**Syllabus for Diploma in Vocation (D.Voc), 1st Semester**
**Branch: Automobile Servicing/Software Development**
**Subject Name: Applied Mathematics-I**
**Subject Code: 1210104**

**With effective from academic year 2018-19**

**Teaching and Examination Scheme:**

| Teaching Scheme | | | Credits | Examination Marks | | | | Total Marks |
|---|---|---|---|---|---|---|---|---|
| | | | | Theory | | Tutorial/ Practical | | |
| L | T | 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; 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 | **Sets, Relations and Functions**<br>1. Sets<br>2. Relations and Functions-I<br>3. Trigonometric Functions-I<br>4. Trigonometric Functions-II<br>5. Relation between Sides and Angles of A triangle | 8 |
| 2 | **Sequences and Series**<br>1. Sequences and Series<br>2. Some Special Sequences | 8 |
| 3 | **Algebra-I**<br>1. Complex Numbers<br>2. Quadratic Equations and Linear inequalities<br>3. Principle of Mathematical Induction<br>4. Permutations and Combinations<br>5. Binomial Theorem | 8 |
| 4 | **Co-ordinate Geometry**<br>1. Cartesian System of Rectangular Co-ordinates<br>2. Straight Lines<br>3. Circles<br>4. Conic Sections | 8 |
| 5 | **Statistics and Probability**<br>1. Measures of Dispersion<br>2. Random Experiments and Events<br>3. Probability | 10 |
| | **Total** | **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)

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**Syllabus for Diploma in Vocation (D.Voc), 1ˢᵗ Semester**
**Branch: Automobile Servicing/Software Development**
**Subject Name: Applied Mathematics-I**
**Subject Code: 1210104**

**With effective from academic year 2018-19**

**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.