GANPAT UNIVERSITY

FACULTY OF ENGINEERING AND TECHNOLOGY (DIPLOMA PROGRAMMES)

Programme	Diploma Programme	Branch/Spec.	All
Semester	I	Version	1.0.0.0
Effective from Academic Year	2018-19	Effective for the batch Admitted in : June-2018	
Subject code	**1BS121**	Subject Name	**Mathematics - I**

Teaching scheme						Examination scheme (Marks)			
(per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	1	-	-	4	Theory	40	60	100
Hours	3	1	-	-	4	Practical	-	-	-

Pre- requisite:

- None

Learning outcomes:

- The subject is classified under Basic Sciences and students are intended to know about the basic concepts and principles of Mathematics as a tool to analyze the Engineering problems.
- The course content should be taught so as to understand and perform the Engineering concepts and computations.
- Mathematics has the potential to understand the core Technological studies.
- Prepare him/her self for finding Area and Volume.

Theory syllabus

Unit	Content	Hrs.
1	**Determinants and Matrices:** Idea of Determinant and related Examples, Definition ,Order mxn, types of Matrices, Addition/Subtraction of Matrix, Product of Matrix, Adjoint and Inverse up to 3X3 matrix, Solution of Simultaneous Equations (up to three variables).	**14**
2	**Vectors:** Basic concept of Vector, addition & subtraction of Vectors, Modulus vector , Unit vector and Direction of vectors, Angle between two vectors, Applications of Dot and Cross Product of Vectors, Work Done by Force.	**12**
3	**Logarithm:** Concept ,Working Rules and related Examples, Logarithm Base changed rule and related Examples, Relation between Logarithm and Indices and related Examples	**08**
4	**Mensuration :** Calculate the surface area of different shapes and bodies (Triangle, Square, Rectangle, Trapezium, Parallelogram, Rhombus and Circle) Calculate the Surface & Volume of different shapes and bodies Surface & Volume (Cuboids, Cone, Cylinder and Sphere)	**08**
5	**Trigonometry:** Introduction of function, Solve simple problems using concepts of Trigonometry, Units of Angles(degree and radian), Allied & Compound Angles, Multiple –Submultiples angles, Graph of Sine and Cosine, Periodic function, sum and factor formulae, Inverse trigonometric function	**18**

Practical content:
Experiments/Practical/Tutorials/Simulations would be carried out based on syllabus
SUGGESTED LEARNING RESOURCES
List of Books

Sr.No	Title of Books	Author	Publication
1	Engineering Mathematics (3rd edition)	Anthony Croft	Pearson Education
2	Applied Mathematics	W. R. Neelkanth	Sapna Publication
3	Polytechnic mathematics	S.P. Deshpande	Pune Vidyarthi Gruh Prakashan