**Dr. B. R. Ambedkar Govt. College, Jagdishpura, Kaithal**

**Lesson Plan: 2024-25 (Odd Semester)**

**Name of Assistant Professor**: - Ms. Sonia **Department**: Mathematics

**Class: -** M.Sc.(3rd Sem.) **Subject:** - Fluid Mehanics

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| Week | Topic |
| Aug./Second | Introduction of fluid mechanics |
| Aug./Third | Kinetic of fluid motion :velocity at a point of fluid |
| Aug./ Fourth | Lagrangian method and eulerian method ,path lines and streak lines |
| Aug./Fifth | Test ,and revision |
| Sept./ First | Equation of continuity, Reynolds transport theorem |
| Sept./ Second | Vorticity and circulation, vortex lines, acceleration and material derivative |
| Sept./ Third | General analysis of fluid motion,properties of fluids |
| Sept. Fourth | Test and problems |
| Oct./ First | Equation of motion : lagrangian and euler equation of motion |
| Oct./Second | Test and problems |
| Oct./ Third | Continue |
| Oct./Fourth | Bernculli theorem,apllicatin of the Bernoulli equation in one dimension flow problem |
| Oct./Fifth | Kelvin circulation theorem, vorticity equation |
| In Nov/First | Energy equation in incompressible flow, kinetic energy in irrational flow |
| Nov. / Second | Diwali Break |
| Nov./ Third and fourth | Revision |

Ms. Sonia

Assistant Professor

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**Lesson Plan: 2024-25 (Odd Semester)**

**Name of Assistant Professor**: - Ms. Sonia **Department**: Mathematics

**Class: -** B.Sc.(5th Sem.) **Subject: -** Practical

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| **Week** | **Topic** |
| July/Fourth | Basic Programs in C |
| Aug./First | Theory related to Newton-Forward, Backward and Lagrange’s Interpolation formulas. |
| Aug./Second | Write a Program to demonstrate Newton-Forward Interpolation formula. |
| Aug./Third | Write a Program to demonstrate Newton-Backward Interpolation formula. |
| Aug./ Fourth | Write a Program to demonstrate Lagrange’s Interpolation formula. |
| Aug./Fifth | Theory related to Trapezoidal, Simpson’s one-third and Simpson’s three-eighth Rule. |
| Sept./ First | Write a Program to demonstrate Trapezoidal Rule. |
| Sept./ Second | Write a Program to demonstrate Simpson’s one-third Rule. |
| Sept./ Third | Write a Program to demonstrate Simpson’s three-eighth Rule. |
| Sept. Fourth | Theory related to Euler’s and Euler’s Modified method |
| Oct./ First | Write a Program to demonstrate Euler’s method. |
| Oct./Second | Write a Program to demonstrate Euler’s Modified method. |
| Oct./ Third | Theory related to Runga-Kutta Method |
| Oct./Fourth | Write a Program to demonstrate Runga-Kutta method. |
| Oct./Fifth | Diwali Break |
| Nov./ First | Theory related to Milne-Simpsons Method |
| Nov. / Second | Write a Program to demonstrate Milne-Simpsons method. |
| Nov./ Third | Revision |
| Nov./ Fourth | Examination |

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**Lesson Plan: 2024-25 (Odd Semester)**

**Name of Assistant Professor**: - Ms. Sonia **Department**: Mathematics

**Class: -** B.C.A.(Ist Sem) **Subject: -** Mathematical Foundation-I

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| Week | Topic |
| July/Fourth | Sets and their representation |
| Aug./First | Empty set, Finite and infinite sets, Subsets, Equal sets, Power sets, Universal set, Union and intersection of sets |
| Aug./Second | Difference of two sets, complement of a set and venn diagram |
| Aug./Third | De-Morgan’s law and their applications |
| Aug./ Fourth | An introduction to matrices and their types |
| Aug./Fifth | Operations on matrices, Symmetric and skew-symmetric matrices |
| Sept./ First | Minors, Co-factors. Determinant of a square matrix, Adjoint and inverse of a square matrix |
| Sept./ Second | Solutions of a system of linear equations up to order 3 |
| Sept./ Third | Test and assignment |
| Sept. Fourth | Quadratic equations |
| Oct./ First | Solution of quadratic equations |
| Oct./Second | Arithmetic progression, Geometric progression, Harmonic progression |
| Oct./ Third | Arithmetic mean (A.M.), Geometric mean (G.M.), Harmonic mean (H.M.) Relation between A.M., G.M. and H.M. |
| Oct./Fourth | The concept of differentiation, differentiation of simple functions |
| Oct./Fifth | Diwali Break |
| Nov./ First | Use of differentiation for solving problems related to real-life situations. Differentiation of simple algebraic |
| Nov. / Second | Revision and Test |
| Nov./ Third | Differentiation of simple trigonometric and exponential functions. |
| Nov./ Fourth | Revision |

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