**Lesson Plan**

Name of the Faculty : VF

Discipline : Applied Sciences

Semester : 2nd Semester

Subject : Applied Mathematics-II

Lesson Plan Duration : 15 weeks

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| Week | Theory |
| Lecture | Topic |
| 1 | 1 | Theory of Equation |
| 2 | Formation of Equation |
| 3 | Roots and Coefficients |
| 4 | Problem Practice |
| 2 | 5 | Reciprocal Equations |
| 6 | Transformation of Equations |
| 7 | Problem Practice |
| 8 | Integral Calculus |
| 3 | 9 | Beta Function |
| 10 | Gamma Function |
| 11 | Problem Practice |
| 12 | Leibnitz’s Rule |
| 4 | 13 | Leibnitz’s Rule |
| 14 | Problem Practice of Unit 1 |
| 15 | Problem Practice of Unit 1 |
| 16 | Laplace Transform |
| 5 | 17 | Transform of Elementary Function |
| 18 | Properties of LT |
| 19 | Problem Practice of LT |
| 20 | Transform of Derivatives |
| 6 | 21 | Transform of Integrals |
| 22 | Evaluation of Integrals by LT |
| 23 | Inverse Transform |
| 24 | Convolution Theorem |
| 7 | 25 | Dirac Delta Function |
| 26 | Problem Practice |
| 27 | Applications of LT |
| 28 | Applications of LT |
| 8 | 29 | Problem Practice of LT |
| 30 | Problem Practice of LT |
| 31 | Ordinary Differential Equation |
| 32 | Exact DE |
| 9 | 33 | Reduction to Exact DE |
| 34 | Application of DE |
| 35 | Newton’s law of cooling |
| 36 | Orthogonal Trajectories |
| 10 | 37 | Problem Practice of Differential Equation |
| 38 | Linear DE |
| 39 | Higher order LDE |
| 40 | Complimentary Integral |
| 11 | 41 | Particular Integral |
| 42 | Method of Variation |
| 43 | Method of Undetermined Coefficients |
| 44 | Cauchy’s Equation |
| 12 | 45 | Legendre’s Equation |
| 46 | Simultaneous Linear Equation |
| 47 | Vector Calculus |
| 48 | Scalar and Vector Function |
| 13 | 49 | Gradient of a scalar field |
| 50 | Divergence of a vector field |
| 51 | Curl of a vector field |
| 52 | Line Integral |
| 14 | 53 | Surface Integral |
| 54 | Volume Integral |
| 55 | Greens Theorem |
| 56 | Strokes Theorem |
| 15 | 57 | Gauss Divergence Theorem |
| 58 | Problem Practice of Unit 4 |
| 59 | Problem Practice of Unit 4 |
| 60 | Problem Practice of Unit 4 |