



Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	P	OJT		Theory		Tutorial/ Practical		
			University exams (ESE)	Progressive Assessment (PA)	External Practical /viva Exam (ESE)	Internal evaluation Practical /viva Exam (PA)		
3	-	-	3	50	-	-	-	50

L- Lectures; P- Practical; OJT- On Job Training; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

Program Objectives:

The main objectives of learning Mathematics are to enable the learners to:

- Acquire knowledge and understanding of basic concepts, facts, principles, terms, symbols and processes of Mathematics
- Acquire the skills of quantification of experiences around them and make linkage with their life and articulate logically and use the same to prove results
- Convert the word problems in the mathematical forms and solve them
- Introduce learners to different ways of processing the given data and help them in arriving at conclusions
- Provide learners with an appreciation of the wide variety of application of Mathematics and equip them with the basic device that enable such application
- Develop appreciation for the influence and exquisiteness of Mathematics for its applications in Science, Commerce, Economics and daily life
- Apply mathematical knowledge and skills to solve variety problems and develop positive attitude towards Mathematics and its application

Course Content: Theory

Unit No.	Content	Hours
1.	Algebra-II 1. Matrices 2. Determinants 3. Inverse of a Matrix and its Applications	08
2.	Relations and Functions 1. Relations and Functions-II 2. Inverse Trigonometric Functions	08
3.	Calculus 1. Limits and Continuity 2. Differentiation 3. Differentiation of Trigonometric functions 4. Differentiation of Exponential and Logarithmic functions 5. Application of Derivatives 6. Integration 7. Definite Integrals 8. Differential Equations	09
4.	Vectors and Three-Dimensional Geometry 1. Introduction to Three-Dimensional Geometry	09



	2. Vectors 3. Plane 4. Straight Line	
5.	Linear Programming and Mathematical Reasoning 1. Linear Programming 2. Mathematical Reasoning	08
	Total Hours:	42

Suggested Specification table with Marks (Theory):

Distribution of Theory Marks				
R Level	U Level	A Level	N Level	E Level
5	20	15	10	5

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate and above Levels (Bloom's Taxonomy)

Reference Books:

1. Engineering Mathematics by B. S. Grewal, Khanna Publishers.
2. Coordinate Geometry by Shanti Narayan, S. Chand.
3. Statistical Methods by S. P. Gupta, Sultan Chand & Sons.
4. Engineering Mathematics by I. B. Prasad, Khanna Publisher
5. Mathematics for Polytechnic by S.P.Deshpande, Pune Vidyarthi Griha Prakashan.

Course Outcomes:

At the end of this course students will be able to:

- Understand the basic concept about numbers, arithmetic and algebra.
- Students can deal with data and derive interpretation.
- Understand the basic about geometry.