



**GUJARAT TECHNOLOGICAL UNIVERSITY**

**Syllabus for Diploma in Vocation (D.Voc), 1<sup>st</sup> Semester**

**Branch: Automobile Servicing/Software Development**

**Subject Name: Applied Mathematics-I**

**Subject Code: 1210104**

**Teaching and Examination Scheme:**

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	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; T- Tutorial; OJT- On Job Training is equivalent to Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

**Content:**

Sr. No.	Content	Hrs.
1	<b>Sets, Relations and Functions</b> 1. Sets 2. Relations and Functions-I 3. Trigonometric Functions-I 4. Trigonometric Functions-II 5. Relation between Sides and Angles of A triangle	8
2	<b>Sequences and Series</b> 1. Sequences and Series 2. Some Special Sequences	8
3	<b>Algebra-I</b> 1. Complex Numbers 2. Quadratic Equations and Linear inequalities 3. Principle of Mathematical Induction 4. Permutations and Combinations 5. Binomial Theorem	8
4	<b>Co-ordinate Geometry</b> 1. Cartesian System of Rectangular Co-ordinates 2. Straight Lines 3. Circles 4. Conic Sections	8
5	<b>Statistics and Probability</b> 1. Measures of Dispersion 2. Random Experiments and Events 3. Probability	10
	<b>Total</b>	<b>42</b>

**Suggested Specification table with Marks (Theory):**

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

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



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**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:

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