

Loknete Dr. Balasaheb Vikhe Patil (Padma Bhushan Awardee) Pravara Rural Education Society's

**Arts, Commerce and Science College, Satral**

Λ/P Satral, Tal. Rahuri, Dist. Ahmednagar

**Department of Mathematics**

**Certificate Course in Differential Equation, 2020-21  
Syllabus**

Sr. No.	Topic	Sub Topic and Learning Points	No. of Lectures
1.	Differential Equations of first order and first degree	i) Introduction to function of two, three variables, homogenous functions, Partial derivatives. ii) Differential equations, General solution of Differential equations. iii) Methods of finding solution of Differential equations of first order and first degree, Variable separable form, Homogenous Differential equations, Differential equations reducible to homogeneous form. Exact Differential equations. Differential equations reducible to exact Differential equations, Integrating Factors, Linear Differential equations. Bernoulli's Differential equations.	16
2.	Application of Differential Equations	i) Orthogonal trajectories. ii) Kirchoff's law of electrical circuit (RC & LR Circuit)	06
3	Methods of finding general solution of Differential Equations of first order and higher degree	i) Equations solvable for $p$ . ii) Equations solvable for $x$ . iii) Equations solvable for $y$ . iv) Equation in Clairaut's form.	06

  
Coordinator