University of Mumbai

No. AAMS(UG)/ 44 of 2020-21

CIRCULAR:-

Attention of the Principals of the Affiliated Colleges and Directors of the Recognized Institutions in Faculty of Humanities is invited to the syllabus uploaded Academic Authority Unit which was accepted by the Academic Council at its meeting held on June, 2016 vide item No.4.4 relating to the revised syllabus as per the (CBCS) for the S.Y.B.A Economics (Sem. III & IV) Applied Component.

They are hereby informed that the recommendations made by the Board of Studies in **Economics** at its online meeting held on 9th May, 2020 vide Item No.1 and subsequently made by the Board of Deans at its meeting held on 28th September, 2020 vide item No. 2 & 3 have been accepted by the Academic Council at its meeting held on 23rd February, 2021 vide item No. 5.47 (R) & 5 48 (R) and that in accordance therewith, the revised syllabus as per the (CBCS) of S.Y.B.A. Sem. III & IV Applied Component has been brought into force with effect from the academic year 2020 -21 accordingly. (The same is available on the University's website www.mu.ac.in).

MUMBAI – 400 032
September, 2021

(Dr. B.N.Gaikwad)
I/c REGISTRAR

To

The Principals of the Affiliated Colleges and Directors of the recognized Institutions in Faculty of Humanities. (Circular No. UG/334 of 2017-18 dated 9th January, 2018.)

A.C/5.47 & 5.48 / 23/02/2021

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No. AAMS(UG)/44 -A of 2020-21   MUMBAI-400 032   15th September, 2021
Copy forwarded with Compliments for information to:-

1) The Dean, Faculty of Humanities,
2) The Chairman, Board of Studies in Economics,
3) The Director, Board of Examinations and Evaluation,
4) The Director, Board of Students Development,
5) The Co-ordinator, University Computerization Centre,

(Dr. B.N.Gaikwad)
I/c REGISTRAR

(E) ELEMENTARY QUANTITATIVE TECHNIQUES-I

Preamble:

The central focus of the paper is to introduce students to the fundamentals of statistical reasoning and statistical methods in research. The course introduces the notions of the basic statistical tools, how to calculate the basics of statistics and how to evaluate them. The paper on Elementary Quantitative Techniques is based on statistical techniques, basic probability and arithmetic techniques (financial applications)

Unit: I Introduction to Statistics, Collection, Classification, and Presentation of Data, Measures of Central Tendency   (15 Lectures)

Statistics: Characteristics of Statistics as Data, Functions, Limitations and Uses of Statistics- Data sources: Primary and Secondary sources—Methods of Sampling-Classifications and Tabulation Frequency distribution (Univariate data): Discrete, Continuous, and Cumulative- Graphical representation: Bar diagram, Histogram, Pie chart, Frequency Polygon Frequency Curve- Measures of Central Tendency- Arithmetic Mean Median and Mode.

Unit: II Measures of Dispersion   (15 Lectures)

Introduction: Objectives of measuring dispersion, Qualities of a good measure of Dispersion- Measure of Dispersion: Algebraic (Absolute and Relative) and Graphic (Lorenz Curve)- Bivariate Frequency Distribution-Correlation Analysis: meaning, Correlation and Causation, Types of Correlation.

Unit: III Probability, Financial Statistics   (15 Lectures)

Probability: concepts- sample space, independent and dependent events-Calculation of probability using permutation and combination-Financial Statistics: Profit, Loss and Discount- Simple and Compound interest, Growth and Depreciation.

REFERENCES

1) Dowling E. D, Introduction to mathematical Economics, Schaum's Outline Series, Mcgraw-Hill, 2001.
2) Guha A.: Quantitative Aptitude, Tata McGraw-Hill, New Delhi, 2005
3) Gupta S.P.: Statistical Methods, S. Chand, New Delhi, 2008.
4) Kothari C.R: Research Methodology, New Age International publishers, 2004
5) Sancheti, D. C and V.K. Kapoor: Statistics: Theory, Methods and Applications, Sultan Chand & Sons, New Delhi, 2007.

UNIVERSITY OF MUMBAI

S.Y.B.A

ECONOMICS- SEMESTER – IV

APPLIED COMPONENT (Revised Syllabus)

(To be implemented with effect from the academic year 2020–2021)

A) DEMOGRAPHY- II

OR

B) ENTREPRENEURIAL DEVELOPMENT-II

OR

C) INVESTMENT ANALYSIS-II

OR

D) INDUSTRIAL RELATIONS AND TRADE UNIONISM –II

OR

E) ELEMENTARY QUANTITATIVE TECHNIQUES-II

OR

F) AGRICULTURAL AND RURAL DEVELOPMENT-II

(E) ELEMENTARY QUANTITATIVE TECHNIQUES-II

Preamble:

The central focus of the paper is to introduce students to the Fundamentals of Mathematics and its Applications in Economics along with the basics of Algebra.

Unit: I Equations, Graphs, Functions, Economic Applications   (15 Lectures)

A: Equations and Graphs—Cartesian Coordinate System, Linear equations and Graphs, Slopes, Intercept, Equation of a Straight-Line- Applications of Linear Equations in Economics.
B. Function— Concepts, Graphing Functions (Linear and Quadratic) Equations, Solving Quadratic Equations.
C. Systems of Equation—Graphical Solutions-Demand and Supply Analysis, Break-Even Analysis, Income Determination Models.

Unit: II Limits, Differentiation, Economic Applications   (15 Lectures)

A: Limits —Continuity, Differentiability and Continuity, Rules of Differentiation (Constant, Linear and Power Functions, Sums and Differences, Product, Quotient).
B. Higher Order Derivatives — Increasing and Decreasing Functions, Concavity and Convexity, Inflection Points.
C. Optimising Economic Functions for Business — Maximising profits, and Minimising Costs, Relationships among Total, Marginal and Average Functions.

Unit: III Matrix Algebra, Linear Programming (Economic Applications), Algebra.   (15 Lectures)

A: Matrix Algebra—Definition and types of Matrices, Algebraic Operations of Addition, Subtraction, Scalar and Vector Multiplication, and Multiplication of Matrices {2x2 only}.
B: Linear Programming— Formulation of the Objective Function and the Constraints, Graphical Solution.
C. Algebra—Sequences and Series, Arithmetic and Geometrical Progression, Sum of nth terms, series.

REFERENCES

1) Anthony M. and Norman Briggs, Mathematics for Economics and Finance, Cambridge University Press, Replika Press Pvt. Ltd., Delhi, 2002.
2) Bose D., An Introduction to Mathematical Economics, Himalaya Publishing House, New Delhi, 2007.
3) Chiang A. C., Fundamental method of Mathematical Economics, Mc-Graw Hill, New York, 1986.