ST. JOSEPH'S COLLEGE (AUTONOMOUS) BENGALURU-27



Re-accredited with **'A++' GRADE with 3.79/4 CGPA** by NAAC Recognized by UGC as College of Excellence

DEPARTMENT OF MATHEMATICS

Syllabus for Bachelor of Science (Basic/Hons.)

Under National Education Policy

For Batch 2021 (Onwards)

Name of the Degree Program: B.Sc. Discipline Core: Mathematics Total Credits for the Program: 176 (till 8 semesters) Starting year of implementation: 2021-22

NEP Syllabus for B.A./B.Sc. with Mathematics as Major Subject & B.A./B.Sc. (Honours) Mathematics

SEMESTER-I

Open Elective-1

MTOE-1: Business Mathematics				
Teaching Hours: 3 Hours/Week	Credits:3			
Total Teaching Hours: 42 Hours	Max.Marks:100 (S.A60+ I.A40)			

Course Learning Outcomes: This course will enable the students to

- Translate the real-world problems through appropriate Mathematical modelling.
- Explain the concepts and use equations, formulae and Mathematical expressions and relationships in various contexts.
- Analyse and demonstrate the mathematical skills required in Mathematically intensive areas in economics and business problems.

Unit-I: Algebra

Simple Linear Equations, Quadratic Equations, simultaneous equations in 2 variables, application problems. 14 Hours

Unit - II: Matrices

Definition of a matrix, types of matrices and algebra of matrices. Calculation of values of determinants up to third order, Adjoint and inverse of a square matrix, solution of a system of linear equations having unique solution and involving not more than three variables.
Examples on Commercial Mathematics.

Unit - III: Percentage, Ratio & Proportions

 Percentage-Definition, Calculation of percentage, Ratios - Types of Ratios - Duplicate, Triplicate & Sub-duplicate of a ratio. Proportions -Definition & properties - cross product property & reciprocal property, united proportions - continued proportion - compound proportions, Examples on Commercial Mathematics.

Reference Books:

- 1. Allel R.G.A, Basic Mathematics, Macmillan, New Delhi.
- 2. Dowling, E.T., Schaum's Series: Mathematics for Economics, McGraw Hill, London.
- 3. Vohra, N.D., *Quantitative Techniques in Management*, Tata McGraw Hill, New Delhi.
- 4. Soni R.S., Business Mathematics, Pitamber Publishing House, Delhi
- 5. Edward T. Downling, *Schaum's Outline Series: Introduction to Mathematical Economics*, McGraw-Hill, New York.

Blueprint

	Unit-I	Unit-II	Unit-III	Number of Questions to be answered	Total
2 Marks	4	4	4	10/12	20
5 Marks	2/3	3/5	3/5	8/13	40