**Lesson Plan**

**Session: 2021-22**

**Name of Teacher : Sandeep Kumar**

**Subject: Ordinary Differetial Equations**

**Class:** **B.Sc. 2th semester**

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| **Sr. No.** | **Week** | **Dates** |  **Topics to be covered** |
| 1 | 1 | March 21-26 | Exact differential equation and Integrating factors |
| 2 | 2 | March 28-April 02 | First order higher degree equations solvable for x,y,p. |
| 3 | 3 | April 04-09 | Lagrange's equations and Clairaut's equations  |
| 4 | 4 | April 11-16 | Equations reducible to Claraut's form, Singular solutions  |
| 5 | 5 | April 18-23 | Orthogal trajectories in Cartesian and polar coordinates. |
| 6 | 6 | April 25-30 | Linear differential equation with contant Coefficients |
| 7 | 7 | May 02-07 | Homogeneous linear ordinary differential equations  |
| 8 | 8 | May 09-14 | Equations reducible to homogeneous equations  |
| 9 | 9 | May 16-21 | Reduction to normal form of Linear differential equation of 2nd order |
| 10 | 10 | May 23-28 | Transformation of the equation by changing the dependent variable/ independent variable,  |
| 11 | 11 | May 30-June 04 | Solution by operators of non homogeneous linear differential equations, Reduction of order of a differential equation. |
| 12 | 12 | June 06-11 | Method of variations of parameters, Method of undetermined Coefficients. |
| 13 | 13 | June 13-18 | Solution of simultaneous differential equations involving operators x ( d/dx) or t (t/dt) etc. , simultaneous equation of the form dx/P = dy/Q=dz/R. |
| 14 | 14 | June 20-25 | Total differential equations , Condition P.dx + Q.dy + R.dz = 0 to be exact. |
| 15 | 15 | June 27-July 02 | General Method of solving P.dx + Q.dy +R.dz = 0 by taking one variable constant.  |
| 16 | 16 | July 04-09 | Method of Auxiliary equations  |
|  |  |  |  Examinations  |