Guru Gobind Singh Indraprastha University
4-Year Bachelor of Arts in Economics **under 5 Year UG-PG Programme**

Programme Outline

for

4-year UG Programme

(Bachelor of Arts)

in

Economics

under 5 Year BA-MAScheme

offered by

University School of Humanities and Social Sciences
GGSIPU University, Dwarka

GURU GOBIND SINGH
INDRAPRASTHA
UNIVERSITY

Guru Gobind Singh Indraprastha University
Sector 16 C, Dwarka, Delhi – 110078 (India)
www.ipu.ac.in

1. The course outline, scheme of examination and detail course content for 4-Year Bachelor of Arts in Economics under 5-Year BA- MA Scheme approved by the Board of Studies of USHSS in its 37th meeting held on 3rd June, 2024.
2. To be effective from August, 2024.

Guru Gobind Singh Indraprastha University
4-Year Bachelor of Arts in Economics **under 5 Year UG-PG Programme**
SEMESTER- I

Paper Code: BAECO101   **Lectures** – 3**, Tutorial** – 1
Paper: Principles of Microeconomics   **Total Credits** – 4
Internal marks: 40   **External marks:** 60
Mode of Exam: UES

Objective: To enable the students to familiarize themselves with various issues and concepts in introductory microeconomics.

Unit – I: Introduction

What is economics – Micro and Macroeconomics – Positive and normative analysis – Scarcity and choice – Opportunity cost – Central problems – Production possibility frontier – Society's choice and PPF – Demand – Law of demand – Demand schedule – Supply – Supply schedule – Market Equilibrium – Elasticity of demand and supply – Types andMeasurement of Elasticity – Economics applications

Unit – II: The Households

The consumption decision – Budget constraint – Income/price changes – Consumer preferences – Indifference curves – Consumer Equilibrium – Substitution and income effects – Labour supply and savings decision – Choice between leisure and consumption

Unit III: Production Decision and Markets

Production function – Short Run cost – Long run cost – Profit maximization – Perfect Competition – Imperfect competition and monopoly behavior

Unit – IV: Input Market

Labour and land markets – Basic concepts – Derived demand – Productivity of an input, Marginal productivity of labour – Marginal revenue product – Demand for labour – Input demand curves – Shifts in input demand curves – Competitive labour markets – Labour markets and public policy

Recommended Readings:

Samuelson, P. A., & Nordhaus, W. D. (2010). *Economics* (19th ed.) McGraw – Hill.

Lipsey, R., & Chrystal, A. (2015). *Economics* (13th ed.) Oxford University Press.

Stiglitz, J. E., & Walsh, C. E. (2006). *Principles of Economics* (4th ed.). W.W. Norton & Company, New York

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4-Year Bachelor of Arts in Economics **under 5 Year UG-PG Programme**

SEMESTER- I

Paper Code: BAECO103   **Lectures –** 3**, Tutorial –** 1
Paper: Mathematical Methods of Economics   **Total Credits –** 4
Internal marks: 40   **External marks:** 60
Mode of Exam: UES

Course Objective: To encourage students to familiarize a wider and deeper understanding of how to solve and formulate mathematical problems through the basic knowledge of real number system, set theory, differentiation, integration etc.

Course Outcomes

CO 1: To familiarize students with fundamental concepts of basic mathematics for economic applications
CO 2: To develop a basic understanding of differentiation and integration.
CO 3: To identify, solve and interpret mathematical functions using basic calculus.
CO 4: To enable students to critically analyze and evaluate economic models using mathematical instruments

Unit I: Introduction
Real Number System – Sets and functions – Relations and their properties – Types of functions – Functions of more than one variable – Introduction to Arithmetic and Geometric Progression – Set theory – Venn diagram

Unit II: Differentiation
Continuity and Differentiability – Derivative of a function: One and more than one variable – Differentials and Differentiation – Second and higher order derivatives – Maxima and Minima – Properties and economic applications

Unit III: Integration
Introduction – Basic rules and methods of Integration – Integrals – Improper Integrals – Economic Applications

Unit IV: Matrix and Determinants
Linear Models and Matrix Algebra – Types of Matrices – Matrix Operations and applications – Elementary row operation – Rank of a Matrix – Inverse of a Matrix – Determinants, Adjoint, cofactor – Cramer's rule and its application

Suggested Readings:
1. Chiang, A and Wainwright, K. (2005). *Fundamental methods of mathematical economics.* Boston, Mass. McGraw-Hill/Irwin.
2. Sydsaeter, K., Hammond, P. (2002). *Mathematics for economic analysis.* Pearson Educational.
3. Bhardwaj, R. S. (2007). *Mathematics for economics and business.* Excel Books India.

(Any other reading materials and case studies to be provided by the instructor in the class)

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4-Year Bachelor of Arts in Economics **under 5 Year UG-PG Programme**

SEMESTER- I

Paper Code: BAECO105   **Lectures - 2, Tutorial** - 1
Paper: Basic Statistics for Economics   **Total Credits:** 3
Internal marks: 40   **External marks:** 60
Mode of Exam: UES

Course Objective: The course aims to introduce the students to the basic concepts of statistics and its economic applications.

Course Outcomes
CO1: To impart the knowledge on basic concepts of statistics
CO2: To ensure that the students understand the application of basic concepts of statistics to economics.
CO3: To enable students to comprehend the various statistical tools and their application
CO4: Enable students to solve assignments and discuss applications of statistics to various economic concepts

Unit I: Introduction

Primary and Secondary Data – Data Collection – Tabular and Graphical Analysis – Frequency Distributions – Measures of Central Tendency: Mean, Median, Mode – Measures of Dispersion: Range, Variance, Standard Deviation

Unit II: Sampling Distribution and Hypothesis Testing

Concepts of a parameter, statistic, sampling distribution – Chi-square, student's 't, Snedecor's F distributions – Null and alternative hypotheses: Simple and Composite hypotheses – Type I, and Type II errors – critical region – power function

Unit III: Correlation and Regression

Scatter Diagram – Types of Correlation – Karl Pearson's Coefficient of Correlation – Spearman's Coefficient of Correlation – Rank Coefficient of Correlation – Linear Regression in two variables

Unit IV: Assignments and Discussions

Students would be required to complete assignments/case studies applying the statistical concepts taught in the class

Suggested Readings:
1. S.C. Gupta and V.K. Kapoor, *Fundamentals of Mathematical Statistics*, Sultan Chand & Sons, 2014
2. A.M. Goon, M.K. Gupta and B Dasgupta, *Fundamentals of Statistics*, Vol.1, World Press (P) Ltd., 2016
3. Spiegel M.R, Theory and Problems and Statistics, *Schaum Outline Series*, 1989, second edition.
4. R. Johnson and G. Bhattacharya, *Statistics: Principles and methods*, John Wiley and Sons, 2014, seventh edition
5. J. E. Freund, *Mathematical Statistics,* Prentice Hall of India., 2013, eighth edition

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4-Year Bachelor of Arts in Economics **under 5 Year UG-PG Programme**

SEMESTER-I

Paper Code: BAECO107	**Lectures** - 2, **Tutorial** – 1
Paper: IT Tools for Statistics in Economics – I	**Total Credit – 3**
Internal Marks: 40	**External Marks: 60**
Mode of Exam: NUES	

Course Objectives: The course aims to introduce students to the basic Statistical tools used in analyzing and visual representation of data using MS Excel and Power Bi

Course Outcomes

CO1: To develop the understanding of basic tools of statistics using IT tools, such as MS Excel and Power Bi

CO2: To equip students with basic computing skills required for representing data

CO3: To familiarize students with fundamental concepts that play important role in understanding and visualizing data using Power Bi

CO4: To enable students with basic quantitative skills required for analyzing data using Excel

Unit I: Introduction

Introduction to Excel – Data Entry – Data Formats – Importing Data – Primary and Secondary Data – Variables and Descriptive Statistics – Frequency tables – Histograms – Bar graphs – Pie charts – Stem and Leaf Plots

Unit II: Measures of Central Tendency and Dispersion

Distribution Statistics – Measures of Central Tendency: Mean, Median and Mode – Measures of Dispersion: Range, Variance & Standard Deviation, Quartiles, Deciles and Percentiles – Measures of Shape: Skewness and Kurtosis – Outliers – Boxplots – Normal Curve and its Properties: Visual Representation

Unit III: Data Analysis with Power Bi

Introduction – Uploading Data – Introduction to Reports – Visual Interactions – Sharing a Dashboard

Unit IV: Assignments and Discussions

Students would be required to do assignments/ projects applying the concepts taught in the class using power Bi and MS Excel

Suggested Readings:

1. Berk, N. K., & Carey, P. (2010). *Data analysis with Microsoft excel: updated for office 2007*. Brooks/Cole, Cengage Learning.
2. Ferrari, A., & Russo, M. (2016). *Introducing Microsoft Power BI*. Microsoft Press.
3. Rowntree, D. (2018). *Statistics without tears - A primer for non-mathematicians*, Allyn and Bacon.
4. Levin, I.R., Rubin, S.D., Siddiqui, H.M., & Rastogi, S. (2014). *Statistics for Management, 7th Edn*, Pearson
5. Jelen, B. (2010). *Charts and Graphs: Microsoft Excel 2010*. Pearson Education India

Suggested Data Sources

1. https://data.worldbank.org/
2. https://www.statista.com/
3. https://data.gov.in/
4. https://censusindia.gov.in/
5. https://www.kaggle.com/
6. http://data.un.org/

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SEMESTER-I

Paper Code: BAECO 109	**Lectures** - 2, **Tutorial** -1
Paper: Basics of Excel and Data Analysis	**Total Credit** - 3
Internal Marks: 40	**External Marks:** 60
Mode of Exam: NUES	

Objectives: The course aims to introduce the students to the basics of Ms Excel and its applications data analysis.

Course Outcomes
CO1: To enable students understand the basic concepts of excel and data analysis
CO2: To equip students with basic data computational and presentation skills
CO3: To familiarize with data visualization in the form of charts and pivot tables
CO4: To equip students with basic data integration, manipulation, analysis and decision making skills

Unit I: Introduction to Excel
Excel and Spreadsheets: Running Excel Commands – Excel Workbooks and Worksheets – Worksheet Cells: Selecting a Cell, Moving Cells – Saving Work – Excel Add-Ins: Loading the StatPlus, Loading the Data Analysis ToolPak – Printing Worksheets: Formatting Margins, Headers, Footers, Page Setup

Unit II: Working With Data
Data Entry – Data Formats – Formulas and Functions: Inserting Simple Formula, Inserting an Excel Function – Cell References – Range Names –Sorting Data – Querying Data – Using Advanced Filter – Importing Data from Text Files – Importing Data from Databases – Data Consolidate Command

Unit III: Working with Charts and Tables
Introducing Excel Charts – Introducing Scatter Plots – Editing a Chart – Identifying Data Points: Selecting a Data Row, Labeling Data Points, Formatting Labels – Creating Bubble Plots – Breaking a Scatter Plot into Categories – Plotting variables – Using pivot tables

Unit IV: Assignments and Discussion
Students would be required to do a brief project/ assignment on the topics covered in the course

Suggested Readings:
1. Berk, N. K., & Carey, P. (2010). *Data analysis with Microsoft excel: updated for office 2007*. Brooks/Cole, Cengage Learning.
2. Alexander, M., Jelen, B. (2013). *Excel 2013 Pivot Table Data Crunching*. UnitedKingdom: Pearson Education.
3. Jelen, B. (2013). *Excel 2013 Charts and Graphs.* United Kingdom: Que
4. Wang, W. (2018). *Office 2019 For Dummies.* United States: Wiley. Microsoft

Suggested Data Sources:
The following data sets are suggested to carry out the activities
1. https://data.worldbank.org/
2. https://www.statista.com/
3. https://data.gov.in/
4. https://censusindia.gov.in/
5. https://www.kaggle.com/
6. http://data.un.org

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SEMESTER- II

Paper Code: BAECO102	**Lectures – 3, Tutorial –** 1
Paper: Principles of Macroeconomics	**Total Credits –** 4
Internal marks: 40	**External marks:** 60
Mode of Exam: UES	

Objective: *To enable the students to familiarize themselves with various issues and concepts in introductory macroeconomics.*

Unit – I: Introduction to Macroeconomics and Aggregate Demand

Introduction – Macroeconomic variables – Macroeconomic policy and tools – Circular Flow of Income – National income: measurement and issues – Real vs Nominal GDP – Aggregate demand and supply – National Income Accounting for an Open Economy – Balance of Payments

Unit – II: Consumption, Investment and Business Cycles

Consumption and investment function and determinants – Introduction to business cycle – Aggregate demand and business cycle – Fiscal policy and multiplier – Foundations of aggregate supply – Unemployment

Unit – III: Money and Inflation

Introduction to financial system – Money: definition and functions – Money demand and supply – Central bank and determination of interest rate – Monetary transmission mechanism – Money and prices in monetarist system – Inflation: types and impacts – Modern inflation theory.

Unit – IV: Closed Economy in the Short Run

Classical and Keynesian Systems – Balanced Budget Multiplier – Money, Interest and Income – Adjustment Mechanism – IS-LM Model – Monetary and Fiscal Policy – Policy Mix

Recommended Readings:

Dornbusch, R., Fischer, S., Startz, R. (2018). Macroeconomics, 12th ed. McGraw-Hill.

Abel, A., Bernanke, B. (2016). Macroeconomics, 9th ed. Pearson Education.

Blanchard, O. (2018). Macroeconomics, 7th ed. Pearson Education.

Mankiw, N. (2016). Macroeconomics, 9th ed. Worth Publishers.

Samuelson, P. A., & Nordhaus, W. D. (2010). *Economics* (19th ed.) McGraw-Hill.

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SEMESTER- II

Paper Code: BAECO104	**Lectures –** 3, **Tutorial –** 1
Paper: Basics of Statistics	**Total Credits –** 4
Internal marks: 40	**External marks:** 60
Mode of Exam: UES	

Course Objective: This course familiarizes students with the method of summarizing, describing and interpreting the data. And equip them with the practical knowledge of correlation analysis, index number, probability distributions etc.

Course Outcomes

CO 1: To familiarize students with the basic concepts of statistics and data description
CO 2: To understand the basic concept of probability theory and random events
CO 3: Equip students with practical understanding of statistical concepts and their economic applications
CO 4: Enable students to understand probability distributions and its properties

Unit I: Introduction
Introduction of Statistics – Diagrammatic Representation of Data – Types and Summarization of Data: Frequency Distribution and Graphical Presentation – Measures of Central Tendency – Measures of Dispersion and their properties – Moments, Skewness and Kurtosis, Quantiles

Unit II: Correlation and Index Numbers
Correlation Analysis – Karl Pearson Coefficient of Correlation and Rank Correlation Index Numbers: Properties and Application, Base Shifting, splicing and deflating

Unit III: Concepts of Probability
Permutation & Combinations, Introduction to Probability – Axiomatic Approach – Sample Space, Sample Point, Trials, Outcomes – Probabilities of Compound Events – Mutually Exclusive and Mutually Exhaustive Events

Unit IV: Probability Theory and Distributions
Conditional Probability – Independence of events – Baye's theorem and Application – Probability distribution – Normal, Uniform, Binomial and Poisson: Properties and Applications

Suggested Readings:
1. Miller, I., Miller, M.(2017). *J. Freund's Mathematical Statistics with Applications,* 8th ed. Pearson.
2. Devore, J.(2012).*Probability and Statistics for Engineers,*8th ed. Cengage Learning.
3. Hogg, R., Tanis, E., Zimmerman, D. (2021) *Probability and Statistical inference,* 10th Edition, Pearson.
4. S.C. Gupta and V.K. Kapoor. (2014). *Fundamentals of Mathematical Statistics*, Sultan Chand & Sons.
5. A.M. Goon, M.K. Gupta and B Dasgupta (2016). *Fundamentals of Statistics*, Vol.1, World Press (P) Ltd.
6. Feller, W. (1968). *An Introduction to Probability Theory & its Applications*, John Wiley.
7. Spiegel M.R, *Theory and Problems and Statistics*, *Schaum Outline Series*, 1989, second edition.

(Any other reading materials and case studies to be provided by the instructor in the class)

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SEMESTER- II

Paper Code: BAECO106	**Lectures -** 2, **Tutorial –** 1
Paper: IT Tools for Statistics in Economics – II	**Total Credit – 4**
Internal Marks: 40	**External Marks:** 60
Mode of Exam: NUES	

Course Objectives: The aim of the course is to introduce students to the functions, Data Visualization and Regression Analysis using MS Excel

Course Outcomes:
CO1: To familiarize students with basic quantitative skills required to understand and represent data
CO2: To enable students to understand functions and data visualization
CO3: To develop the understanding of basic regression analysis using Excel
CO4: To enable students to develop basic IT skills that help understanding and analyzing real world data using MS Excel

Unit I: Introduction to Functions and its Graphical Representations using MS Excel

Definition and Graphical Representation of a function – Vertical line test – Polynomial Functions – Exponential – Reciprocal and Logarithmic Functions – Slope of a function

Unit II:Correlation Analysis
Correlation Analysis with MS Excel: Measure and Interpretation of Correlation Coefficient and Coefficient of Determination – Scatter Plots

Unit III: Regression Analysis
Simple Linear Regression with MS Excel: Regression Equation, Fitting the Regression Line, Regression Functions in Excel – Performing a Regression Analysis

Unit IV:Assignments and Discussions
Students would be required to do a brief project/assignment applying the concepts taught in the class using MS Excel

Suggested Readings:
1. Berk, N. K., & Carey, P. (2010). *Data analysis with Microsoft excel: updated for office 2007*. Brooks/Cole, Cengage Learning.
2. Rowntree, D. (2018). *Statistics without tears - A primer for non-mathematicians*, Allyn and Bacon.
3. Levin, I.R., Rubin, S.D., Siddiqui, H.M., & Rastogi, S. (2014). *Statistics for Management, 7th Edn*, Pearson
4. Boundless Algebra : https://courses.lumenlearning.com/boundless-algebra/
5. Gujarati, D. N. (2022). *Basic econometrics*. Prentice Hall.

Suggested Data Sources
1. https://data.worldbank.org/
2. https://www.statista.com/
3. https://data.gov.in/
4. https://censusindia.gov.in/
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4-Year Bachelor of Arts in Economics **under 5 Year UG-PG Programme**

SEMESTER- II

Paper Code: BAECO108   **Lectures -** 2, **Tutorial –** 1
Paper: Introduction to Economics   **Total Credit –** 3
Internal Marks: 40   **External Marks:** 60
Mode of Exam: UES

Course Objectives: The course aims to introduce the students to the basic concepts of economics and its applications.

Course Outcomes

CO1: To impart the knowledge on basic concepts of economics.
CO2: To ensure that the students understand the application of basic concepts to the real world.
CO3: To enable students to comprehend the various economic parameters and policies
CO4: To enable students write short term assignments and seminar papers on economic concepts and applications

Unit I: Introduction

Positive and Normative Economics – Problem of Scarcity – Production Possibility Frontier – Role of Government – Adam Smith: Income Distribution – Karl Marx: Accumulation and Distribution – Keynes': Employment

Unit II: Introduction to Microeconomics

Demand and Supply – Law of demand – Law of supply – Market Equilibrium – Price Elasticity of Demand – Consumer Equilibrium – Introduction to Market structures: Perfect Competition, Monopoly, Oligopoly

Unit III: Introduction to Macroeconomics

Circular flow of Income – Gross Domestic Product: Definition and Calculation – Introduction to Monetary and Fiscal Policy

Unit IV: Assignments and Discussions
Students would be required to write a case study/brief project/assignment applying the economic theories and concepts taught in the class

Suggested Readings:

1. Karl E. Case and Ray C. Fair. *Principles of Economics*, Pearson Education Inc.
2. William J. Barber. *A History of Economic Thought*, Wesleyan University Press.
3. Richard G. Lipsey. Alec K. Chrystal. *Principles of Economics*. Oxford University Press.
4. Joseph E. Stiglitz and Carl E. Walsh. *Principles of Economics*, W.W. Norton & Company.

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SEMESTER-II

Paper Code: BAECO110	**Lectures**-2, **Tutorial**-1
Paper: Advance Excel and Data Analysis	**Total Credit** - 3
Internal Marks: 40	**External Marks:** 60
Mode of Exam: NUES	

Course Objectives: The course aims to introduce the students to advanced applications of Ms Excel.

Course Outcomes
CO1: To familiarize students with visual representation of data
CO2: To help students analyze data using spreadsheet functions and excel formulas
CO3: To enhance decision making using analysis tools in excel
CO4: To give students insights into real life decision problems through project work/assignment

Unit I: Data Description Techniques
Variables and Frequency Tables: Creating Frequency tables, Using Bins in a Frequency table, Defining your own Bin values – Working with Histograms: Shapes of Distributions – Working with Stem and Leaf Plots – Percentiles and Quartiles – Measures of Central Tendency – Measures of Variation – Skewness – Kurtosis

Unit II: Advanced Excel Functions
Functions in Excel – Logical Functions – Text Functions – Date and Time functions – Basic Statistical Functions – Mathematical Functions – LookUp and Reference Functions – Working With Array Formulas – Special Solutions with Formulas

Unit III: Decision making Analysis
Sensitivity Analysis with Data Tables – Optimisation with Excel Solver – Transportation/ Distribution Problems

Unit IV: Assignments and Discussion
Students would be required to do a brief project/assignment applying the concepts taught in the class using MS Excel

Suggested Readings:
1. Berk, N. K., & Carey, P. (2010). *Data analysis with Microsoft excel: updated for office 2007*. Brooks/Cole, Cengage Learning.
2. Held, B., Moriarty, B., & Richardson, T. (2019). *Microsoft Excel Functions and Formulas with Excel 2019/Office 365*. Mercury Learning and Information.
3. Winston, W. (2016). *Microsoft Excel data analysis and business modeling*. Microsoft press.

Suggested Data Sources:
The following data sets are suggested to carry out the activities
1. https://data.worldbank.org/
2. https://www.statista.com/
3. https://data.gov.in/
4. https://censusindia.gov.in/
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SEMESTER- II

Paper Code: BAECO112   **Lectures –** 4**, Tutorial –** 0
Paper: Economics, Society and Human Values   **Total Credits –** 4
Mode of Exam: NUES

Course Objectives: To create an awareness on economic ethics and human values and instill the knowledge and importance of cultural diversity, moral ethics, work integrity etc.

Course Outcomes
CO 1: To inculcate the knowledge of emotional, environmental and societal human values and their real life implications.
CO 2: To demonstrate the role of education and good health in the growth and development of the economy
CO 3: To enable understanding of economic problems and policy reforms for the betterment of society.
CO 4: To familiarize students with the role of ethics and human emotions for their holistic development

Unit1: Introduction
Problem of Scarcity and Choice – Opportunity Cost – Positive and Normative Economics – Basic-Needs Attainment – Human Development Index – Capability Approach

Unit II: Income distribution and Society
Inequality and Poverty – Education and Health – Dualistic Development and Lorenz Curve – Human Capital Approach – Child Labor – Gender Gap – Role of NGOs

Unit III: Society and Sustainable Development
Welfare State – Objectives of Society: Economic Efficiency, Inequality Reduction and Social Integration – Inclusive Growth – Sustainable Development Goals: Definition, Measures and Indicators

Unit IV: Ethics and Human Values
Meaning & Objective of Human Values – Morals, Values and Ethics – Integrity and Work Ethics – Virtues and Respect for others – Moral Dilemma – Moral development Theories – Relationship between Custom, Religion and Self Respect

Suggested Readings:
1. Mankiw, N.G. (2008) *Principles of Microeconomics,* (8th Edition).
2. Michael P. Todaro and Stephen C. Smith (2011), *Economic Development* (11th Edition).
3. Barr, Nicholas. *Economics of the Welfare State,* Oxford University Press, 2012.
4. Naagarazan, R.S, *A Textbook on Professional Ethics and Human Values,* New Age International Publisher
5. Amartya Sen, *On Ethics and Economics*, OxfoPaperbacks (OIP) , 1999
6. Basu, K. (2010). *Analytical development economics: the less developed economy revisited.* MIT press.
7. Sustainable Development Goal Report 2022 (https://unstats.un.org/sdgs/report/2022/)

(Any other reading materials and case studies to be provided by the instructor in the class)

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SEMESTER- III

Paper Code: BAECO201	**Lectures - 3, Tutorial – 1**
Paper: Intermediate Microeconomics – I	**Total Credits – 3**
Internal Marks: 40.	**External Marks:** 60
Mode of Exam: UES	

Objective: To enable the students to gain comprehensive understanding concepts and applications of consumer choices and production decisions.

Unit I – Consumer Theory I

Budget Constraint – Preference – Utility – Choice – Demand – Income and Substitution Effect – Slustky equation

Unit II – Consumer Theory II

Revealed Preference – Buying and Selling – Intertemporal Choice – Uncertainty: Risk Aversion and Choice

Unit III – Production and Costs

Production Functions: Isoquants. Returns to Scale, Elasticity of Substitution – Cost Function: Short Run and Long Run – Cost minimization – Shephard's Lemma

Unit IV – Profit Maximization and Perfect competition

Profit maximization – Input Demand – Supply Curve: Short Run and Long Run – Industrial Equilibrium: Short Run and Long Run – Perfect Competition: Characteristics and Equilibrium

Recommended Readings:

1. Varian, H. R. (2014). Intermediate Microeconomics: A Modern Approach, W.W. Norton and Company, 9th ed.
2. Nicholson, W., & Snyder, C. M. (2012). Microeconomic theory: Basic principles and extensions. Cengage Learning, 11th ed.
3. B. Douglas Bernheim and Michael D. Whinston (2009). Microeconomics, McGraw-Hill
4. Varian, H. R. (2014). Intermediate microeconomics with calculus: A Modern approach. WW Norton & company.
5. Bergstrom, T.C., & Varian, H.R. (1990). Workouts in intermediate microeconomics. W.W. Norton.
6. Pindyck, R. and Rubinfeld, D. (2014). Microeconomics, Pearson

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SEMESTER- III

Paper Code: BAECO203	**Lectures- 3, Tutorial-1**
Paper: Mathematical Methods for Economics-I	**Total Credit - 4**
Internal Marks: 40.	**External Marks: 60**
Mode of Exam: UES	

Objective: The aim of this paper is to acquaint the student with the understanding of basic mathematical techniques required in the understanding of economic theory.

Unit – 1: Functions of one real variable

Functions: properties, operations and applications – Differentiability and continuity – Economic applications – Single variable optimization

Unit – 2: Functions of several real variables

Geometric representations and level curves – Differentiable functions: properties and applications – Higher order derivatives – Implicit function theorem – Young's theorem – Homogeneous and homothetic functions

Unit – 3: Multi-variable optimization

Introduction to optimization – Convex sets – Concavity and convexity of functions – Quasi-concave and quasi-convex functions – Unconstrained optimization – Constrained optimization with equality constraints – Lagrange characterization – Envelope theorem – Roy's identity – Shephard's lemma

Unit – 4: Integration, Differential Equations and Difference Equation

Areas under curves – Indefinite and definite integrals – First order difference equations – First-order differential equations – Integral curve – Direction diagram and slope field – Phase Diagram and Stability – Economic applications

Recommended Readings:

1. Sydsaeter, K.,& Peter Hammond (2005). Mathematics for Economic Analysis, Prentice Hall.
2. Simon, C. P., & Blume, L. (2010). Mathematics for Economists, Viva Books: New Delhi.
3. Mukherjee, A., & Subrata, G. (2010). Mathematical Methods and Economic Theory. Oxford University Press: New Delhi.
4. Sherbert, D. R., & Bartle, R.G.(2014). Introduction to Real Analysis (4th ed.). Wiley.
5. Strang, G.(2007). Linear Algebra and Its Applications (4th ed.). Cengage Learning
6. Axler, S. (2014). Linear Algebra Done Right (3rd ed.). Springer Nature

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SEMESTER- III

Paper Code: BAECO 205	**Lectures- 3, Tutorial-1**
Paper: Statistical Methods for Economics	**Total Credit - 4**
Internal Marks: 40	**External Marks: 60**
Mode of Exam: UES	

Objective: To familiarize the students with the concepts of distribution theories, sampling theories and hypothesis testing.

Unit – I: Theory of Distribution
Random Variables – Probability distribution – Expected values and functions of random variables – Discrete and Continuous Distribution: Normal – Bernoulli – Binomial – Poisson – Negative binomial – Uniform – Chi square – Exponential distribution - Random Sampling – Jointly distributed Random Variables

Unit – II: Sampling
Census and sample survey – Sample selection methods – Simple random sampling with and without replacement – Systematic sampling – Properties of estimates and their variances.

Unit – III: Point and Interval Estimation
Point estimation – Properties of estimators – Cramer-rao inequality - Methods of estimation and their properties – Introduction to methods of moments – Least squares – Maximum likelihood – Interval estimation – Confidence interval

Unit – IV: Hypothesis Testing
Null and alternative hypothesis – Critical region – Type-I and Type-II errors – Level of significance – p-value – Power of test – ANOVA – Inferences based on mean and variance – One way classification

Recommended Readings:
1. John E. Freund (2021) Mathematical Statistics: With Applications, 8th ed. Pearson Education: India.
2. Miller, I., Miller, M. (2017). J. Freund's mathematical statistics with applications, 8th ed. Pearson.
3. Devore, J. (2012). Probability and statistics for engineers, 8th ed. Cengage Learning.
4. Ramachandran, K. M., &Tsokos, C. P. (2009). Mathematical Statistics with Applications, Elsevier Academic Press: USA.
5. Spiegel, M. R. (1989). Schaum's Outline of Theory and Problems in Statistics, McGraw-Hill Education.

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SEMESTER- III

Paper Code: BAECO207	**Lectures** – 3**, Tutorial** – 1
Paper: Environmental Economics	**Total Credits** – 4
Internal marks: 40	**External marks:** 60
Mode of Exam: UES	

Course Objective: To enable the students to familiarize themselves with the essential concepts, models and issues of environmental economics and recent global effects on environmental problems.

Course Outcomes

CO 1: To familiarize students with important concepts in environmental economics
CO 2: To enable students to gain comprehensive understanding of basic environment issues
CO 3: To familiarize the student with concepts of sustainable development
CO 4: To develop the understanding of environment policy and important policy tools

Unit I: Introduction
Introduction – Nature and Scope – Economy & Environment Interdependence –Welfare Economics and Environment – Pareto Optimality – Externalities – Market Failure – Public Good – Public Bad

Unit II: Environmental Regulation
Property Rights – Coarse Theorem – Pricing Emissions: Pigouvian Taxes, Affluent Fees and Tradable Permits – Choice between Taxes and Quota Under Uncertainty – Environmental Policy

Unit III: International Environment Problems
Global Concerns – Trans-Boundary Environmental Problems – Economics of Climate Change – Global Climate Change: Policy Responses – Trade and Environment: Price Differentials, Arbitrage and Trade

Unit IV: Sustainable Development
Environment and Development – Sustainable Development – Concept and Indicators – Sustainable Accounting – Environment and People – Political Economy of Sustainable Development

Suggested Readings:
1. Kolstad, C. (2010). *Intermediate environmental economics*, 2nd ed. Oxford University Press.
2. Perman, R., Ma, Y., McGilvray, J., Common, M. (2011). *Natural resource and environmental economics*, 3rd ed. Pearson Education/Addison Wesley
3. Bhattacharya, n. Rabindra(2002).*Environmental Economics: An Indian Perspective*. Oxford University Press
4. Stavins, R. (ed.) (2012). *Economics of the Environment: Selected readings*, 5th ed. W. W. Norton
5. Jonathan Harris and Brian Roach (2018). *Environmental and Natural Resource Economics: A Contemporary Approach*, Routledge
6. Aldy, J. et al. (2010). Designing climate mitigation policy. *Journal of Economic Literature*, 48, 903-934.
7. Heal, G. (2012). Reflections – defining and measuring sustainability. *Review of Environmental Economics and Policy*, 6, 147-163.

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SEMESTER- III

Paper Code: BAECO209   **Lectures –** 3**, Tutorial –** 1
Paper: History of Economic Thought   **Total Credits –** 4
Internal marks: 40   **External marks:** 60
Mode of Exam: UES

Course Objective: To enable the students to familiarize themselves with various issues and concepts of theories of economic thoughts such as the classical, neoclassical, Keynes and the Marx theory.

Course Outcomes

CO 1: To familiarize students with classical theories of growth and distribution
CO 2: To enable students understand the Marx theory of value and income distribution
CO 3: To enable students comprehend the theories of neoclassical economists
CO 4: To familiarize students with Keynesian school of thought

Unit I: Classical Theories of Value, Growth and Distribution
Smith and Ricardo Theory of Value – Classical Theory of Growth and Development –Income Distribution –Monetary Theory – Role of the Government

Unit II: Marx theory of Value and Distribution
Labour Theory of Value –Theory of Money –Distribution –Theory of Capitalist Crises

Unit III: Marginalist and Neoclassical Economics
Alfred Marshall: Principles of Economics – Leon Walras: Elements of Pure Economics – Irvin Fisher: The rate of interest and Purchasing Power Parity– Knut Wicksell: The Influence of the Rate of Interest on Prices

Unit IV: Keynes vs Old Classical School
Introduction - Employment and Output Determination – Keynes Analysis of the Labour Market – Quantity Theory of Money – Depression and Business Cycle- New Keynesian school

Suggested Readings:

1. O'Brien, D. P. (2004). *The Classical Economists Revisited*, Oxford University Press.
2. Foley, D. (1986). *Understanding Capital: Marx's Economic Theory*, Harvard University Press
3. Medema, S. and Samuels, W. (2003). *The History of Economic Thought: A Reader*, Routledge.
4. Snowdon,B. and Vane, H. (2005). *Modern Macroeconomics*, Elgar Publishers
5. Keynes, J. M. (2005). *General Theory of Employment, Interest and Money*, Prometheus Books.

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SEMESTER- III

Paper Code: BAECO211   **Lectures – 3, Tutorial – 1**
Paper: International Relations and Organizations   **Total Credits – 4**
Internal marks: 40   **External marks:** 60
Mode of Exam: UES

Course Objective: To enable the students to familiarize themselves with the theories, issues and recent debates in the areas of international economics.

Course Outcomes
CO 1: To introduce students with origin of International Institutions
CO 2: To familiarize students with important global organizations
CO 3: To enable students to understand the theories of regionalism and regional organization
CO 4: To familiarize students with Indian foreign policy

Unit I: History of Institutions
Introduction – Need of International Organizations – The Origins of International Organizations and Developments in the 19th Century

Unit II: Global Organizations
United Nations – The GATT System – World Trade Organization – Bretton Woods Institutions: IMF – World Bank – Roles and Issues – Future of International Organizations

Unit III: Regional Organizations
Origins – Dynamics and Principles of Regionalism – European Union – Regional Organizations in Asia – ASEAN – SAARC – SCO

Unit IV: India and the World
Indian Foreign Policy – India and the Global Centers of Power: USA, China and Russia

Suggested Readings:
1. Michael Barnett and Martha Finnemore, *Rules for the World: International Organizations in Global Politics* (Cornell University Press, 2004).
2. Daniel W. Drezner, All Politics is Global: Explaining International Regulatory Regimes (Princeton University Press, 2008).
3. Margaret P. Karns, Karen A. Mingst and Kendall W. Stiles, *International Organizations: The Politics and Processes of Global Governance* (2015).
4. Ian Hurd, " The World Trade Organization" from his *International Organizations:Politics, Law, Practice* (3rd edition, 2018).
5. Kristen Hopewell, *Breaking the WTO* (Stanford University Press, 2016), pp. 77-104.
6. Two short and recent pieces from *The Washington Post/Monkey Cage* (December2019).
7. Ragi, Sangit K. et.al. (2018), Imagining India as a Global Power: Prospects and Challenges, Oxon and New York, Routledge.
8. Ian Hall (ed) (2014), The Engagement of India: Strategies and Responses, Washington, DC, Georgetown University Press.
9. Muchkund Dubey, (2016), India's Foreign Policy: Coping with the Changing World, New Delhi, Orient BlackswanPvt. Ltd.
10. Harsh V. Pant (ed) (2019), New Directions in India's foreign Policy: Theory and Praxis,   New Delhi: Cambridge University Press.
11. S. Mehrotra, (1990) 'Indo-Soviet Economic Relations: Geopolitical and Ideological Factors', in India and the Soviet Union: Trade and Technology Transfer, Cambridge University Press: Cambridge, pp. 8-28.

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12. R. Hathaway, (2003) 'The US-India Courtship: From Clinton to Bush', in S. Ganguly (ed.), India as an Emerging Power, Frank Cass: Portland.

13. A. Singh, (1995) 'India's Relations with Russia and Central Asia', in International Affairs, Vol. 71 (1): 69-81.

14. M. Zafar, (1984) India and the Superpowers: India's Political Relations with the Superpowers in the 1970s, Dhaka, University Press.

15. R. Rajgopalan and V. Sahni (2008), 'India and the Great Powers: Strategic Imperatives, Normative Necessities', in South Asian Survey, Vol. 15 (1), pp. 5–32.

16. C. Mohan, (2013) 'Changing Global Order: India's Perspective', in A. Tellis and S. Mirski (eds.), Crux of Asia: China, India, and the Emerging Global Order, Carnegie Endowment for International Peace: Washington.

17. A. Narlikar, (2006) 'Peculiar Chauvinism or Strategic Calculation? Explaining the Negotiating Strategy of a Rising India', in International Affairs, Vol. 82 (1), pp. 59-76.

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SEMESTER-III

Paper Code: BAECO213	**Lectures**-2, **Tutorial**-1
Nomenclature of the Paper: Stock Market and Investment Planning	**Total Credit** - 3
Internal Marks: 40	**External Marks:** 60
Mode of Exam: NUES	

Course Objectives: The course aims to introduce the students to the basic functioning of Indian Stock market and familiarise them with various investment options and investor rights.

Course Outcomes
CO1: To introduce students to stock markets and basics of investment
CO2: To give students an insight into income stream evaluation
CO3: To familiarize students with equity valuation concepts and procedure
CO4: To equip students with grievance redressal mechanism and make them aware of investor rights

Unit I: Introduction to Stock markets and Investment
The Investment Decision Process – Types of Investments: Commodities, Real Estate and Financial Assets – Indian Securities Market – Market Participants – Trading of Securities – Security Market Indices – Sources of Financial Information – Return and Risk: Concept, Calculation – Trade off between Return and Risk – Impact of Taxes and Inflation on Returns

Unit II: Valuation of Fixed income securities
Fundamentals of Investment Bonds – Estimating Bond Yields – Bond Valuation – Default Risk and Credit Rating

Unit III: Equity Analysis and Valuation
Fundamental Analysis of Securities – Technical Analysis of Securities – Efficient Market Hypothesis – Valuation of Equity Shares: Dividend Capitalisation Models and Price Earnings Approach

Unit IV: Investor Protection
SEBI & Role of Stock Exchange in Investor Protection – Investor Grievances and Redressal System – Insider Trading – Investor Awareness

Suggested Readings:
1. Tripathi, V. *Fundamentals of Investment.*Taxmann Publication, New Delhi.
2. Avadhani, V. A. *Investment Management.* Himalaya Publishing House Pvt. Ltd., Mumbai.
3. Chandra, P. *Investment Game: How to Win.* Tata McGraw Hill Education, New Delhi.
4. Milling, B. E. *The Basics of Finance: Financial Tools for Non-Financial Managers.* Universe Company, Indiana,
5. Zokaityte, A. *Financial Literacy Education.* Palgrave Macmillan, London.
6. Indian Institute of Banking & Finance. *Introduction to Financial Planning.*Taxmann Publication, New Delhi.
7. Pandit, A. *The Only Financial Planning Book that You Will Ever Need.* Network 18 Publications Ltd., Mumbai.
8. Sinha, M. *Financial Planning: A Ready Reckoner.* McGraw Hill Education, New York.
9. Mittra, S., Rai, S. K., Sahu, A. P., & Starn, H. J. (2020). *Financial Planning.* Sage Publications India Pvt. Ltd., New Delhi.
10. Kothari, R. (2010). *Financial Services in India-Concept and Application.* Sage Publications India Pvt. Ltd., New Delhi.

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4-Year Bachelor of Arts in Economics **under 5 Year UG-PG Programme**
SEMESTER-III

Paper Code: BAECO215   **Lectures** - 2, **Tutorial** -1
Nomenclature of the Paper: Data Analysis with 'R'   **Total Credits:** 3
Mode of Exam: NUES   **Total Marks:** 100

Course Objectives: The objective of the course is to familiarize students with 'R' programming language and software environment for data manipulation, exploratory data analysis and data visualizations.

Course Outcomes
CO1: To impart the knowledge on basic concepts of R programming.
CO2: To familiarize students with different data types and data transformation.
CO3: To enable students to manipulate, explore and analyse data using R
CO4: To enable students to create and save R program files and write assessment reports based on the analysis

Unit I: Introduction to R Ecosystem

History of R, R packages, CRAN – Overview of R Coding Tools: RStudio – Basic Syntax: Constant, Operators, Functions, Variables, Loops – Data Types and Data Structures in R: Cross Section, Time Series, Panel – Data Analysis – Descriptive Statistics – Analysis of Variance – Correlation

Unit II: Data Transformation and Visualization using R

Data Transformation: Converting Numeric Variables into factors, data operations, string parsing, geocoding – Data Cleaning: Missing Values, data imputations, duplicates, outliers, spelling – Exploratory Analysis with basic graphic tools: Box Plots, Bar Charts, Line Plots, Heat Maps – Customize Plot axes, labels, legends, colours

Unit III: Introduction to Causal Analysis

Introduction – Linear Regression – Categorical Variables – Logistic Regression – Estimation, Interpretation, Hypothesis

Unit IV: Assignments and Discussions

The students would be required to do assignments and case studies applying the concepts discussed in the class

Suggested Readings:
1. Everitt, Brian S., and Hothorn, Torsten. *A Handbook of Statistical Analyses Using R*. United States, CRC Press, 2006.
2. Seema Acharya. *Data Analytics Using R*, Mc Graw Hill, 2018.

Suggested Case Studies and Data Sets
Dua, D. and Graff, C. (2019). UCI Machine Learning Repository [http://archive.ics.uci.edu/ml].
Irvine, CA: University of California, School of Information and Computer Science.

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Guru Gobind Singh Indraprastha University

4-Year Bachelor of Arts in Economics **under 5 Year UG-PG Programme**

(Semester IV)

Paper Code: BAECO202   Lectures - 3, Tutorial- 1
Paper: Intermediate Macroeconomics – I   Total Credits – 4
Internal Marks: 40   External Marks: 60
Mode of Exam: UES

Objective: To familiarize students with the concepts of monetary and fiscal policies, labour market and role of expectations in determination of macroeconomic variables.

Unit I – Income and Output

Income and Spending – Balanced Budget Multiplier – Money, Interest and Income – Adjustment Mechanism – Monetary and Fiscal Policy – Policy Mix

Unit II – Aggregate Demand and Aggregate Supply

Aggregate Demand: Derivation, Policies – Quantity Theory and Neutrality of Money – Aggregate Supply: Derivation, Policies – Sticky Wages – Supply Shocks

Unit III – Wages, Inflation and Unemployment

Labour Market – Wage Determination – Price Determination – Natural Rate of Unemployment – Inflation – Phillips Curve: Short Run and Long Run

Unit IV – Expectations and Dynamics

Rational Expectations – Adaptive Expectations – Introduction to IS-LM-PC Model – Monetary Policy Ineffectiveness – New Keynesian Ideas

Recommended Readings:
1. Dornbusch, R & Fischer, s. (1994). Macroeconomics, McGraw Hill, 6th ed.
2. Olivier Blanchard. (2017). Macroeconomics, Pearson Education, Inc. 7th ed.
3. Steven Sheffrin. (1996). Rational Expectations, 2nd edition, Cambridge University Press.
4. Dornbusch, R. Fischer, S. and Startz, R. (1994). Macroeconomics, McGraw Hill, 10th ed.

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Guru Gobind Singh Indraprastha University
4-Year Bachelor of Arts in Economics **under 5 Year UG-PG Programme**
(Semester IV)

Paper Code: BAECO204   **Lectures – 3, Tutorial –** 1
Nomenclature of the Paper: Introduction to Econometrics   **Total Credits –** 4
Internal marks: 40   **External marks:** 60
Mode of Exam: UES

Objective: To familiarize the students with basic econometric concepts and techniques, estimation, and diagnostic checks.

Unit I – Review of Statistics
Scope of Econometrics – Review of Statistics – Probability Distributions – Normal – t and F – Chi-square – Expected Value and Variance – Parameter Estimation – Interval Estimation – Hypothesis Testing

Unit II – Simple Linear Regression
Introduction – OLS Parameter estimation – Properties – Units of Measurement and Functional form – Gauss -Markov assumptions – Goodness of Fit – Hypothesis Testing – Data Analysis with Statistical Softwares (Lab 1)

Unit III – Multiple Linear Regression
Parameter Estimation – Partial Regression coefficients – Hypothesis Testing: Individual and Joint – R^2 and Adjusted R^2 – Qualitative Independent variables – Model Specification – Data Analysis with Statistical Softwares (Lab 2)

Unit IV – Violation of Classical Linear Assumptions: Consequences, Detection, Remedies
Heteroscedasticity – Autocorrelation – Multicollinearity – Data Analysis with Statistical Softwares (Lab 3)

Recommended Readings:
1. Wooldridge, J. M. (2013). Introductory econometrics: A modern approach, Nelson Education, 5th ed.
2. Stock, J. H., & Watson, M. W. (2007). Introduction to Econometrics, Prentice Hall
3. Angrist, J. (2015), Mastering 'Metrics: The path from Cause to Effect, Princeton University Press, 2015
4. Gujarati, D. N., & Porter, D. C. (2009). Essentials of Econometrics, Mc Graw Hill, 4th ed.
5. Karmel, P.H. and. Polasek, M. (1978), Applied Statistics for Economists, Pitman, 4th ed.

Books for Reference:
1. Dougherty, C. (2011). Introduction to econometrics. Oxford University Press.
2. Freund, J. E., & Miller, I. (2004). John E. Freund's Mathematical Statistics: With Applications. Pearson Education India.
3. Kmenta, J. Elements of econometrics. 1986. New York: Macrmillan.

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Guru Gobind Singh Indraprastha University
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SEMESTER-IV

Paper Code: BAECO 206	**Lectures – 3, Tutorial – 1**
Paper: Development Economics	**Total Credits – 4**
Internal marks: 40	**External marks: 60**
Mode of Exam: UES	

Objective: To familiarize the students with the concepts and models of growth and development, its importance and relevance for the underdeveloped and developing economies, contemporary issues and the underlying development strategies.

Unit I – Introduction to Growth and Development

Meaning – Determinants – Measurement – Difference between Growth and Development – Characteristics Developing Economies – Human Development Index– Limitation of GNP as a measure for Development

Unit II – Theories of Economic Development

Classical Theories: Smith, Ricardo, Malthus – Marx's Capitalist Theory – Rostow's Stages of Economic Growth – Harrod-Domar Growth Model – Balanced vs. Unbalanced Growth – Lewis Theory of Development – Solow Neoclassical Growth Model – Endogenous Growth Theory

Unit III – Poverty and Inequality

Poverty: Meaning and Types – Poverty Measurement – Inequality Axioms– Income Inequality – Lorenz Curve – Vicious circle of poverty– Poverty Alleviation Scheme

Unit IV – Contemporary Issues

Role of the States – State vs Market – Foreign Aid and FDI –Internal and External Balance of Payment – Role of SHGs and Microfinance – Gender Issues and Budgeting– Globalisation– Sustainable Development

Recommended Readings:
1. Ray, D (2009). Development Economics. Oxford University Press
2. Todaro, M.P., & Smith, S.C (2011). Economic Development, Pearson Education
3. Nafziger, E.W. (2006). Economic Development, Cambridge University Press.
4. Thirlwall, A.P. (2005). Growth and Development: With Special References to Developing Economies, Palgrave Macmillan

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SEMESTER-IV

Paper Code: BAECO208   **Lectures -** 3**, Tutorial –** 1
Nomenclature of the Paper: Basics of Game Theory   **Total Credit –** 4
Internal Marks: 40   **External Marks:** 60
Mode of Exam: UES

Course Objectives: The aim of the course is to introduce students to the fundamentals of game theory including basic concepts, techniques, various ways of solving and describing games

Course Outcomes

CO1: To introduce students to basic tools and elements of game theory analysis
CO2: To help students understand of strategic model and their real world applications
CO3: To familiarize students with Simultaneous and Sequential games
CO4: To enable studentsanalyze different situations as games and help predict optimal strategies of players

Unit I:Introduction
Elements of Game Theory – Normal Form games – 2 Player Strategy games – Payoffs, dominant strategy: Weak and Strong, pure strategy – Nash Equilibrium – Multiple Nash Equilibrium – Matching Pennies – Prisoner's Dilemma – Battle of Sexes

Unit II:Mixed strategy Games
Mixed strategy Nash Equilibrium – Extensive form representation of games with Perfect Information – Cournot Duopoly – Bertrand Duopoly – Best Response Functions

Unit III: Sequential Games
Elements of Sequential Games – Game tree – Backward Induction – Subgame Perfect Equilibrium – Introduction to Repeated Games

Unit IV: Assignments and Projects
Students would be required to write a case study/brief project/assignment applying the game theoretic approach and concepts

Suggested Readings:
1. Varian, H. (2010). *Intermediate microeconomics: A modern approach*, *8th ed.* W. W. Norton.
2. Snyder, C., Nicholson, W. (2010). *Fundamentals of microeconomics.* Cengage Learning
3. Bergstrom, T., Varian, H. (2014). *Workouts in intermediate microeconomics*. W. W. Norton
4. Varian, H. R. (2014). *Intermediate microeconomics with calculus: a modern approach*. WW norton& company.
5. Osborne, M. (2004). *An introduction to game theory*. Oxford University Press.

*Prerequisites: There is no prerequisite for this course. But students should be comfortable with mathematical notation and formal reasoning.

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SEMESTER-IV

Paper Code: BAECO210   **Lectures**-3, **Tutorial**-1
Nomenclature of the Paper: Economics of Intellectual Property Rights   **Total Credit** - 4
Internal Marks: 40   **External Marks:** 60
Mode of Exam: UES

Course Objectives: The course aims to introduce the students to the concepts of Intellectual Property Rights and their economic rationale

Course Outcomes:
CO1: To familiarize students with the economic theory of property and copyrights
CO2: To enable students understand the economic concepts of Trademarks and Trade secrets
CO3: To enable students understand the economics of Patent Law
CO4: To help students understand the contemporary economic issues in Intellectual Property Rights

Unit I: The Economic Theory of Property and Copyrights
Introduction to IPR – Cost Benefit Tradeoff – Paper versus Possessory Titles – Copyright Protection – Copyright Law – Formal Model of Copyright – Price of Copy – Welfare Effects of –Derivative Works – Fair Use of Unpublished Material

Unit II: The Economics of Trademark Law
Economic Function of Trademarks – Social Costs – Formal Model of Economics of Trademarks – Acquisition, Transfer, and Duration – Dilution, Blurring, and Tarnishment: Trademark Propertized – The Optimal Duration of Copyrights and Trademarks – The Benefits of Time-Limited Copyrights

Unit III: The Economics of Patent Law and Trade Secrecy Law
Introduction to Patent Laws – Economic Logic of Patents and Patent Laws – Social Cost-Justification – Incentives for Trade Secrecy – Welfare Effects of Trade Secrecy vs Patent Protection – Limitations of Trade Secrecy Law – Antitrust and Intellectual Property in the New Economy

Unit IV: Assignments and Discussions

Suggested Readings:
1. Landes, W. M., & Posner, R. A. (2003). *The economic structure of intellectual property law.* Harvard university press.
2. Tewari, Rupinder & Bhardwaj, *Mamta Intellectual property: A primer for academia.* Publication Bureau, Punjab University, Chandigarh.
3. Pandey, N., & Dharni, K. (2014). *Intellectual property rights*. PHI Learning Pvt.Ltd..
4. Lokganathan, E. T. *Intellectual property rights (IPRs): TRIPS agreement and Indian laws: copyright, trade marks, geographical indications, industrial designs, patents, layout-designs, trade secrets.*
5. Ahuja, V. K. (2019). *Law relating to intellectual property rights*. Lexis Nexis.
6. Posner, R. A. (2005). Intellectual property: The law and economics approach. *Journal of Economic Perspectives, 19(2),* 57-73.
7. Ilie, L. (2014). Intellectual property rights: an economic approach. *Procedia Economics and Finance, 16,* 548-552.

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Guru Gobind Singh Indraprastha University
4-Year Bachelor of Arts in Economics **under 5 Year UG-PG Programme**
SEMESTER-IV

Paper Code: BAECO212   **Lectures**-3, **Tutorial**-1
Nomenclature of the Paper: Basics of Financial Economics   **Total Credit** - 4
Internal Marks: 40   **External Marks:** 60
Mode of Exam: UES

Course Objectives: The course aims to introduce the students to the basic concepts of financial investment and their applications.

Course Outcomes
CO1: To enable students develop an understanding of investment concepts
CO2: To enable students develop skills in analyzing various types of securities
CO3: To help students understand concept of market efficiency
CO4: To introduce students to basic trading in stock market

Unit I: Basics of Investment and Time Value of Money
Nature and Scope of Investment management – Types of Assets – Time Value of Money: Concept and Rationale – Valuation Techniques: Discounting and Compounding – Applications of Time Value of Money

Unit II: Introduction to Risk and Return
Return and Risk – Systematic and Unsystematic Risk – Sources of Risk – Measurement of Risk and Return –Fixed Income Securities: Bonds, Preference Shares

Unit III: Bond Analysis
Valuation and Duration of Bonds – Theory of Interest Rates – Yield Curve – Bond Innovations and their Valuation

Unit IV: Security Analysis.
Fundamental Analysis: Analysis of Economy, Industry Analysis, Company Analysis – Dow's Theory, Charts – Efficient Market Hypothesis and its Implications – Tax Aspects of Investment – Securities Trading Procedure

Suggested Readings:
1. Avadhani, V. A. (2022). *Investment Management.* Himalaya Publishing House Pvt. Ltd., Mumbai.
2. Bhattacharya. (2021). *Indian Financial System.* Oxford University Press.
3. Chandra, P. (2018). *Investment Game: How to Win.* Tata McGraw Hill Education, New Delhi.
4. Milling, B. E. (2001). *The Basics of Finance: Financial Tools for Non-Financial Managers.* Universe Company, Indiana.
5. Sofat, R., & Hiro, P. (3rd Edition). (2016). *Basic Accounting.* PHI learning
6. Zokaityte, A. (2017). *Financial Literacy Education.* Palgrave Macmillan, London.

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