

GOVT. SHIVALIK COLLEGE NAYA NANGAL

Department of Mathematics Session (2024-25)

PROGRAMME OUTCOME

COURSE :- B. Sc. MATHEMATICS

Mathematical Knowledge

Familiarize the students with suitable tools of mathematical analysis to handle issues and problems in mathematics and related sciences. A student should be able to recall basic facts about mathematics and should be able to display knowledge of conventions such as notations , terminology.

Problem Solving Skills

This programme also offers training in problem solving skills.

Analytical & Logical thinking:-

Students should be able to apply their skills and knowledge that is translate information presented verbally into mathematical form, select and use appropriate mathematical formulae or techniques in order to process the information and draw the relevant conclusion.

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COURSE OUTCOME

B.Sc. 1st Semester

S. No.	Course /Code	Outcome Semester I
1.	Trigonometry And Algebra MATB-1101	<ul style="list-style-type: none">• To apply notion of derivative in mean value theorem and also in higher order derivatives which arise in all applied sciences.• To study functions in detail which is a fundamental structure in all sciences, and to be able to check continuity of a function

B.Sc. 2nd Semester

S. No.	Course /Code	Outcome Semester II
1.	CALCULUS MATB-1201	<ul style="list-style-type: none">• Relate matrices and linear transformation; compute Eigen values and Eigen vectors of linear transformation.• To learn analytical geometry of 2 and 3 dimensions which include study of conics, planes, lines, sphere, cone and cylinder

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B.Sc. 3rd Semester

S. No.	Course / Code	Outcome Semester III
1.	ASVANCE CALCULUS (MTHB2101)	<ul style="list-style-type: none"> To study concept of sequence and series and hence find sum of infinite terms with different methods. To study notion of lub and glb which helps to learn integrations which helps to find area under any functions
2.	MECHANICS (STATICS) MTHB2102	<ul style="list-style-type: none"> Statics: friction, work and energy, virtual work, Dynamics: conservation of linear momentum, angular momentum and energy, variable mass systems, dynamic equilibrium.

B.Sc. 4th Semester

S. No.	Course / Code	Outcome Semester IV
1.	MATHEMATICAL METHODS I MTHB2201	<ul style="list-style-type: none"> To learn Riemann Integral and its properties in detail, leading to fundamental theorem of calculus and Mean value theorems. To study pointwise and uniform convergence of sequences and series of functions.
3.	DYNAMICS (MTHB2202)	<ul style="list-style-type: none"> Understand the kinds of motion, absolute and relative velocities and accelerations. Learn about concurrent forces ,Lami's theorem ,centre of gravity.

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COURSE OUTCOME

B.Sc. 5th Semester

S. No.	Course /Code	Outcome Semester V
1.	MATHEMATICAL METHODS I (SCIB3501T)	<ul style="list-style-type: none"> To learn to evaluate the Fourier series of various even and odd functions. To learn the evaluation of Laplace transform of different types of functions, their derivatives and integrations
2.	ALGEBRA I (SCIB3502T)	<ul style="list-style-type: none"> Understand the basic concepts of group actions and their applications. Recognize and use the Sylow theorems to characterize certain finite groups. Know the fundamental concepts in ring theory such as the concepts of ideals, quotient rings, integral domains, and fields
3.	DISCRETE I (SCIB3503T)	<ul style="list-style-type: none"> Learn about partially ordered sets, lattices and their types. Understand Boolean algebra and Boolean functions, logic gates, switching circuits and their applications

B.Sc. 6th Semester

S. No.	Course /Code	Outcome Semester VI
1.	MATHEMATICAL METHODS II (SCIB3601T)	<ul style="list-style-type: none"> To learn the evaluation of Inverse Laplace transform of functions, their derivatives and integrations, and to learn application of Convolution theorem. To learn to apply Laplace Transform to solve Ordinary Differential equations with constant coefficients.
2.	ALGEBRA II (SCIB3602T)	<ul style="list-style-type: none"> Learn in detail about polynomial rings, fundamental properties of finite field extensions, and classification of finite fields.
3.	DISCRETE II (SCIB3603T)	<ul style="list-style-type: none"> Solve real-life problems using finite-state and Turing machines. Assimilate various graph theoretic concepts and familiarize with their applications.

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