GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Diploma in Vocation (D.Voc), 1st Semester
Branch: Software Development
Subject Name: Applied Mathematics-I
Subject Code: 1210204

With effective from academic year 2018-19

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
				Theory		Tutorial/ Practical		
L	P	OJT	C	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 enables 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.	**Sets, Relations and Functions** 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.	**Sequences and Series** 1. Sequences and Series 2. Some Special Sequences	**8**
3.	**Algebra-I** 1. Complex Numbers 2. Quadratic Equations and Linear inequalities 3. Principle of Mathematical Induction 4. Permutations and Combinations 5. Binomial Theorem	**8**
4.	**Co-ordinate Geometry** 1. Cartesian System of Rectangular Co-ordinates 2. Straight Lines	**9**

	3. Circles 4. Conic Sections	
5.	**Statistics and Probability** 1. Measures of Dispersion 2. Random Experiments and Events 3. Probability	**9**
	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	5	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 VidyarthiGrihaPrakashan.

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.