University of Kalyani
Syllabus for B.A./B.Sc. (Major) in Economics

Semester-wise Distribution of Courses and Credits in B.A./B.Sc. (Major) in Economics

Semester I

Paper 1: MAC 1 (Major Course 1): Introductory Microeconomics

Paper2: MIC 11 (Paper 1, Minor Course 1): Principles of Microeconomics

Paper 3: MDC 1 (Multidisciplinary Course 1):

Paper 4: SEC 1 (Skill Development Course 1): Basic Mathematics

Paper 5: VAC 1 (Value Added Course 1)

Semester II

Paper 6: MAC 2 (Major Course 2): Introductory Macroeconomics

Paper 7: MIC 12 (Paper 1, Minor Course 2): Principles of Microeconomics

Paper 8: MDC 2 (Multidisciplinary Course 2):

Paper 9: AECC (Ability Enhancement Course):

Paper 10: SEC 2 (Skill Development Course 2): Basic Statistics

Semester III

Paper 11: MAC 3 (Major Course 3): Statistics for Economics

Paper 12: MIC 21 (Paper 2, Minor Course 1): Principles of Macroeconomics

Paper 13: MDC 3 (Multidisciplinary Course 3):

Paper 14: SEC 3 (Skill Development Course 3): Computer Applications in Economics

Paper 15: VAC (Value Added Course)

Semester IV

Paper 16: MAC 4 (Major Course 4): Development Economics

Paper 17: MAC 5 (Major Course 5): Indian Economics

Paper 18: MIC 22 (Paper 2, Minor Course 2): Principles of Macroeconomics

Paper 19: AECC 2 (Ability Enhancement Course 2)

Semester V

Paper 20: MAC 6 (Major Course 6): Advanced Mathematics

Paper 21: MAC 7 (Major Course 7): Intermediate Microeconomics

Paper 22: MIC 3 (Paper 3, Minor Course 1 and 2): Development Economics

 Paper 23:

Semester VI

Paper 24: MAC 8 (Major Course 8): Intermediate Macroeconomics

Paper 25: MAC 9 (Major Course 9): Advanced Statistics

Paper 26: MAC 10 (Major Course 10): International Economics

Semester VII

Paper 27: MAC 11 (Major Course 11): Public Economics

Paper 28: MAC 12 (Major Course 12): Basic Econometrics

Paper 29: MAC 13 (Major Course 13): Public Policies in India

Paper 30: MIC 4 (Paper 4, Minor Course 1 and 2): Indian Economics

Paper 31:

Paper 32: MAC 14 (Major Course 14): Growth Economics

Paper 33: MAC 15 (Major Course 15): General Equilibrium

Paper 34: MAC 16 (Major Course 16): Economic History of India

For UG Honours without Research:

Paper 35: MAC 17 (Major Course 17): Money, Banking and Finance

Paper 36: MAC 18 (Major Course 16): Environmental Economics

For UG Honours with Research:

Research Project/ Dissertation

Content of the papers (Economics Major, Minor, Multidisciplinary and Skill Enhancement courses)

Semester 1

Paper 1: MAC 1 (Major Course 1): Introductory Microeconomics

Unit 1: Exploring the subject matter of Economics

Why study economics? Scope and method of economics;Wants, Scarcity, Competing Ends and Choice - Defining Economics, the economic themes: scarcity and efficiency; fundamental questions of Economics-what to produce, how to produce and how to distribute output; marginal benefits and marginal costs; opportunity cost (private and social); the basic competitive model.Microeconomics and Macroeconomics, Normative Economics and Positive Economics. Definition of market, Competitive vs Non-competitive markets (concepts only)

                                                                                    12 classes

Unit 2: Supply and Demand: How Markets Work

Elementary theory of demand: determinants of household demand, market demand, and shifts and change in demand curve

Elementary theory of supply: factors influencing supply, individual and market supply curve, and shifts in the supply curve

The elementary theory of market price: determination of equilibrium price in a competitive market; the effect of shifts in demand and supply; the excess demand function: Existence, uniqueness, and stability of equilibrium; consumer surplus and producer surplus;

Concepts of Elasticity, Method of Calculation- Arc Elasticity, Point Elasticity-definition , Demand and supply -types of elasticity and factors affecting elasticity, Demand Elasticity , Long run and Short run elasticities of Demand and Supply ,Income and Cross Price Elasticity

20 classes

Unit 3: Consumer Theory

Utility in Cardinal Approach- Utility and choice, Total Utility and Marginal Utility, Utility and choice-maximization, theory of demand; Ordinal utility: Assumptions on preference ordering, different utility functions and their properties- quasi-linear, perfect substitute and perfect complements, indifference curve, marginal rate of substitution and convexity of IC, budget constraint, consumer's equilibrium, price consumption curve, income consumption curve; compensating and equivalent variation, Slutsky equation, 20 classes

Unit 4: Production and Costs

Concept of production function; returns to factor and returns to scale, isoquants and diminishing rate of factor substitution – elasticity of substitution –fixed proportion, perfect substitute, Cobb-Douglas Production Function, CES Production Function, General concept of homogeneous and homothetic production function and their properties; production with one and more variable inputs; isocost line and firm's equilibrium and expansion paths; short run and long run costs; cost curves in the short run and long run: relation between short run and long run costs.

20 classes

References

N. Gregory Mankiw, Economics: Principles and Applications, Indian edition by South Western, a part of Cengage Learning, Cengage Learning India Private Limited, 4th Edition, 2007

Pyndick and Rubenfeld, Microeconomic Theory

Karl E. Case and Ray C. Fair, Principles of Economics, Pearson Education Inc., 8th Edition, 2007.

Samuelson and Nordhaus, Economics, Mc-Graw Hill

Joseph E. Stiglitz and Carl E. Walsh, Economics, W.W. Norton and Company Inc., New York, International Student Edition, 4th Edition, 2007.

Lypsey and Christal, An Introduction to Positive Economics

Hal R. Varian, Intermediate Microeconomics, A Modern Approach, W.W. Norton and Company/Affiliated East-West Press (India), 8th Edition, 2010. The workbook by Varian and Bergstrom may be used for problems

C. Snyder and W. Nicholoson, Fundamentals of Microeconomics, Cengage Learning (India), 2010

Paper2: MIC 11 (Paper 1, Minor Course 1): Principles of Microeconomics-I

Paper 3: MDC 1 (Multidisciplinary Course 1):

Paper 4: SEC 1 (Skill Development Course 1): Basic Mathematics

COURSE OBJECTIVES:

This course introduces the students with the basic and fundamental knowledge of mathematics at a very preliminary level as is required in the different branches of Economics at the undergraduate level. The students will be introduced with very basic knowledge of calculus and linear algebra which will enhance their skill in grasping many theories and applications of Economics at the undergraduate level.

COURSE CONTENT:

Unit 1: Basic Concepts of Functions 4 Classes

Definition and examples of functions including graphs; classification of functions; function types

Reference: R.G.D. Allen – Mathematical Analysis for Economics (Chapter II)

Unit 2: Limits and Continuity of Functions 6 Classes

Concept of limit with examples, definition of the limit of a single-valued function; properties of limit; concept of continuity of functions with examples

Reference: R.G.D. Allen – Mathematical Analysis for Economics (Chapter IV)

Unit 3: Derivatives   14 Classes

Concept of derivatives with examples, Derivatives and tangents to curves; Second order derivatives; power function and its derivative, rules for the evaluation of derivatives, function of a function rule, inverse function rule; the evaluation of second order derivatives, partial and total derivatives, L'Hopital's (L'Hospital's) rule.

Reference: R.G.D. Allen – Mathematical Analysis for Economics (Chapter VI and VII)

Unit 4: Integrals of functions of one variable   6 Classes

Definition of indefinite integral; basic rules of integration; concept of definite integral including examples

Reference: R.G.D. Allen – Mathematical Analysis for Economics (Chapter XV)

Unit 5: Matrix and Determinants   6 Classes

Concept of matrix; matrix operations and different laws; concept of identity matrix and null matrix

Concept of determinants and basic properties

Reference: Alpha C. Chiang, Fundamental Methods of Mathematical Economics, Third Edition, (Chapter 4)

Suggested Readings:

1.
2. R.G.D Allen, Mathematical Analysis for Economics
3. Alpha C. Chiang, Fundamental Methods of Mathematical Economics, Third Edition
4. G.C. Archibald and Richard G. Lipsey, An Introduction to A Mathematical Treatment of Economics, Third Editi

<u>Semester II</u>

Paper 6: MAC 2 (Major Course 2): Introductory Macroeconomics

Unit 1: National Income Accounting   16 classes

What is Macroeconomics? Circular flow of income, closed economy.GDP deflator .
Macroeconomic data- National Income accounting and cost of living; Concept of Growth- role of savings, investment; Open Economy

Unit 2: Income Determination in the short-run   16 classes

Simple Keynesian System: Multipliers; equilibrium in both closed and open economy and stability condition; autonomous expenditure, balanced budget, and net exports; paradox of thrift.

Unit 3: Money   20 classes

Money demand function;different motives of demand for money;Quantity Theory of Money

Monetary system- definition and functions of money and determinants of money supply; high-powered money; money multiplier,Commercial bank; credit and deposit multiplier.

Unit 4: Inflation   8 classes

What is inflation? types and causes of inflation;cost of Inflation; inflationary gap; measures to combat inflation

Unit 5: Unemployment   5 classes

Concepts of unemployment (including labour force, labour force participation rate, unemployment rate); different types of unemployment; labour demand curve: labour supply curve (preliminary idea)

Suggested Readings:

Dornbusch, Fischer and Startz: Macroeconomics; Tata Mcgraw Hill Publication.

N.Gregory Mankiew: Principles of Macroeconomics; Indian imprint of South Western

Cengage India.

Richard T.Froyen ; Macroeconomics; Pearson Education Asia.

J.R. Hicks: The Social Framework :An Introduction to Economics ;Ciarendon Press

William Branson: Macroeconomic Theory and Policy;Indian Reprint ,East West Press

Soumyen Sikdar:Principles of Macroeconomics; Oxford University Press

S B Gupta: Monetary Economics

Paper 7: MIC 12 (Paper 1, Minor Course 2): Principles of Microeconomics

Paper 8: MDC 2 (Multidisciplinary Course 2):

Paper 9: AECC (Ability Enhancement Course):

Paper 10: SEC 2 (Skill Development Course 2): Basic Statistics

Unit 1: Introduction   2 classes

Statistical Methods: Definition and scope of Statistics, concepts of statistical population and sample.

Unit 2: Presentation of Data   12 classes

Types of Data: Concepts of population and sample, quantitative and qualitative data –variables and attributes, cross-sectional and time-series data, discrete and continuous data.

Different types of scales: Nominal, ordinal, interval and ratio.

Collection and Scrutiny of Data: Primary data, Secondary data – its major sources.

Representation of Data: Construction of tables with one or more factors of classification, frequency distributions and cumulative frequency distributions and their graphical representations (Histograms, frequency polygon), stem and leaf displays.

Unit 3: Descriptive Statistics   19 classes

Measures of Central Tendency: Arithmetic mean, geometric mean, harmonic mean, median and mode, and their properties, Quartiles, Deciles and Percentiles

Measures of Dispersion: range, quartile deviation, mean deviation, standard deviation, coefficient of variation, graphical representation of various measures of dispersion (Ogives, Histograms, Box Plot) Moments: Raw moments, Central moments, Absolute moments, Skewness and Kurtosis.

Bivariate data: Definition, scatter diagram, Karl Pearson's coefficient of correlation. Spearman's rank correlation coefficient

Unit 4: Index Numbers   9 classes

Laspayer's, Paasche and Fisher's index number, Cost of Living index number, Factor Reversal test and Time Reversal Test

Reference Books

1. P.H. Karmel and M. Polasek (1978), Applied Statistics for Economists, 4th edition, Pitman.

2. M.R. Spiegel (2003), Theory and Problems of Probability and Statistics (Schaum Series).

3. Das, N.G, Statistical Methods

4. Goon A.M., Gupta and Dasgupta, Fundamentals of Statistics

5. A.L. Nagar and R.K Das, Basic Statistics, OUP second ed

6. Gupta and Kapoor, Statistics.