest; money supply and credit creation; monetary policy.

Practical component (if any) - NIL

Essential/recommended readings

- Andrew Abel, Ben Bernanke and Dean Croushore (2011). *Macroeconomics* (7th edition). Pearson
- Richard T. Froyen (2013). *Macroeconomics: Theories and Policies* (10th ed.), Pearson.
- Blanchard, O. (2018). Macroeconomics (7th edition). Pearson
- Blanchard, O. (2006). *Macroeconomics* (6th edition). Pearson
- Dornbusch, R., and S. Fischer. (1994). Macroeconomics (6th edition). McGraw-Hill
- R. Dornbusch, S. Fischer and R. Startz. (2018). *Macroeconomics* (12th edition). McGraw-Hill

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.

GENERIC ELECTIVES (GE-5): BASIC STATISTICS FOR ECONOMICS

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title	Credits	Credit d	istribution	of the course	Eligibility	Pre-requisite of
& Code		Lecture	Tutorial	Practical/	criteria	the course
				Practice		(if any)
Basic	4	3	1	0	Class XII	NIL
Statistics for					pass	
Economics						
ECON022						

Learning Objectives

The Learning Objectives of this course are as follows:

• The course teaches students the basics of probability theory and statistical inference based on simple technical rigor. It includes introductory probability theories, sample

distribution and hypothesis testing that set a necessary foundation for the econometrics course taught as a General Elective.

Learning outcomes

The Learning Outcomes of this course are as follows:

• The student will be able to analyse the data using basic statistical concepts. They will understand sampling characteristics, estimation as well as examining the hypotheses using discrete and continuous distributions.

SYLLABUS OF GE-5

UNIT – I: Introduction and overview (09 Hours)

Populations and samples; sample statistics; Descriptive Statistics.

UNIT – II: Basic concepts of probability (12 Hours)

Spaces and events; probability concepts, conditional probabilities

UNIT – III: Probability distributions and Sampling (12 Hours)

Random variables – discrete and continuous, various probability distributions - functions and characteristics; Commonly used distributions - uniform, binomial, exponential, Poisson, hypergeometric and Normal random variables. Jointly distributions- conditional distributions and expectations, covariance and correlation

Unit – IV: Estimation and Hypothesis testing (12 Hours)

Estimation of population parameters - methods of moments and maximum likelihood procedures; properties of estimators; confidence intervals; Defining statistical hypotheses; distributions of test statistics; testing hypotheses related to population parameters; Type I and Type II errors; power of a test

Practical component (if any) - NIL

Essential/recommended readings

- Larsen, R., Marx, M. (2011). An Introduction to Mathematical Statistics and its Applications, Prentice Hall.
- James McClave, P. George Benson, Terry Sincich (2017), *Statistics for Business and Economics*, Pearsons Publication.
- Anderson D. R, Sweeney D.J. et. al (2019), Statistics for Business & Economics, 13th ed. Cengage Learning.
- Sheldon Ross (2017), Introductory Statistics, 4th Edition, Academic Press

GENERIC ELECTIVES (GE-6): INDIAN ECONOMY

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course	Credits	Credit d	listribution	of the course	Eligibility	Pre-requisite
title &		Lecture	Lecture Tutorial Practical/		criteria	of the course
Code				Practice		
Indian	4	3	1	0	Class XII	NIL
Economy					pass	
ECON030						

Learning Objectives

The Learning Objectives of this course are as follows:

• This course introduces the economic problems related to the Indian economy by familiarizing them with the research studies on areas relating to economic development and policy in India with an emphasis on contemporary debates.

Learning outcomes

The Learning Outcomes of this course are as follows:

• The students will be able to learn the development paradigm adopted in India since independence and evaluate its impact on economic as well as social indicators of progress. Students will have the ability to explore current policy debates and contribute to policy making in an informed way using relevant databases. They will also learn how to conduct independent research in these areas

SYLLABUS OF GE-3

Unit 1: Historical and general overview of Indian economy since Independence (05 Hours)

Unit 2: Growth and structural change (09 Hours)

Unit 3: The Indian economy in a comparative perspective (09 Hours)

Unit 4: Key issues: poverty, inequality, education, health and gender (09 Hours)

Unit 5 : Agriculture, industry, services and international trade (09 Hours)

Practical component (if any) - NIL

Essential/recommended readings

- Kumar, Dharma (2005) ed the article on The Indian Economy 1970 to 2003 in revised version of CEHI Vol II
- Balakrishnan, Pulapre (2010) Economic Growth in India: History and Prospect. OUP.
- Rakshit, Mihir (2011) Macroeconomics of Post-reform India. OUP
- Rakshit, Mihir (2010) Money and Finance in the Indian Economy. OUP
- Goyal, Ashima(ed) (2015) A Concise handbook of Indian Economy in the 21st

- Century .OUP
- Ghate, Chetan (ed) (2012) The Oxford Handbook of Indian Economy. OUP.
- Bosworth, B., Collins, S. M., & Virmani, A. (2007). Sources of growth in the Indian economy.
- Goyal, A. (Ed.). (2019). A Concise Handbook of the Indian Economy in the 21st Century. Oxford University Press.
- Pulapre Balakrishnan, 2007, "The Recovery of India: Economic Growth in the Nehru Era", *Economic and Political Weekly*, November.
- Rakesh Mohan, 2019, *Moving India to a new Growth Trajectory: Need for a Comprehensive Big Push*, Brookings India, Section 1 and 2, 9-30.
- Ahluwalia, M. S., 2019, "India's economic reforms: Achievements and Next Steps", *Asian Economic Policy Review*, 14(1), 46-62.
 - James, K.S., & Srinivas Goli, 2016, "Demographic Changes in India: Is the Country Prepared for the Challenge?" *Brown Journal of World Affairs*, Fall/Winter 2016, Volume XXIII, Issue I.
 - Desai, S., 2015, "Demographic deposit, dividend and debt", *The Indian Journal of Labour Economics*, 58, 217-232
 - Arvind Subramanian and Josh Felman (2021) India's Stalled Rise-How the State Has Stifled Growth, *Foreign Affairs* on 14.12. 2021
 - Executive Summary, 2014, Report of the Expert Group to Review the Methodology for Measurement of Poverty (Rangarajan Committee report), GOI, 1-5
- Thomas, J. J. (2020). 'Labour Market Changes in India, 2005–18', *Economic and Political Weekly*, 55(34), 57