**Lesson Plan 2021-22**

Name of the Assistant Professor: **Ms. Manisha**

Class and Section: **B.Sc. 2nd Semester**

Subject: **Mathematics (Ordinary Differential Equations)**

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| Week | Date | Topics |
| 1 | 21 Mar-26 Mar | Introduction to Differential equations, ODE, PDE, different types of solutions, Order & degree of DE. |
| 2 | 28 Mar- 2 Apr | Introduction to Exact DE, theorem based on exact DE, solution of exact DE, various ways of making DE exact and problems based on them. |
| 3 | 4 Apr – 9 Apr | Exercise 1,2,3,4, Introduction to orthogonal trajectories, problems & exercise 1. |
| 4 | 11 Apr – 16 Apr | Introduction to first order & higher degree DE, singular solutions, problems & exercise 1, 2,3,4. |
| 5 | 18 Apr – 23 Apr | Introduction to the solution of various higher order but first degree DE with constant coefficients, problems & exercise based on them. |
| 6 | 25 Apr – 30 Apr | Introduction to the solution of various higher order but first degree DE with constant coefficients, problems & exercise based on them. |
| 7 | 2 May – 7 May | Introduction to the solution of various higher order but first degree DE with variable coefficients (Homogeneous Linear equations), problems & exercise 1. |
| 8 | 9 May – 14 May | Introduction to the solution of various higher order but first degree DE with variable coefficients (Homogeneous Linear equations), problems & exercise 2. |
| 9 | 16 May –21May | Linear DE of second order, methods of solving DE, exercise 1. |
| 10 | 23 May –28May | Solution of DE of second order by removing first derivative term, exercise 2, solving linear DE of second order by changing the independent variable, exercise 3. |
| 11 | 30 May – 11 Jun | Solving linear DE using variation of parameter method, exercise 4, Solving DE using method of undetermined coefficients, exercise 5. CLASS TEST. |
| 12 | 13Jun – 18 Jun | Introduction to simultaneous DE, methods of solving them, examples, problem of exercise 1. |
| 13 | 20 Jun – 25Jun | Simultaneous DE of special form, exercise 2, solving DE by second integral found with the help of first, exercise 3. CLASS TEST. |
| 14 | 27 Jun – 2 Jul | Introduction to total differential equations, necessary and sufficient condition for integrability of total DE, exercise 1 |
| 15 | 4 Jul- 9 Jul | . Second method: regarding one variable as constant out of three variables in total DE, method 3: solving homogeneous DE. |
| 16 | 11 Jul onwards | EXAMINATIONS |