CMG Govt. College for Women, Bhodia Khera (Fatehabad)

Lesson Plan, Sesssion:2022-23

Name of the Teacher: Sonu Ram   Designation: Assistant Professor of Maths

Class and Section: B.A., B.Sc., 2nd year, 3rd sem.

Subject: Partial Differential Equations (Maths)

Week	Topics
August 3rd and 4th week	Chapter 1: Formation of partial differential equation, Differentiation of P.D.E, Order and degree of P.D.E, Formation of equation by the elimination of Arbitrary constants, Examples and Exercises
September 1st week	Chapter 2: First order linear partial differential equation, Classification of the solution or integral of P.D.E, Solution of linear P.D.E by direct integration, Exercise and Examples
September 2nd week	Chapter 2: Standard form of linear P.D.E. of first order, Solution of Lagrange's linear equation, Examples and Exercise.
September 3rd week	Chapter 3: First order non-linear P.D.E, Compatible system of P.D.E. of order one, General methods of solution, Charpit's method, Examples and Exercise.
September 4th week	Chapter 3: Some standard forms, Jacobi's method, Examples and Exercise.
	Test and Assignment- I
October 1st week	Chapter 4: Linear P.D.E. of second and higher orders, Solution of Non-Homogeneous L.P.D. equations with constant coefficients, Rule for writing C.F. of Non-Homogeneous linear equation.
October 2nd week	Chapter 4: Rule for finding P.I. in case of Non-Homogeneous linear equation with constant coefficients.
October 3rd week	Chapter 5: P.D.E. with variable coefficients reducible to equation with constant coefficients

October 4th week	Chapter 6: Classification and Canonical form of second order Linear P.D.E, Reduction of Hyperbolic equation to its Canonical form
November 1st week	Chapter 6: Reduction of Parabolic equation to the Canonical form, Reduction of Elliptic equation of the Canonical form
	Test and Assignment-II
November 2nd week	Chapter 7: Monge's method for P.D.E. of second order
	Chapter 8: Characteristics of second order P.D.E. and Cauchy's problems
November 3rd week	Chapter 9: Methods of separation of variables, One dimensional Wave equation, Solution of two dimensional Wave equation
November 4th week December 1st week	Chapter 9: Methods of separation of variables, One dimensional Heat equation, Solution of two dimensional Heat and Laplace equation in two dimensional .
December 2nd week	Taking doubts of exercises chapter 1, chapter 2, chapter 3, chapter 4, chapter 5, chapter 6 etc. and class take test, revision.