Department of Economics  
**Course:** B.A. (HONS) ECONOMICS  
**Semester-Wise Paper and Credits***  
*(REVISED COURSE STRUCTURE w.e.f. 2016-17)*

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*Each paper carries 100 marks/4 credits.
BES-C-101: MICROECONOMICS-I

Unit-1: Theories of Consumer Behaviour

- Law of demand/supply, Determinants of demand/supply, Expansion/ contraction of demand/ supply, Increase/ decrease in demand/ supply, Market demand/ supply curve, concept of equilibrium, Elasticity of demand/supply and its measurement
- Cardinal utility approach (assumptions, equilibrium and its critique)
- Ordinal utility approach (assumptions, equilibrium and its critique), Income consumption curve, Engel curve, Price consumption curve, Income effect, Substitution effect and Price effect (Hicks and Slutsky approaches)
- Revealed Preference approach
- Consumer’s surplus-Marshallian and Hicksian approaches.

Unit-2: Theory of Production and Costs

- Production Function, law of variable proportions, Isoquants, factor substitution, Equilibrium of the firm with respect to input use, Returns to scale, Economies and Diseconomies of scale, Expansion path, features of Cobb Douglas production function and elasticity of substitution
- Different concepts of cost and their inter-relationship, Short run and long run cost curves, Empirical evidence on costs, Modern theory of costs

Unit-3: Market Structure-I

- Perfect competition( assumptions, features revenue curves, short & long run equilibrium of firm and industry, economic profits, Short and long run supply curve of firm and industry
- Monopoly (Features, conditions, Equilibrium of the firm, Price discrimination, Conditions of equilibrium under price discrimination.

References:
2. Pindyck, Rubinfeld and Mehta: Microeconomics, 6th Edition
4. Gravelle and Rees-Microeconomics; Pearson Education, 2nd Edition
5. Nicholson, Microeconomics
BES-C-102: MATHEMATICAL METHODS FOR ECONOMICS- I

Unit -1: Basic concepts, Functions and Graphs
➢ Sets and set operations, Ordered pairs, the real numbers, natural numbers, integers, rational and irrational numbers; absolute value and intervals; inequalities.
➢ The general concept of function, types of function (linear, quadratic, power, exponential, inverse); graphs of functions; Applications in Economics

Unit-2: Limits, Continuity and Single variable Differential Calculus
➢ Limits, continuity and differentiability, rules of differentiation (simple differentiation, sums, products, and quotients); Second and higher order derivatives, power rule, chain rule, implicit differentiation; Linear approximation and differentials; Quadratic approximations, Elasticities the Intermediate-value Theorem; the Extreme-value Theorem; The Mean-value Theorem; Indeterminate forms and L’Hopital’s rule; Applications in Economics

Unit-3: Single variable optimization and Integral Calculus
➢ Stationary points of a function, Maxima and Minima(local and global); Convexity and Concavity of functions; Points of inflection; Optimization of economic functions Rules of integration, integration by parts, integration by substitution, indefinite integral, Definite Integral, Proper and Improper integral; Areas under curves and economic application of integration.

References:
BES-CB-101: ENVIRONMENTAL ECONOMICS

Unit-1: Basic Environmental Issues:

Unit-2: Economics of Natural Resources:

Unit-3: Economics of Environmental Regulation
➢ Evolution of Environmental Regulation; Environmental Legislations/ Policies in India; Instruments for Pollution Control: Command and Control Policy vs. Market Based Instruments: Taxes vs. Permits: Direct and Indirect Instruments of Pollution Control; Pollution Control System and Policy Measures in Indian Context

Basic Readings:

BES-C-201: MICROECONOMICS-II

Unit-1: Market Structure

- Monopolistic Competition: Assumptions of Chamberlin’s model, Concept of product group, Equilibrium of individual firm (selling cost excluded) and Group equilibrium, Excess capacity, criticism of the model
- Oligopoly: Cournot’s duopoly model and its applicability to Oligopoly, Cournot’s equilibrium using reaction curves, Paul Sweezy’s kinked demand curve solution.

Unit-2: Factor Pricing

- Wage determination under perfect and imperfect competition, monopolistic and monopsonistic exploitation
- Theories of rent: Ricardian theory of rent (scarcity rent verses differential rent, critical evaluation of the theory), Modern Theory of rent, Quasi-rent
- Theories of interest: Classical, Neoclassical and Keynesian theories of interest
- Theories of profit: Dynamic theory, Risk and uncertainty theory and Schumpeterian theory of profit.

Unit-3: Welfare Economics

- Various approaches to social welfare
- Pareto’s welfare criteria
- Kaldor-Hicks compensation criteria
- Concept of Social welfare function, maximisation of social welfare and determination of ‘Point of Bliss’.

References:

1. Chaudhary, Kalyanjit, Roy Microeconomics.
2. Koutsyansis, A. Modern Microeconomics, Macmillan.
7. Stonier and Hague A Text Book of Economic Theory.
BES-C-202: MATHEMATICAL METHODS FOR ECONOMICS- II

Unit - 1: Linear Algebra
- System of linear equations, vectors, vector operations, linear combinations of vectors, length of vectors and orthogonality, Applications in Economics
- Matrices and its types, matrix operations(row and column), Echelon and Reduced echelon forms, determinants and its properties, singularity of a matrix, inverse of a matrix, linear independence and rank of a matrix, solution of a system of linear equations (by Cramer’s Rule, Matrix Inversion), Applications in Economics
- Solution of Homogeneous Equation System; Leontief Input-Output models (Open and Closed), Applications in Economics

Unit - 2: Calculus of Multivariate Functions
- Partial derivatives (two variables and many variables) and its economic relevance, Total derivatives, Derivatives of functions using chain rule, Derivative of functions defined implicitly, Homogeneous and Homothetic functions, Multivariable optimization, local and global extreme, Stationary points of a function, first and second order condition using Hessian, Point of Inflection, Saddle point, Constraint Optimization (using Lagrangean 6 multiplier), sufficient condition (using Bordered Hessian), Optimization of economic functions, Applications in Economics

Unit -3: Dynamic Analysis
- Continuous time: First order linear differential equations (homogeneous and non homogeneous case) with constant coefficient and constant term; with variable coefficient and variable term; Dynamics of market price; Exact differential equations.
- Discrete Time: First order Difference equations, the stability analysis of the equilibrium (oscillatory and non-oscillatory, divergent and convergent time paths); The Cobweb model, Applications in Economics

References:
1. Knut Sydsaeter and Peter J. Hammond (2005), Mathematics for Economic Analysis. Pearson Educational Asia: Delhi, 4th Indian reprint
BES-CB-201: AGRICULTURAL ECONOMICS

Unit- 1: Introduction
➢ Definition and scope of Agricultural Economics, Unique features of Agriculture, Role of Agriculture in Economic Development-Kuznet formulation, linkage between Agriculture and Non Agricultural sectors.

Unit -2: Agricultural Marketing and Price Policy

Unit- 3: Issues in India’s Agricultural Development
➢ Land Tenure system on the eve of independence, land reforms measures-Achievements, problems and policy- The new agricultural technology and Green Revolution-Rationale, Progress Problems and Prospects. Agricultural credit-Problems and sources, WTO and Indian Agriculture.

Readings:
1. GS Bhalla, Agricultural Development since Independence
2. TW Schultz, Transformation of Traditional Agriculture
3. Mellor, Agricultural Development
4. R.N. Soni, Leading Issues in Agricultural Economics
5. Sadhu and Singh, Agricultural Problems in India
6. Indian Journal of Agricultural Economics -Relevant issues
7. Economic Survey various issues
8. Khusro A. M., Readings in Agricultural Economics
9. Swaminathan M. S, Agriculture Cannot Wait- New Horizons in Indian Agriculture
BES-C-301: MACROECONOMICS-I

Unit-1: National Income and Methods of Measurement.

Unit-2: Classical Theory of Output and Employment.
- Says law of Market, Quantity Theory of Money, Classical model without saving and investment. Effects of a change in Labour Supply and a change in labour demand on the level output and employment, rigid money wage, monetary policy and full employment. Classical Theory with saving and investment.

Unit-3: Keynesian Theory of output and Employment.

Basic Readings:
BES-C-302: STATISTICAL METHODS – I

Unit-1: Basic Concepts and Descriptive Methods
- Definition and Role of Statistics; Measures central location – Median, Mode, Mean, Harmonic Mean, Geometric Mean (AM, GM, HM, GM), simple and weighted averages, group averages, Measures of dispersion – Range, Variance and Standard Deviation, Mean Deviation, Quartile Deviation, Measures of Skewness and kurtosis; Measures of economic inequality

Unit-2: Probability and Probability Distributions
- Random experiment, sample space and events; classical, empirical and axiomatic definitions of probability; addition and multiplication theorems; conditional probability, independent events and Baye’s rule, Random variable ; mathematical expectation -mean and variance of a random variable Binomial, Poisson and Normal distributions

Unit-3: Index Numbers and Time Series Analysis
- Index Numbers: Concept and uses; Laspeyres, Paasche's and Fisher's index numbers; time reversal, factor reversal and circular tests; problems in constructing index numbers; splicing, base shifting; use of index numbers for deflating other series.
- Time Series Analysis: Concept and uses; Components of time series; Methods of moving averages and least squares.

Readings:
2. Gupta, S. P. (2005), Statistical Methods, S. Chand & Sons, New Delhi

Other Books
BES-C-303: INDIAN ECONOMY

Unit- 1: Concept of Developed and Developing Economies
 Characteristics of a developing economy – basic features of Indian economy at the time of independence Population and Economic Development - Demographic trends of India – Occupational Structure - Population policy, Employment in organised and unorganised sectors , Issues in Indian Planning – Objectives and critical evaluation of each plan. Centre-State relationship

Unit-2: Perspective of India’s Agricultural and Industrial Economy
 Importance of Agriculture in Indian economy – trends in agriculture production and productivity, Green Revolution and Food Security, Agriculture Price Policy, Sources of Agricultural Finance and Sustainable Agricultural Growth, Industrial Policy – pre and post 1991 and trends in India’s industrial growth and productivity, Small vs. large industry, public vs. private sector industries, disinvestment strategies, Policy issues and future prospects: infrastructure, technology and regional imbalances

Unit-3: Contemporary Issues
 Macro-economic stabilisation – fiscal and monetary policies, Globalisation and its impact on the Indian economy with special reference to global financial crisis, 2007-08, India and the World Economics, India’s foreign trade and investment policies,

References:

Detailed Readings:

**BES-AE-301: ECONOMICS OF EDUCATION**

**Unit- I: Economics of Education**

**Unit -2: Education Planning and Finance**
- Education planning techniques, Cost – Benefit Analysis, Theories of Public Expenditure, Resource Mobilisation and Utilisation, Effects of Education on levels of earnings and value based education

**Unit -3: Education in India**
- Indian perspective to education, Sarva Shiksha Abhiyan, Right to Education and Legislations relating to Right to Education with special reference to Constitutional provisions/Preamble. Higher Education in India: Issues, Concerns and New Directions

**References:**

**Detailed Readings:**
BES-C-401: MACROECONOMICS-II

Unit.-1: Theories of Consumption & Investment
➢ General theories of spending behaviour, Absolute Income hypothesis, Relative income hypothesis, Permanent Income hypothesis, Life Cycle hypothesis Motivation, for investment, Marginal efficiency of capital supply price expected income streams, Marginal efficiency of capital and rate interest, acceleration principle.

Unit-2: Keynesian Theory of Money and Interest
➢ Keynesian Theory of Interest, Determination of rate of interest, Changes in the levels of income, speculative, Demand and Money supply and their effect on equilibrium rate of interest Liquidity trap and policy Implications, IS and LM Curve Analysis, The General Equilibrium of Product and Money Market Relative, Effectiveness of Monetary and Fiscal Policies.

Unit-3: Theory of Inflation and Business Cycle
➢ Types and Theories of Inflation, Demand pull and cost push inflation, The Philips curve, trade of between inflation and unemployment, Concept and Phase of Business cycle, Innovation Theory, Keynesian Theory, Monterey Theory.

Basic Readings:
7. William Branson: Macro Economic Theory and Policy
BES-C-402: STATISTICAL METHODS – II

Unit-1: Uni-variate and Bi-variate Analysis
➢ Moments and moment generating function (m.g.f.), , Multivariate Statistics - joint, marginal and conditional distribution; Product moment – covariance, correlation, rank correlation , Simple linear regression; method of least squares; linear and exponential trend

Unit-2: Introduction to Sampling Distributions
➢ Population versus sample, Methods of sampling, simple random sample, sampling distribution of sample mean for normal and non-normal populations, Chebyshev’s inequality, law of large numbers, optimum size of sample, central limit theorem, Definition of z, chi-square, t and F statistics.

Unit-3: Introduction to Statistical Inference
➢ Properties of point estimator - unbiasedness, relative efficiency and consistency, Testing of Hypothesis - type I and type II errors, level of significance, power of a test, Use of z, chi-square, t and F statistics - large sample and small sample tests for mean, one tail and two tail tests for difference of means, Chi-square test for (i) Independence of two attributes, F-test for ratio of two variances, one-way analysis of variance.

Readings:
6. Pitman, Australia

Other Books
BES-C-403: MONEY AND BANKING

Unit- 1: Money and Evolution

Unit-2: Banking Sector- An overview
- Banking: Meaning and definition- Functions of Central Bank, Credit Control Methods by RBI, Reserve Money/High powered Money
- Functions of Commercial Banks - Concept of Credit Creation-Functions of RBI -, Role of Private Banks and a comparison- Role of Foreign Banks
- Recent developments in Banking Sectors- Social banking, Alternative Banking Strategy- Inclusive Banking

Unit- 3: Monetary Management
- International Monetary System- Monetary Policy in India- Instruments of Monetary policy in India- Fiscal Policy in India- Instruments of Fiscal Policy in India- Financial Sector Reforms in India, The Narasimhan Committee Report

References:
1. Chandler, L.V. The Monetary and Financial System
2. M.K. Lewis (2000), Monetary Economics, OUP
5. L.M. Bhole (1999), Financial Institutions and Markets, Tata Mcgraw Hill
10. S.B.Gupta, Monetary Economics
11. Y.V. Reddy (2000), Monetary and Financial Sector Reforms in India UBSPD, New Delhi
BES-CB-401: INTERNATIONAL FINANCE

Unit 1: The Foreign Exchange Market
- Foreign Exchange Market – Structure and Functions
- Foreign Exchange Market Products
- Foreign Exchange Market Trading
- Efficiency of Foreign Exchange Market
- Foreign Exchange Market in India

Unit 2: Balance of Payment and Exchange Rate Determination
- Balance of Trade and Balance of payment
- Fixed Exchange Rate System
- Flexible Exchange Rate System
- Floating Exchange Rate System
- Theories of Balance of Payment and Exchange Determination- PPP, Elasticity Approach, Income Absorption Approach, Monetary Approach

Unit 3: The International Monetary System
- Overview of the International Financial Market
- A Brief History of the International Monetary System
- The European Monetary System and Monetary Union
- Alternative Exchange Rate System
- Exchange Rate System and Policies in India

References:
BES-C-501: DEVELOPMENT ECONOMICS

Unit-1: Growth and Development

Unit-2: Under-Development Determinants and Theories

Unit-3: Determinants of Development
➢ State and Markets; Capital-Human, Natural and Social and Manmade., Agriculture Industry and Services; Physical Infrastructure, Policies, Planning and Development Administration, Research and Development and Technology, Non-Economic Factors.

References:

**BES-C-502: ECONOMETRICS – I**

**Unit 1: Simple Linear Regression Analysis**
- Introduction to Econometrics; Two variable regression analysis—Population Regression function and Sample Regression Function; Significance of Stochastic Disturbance Term; Simple Classical Linear Regression Model (CLRM)—Assumptions, OLS estimation; Desirable Properties of OLS Estimators—Guass Markov Theorem; Hypothesis Testing, Goodness of Fit.

**Unit 2: Multiple Regression Analysis**
- Multiple Regression Equation; OLS estimation of Partial Regression Coefficients; Multiple Coefficient of Determination ($R^2$) and Adjusted $R^2$; Multiple and Partial Correlation Coefficients; Problem of Inferences and Hypothesis Testing.

**Unit 3: Problems in OLS Estimation**
- Problems in OLS Methods: Analysis of Residuals—Heteroscedasticity and Autocorrelation Problems—Consequences of applying OLS under Heteroscedasticity and Autocorrelation—tests and remedial measures for removal of Hetroscedasticity and autocorrelation; Multicollinearity—consequences, tests and remedial measures.

**References:**
BES-C-503: INTERNATIONAL TRADE

Unit-1: Introduction to International Trade
- International trade, domestic, regional and intra regional trade, forces for and against economic integration need for separate theory of inter natural trade, production possibility curve, Offer curve terms of trade. Pure theory of international trade, Ricardo’s comparative cost advantage Hecksher Ohlin trade model, Criticism Leontif Paradox.

Unit-2: International Trade Policies
- Free trade and economic protection, Tariff, Economic effects of tariff, partial and general equilibrium, import quota, Import substitution vs export promotion, Prebisch Singer Hypothesis General Agreement on Tariff and Trade (GATT), various rounds of trade negotiations and new issues under Uruguay Round issues under Doha Development Round.

Unit-3: Balance of Payment and International Monetary System
- Balance of payment, exchange rate determination, exchange rate liberalisation, disequilibrium in the balance of payments, adjustment mechanism, Bretton Wood monetary system and its break down and current scenario, world bank, organisation, function and its role in the development of developing countries.

Basic Readings:
BES-CB-501: FINANCIAL ECONOMICS

Unit 1: Introduction to Financial Markets
- Financial Markets – Role and Functions
- Types of Financial Markets - Primary and Secondary Markets
- Financial Markets – Instruments and Transaction Mechanism in Spot Market
- Introduction to Derivatives Market – Forward, Futures and Options
- Transactions Mechanism in Derivative Markets
- Indian Financial Markets – Equity Market, Bond Market, Mutual Funds and Commodity Market
- Role of Stock Exchanges (NSE/BSE)
- Regulations of Indian Financial Markets and Role of SEBI

Unit 2: Stocks Market Analysis
- Fundamental Analysis of Stocks and Investment – Qualitative and Quantitative Analysis
- Different Types of Stocks and Valuation of Stocks
- Concept of Market Efficiency and Forms of Market Efficiency
- Modern Theory of Investment - Capital Asset Pricing Model
- Portfolio Diversification and Simple Portfolio Diversification Problem

Unit- 3: Bond Market Analysis
- Time Value of Money – Present Value and Future Value
- Annuity and Perpetuity, Compounding and Discounting
- Types of Bond – Pure Discount Bond, Coupon Bond, Consols
- Valuation of Bond
- Relationship between Government Bond and Corporate Bond
- Bond Price and Interest Rate
- Term Structure of Interest Rates and Yield Curve

References
1. Bodie, Robert c Merton and David Cleaton (2009), Financial Economics, Pearson
2. Elton, Gruber Brown, Goetzmann (2007), Modern Portfolio Theory and Investment Analysis
BES-C-601: HISTORY OF ECONOMIC THOUGHT

Unit 1: Pre Classical and the Classical School

Unit 2: The Marxian Challenge and Marginal Revolution

Unit 3: Contemporary School of Economic Thought

Select References:

Detailed Readings:
BES-C-602: PUBLIC ECONOMICS

Unit-1: Meaning and Scope of Public finance

Unit-2: Public Revenue and Taxes
- Sources of Public Revenue- Division of Tax Burden-Taxes – Objectives of Taxation-Classification of Taxes - Canons of Taxation, Principles of Taxation. Ability, Benefit and cost of service- Impact, Incidence and shifting of Tax Burden- Theories of Tax Shifting– Effects of Taxation – Major Taxes in India. Value Added Tax in India -The concept of Goods and Service Tax (GST), Double Taxation,

Unit- 3: Public Expenditure and Public Debt

References:
1. R.A Musgrave and PB Musgrave – Public finance – Tata Macgrail
BES-C-603: ECONOMETRICS – II

Unit 1: Review of Regression Analysis and Dummy Variable Regression Model
➢ Review of Simple and Multiple Regression Analysis
➢ Reviews of Violation of CLRM Assumptions
➢ Model Specification Problems and Model Selection - t – test, F-ratio, $R^2$, D-W Statistics
➢ Dummy Variable Regression Model – Model Specification and Applications

Unit- 2: Dynamic Econometric Model
➢ Distributed Lag Model (DLM) – Ad hoc Estimation
➢ Koyck Transformation and DLM
➢ Almon Approach to DLM
➢ Adaptive Expectation Model
➢ Partial (Stock) Adjustment Model
➢ Auto Regressive (AR) Model - Estimation
➢ Detecting and Correcting Autocorrelation Problem in AR Model

Unit- 3: Simultaneous Equation Model
➢ Simultaneous Equation Bias
➢ Identification Problem and Rules for Identification – Order and Rank Conditions
➢ Instrumental Variables Method (IVM)
➢ Indirect Least Square (ILS) Methods
➢ Two Stage Least Square (2SLS) Method
➢ Application to Macro Models (Examples)

References:
➢ Stock and Watson, Introduction to Econometrics, Pearson Publication
➢ Cramer J.S., Empirical Econometrics.
➢ Klein L.R., Introduction to Econometrics
➢ Wallis K.F., Topics in Applied Econometrics.
BES-SE-601: COMPUTER APPLICATIONS IN ECONOMICS

Unit 1: Computer Fundamentals and Data
- Basics in Computer, Operating Systems and MS Office
- Disk operating systems, Operating system – Windows,
- Nature and Types of Data
- Tabulation and Graphical Representation of Data
- Descriptive Analysis of Data
- Introduction to Statistical Softwares - Eviews/SPSS

Unit 2: Data Analysis in Eviews/SPSS
- Measures of Central Tendency - Mean, Median and Mode
- Measures of Dispersion – Mean Deviation, Standard Deviation and Variance
- Measures of Skewness and Kourtosis
- Simple and Partial Correlation
- Analysis of Varaince

Unit 3: Regression Analysis in Eviews/SPSS
- Hypothesis Testing – t- test, F-test, Chi-Square Test
- Simple and Multiple Regression Analysis
- Dummy Variable Regression Analysis
- Auto-Regressive Model
- Simple Simultaneous Equation Model Estimation

References
3. Allen, R.G.D., Statistics for Economics
6. Eviews Manuals
7. SPSS Manuals