

N S S COLLEGE MANJERI
DEPARTMENT OF MATHEMATICS

B.Sc Maths -PROGRAMME OUTCOME

PO1 :- Mathematics is a powerful tool with many applications , so in this programme students could acquire basic and deep knowledge in various branches of Mathematics .

PO2:- To provide the learners with a skill based knowledge in respective disciplines

PO3:-Lays down the foundations for higher education.

PO4:- Provides an effective communication skill .

PO5:- apply the knowledge of mathematics in various higher education's levels.

PROGRAMME SPECIFIC OUTCOME

PSO1 : Provide a systematic understanding of core mathematical concepts, principles and theories along with their applications.

PSO2:-To develop critical thinking so as to analyse ideas and concepts in different perspectives.

PSO3:- Studying mathematics, helps to create and develop a culture of solving problems through reasoning in day to day life.

B.Sc. DEGREE PROGRAMME
MATHEMATICS
DETAILS OF COURSES

- 1 MAT1B01 Foundations of mathematics
- 2 MAT2B02 Calculus
- 3 MAT3B03 Calculus and analytic geometry
- 4 MAT4B04 Theory of equations, matrices and vector calculus
- 5 MAT5B05 Vector calculus
- 6 MAT5B06 Abstract algebra
- 7 MAT5B07 Basic mathematical analysis
- 8 MAT5B08 Differential equations
- 9 Open Course MAT5D19 : Mathematics for social sciences

10 Project

11 MAT6B09 Real analysis

12 MAT6B10 Complex analysis

13 MAT6B11 Numerical methods

14 MAT6B12 Number theory and linear algebra

15 MAT6B14(E02) Elective Course) : Linear Programming

16 MAT6P14(PR) Project/viva VI 2 2

17 MATHEMATICS (Compenntary course) FIRST SEMESTER

MAT 1C01 : Mathematics

18 MATHEMATICS (Compenntary course) SECOND SEMESTER MAT 2C02 :
Mathematics

19 MATHEMATICS (Compenntary course) THIRD SEMESTER

MAT 3C03 : Mathematics

20 MATHEMATICS (Compenntary course) FOURTH SEMESTER MAT 4C04 :
Mathematics

Course outcome

MAT1BO1 Foundations of mathematics.

CO1: -Explain Basis of set theory .

CO2: To develop the philosophical thinking and logical arguments

CO3:-Analyze statements using truth tables.

Co4:-Able to model real situations using functions

MAT2BO2 Calculus

CO1:- Enable the students to achieve the concept of Functions and their graphs, concept of limits, continuity and differentials

CO2:-Learn applications of integration

MAT3BO3 Calculus and analytic geometry

CO1:- Familiarise Inverse functions, hyperbolic functions.

CO2:- Introducing Theorems for calculating limits of sequences, Infinite series

CO3:- Introducing the concept of polar coordinate system,

MAT4BO4 Theory of equations, matrices and vector calculus

CO1:-Able to solve system of equations of different levels.

CO2:-Learn to solve quadratic equations and inequalities.

CO3:-Give basic ideas about Vector calculus and its applications.

MAT5BO5 Vector calculus

CO1:- Convey an understanding on Notion of directional derivatives , divergence of vector field, Green's Theorem.

CO2:- Develops an insight about Surface integral . Gauss' theorem,Stoke's theorem and their applications.

MAT5BO6 Abstract algebra

CO1: Develop Ideas of binary operation on a set, groups, subgroups, cyclic groups.

CO2: To enrich the knowledge of Group of permutation in detail, Lagrange's theorem, finitely generated abelian groups.

MAT5BO7 Basic mathematical analysis

CO1:- Explain Applications of completeness property

CO2: : Provide knowledge about Basic idea of mathematical analysis

CO3:- Theorems about sequences and series

CO4:- Introduction of complex numbers.

MAT5BO8 Differential equations

CO1:-Explain Differential equations with constant coefficients and their solutions.

CO2: Explain Second order equations with variable coefficient and their solutions.

CO3 : Explain Laplace transform

MAT5D19 : Mathematics for social sciences

CO1:-Introduction of the concept of functions and graphs

CO2:- Enable the students to achieve the concept of limits and continuity .

MAT6BO9 Real analysis

CO1:- Develop skill in Study of Real - valued functions, properties of continuity ,differentiability and Riemann integral.

CO2:- Establish the links between anti-differentiation and Riemann integrals.

CO3:- able to define the limit of a function at a value, a limit of a sequence, continuity of a function and uniform continuity of a function.

CO4:-Introducing improperintegrals and beta gamma functions.

MAT6B10 Complex analysis

CO1:- Impart knowledge with Properties differentiable complex functions of open sets.

CO2:- Provide knowledge in Harmonic functions

CO3:- Explain Concepts of conformal mapping.

MAT6B11 Numerical methods

CO1:-able to simplify expressions, solve basic linear equations and application problems

CO2:-approximate a function using an appropriate numerical methods.

MAT6B12 Number theory and linear algebra

CO1: Provide knowledge about Theory of Numbers CO2:-Familiarise Invertible matrix and linear mappings

1.

MAT6B13 Linear programming problems

CO1:-Able to graph linear equations and inequations.

CO2:- Familiar with Linear programming transportation problems .

MAT6B14 Project

CO1:-Prescribed to increase students participation in learning.

CO2:-Develop some time management skill.

CO3:-Develop communication skill especially in project writing and oral presentation.

MATHEMATICS (Compemntary course) FIRST SEMESTER

MAT 1C01 : Mathematics

CO1:- Enable the students to achieve the concept of Functions and their graphs, concept of limits, continuity and differentials

CO2:-Learn applications of integration

MATHEMATICS (Compemntary course) SECOND SEMESTER

MAT 2C02 : Mathematics

CO1:- Theorems about sequences and series: Enable the students to achieve the concept of

CO2:-Introducing improper integrals and polar coordinate system

MATHEMATICS (Compemntary course) THIRD SEMESTER

MAT 3C03 : Mathematics

CO2: Familiar with Differential equations with constant coefficients and their solutions.

CO3: Familiar with Second order equations with variable coefficients and their solutions

CO3:- Provide knowledge in Algebra of matrices and some applications of matrices

CO4:- Understand the basis of Vector fields, graphical representation

MATHEMATICS (Complementary course) FOURTH SEMESTER

MAT 4C04 : Mathematics

CO1: Describe Methods to find roots.

CO2: : Describe Solutions of linear equations.

CO3: Familiar with Second order equations with variable coefficients and their solutions.

CO4: Understand the basis of Laplace transform.