

FACULTY OF ECONOMICS & BUSINESS

SYLLABUS

For

**Bachelor of Science (Economics) Honours
Four-Year Degree Program**

(Semester I-IV)

(Under Credit-Based Continuous Evaluation Grading System)

(12+3 System of Education)

Session: 2025–26



**The Heritage Institution
Kanya Maha Vidyalaya, Jalandhar
(Autonomous)**

Bachelor of Science (Economics) Semester–I

Session 2025-26

Course Code: BECL-1175

Economics (Microeconomics)

Course outcomes:

After passing this course, students will be able to

CO1: describe and apply the methods of analyzing consumer behavior through demand and supply, elasticity and utility.

CO2: learn about the various cost and revenue curves and the production function.

CO3: learn about various market structures.

CO4: understand various theories of rent, interest, profit, and distribution.

Bachelor of Science (Economics) Semester I
Session 2025-26
Course Code: BECL-1175
Economics (Microeconomics)

Time: 3 Hours

L-T-P (Credits):4-0-0
Max. Marks: 100
Theory: 70
CA: 30

Note: Instructions for the Paper Setter:

Two questions, each carrying 14 marks, from each of the Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT-I

Introductory: Definition of Economics, Nature, Scope, and Assumptions of Microeconomics. Demand Function, Supply Function, Price Determination, Elasticity of Demand – Price, Income and Cross elasticities and their Measurement.

Utility Analysis: Law of Diminishing Marginal Utility and Law of Equi-Marginal Utility, Indifference Curve Analysis and Revealed Preference Analysis (Meaning and Equilibrium).

UNIT-II

Theory of Production and Costs: Concept of Production Function. Laws of Returns to Scale and Returns to Factor

Cost: Concepts and Cost Curves in the short and in the long run; Traditional and Modern Cost Theories, Revenue Curves and their relationship with the elasticity of demand.

UNIT-III

Market forms: Perfect Competition- Assumptions, Price and Output determination of firm and Industry in the short run and long run; Monopoly- Assumptions and Equilibrium.

Monopolistic Competition- Assumptions and Equilibrium (except Group Equilibrium).

UNIT-IV

Marginal Productivity Theory; Factor pricing (with reference to labour) under Perfect Competition and Imperfect Competition, Modern Theory of Distribution.

Rent: Concept, Ricardian Theory and Modern Theory of Rent.

Interest: Concept, Classical Theory, Loanable Funds Theory.

Profit: Concept, Risk and Uncertainty Theories.

Case Study: Elasticity of Demand and Monopolistic Competition

Suggested Readings:

1. Ahuja, H.L. (2018), *Advanced Economics Theory: Micro Economics analysis*, S. Chand Publishing, New Delhi
2. Dwivedi, D.N. (2018), *Microeconomics: Theory and Applications*, Pearson Education, New Delhi.
3. Koutsoyiannis, A. (2015), *Modern Microeconomics*, Macmillan Press, London.
4. Sen, A. (2007), *Microeconomics: Theory and Applications*, Oxford University Press, New Delhi.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester –II
Session 2025-26
Course Code: BECL-2175
Economics (Macroeconomics)

Course outcomes:

After passing this course, students will be able to:

- CO1:** learn the determination of equilibrium in the economy using Classical and Keynesian models and understand the consumption behaviour of an economy.
- CO2:** understand the investment behaviour of an economy and different theories of the trade cycle.
- CO3:** understand the nature and functions of money and the role of financial markets and institutions in the economy.
- CO4:** understand the causes and solution to the problem of inflation and study the macroeconomic policies.

Bachelor of Science (Economics) Semester –II
Session 2025-26
Course Code: BECL-2175
Economics (Macroeconomics)

Time: 3 Hours

L-T-P (Credits):4-0-0
Max. Marks: 100
Theory: 70
CA: 30

Note: Instructions for the Paper–Setter:

Two questions, each carrying 14 marks, from each of the Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT–I

Distinction between Micro and Macro Economics; Say's Law of Market and Aggregate Demand and Aggregate Supply, Determination of Income and Employment: Classical and Keynesian Models. Consumption Functions; average (short-run and long-run) and marginal propensity to consume; Keynes' Psychological Law of Consumption, Multiplier: Meaning and its working.

UNIT–II

Investment: Meaning, Investment Demand Schedules and factors affecting investment decisions. Marginal Efficiency of Capital, Accelerator, Multiplier-Accelerator Interaction. Trade cycles- Meaning, Characteristics and Phases, Samuelson and Hicks Models of Trade Cycles.

UNIT–III

Money: Its functions and role. Money and Capital Markets (Introductory); Quantity Theory of Money: Fisher's and Cambridge's Equations, Liquidity Preference Theory. Banking: Meaning and Functions of Commercial and Central Banks, Credit Creation and Credit Control.

UNIT–IV

Inflation: Concept, Causes and Cures. Inflation-unemployment Trade-off (only Phillips' contribution). Macroeconomic Policies: Fiscal Policy – meaning, objectives and instruments. Monetary Policy- meaning, objectives and instruments.

Case Study: Monetary and Fiscal Policy of India

Suggested Readings:

1. Shapiro E. (2013), *Macroeconomic Analysis*, Galgotia Publications.
 2. Dwivedi D.N. (2018), *Macroeconomics: Theory and Policy*, Tata McGraw-Hill, New Delhi.
- Note: The latest editions of the books are recommended.*

Bachelor of Science (Economics) Semester –I

Session: 2025-26

Course Code: BECL-1453

Quantitative Techniques–I

Course outcomes:

After passing this course, students will be able to:

CO1: organize, manage and present data.

CO2: analyze the data by using central tendency, dispersion and skewness.

CO3: learn the relationship between variables and prediction using correlation and regression.

CO4: compare magnitudes of related variables to each other over a period of time with the help of index numbers and understand the concept of time series in analyzing economic problems.

Bachelor of Science (Economics) Semester –I

Session 2025-26

Course Code: BECL-1453

Quantitative Techniques–I

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper–Setters:

Two questions, each carrying 14 marks, from each of Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT–I

Statistics: Definition, Scope in Economics, Significance, Limitations. Classification, Tabulation, Diagrammatic and Graphical Representation of Data.

UNIT–II

Concepts and Measures of Central Tendency: Means, Median, Mode, GM, and HM. Concepts and Measures of Relative Dispersion, Concepts and Measures of Skewness (Stress on Numerical Examples).

UNIT–III

Correlation Analysis: Introduction, Importance, Karl-Pearson's Coefficient of Correlation, Spearman's Rank Correlation Coefficient, Simple Regression Analysis; Difference Between Correlation and Regression, Lines of Regression, Properties of Correlation and Regression Coefficients (Stress on Numerical Examples).

UNIT–IV

Index Numbers: Concept of Index Number, Purpose Construction & Problems, Laspeyre's, Paasche's and Fisher's Formulae, Tests of Consistency.

Analysis of Time Series: Definition, Components of Time Series, Measurement of Trend by Different Methods, Measurement of Seasonal Variations (Stress on Examples).

Suggested Readings:

1. Gupta, S.P. (3014), *Statistical Methods*, Sultan Chand & Sons, New Delhi.
2. Croxton, F.E., Cowden D.J. and Klein, S. (1973), *Applied General Statistics*, 3rd. Ed., Prentice Hall of India, New Delhi.
3. Nagar, A.L. and Das, R.K. (1976), *Basic Statistics*, Oxford University Press, Bombay.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester –III
Session 2025-26
Course Code: BECL-3175
Economics (Indian Economy)

Course Outcomes:

After passing this course, students will be able to:

- CO1:** understand the nature, importance and problems of Indian agriculture and new agriculture strategy and WTO agreements related to Indian agriculture.
- CO2:** Critically understand the industrial development in India, the role of the public and private sectors, the cottage and small industries, and the latest industrial policy.
- CO3:** understand the composition, direction, and volume of international trade along with the balance of payment problems and the role of foreign capital MNCs.
- CO4:** understand major economic problems of the Indian economy, Indian Taxation System, and Indian economic planning – its objectives, strategy and evaluation.

Bachelor of Science (Economics) Semester –III
Session 2025-26
Course Code: BECL-3175
Economics (Indian Economy)

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper–Setter:

Two questions, each carrying 14 marks, from each of the Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT- I

Nature of Indian Economy; Agriculture in India: Nature and Importance of Agriculture, Causes of Decline in Productivity, Sustainable Agricultural Growth, Green Revolution and New Agricultural Strategy, WTO and Indian Agriculture (Introductory).

UNIT- II

Industry: Performance and Problems of Industrial Development; Public Sector versus Private Sector, Role of Privatization, Role of Small and Cottage Industries, Latest Industrial Policy.

UNIT- III

Foreign Trade: Direction and Composition of Exports and Imports since 1991; Recent Foreign Trade Policy, Balance of Payment Problem, Foreign Capital and Multinational Corporations in India Economic Reforms and its implications.

. UNIT- IV

Features of Population Growth in India, Major Problems of the Economy – Inflation, Unemployment, Poverty and Inequality, Current Indian Tax Structure. Planning- Objectives, Strategy, Evaluation of Planning in India; A Brief Idea of Objectives, Targets, Resources of the Latest Five Year Plan (Twelfth Five Year Plan).

Case Study: Population dynamics and nature of the unemployment problem in Punjab

Suggested Readings:

1. Mishra, S.K. and Puri, V.K. (3019), *Indian Economy*, Himalaya Publication House, Mumbai.
2. Dutt, R. and Sundharam, K.P.M. (3018), *Indian Economy*, S. Chand & Co. Ltd., New Delhi.
3. Aggarwal, A. N. (1975), *Indian Economy*, Vikas Publishing House, Delhi.
4. Wadhwa, C. D. (1970), *Indian Economic Policy*, Tata McGraw Hill, Bombay.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester –III
Session 2025-26
Course Code: BECL-3453
Quantitative Techniques (Quantitative Techniques–III)

Course outcomes:

After passing this course, students will be able to:

- CO1:** understand and apply the concept of differentiation in economic applications such as profit maximization, cost minimization or utility optimization.
- CO2:** understand and apply the concept of indefinite and definite integrals to economic concepts like consumer and producer surplus.
- CO3:** explain and use matrix operations to solve the system of equations.
- CO4:** understand the basics of linear programming for the efficient computation of optimal solutions to problems in decision-making.

Bachelor of Science (Economics) Semester –III
Session 2025-26
Course Code: BECL-3453
Quantitative Techniques (Quantitative Techniques–III)

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper–Setter:

Two questions, each carrying 14 marks, from each of the Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT–I

Differentiation: Maxima and Minima of Functions, Partial derivatives, higher order partial derivatives.

UNIT–II

Integration (Excluding Trigonometric and Inverse Functions): Indefinite Integrals; Integration by Partial Fractions; Integration by substitution; Integration by parts; Definite Integrals; Application of Integration in Consumer Surplus and Producer Surplus.

UNIT–III

Matrices: Definition, Types, Addition, Subtraction, and Multiplication of Matrices; Scaler Multiplication; Transposition; Determinants and their Properties; Minors and Co-factors; Rank of a Matrix; Inverse of a Matrix; Cramer's Rule for Solution of Simultaneous system of equations; Applications of matrices in economics.

UNIT–IV

Linear Programming: Formulation of problem, Assumptions, Graphical solution, Simplex method, Use of Artificial Variables, Dual Simplex method. Input-Output Analysis: Basic concepts, Input-Output tables for closed and open economies, Leontief Basic Input-Output Model, Simple Applications of Input-Output Analysis.

Suggested Readings:

1. Rang, S.S. and Chowdhary, V. (2013), *Mathematical Techniques*, S. Vikas s& Co. Publishing House, India.
2. Allen, R.G.D.(1938), *Mathematical Analysis for Economists*, ELBS and Macmillan Press, New York.
3. Chiang, A.(1967), *Fundamental Methods of Mathematical Economics*, McGraw Hill.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester –IV
Session 2025-26
Course Code: BECL-4175
Economics (International Economics and Public Finance)

Course outcomes:

After studying this course, students will be able to:

- CO1:** understand the basis of and gains from international trade and basic understanding of terms of trade and commercial policy and also WTO agreements related to trade.
- CO2:** understand the basic concept of BOP and methods to correct disequilibrium and determination of exchange rate.
- CO3:** understand the basics of public finance and public expenditure.
- CO4:** understand taxes and the burden of public debt.

Bachelor of Science (Economics) Semester –IV
Session 2025-26
Course Code: BECL-4175
Economics (International Economics and Public Finance)

Time: 3 Hours

L-T-P (Credits): 4-0-0
Max. Marks: 100
Theory: 70
CA: 30

Note: Instructions for the Paper–Setter:

Two questions, each carrying 14 marks, from each of the Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT–I

International Trade: Internal and External Trade, Classical and Heckscher-Ohlin Theories, Gains from Trade, Terms of Trade (gross, net, and income terms of trade). Trade and economic development.
Commercial Policy: Free trade vs. protection, the rationale of a protectionist policy in a less developed area, GATT & WTO (Introductory).

UNIT–II

Balance of Payments: Meaning and components of balance of payments, Methods for Correcting adverse balance of payments, devaluation and direct control.
Rate of Exchange: Meaning and determination (PPP and BOP Theory), Fixed and flexible exchange rates.

UNIT–III

Public Finance: Nature, scope and importance.
Public Expenditure: Meaning, principles, importance, and effect of public expenditure on production and distribution.

UNIT–IV

Public Revenue: Meaning and Sources of Revenue -Tax and non-tax revenue, Features of a good taxation system, canons of taxation, incidence, and impact of taxation.
Public Debt: Meaning, objectives, importance, its burden.

Case Study: India's EXIM Policy

Suggested Readings:

1. Sodersten, B.O. (1970), *International Economics*, Macmillan, London.
2. Salvatore, D. and Reed, G. (1983), *International Economics*, Macmillan Publishing Company, New York.
3. Tyagi, B.P. (3004), *Public Finance*, Jai Prakash Nath & Company, Meerut.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester –IV
Session: 2025-26
Course Code: BECL-4453
Quantitative Techniques–IV

Course outcomes:

After passing this course, students will be able to:

- CO1:** understand the concept of correlation and regression and learn how to apply these statistical techniques in practice
- CO2:** understand the axiomatic formulation of modern probability theory and think of random variables as an intrinsic need for the analysis of random phenomena.
- CO3:** recognize the connection between theory and applications by appropriately fitting, assessing and interpreting the results/ outcomes
- CO4:** understand the basic principles underlying survey design and estimation.

Bachelor of Science (Economics) Semester –IV
Session 2025-26
Course Code: BECL-4453
Quantitative Techniques (Quantitative Techniques–IV)

Time: 3 Hours

L-T-P (Credits):4-0-0
Max. Marks: 100
Theory: 70
CA: 30

Note: Instructions for the Paper Setter:

Two questions, each carrying 14 marks, from each of the Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT–I

Multiple Linear Regression: Concepts, Estimation and Applications (without derivations). Partial and Multiple Correlation. Non-Linear Regression: Quadratic and Exponential; Estimation of Fitting of Various Growth Curves (Modified Exponential, Gompertz).

UNIT–II

Probability: Definition, Additive & Multiplicative Laws and their Applications, Bayes Theorem, Concept of Random Variable, Probability Mass Function & Density Function, Mathematical Expectation (meaning and properties), Moments, Moment Generating Function and Characteristic Function.

UNIT–III

Theoretical Probability Distributions: Derivations of the properties of Binomial (with numerical), Poisson (with numerical), Normal (with numerical), Beta and Gamma Distributions.

UNIT–IV

Sampling: Various concepts – Population, Sampling Units, Complete Enumeration sample Surveys, Concept of an Estimator and The Standard Error, Standard Error of Estimates. Features of a Good Sample, Random and Subjective Sampling, Simple Random Sampling (with and without replacement), and Stratified Random Sampling (applications only).

Practical: Correlation and Regression with Statistical Softwares

FACULTY OF ECONOMICS & BUSINESS

SYLLABUS

For

Bachelor of Arts

Economics (Semester I-IV)

(Under Credit-Based Continuous Evaluation Grading System)

(12+3 System of Education)

Session: 2025–26



**The Heritage Institution
Kanya Maha Vidyalaya, Jalandhar
(Autonomous)**

Kanya Maha Vidyalaya, Jalandhar (Autonomous)
SCHEME AND CURRICULUM OF EXAMINATION OF THREE-YEAR DEGREE PROGRAM
Credit Based Continuous Evaluation Grading System (CBCEGS)

Bachelor of Arts
Session 2025-26

Economics

		Semester I								
Course Code	Course Name	Course Type	Hours Per Week L-T-P	Credits L-T-P	Total Credits	Marks				Examination time (in Hours)
						Total	Ext.		CA	
							L	P		
BARL-1175	Economics (Microeconomics)	E	4-0-0	4-0-0	4	100	70	--	30	3

		Semester II								
Course Code	Course Name	Course Type	Hours Per Week L-T-P	Credits L-T-P	Total Credits	Marks			Examination time(in Hours)	
						Total	Ext.			CA
							L	P		
BARL-2175	Economics (Macroeconomics)	E	4-0-0	4-0-0	4	100	70	--	30	3

E-Elective

Kanya Maha Vidyalaya, Jalandhar (Autonomous)

**SCHEME AND CURRICULUM OF EXAMINATION OF THREE-YEAR DEGREE PROGRAM
Credit Based Continuous Evaluation Grading System (CBCEGS)**

**Bachelor of Arts
Session 2025-26**

Quantitative Techniques

Semester I										
Course Code	Course Name	Course Type	Hours Per Week L-T-P	Credits L-T-P	Total Credits	Marks				Examination time (in Hours)
						Total	Ext.		CA	
							L	P		
BARL-1453	Quantitative Techniques (Quantitative Techniques-I)	E	4-0-0	4-0-0	4	100	70	--	30	3

Semester II										
Course Code	Course Name	Course Type	Hours Per Week L-T-P	Credits L-T-P	Total Credits	Marks				Examination time (in Hours)
						Total	Ext.		CA	
							L	P		
BARL-2453	Quantitative Techniques (Quantitative Techniques-II)	E	4-0-0	4-0-0	4	100	70	--	30	3

E- Elective

Bachelor of Arts (Semester–I)
Session: 2025-26
Course Code: BARL-1175
Economics (Microeconomics)

Course outcomes:

After passing this course, students will be able to

- CO1:** describe and apply the methods of analyzing consumer behavior through demand and supply, elasticity and utility.
- CO2:** learn about the various cost and revenue curves and the production function.
- CO3:** learn about various market structures.
- CO4:** understand various theories of rent, interest, profit, and distribution.

Bachelor of Arts (Semester-I)
Session 2025-26
Course Code: BARL-1175
Economics (Microeconomics)

Time: 3 Hours

L-T-P (Credits):4-0-0
Max. Marks: 100
Theory: 70
CA: 30

Note: Instructions for the Paper Setter:

Two questions, each carrying 14 marks, from each of the Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT-I

Introductory: Definition of Economics, Nature, Scope and Assumptions of Microeconomics. Demand Function, Supply Function, Price Determination, Elasticity of Demand – Price, Income and Cross elasticities and their Measurement.

Utility Analysis: Law of Diminishing Marginal Utility and Law of Equi-Marginal Utility, Indifference Curve Analysis and Revealed Preference Analysis (Meaning and Equilibrium).

UNIT-II

Theory of Production and Costs: Concept of Production Function. Laws of Returns to Scale and Returns to Factor

Cost: Concepts and Cost Curves in the short and long run; Traditional and Modern Cost Theories; Revenue Curves and their relationship with the elasticity of demand.

UNIT-III

Market forms: Perfect Competition- Assumptions, Price and Output determination of firm and Industry in the short run and long run; Monopoly- Assumptions and Equilibrium.

Monopolistic Competition- Assumptions and Equilibrium (except Group Equilibrium).

UNIT-IV

Marginal Productivity Theory; Factor pricing (with reference to labour) under Perfect Competition and Imperfect Competition, Modern Theory of Distribution.

Rent: Concept, Ricardian Theory and Modern Theory of Rent.

Interest: Concept, Classical Theory, Loanable Funds Theory.

Profit: Concept, Risk and Uncertainty Theories.

Case Study: Elasticity of Demand

Suggested Readings:

1. Ahuja, H.L. (3018), *Advanced Economics Theory: Micro Economics analysis*, S. Chand Publishing, New Delhi
2. Dwivedi, D.N. (3018), *Microeconomics: Theory and Applications*, Pearson Education, New Delhi.
3. Koutsoyiannis, A. (3015), *Modern Microeconomics*, Macmillan Press, London.
4. Sen, A.(3007), *Microeconomics: Theory and Applications*, Oxford University Press, NewDelhi.

Note: The latest editions of the books are recommended.

Bachelor of Arts (Semester –II)
Session: 2025-26
Course Code: BARL-2175
Economics (Macroeconomics)

Course outcomes:

After passing this course students will be able to:

- CO1:** learn the determination of equilibrium in the economy using Classical and Keynesian models and understand the consumption behaviour of an economy.
- CO2:** understand the investment behaviour of an economy and different theories of the trade cycle.
- CO3:** understand the nature and functions of money and the role of financial markets and institutions in the economy.
- CO4:** understand the causes and solution to the problem of inflation and study the macroeconomic policies.

Bachelor of Arts (Semester II)
Session 2025-26
Course Code: BARL-2175
Economics (Macroeconomics)

Time: 3 Hours

L-T-P (Credits):4-0-0
Max. Marks: 100
Theory: 70
CA: 30

Note: Instructions for the Paper Setter:

Two questions, each carrying 14 marks, from each of the Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT-I

Distinction between Micro and Macro Economics; Say's Law of Market and Aggregate Demand and Aggregate Supply, Determination of Income and Employment: Classical and Keynesian Models Consumption Functions; average (short-run and long-run) and marginal propensity to consume; Keynes' Psychological Law of Consumption, Multiplier: Meaning and its working.

UNIT-II

Investment: Meaning, Investment Demand Schedules and factors affecting investment decisions. Marginal Efficiency of Capital, Accelerator, Multiplier-Accelerator Interaction. Trade cycles- Meaning, Characteristics and Phases, Samuelson and Hicks Models of Trade Cycles.

UNIT-III

Money: Its functions and role. Money and Capital Markets (Introductory); Quantity Theory of Money: Fisher's and Cambridge's Equations, Liquidity Preference Theory. Banking: Meaning and Functions of Commercial And Central Banks, Credit Creation and Credit Control.

UNIT-IV

Inflation: Concept, Causes, and Cures. Inflation-unemployment Trade-off (only Phillips' contribution). Macroeconomic Policies: Fiscal Policy – meaning, objectives and instruments. Monetary Policy- meaning, objectives and instruments.

Case Study: Monetary and Fiscal Policy of India

Suggested Readings:

1. Shapiro E. (2013), *Macroeconomic Analysis*, Galgotia Publications.
2. Dwivedi D.N. (2018), *Macroeconomics: Theory and Policy*, Tata McGraw-Hill, New Delhi.

Note: The latest editions of the books are recommended.

Bachelor of Arts (Semester I)

Session: 2025-26

Course Code: BARL-1453

Quantitative Techniques–I

Course outcomes:

After passing this course, students will be able to:

CO1: organize, manage, and present data.

CO2: analyze the data by using central tendency, dispersion, and skewness.

CO3: learn the relationship between variables and prediction using correlation and regression.

CO4: Compare the magnitudes of related variables over a period of time with the help of index numbers and understand the concept of time series in analyzing economic problems.

Bachelor of Arts (Semester –I)

Session 2025-26

Course Code: BARL-1453

Quantitative Techniques–I

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper–Setters:

Two questions, each carrying 14 marks, from each of Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT–I

Statistics: Definition, Scope in Economics, Significance, Limitations. Classification, Tabulation, Diagrammatic and Graphical Representation of Data.

UNIT–II

Concepts and Measures of Central Tendency: Means, Median, Mode, GM, and HM. Concepts and Measures of Relative Dispersion, Concepts and Measures of Skewness (Stress on Numerical Examples).

UNIT–III

Correlation Analysis: Introduction, Importance, Karl-Pearson's Coefficient of Correlation, Spearman's Rank Correlation Coefficient, Simple Regression Analysis; Difference Between Correlation and Regression, Lines of Regression, Properties of Correlation and Regression Coefficients (Stress on Numerical Examples).

UNIT–IV

Index Numbers: Concept of Index Number, Purpose Construction & Problems, Laspeyre's, Paasche's and Fisher's Formulae, Tests of Consistency.

Analysis of Time Series: Definition, Components of Time Series, Measurement of Trend by Different Methods, Measurement of Seasonal Variations (Stress on Examples).

Suggested Readings:

1. Gupta, S.P. (3014), *Statistical Methods*, Sultan Chand & Sons, New Delhi.
2. Croxton, F.E., Cowden D.J. and Klein, S. (1973), *Applied General Statistics*, 3rd. Ed., Prentice Hall of India, New Delhi.
3. Nagar, A.L. and Das, R.K. (1976), *Basic Statistics*, Oxford University Press, Bombay.

Note: The latest editions of the books are recommended.

Kanya Maha Vidyalaya, Jalandhar (Autonomous)
SCHEME AND CURRICULUM OF EXAMINATION OF THREE-YEAR DEGREE PROGRAM
Credit Based Continuous Evaluation Grading System (CBCEGS)

Bachelor of Arts
Session 2025-26

Economics

		Semester III								
Course Code	Course Name	Course Type	Hours Per Week L-T-P	Credits L-T-P	Total Credits	Marks				Examination time (in Hours)
						Total	Ext.		CA	
							L	P		
BARL-3175	Economics (Indian Economy)	E	4-0-0	4-0-0	4	100	70	--	30	3

		Semester IV								
Course Code	Course Name	Course Type	Hours Per Week L-T-P	Credits L-T-P	Total Credits	Marks			Examination time(in Hours)	
						Total	Ext.			CA
							L	P		
BARL-4175	Economics (International Economics and Public Finance)	E	4-0-0	4-0-0	4	100	70	--	30	3

E-Elective

Kanya Maha Vidyalaya, Jalandhar (Autonomous)

**SCHEME AND CURRICULUM OF EXAMINATION OF THREE-YEAR DEGREE PROGRAM
Credit-Based Continuous Evaluation Grading System (CBCEGS)**

**Bachelor of Arts
Session 2025-26**

Quantitative Techniques

Semester III										
Course Code	Course Name	Course Type	Hours Per Week L-T-P	Credits L-T-P	Total Credits	Marks				Examination time (in Hours)
						Total	Ext.		CA	
							L	P		
BARL-3453	Quantitative Techniques (Quantitative Techniques-III)	E	4-0-0	4-0-0	4	100	70	--	30	3

Semester IV										
Course Code	Course Name	Course Type	Hours Per Week L-T-P	Credits L-T-P	Total Credits	Marks				Examination time (in Hours)
						Total	Ext.		CA	
							L	P		
BARL-4453	Quantitative Techniques (Quantitative Techniques-IV)	E	4-0-0	4-0-0	4	100	70	--	30	3

E- Elective

Bachelor of Arts (Semester–III)
Session 2025-26
Course Code: BARL-3175
Economics (Indian Economy)

Course Outcomes:

After passing this course students will be able to:

- CO1:** understand the nature, importance and problems of Indian agriculture and new agriculture strategy and WTO agreements related to Indian agriculture.
- CO2:** understand critically the industrial development in India, the role of public & private sectors and of the cottage and small industries and the latest industrial policy.
- CO3:** understand the composition, direction and volume of international trade along with the balance of payment problems and the role of foreign capital MNCs.
- CO4:** understand major economic problems of the Indian economy, Indian Taxation System, and Indian economic planning – its objectives, strategy and evaluation.

Bachelor of Arts (Semester–III)
Session 2025-26
Course Code: BARL-3175
Economics (Indian Economy)

Time: 3 Hours

L-T-P (Credits): 4-0-0
Max. Marks: 100
Theory: 70
CA: 30

Note: Instructions for the Paper–Setter:

Two questions, each carrying 14 marks, from each of the Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT- I

Nature of Indian Economy; Agriculture in India: Nature and Importance of Agriculture, Causes of Decline in Productivity, Sustainable Agricultural Growth, Green Revolution and New Agricultural Strategy, WTO and Indian Agriculture (Introductory).

UNIT- II

Industry: Performance and Problems of Industrial Development; Public Sector versus Private Sector, Role of Privatization, Role of Small and Cottage Industries, Latest Industrial Policy.

UNIT- III

Foreign Trade: Direction and Composition of Exports and Imports since 1991; Recent Foreign Trade Policy, Balance of Payment Problem, Foreign Capital and Multinational Corporations in India, Economic Reforms and its implications.

UNIT- IV

Features of Population Growth in India, Major Problems of the Economy – Inflation, Unemployment, Poverty and Inequality., Current Indian Tax Structure. Planning- Objectives, Strategy, Evaluation of Planning in India; A Brief Idea of Objectives, Targets, Resources of the Latest Five Year Plan (Twelfth Five Year Plan).

Case Study: Population dynamics and nature of unemployment problem in Punjab

Suggested Readings:

1. Mishra, S.K. and Puri, V.K. (3019), *Indian Economy*, Himalaya Publication House, Mumbai.
2. Dutt, R. and Sundharam, K.P.M. (3018), *Indian Economy*, S. Chand & Co. Ltd., New Delhi.
3. Aggarwal, A. N. (1975), *Indian Economy*, Vikas Publishing House, Delhi.
4. Wadhwa, C. D. (1970), *Indian Economic Policy*, Tata McGraw Hill, Bombay.

Note: The latest editions of the books are recommended.

Bachelor of Arts (Semester –IV)
Session 2025-26
Course Code: BARL-4175
Economics (International Economics and Public Finance)

Course outcomes:

After studying this course, students will be able to:

- CO1:** understand the basis of and gains from international trade and basic understanding of terms of trade and commercial policy and also WTO agreements related to trade.
- CO2:** understand the basic concept of BOP and methods to correct disequilibrium and determination of exchange rate.
- CO3:** understand the basics of public finance and public expenditure.
- CO4:** understand taxes and the burden of public debt.

Bachelor of Arts (Semester –IV)
Session 2025-26
Course Code: BARL-4175
Economics (International Economics and Public Finance)

Time: 3 Hours

L-T-P (Credits): 4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper–Setter:

Two questions, each carrying 14 marks, from each of the Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT–I

International Trade: Internal and External Trade, Classical and Heckscher-Ohlin Theories, Gains from Trade, Terms of Trade (gross, net, and income terms of trade). Trade and economic development.

Commercial Policy: Free trade vs. protection, the rationale of a protectionist policy in a less developed area, GATT & WTO (Introductory).

UNIT–II

Balance of Payments: Meaning and components of balance of payments, Methods for Correcting adverse balance of payments, devaluation and direct control.

Rate of Exchange: Meaning and determination (PPP and BOP Theory), Fixed and flexible exchange rates.

UNIT–III

Public Finance: Nature, scope, importance.

Public Expenditure: Meaning, principles, importance, and effect of public expenditure on production and distribution.

UNIT–IV

Public Revenue: Meaning and Sources of Revenue -Tax and non-tax revenue, Features of a good taxation system, canons of taxation, incidence, and impact of taxation.

Public Debt: Meaning, objectives, importance, its burden.

Case Study: India's Exim Policy

Suggested Readings:

1. Sodersten, B.O. (1970), *International Economics*, Macmillan, London.
2. Salvatore, D. and Reed, G. (1983), *International Economics*, Macmillan Publishing Company, New York.
3. Tyagi, B.P. (3004), *Public Finance*, Jai Prakash Nath & Company, Meerut.

Note: The latest editions of the books are recommended.

Session 2025-26
Course Code: BARL-3453
Quantitative Techniques (Quantitative Techniques–III)

Course outcomes:

After passing this course, students will be able to:

- CO1:** understand and apply the concept of differentiation in economic applications such as profit maximization, cost minimization or utility optimization.
- CO2:** understand and apply the concept of indefinite and definite integrals to economic concepts like consumer and producer surplus.
- CO3:** explain and use matrix operations to solve the system of equations.
- CO4:** understand the basics of linear programming for the efficient computation of optimal solutions to problems in decision-making.

Bachelor of Arts Semester –III
Session 2025-26
Course Code: BARL-3453
Quantitative Techniques (Quantitative Techniques–III)

Time: 3 Hours

L-T-P (Credits):4-0-0

Max. Marks: 100

Theory: 70

CA: 30

Note: Instructions for the Paper–Setter:

Two questions, each carrying 14 marks, from each of the Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT–I

Differentiation: Maxima and Minima of Functions, Partial derivatives, higher order partial derivatives.

UNIT–II

Integration (Excluding Trigonometric and Inverse Functions): Indefinite Integrals; Integration by Partial Fractions; Integration by substitution; Integration by parts; Definite Integrals; Application of Integration in Consumer Surplus and Producer Surplus.

UNIT–III

Matrices: Definition, Types, Addition, Subtraction, and Multiplication of Matrices; Scaler Multiplication; Transposition; Determinants and their Properties; Minors and Co-factors; Rank of a Matrix; Inverse of a Matrix; Cramer's Rule for Solution of Simultaneous system of equations; Applications of matrices in economics.

UNIT–IV

Linear Programming: Formulation of problem, Assumptions, Graphical solution, Simplex method, Use of Artificial Variables, Dual Simplex method. Input-Output Analysis: Basic concepts, Input-Output tables for closed and open economies, Leontief Basic Input-Output Model, Simple Applications of Input-Output Analysis.

Suggested Readings:

1. Rang, S.S. and Chowdhary, V. (2013), *Mathematical Techniques*, S. Vikas s& Co. Publishing House, India.
2. Allen, R.G.D.(1938), *Mathematical Analysis for Economists*, ELBS and Macmillan Press, New York.
3. Chiang, A.(1967), *Fundamental Methods of Mathematical Economics*, McGraw Hill.

Note: The latest editions of the books are recommended.

Bachelor of Science (Economics) Semester –IV
Session: 2025-26
Course Code: BECL-4453
Quantitative Techniques–IV

Course outcomes:

After passing this course, students will be able to:

- CO1:** understand the concept of correlation and regression and learn how to apply these statistical techniques in practice
- CO2:** understand the axiomatic formulation of modern probability theory and think of random variables as an intrinsic need for the analysis of random phenomena.
- CO3:** recognize the connection between theory and applications by appropriately fitting, assessing and interpreting the results/ outcomes
- CO4:** understand the basic principles underlying survey design and estimation.

Bachelor of Science (Economics) Semester –IV
Session 2025-26
Course Code: BECL-4453
Quantitative Techniques (Quantitative Techniques–IV)

Time: 3 Hours

L-T-P (Credits):4-0-0
Max. Marks: 100
Theory: 70
CA: 30

Note: Instructions for the Paper Setter:

Two questions, each carrying 14 marks, from each of the Units I-IV (i.e., a total of eight questions) are to be set. Candidates are required to attempt five questions, selecting at least one from each unit. The fifth question may be attempted from any unit.

UNIT–I

Multiple Linear Regression: Concepts, Estimation and Applications (without derivations). Partial and Multiple Correlation. Non-Linear Regression: Quadratic and Exponential; Estimation of Fitting of Various Growth Curves (Modified Exponential, Gompertz).

UNIT–II

Probability: Definition, Additive & Multiplicative Laws and their Applications, Bayes Theorem, Concept of Random Variable, Probability Mass Function & Density Function, Mathematical Expectation (meaning and properties), Moments, Moment Generating Function and Characteristic Function.

UNIT–III

Theoretical Probability Distributions: Derivations of the properties of Binomial (with numerical), Poisson (with numerical), Normal (with numerical), Beta and Gamma Distributions.

UNIT–IV

Sampling: Various concepts – Population, Sampling Units, Complete Enumeration sample Surveys, Concept of an Estimator and The Standard Error, Standard Error of Estimates. Features of a Good Sample, Random and Subjective Sampling, Simple Random Sampling (with and without replacement), and Stratified Random Sampling (applications only).

Practical: Correlation and Regression with Statistical Softwares

