DEPARTMENT OF ECONOMICS

BA (Hons.) Economics
Category-I

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 (if any)
		Lecture	Tutorial	Practical/ Practice		
Introductory Microeconomics ECON001	4	3	1	0	Class XII pass	NIL

Learning Objectives

The Learning Objectives of this course are as follows:
- To expose students to the basic principles of microeconomic theory
- To emphasis on the fundamental economic trade-offs and allocation problems due to scarcity of resources
- To use graphical methods to illustrate how microeconomic concepts can be applied to analyze real-life situations

Learning outcomes

The Learning Outcomes of this course are as follows:
- By studying the course, the students will understand economic trade-offs and opportunities.
- By studying the course, the students will understand the fundamentals of market mechanisms and government interventions.

SYLLABUS OF DSC-1

UNIT – I: Introduction to economic trade-offs   (12 Hours)
Resources and opportunities, Gains from trade, Individual and society

UNIT – II: How market works   (16 Hours)
Supply and demand, Price and resource allocation, Elasticity, Market, trade and welfare

UNIT – III: Role of government   (16 Hours)
Taxation, Public good, Inequality and poverty

UNIT – IV: Individual decision and interaction   (16 Hours)
Decision versus strategic interaction, How to think about strategic interactions, Real life examples

Practical component (if any) - NIL

Essential/recommended readings:

- Mankiw, N. G. (2018). *Principles of Microeconomics* 8th ed.
- Frank, R. H., & Cartwright, E. (2010). *Microeconomics and behavior*. New York: McGraw-Hill.
- Dixit, A. K., & Skeath, S. (2015). *Games of strategy*: Fourth international student edition. WW Norton & Company.
- Acemoglu, D., Laibson, D., & List, J. (2017). *Microeconomics*. Pearson.

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DISCIPLINE SPECIFIC CORE COURSE – 2 (DSC-2): INTRODUCTORY MATHEMATICAL METHODS FOR ECONOMICS

CREDIT DISTRIBUTION, ELIGIBILITY AND PREREQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Introductory Mathematical Methods for Economics ECON002	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:
- To hone and upgrade the mathematical skills acquired in school and paves the way for the second semester course Intermediate Mathematical Methods
- To apply the analytical tools introduced in this course wherever unconstrained optimisation techniques are used in economics and business decision-making

- To make the students more logical in making or refuting arguments

SYLLABUS OF DSC- 2

UNIT –I: Preliminaries (20 Hours)
Logic and proof techniques; sets and set operations; relations; functions and their properties; number systems.

UNIT – II: Functions of one real variable: (20 Hours)
Graphs; elementary types of functions: quadratic, polynomial, power, exponential, logarithmic; sequences and series: convergence, algebraic properties and applications; continuous functions: characterisation, properties with respect to various operations and applications; differentiable functions: characterisation, properties with respect to various operations and applications; second and higher order derivatives: properties and applications.

UNIT – III: Single-variable optimization (20 Hours)
Geometric properties of functions: convex functions, their characterisation and applications; local and global optima: geometric and calculus-based characterisation, applications

Practical component (if any) - NIL

Essential/recommended readings

- Sydsaeter, K., Hammond, P. (2002). *Mathematics for economic analysis*. Pearson Education.

- Hoy, M., Livernois, J., McKenna, C., Rees, R., Stengos, T. (2001). *Mathematics for Economics*, Prentice-Hall India.

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DISCIPLINE SPECIFIC CORE COURSE– 3 (DSC-3): INTRODUCTORY STATISTICS FOR ECONOMICS

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 (if any)
		Lecture	Tutorial	Practical/ Practice		
Introductory Statistics for Economics ECON003	4	3	1	0	Class XII pass with Mathematics	NIL

Learning Objectives

The Learning Objectives of this course are as follows:
- To familiarize students with methods of summarizing and describing important features of data. The course teaches students the basics of probability theory and sets a necessary foundation for Inferential Statistical Theory and the Econometrics courses. The familiarity with probability theory will also be valuable for courses in economic theory.

Learning outcomes

The Learning Outcomes of this course are as follows:
- The student would understand the concept of probability, random variables and their distributions and become familiar with some commonly used discrete and continuous distributions of random variables so that they would be able to analyse various real-life data.

SYLLABUS OF DSC-3

UNIT - 1: Introduction and overview   (12 Hours)
The distinction between populations and samples and, between population parameters and sample statistics; Pictorial Methods in Descriptive Statistics; Measures of Location and Variability.

UNIT - 2: Elementary probability theory   (12 Hours)
Sample spaces and events; probability axioms and properties; counting techniques; conditional probability and Bayes' rule; independence.

UNIT – 3: Random variables and probability distributions   (12 Hours)
Defining random variables; discrete and continuous random variables, probability distributions; expected values and functions of random variables.

UNIT - 4: Sample Distributions   (8 Hours)
Properties of commonly used discrete and continuous distributions (uniform, binomial, exponential, Poisson, hypergeometric and Normal random variables).

UNIT - 5: Random sampling and jointly distributed random variables   (16 Hours)
Density and distribution functions for jointly distributed random variables; computing expected values of jointly distributed random variables; conditional distributions and expectations, covariance and correlation.

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.

- Miller, I., Miller, M. (2017). *J. Freund's Mathematical Statistics with Applications*, 8th ed. Pearson.

- Hogg, R., Tanis, E., Zimmerman, D. (2021) *Probability and Statistical inference*, 10th Edition, Pearson

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BA (Prog.) with Economics as Major
Category-II

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 (if any)
		Lecture	Tutorial	Practical/ Practice		
Introductory Microeconomics ECON001	4	3	1	0	Class XII pass	NIL

Learning Objectives

The Learning Objectives of this course are as follows:
- To expose students to the basic principles of microeconomic theory
- To emphasis on the fundamental economic trade-offs and allocation problems due to scarcity of resources
- To use graphical methods to illustrate how microeconomic concepts can be applied to analyze real-life situations

Learning outcomes

The Learning Outcomes of this course are as follows:
- By studying the course, the students will understand economic trade-offs and opportunities.
- By studying the course, the students will understand the fundamentals of market mechanisms and government interventions.

SYLLABUS OF DSC-1

UNIT – I: Introduction to economic trade-offs   (12 Hours)
Resources and opportunities, Gains from trade, Individual and society

UNIT – II: How market works   **(16 Hours)**
Supply and demand, Price and resource allocation, Elasticity, Market, trade and welfare

UNIT – III: Role of government   **(16 Hours)**
Taxation, Public good, Inequality and poverty

UNIT – IV: Individual decision and interactions   **(16 Hours)**
Decision versus strategic interaction, How to think about strategic interactions, Real life

examples

Practical component (if any) - NIL

Essential/recommended readings:

- Mankiw, N. G. (2018). *Principles of Microeconomics* 8th ed.
- Frank, R. H., & Cartwright, E. (2010). *Microeconomics and behavior*. New York: McGraw-Hill.
- Dixit, A. K., & Skeath, S. (2015). *Games of strategy*: Fourth international student edition. WW Norton & Company.
- Acemoglu, D., Laibson, D., & List, J. (2017). *Microeconomics*. Pearson.

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DISCIPLINE SPECIFIC CORE COURSE – 2 (DSC-2): BASIC MATHEMATICS FOR ECONOMIC ANALYSIS

CREDIT DISTRIBUTION, ELIGIBILITY AND PREREQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Basic Mathematics for Economic Analysis ECON021	4	3	1	0	Class XII pass	NIL

Learning Objectives

The Learning Objectives of this course are as follows:
- The objective of the course is train basic algebras that enables the study of economic theory at the undergraduate level, specifically the courses on microeconomics, macroeconomics, statistics and econometrics set out in this syllabus. In this course, particular economic models are not the ends, but the means for illustrating the method of applying mathematical techniques to economic theory in general. It contains understanding of basic functions, relations, real number systems, set operations, linear algebras and matrix operations used in economics.

Learning outcomes

The Learning Outcomes of this course are as follows:
- The course equips the students with exposition of economic problems with formal pre- situations algebraically and offers solution techniques to find equilibrium analysis. These tools are necessary for anyone seeking employment as an analyst in the corporate and policy framing world.

SYLLABUS OF DSC- 2

UNIT – I: Economic

Models **(20 Hours)**

Ingredients of mathematical models - variables, constants, parameters, equations, and identities; Real number system; Sets and functions; relations and their proper- ties; types of functions; functions of more than one variables; Limit, sequences and series: convergence, algebraic properties and applications; continuous functions: characterisation, properties with respect to various operations and applications; differentiable functions: characterisation, properties with respect to various operations and applications; second and higher order derivatives: properties and applications.

UNIT – II: Equilibrium Analysis in Economics   **(20 Hours)**
Meaning of equilibrium; partial market equilibrium - linear and non-linear models; General market equilibrium

UNIT – III: Linear Models and Matrix Algebras and their Applications in Economics
(20 Hours)
Matrix operations, Determinants and Cramer's Rule and their applications

Practical component (if any) - NIL

Essential/recommended readings

- Chiang, A and Wainwright, K. (2005). Fundamental methods of mathematical economics. Boston, Mass. McGraw-Hill/Irwin.

- 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.

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BA (Prog.) with Economics as Minor
Category-III

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 (if any)
		Lecture	Tutorial	Practical/ Practice		
Introductory Microeconomics ECON001	4	3	1	0	Class XII pass	NIL

Learning Objectives

The Learning Objectives of this course are as follows:
- To expose students to the basic pri :iples of microeconomic theory
- To emphasis on the fundamental ε onomic trade-offs and allocation problems due to scarcity of resources
- To use graphical methods to illust te how microeconomic concepts can be applied to analyze real-life situations

Learning outcomes

The Learning Outcomes of this course are as follows:
- By studying the course, the students will understand economic trade-offs and opportunities.
- By studying the course, the students will understand the fundamentals of market mechanisms and government interventions.

SYLLABUS OF DSC-1

UNIT – I: Introduction to economic trade-offs   (12 Hours)
Resources and opportunities, Gains from trade, Individual and society

UNIT – II: How market works   (16 Hours)
Supply and demand, Price and resource allocation, Elasticity, Market, trade and welfare

UNIT – III: Role of government   (16 Hours)
Taxation, Public good, Inequality and poverty

UNIT – IV: Individual decision and interaction   (16 Hours)
Decision versus strategic interaction, How to think about strategic interactions, Real life examples

Practical component (if any) - NIL

Essential/recommended readings:

- Mankiw, N. G. (2018). *Principles of Microeconomics* 8th ed.
- Frank, R. H., & Cartwright, E. (2010). *Microeconomics and behavior*. New York: McGraw-Hill.
- Dixit, A. K., & Skeath, S. (2015). *Games of strategy*: Fourth international student edition. WW Norton & Company.
- Acemoglu, D., Laibson, D., & List, J. (2017). *Microeconomics*. Pearson.

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COMMON POOL OF GENERIC ELECTIVES (GE) COURSES
Offered by Department of Economics
Category-IV

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		
Principles of Microeconomics I ECON025	4	3	1	0	Class XII pass	NIL

Learning Objectives

The Learning Objectives of this course are as follows:
- This course discusses the basic principles in Microeconomics and their applications. It includes consumer's problem, demand estimation, production function, cost functions and market analysis. It illustrates how the concepts of microeconomics can be applied to analyze real-life economic situations.

Learning outcomes

The Learning Outcomes of this course are as follows:
- The students learn some basic principles of microeconomics of consumer and producers, and interactions of supply and demand, characteristics of perfect competition, efficiency and welfare outcomes.

SYLLABUS OF GE-1

UNIT – I: Introduction   (16 Hours)
Problem of scarcity and choice: scarcity, choice and opportunity cost; production possibility frontier; economic systems. Demand and supply: law of demand, determinants of demand, shifts of demand versus movements along a demand curve, market demand, law of supply, determinants of supply, shifts of supply versus movements along a supply curve, market supply, market equilibrium. Applications of demand and supply: price rationing, price floors, consumer sur- plus, producer surplus. Elasticity: price elasticity of demand, calculating elasticity, determinants of price elasticity, other elasticities

UNIT – II: Consumer Theory   (12 Hours)
Budget constraint, concept of utility, diminishing marginal utility, Diamond-water paradox, income and substitution effects; consumer choice: indifference curves, derivation of demand curve from indifference curve and budget constraint

UNIT – III: Production and Costs   **(16 Hours)**

Production: behaviour of profit maximising firms, production process, production functions, law of variable proportions, choice of technology, isoquant and isocost lines, cost minimizing equilibrium condition

Costs: costs in the short run, costs in the long run, revenue and profit maximization, minimizing losses, short run industry supply curve, economies and dis- economies of scale, long run adjustments

UNIT – IV: Perfect Competition   **(16 Hours)**

Assumptions: theory of a firm under perfect competition, demand and revenue; equilibrium of the firm in the short run and long run; Long run industry supply curve: increasing, decreasing and constant cost industries.

Welfare: allocative efficiency under perfect competition.

Practical component (if any) - NIL

Essential/recommended readings

- Mankiw, N. G. (2018). *Principles of Microeconomics* 8th ed.
- Frank, R. H., & Cartwright, E. (2010). *Microeconomics and behavior*. New York: McGraw-Hill.
- Bernheim, B., Whinston, M. (2009). *Microeconomics*. Tata McGraw-Hill.

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GENERIC ELECTIVES (GE-2): BASIC DEVELOPMENT ECONOMICS

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		
Basic Development Economics ECON029	4	3	1	0	Class XII Pass	NIL

Learning Objectives

The Learning Objectives of this course are as follows:
- This course exposes students to some of the key ideas and concepts in the areas of economic growth, human development and globalisation building on the concept of growth and further links it up with alternative conceptions of development.

Learning outcomes

The Learning Outcomes of this course are as follows:
- Students will develop a critical understanding of the contemporary issues in economic growth and development and their paths. Students will thus be better prepared to face the professional world and can use this knowledge base in a variety of jobs, including in the corporate, civil service and NGO sectors.

SYLLABUS OF GE-2

UNIT – I: Development and underdevelopment
(16 Hours)
Growth vs Development; Classic Approaches of Development; Contemporary theories of Development and Underdevelopment

UNIT – II: Development goals and indicators, measures of underdevelopment

(16 Hours)
Various concepts and measures of poverty and inequality, poverty lines using various national and international criteria.

UNIT – III: Capabilities, human development and sustainable development
(16 Hours)

UNIT – IV: Globalisation and development
(12 Hours)

Practical component (if any) - NIL

Essential/recommended readings

– Debraj Ray, *Development Economics*, (DE), Princeton University Press, 1998.

– Robinson, J. A., & Acemoglu, D. (2012). *Why nations fail: The origins of power, prosperity and poverty* (pp. 45-47). London: Profile.

– Abhijit Banerjee, Roland Benabou and Dilip Mookerjee (eds), *Understanding Poverty* (UP), Oxford University Press, 2006.

– Angus Deaton, *The Great Escape: Health, Wealth and the Origins of Inequality*, Princeton University Press, 2013.

– Gustav Ranis et.al, Economic Growth and Human Development, *World Development* Vol. 28, No. 2, Elsevier Science Ltd., 2000

– Amartya Sen, *Development as Freedom*, OUP, 2000

– Thomas Piketty and Emmanuel Saez, 'Inequality in the Long Run', Science, 344 (838), 2014

– Piketty, Thomas, 2019, *Capital and Ideology*, Harvard University Press,

– Séverine Deneulin with Lila Shahani (ed.), *An Introduction to the Human Development and Capability Approach: Freedom and Agency*, Roultedge, 2009

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GENERIC ELECTIVES (GE-3): ESSENTIALS OF ECONOMICS

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		
Essentials of Economics ECON076	4	3	1	0	Class XII pass	NIL

Learning Objectives

The Learning Objectives of this course are as follows:
- This course will introduce the fundamental concepts of economics, the study of how people manage resources. It contains basic principles of microeconomics (the behaviour of consumers, firms and companies), macroeconomics (national production, employment, inflation and interest rates) and international economics (balance of payment, exchange rate and trade) with graphical illustration and contemporary examples.

Learning outcomes

The Learning Outcomes of this course are as follows:
- By studying this course, the students will learn to think like an economist and understand how a modern market economy function. They will learn about the factors that determine long-run growth and short-term fluctuations and role of government and financial institutions, so they can better understand how economics applies to the everyday life.

SYLLABUS OF GE-3

UNIT – I: Microeconomic Foundations **(20 Hours)**
Foundations of economics, how market works, firms and market structures, markets for factor of production, role of government

UNIT – II: Macroeconomic Foundations **(20 Hours)**
GDP (measuring total production, income and economic growth), unemployment and inflation; aggregate demand and aggregate supply analysis; monetary and fiscal policies

UNIT – III: Foundation of International Economics **(20 Hours)**
Comparative advantage and the gains from trade, macroeconomics in an open economy

Practical component (if any) - NIL

Essential/recommended readings

- Hubbard, G., Garnett, A., & Lewis, P. (2019). Essentials of economics. 5th edition, Pearson Higher Education AU.

- Sloman, J., & Garratt, D. (2016). Essentials of Economics, 7th edition, Pearson

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