**PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY**

**DEPARTMENT OF APPLIED SCIENCES AND HUMANITIES**

**LESSON PLAN**

**Name:-Dr. Jugmendra Singh,**

**Subject Name : Calculus and Ordinary differential Equation**

**Branch/ Semester:- 2nd Sem.**

**Subject Code:- BS-136A**

| Description of Topic | Lecture | | Methodology | Target outcome |
|---|---|---|---|---|
| | Lecture no. | Lecture plan date | | |
| **Unit 1 :** Basic ordinary differential equations | 1 | 12/2/2024 | Lecture Method | |
| Basic of first order ordinary differential equations | 2 | 13/2/2024 | Lecture Method | |
| Exact Differential Equation | 3 | 14/2/2024 | Lecture Method | |
| Exact Differential Equation | 4 | 15/2/2024 | Lecture Method | |
| Exact Differential Equation | 5 | 16/2/2024 | Lecture Method | |
| Exact Differential Equation | 6 | 19/2/2024 | Lecture Method | |
| Solution of LDE of first order | 7 | 20/2/2024 | Lecture Method | |
| Bernoulli equation | 8 | 21/2/2024 | Lecture Method | |
| Equations Solvable for p any y | 9 | 22/2/2024 | Lecture Method | CO-1, CO-4 |
| Equations Solvable for x | 10 | 23/2/2024 | Lecture Method | |
| Clairaut's equation | 11 | 26/2/2024 | Lecture Method | |
| LDE of second order with constant coefficients | 12 | 27/2/2024 | Lecture Method | |
| LDE of second order with constant coefficients | 13 | 28/2/2024 | Lecture Method | |
| Variation of parameter | 14 | 29/2/2024 | Lecture Method | |
| Cauchy and Legendre Homogenous LDE | 15 | 1/3/2024 | Lecture Method | |
| Cauchy and Legendre Homogenous LDE | 16 | 4/3/2024 | Lecture Method | |
| Test I | 17 | 5/3/2024 | | |
| Revision | 18 | 6/3/2024 | Lecture Method | |
| **Unit II:** Integrals | 19 | 7/3/2024 | Lecture Method | |
| Multiple integrals: Double integration | 20 | 11/3/2024 | Lecture Method | |
| change the order of integration | 21 | 12/3/2024 | Lecture Method | |
| Evaluate double integration in polar coordinates | 22 | 13/3/2024 | Lecture Method | |
| Evaluate double integration in polar coordinates | 23 | 14/3/2024 | Lecture Method | |
| Triple integration (Cartesian) | 24 | 15/3/2024 | Lecture Method | |
| Area and volume by double or triple integral | 25 | 18/3/2024 | Lecture Method | |
| Area and volume by double or triple integral | 26 | 19/3/2024 | Lecture Method | |
| Orthogonal curvilinear coordinates | 27 | 26/3/2024 | Lecture Method | CO-1, CO-2 |
| Simple applications involving cubes and rectangular parallelepipeds | 28 | 27/3/2024 | Lecture Method | |
| Simple applications involving cubes and rectangular parallelepipeds | 29 | 28/3/2024 | Lecture Method | |

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|---|---|---|---|---|
| Test II | 30 | 29/3/2024 | | |
| Revision | 31 | 1/4/2024 | Lecture Method | |
| **Unit III:** Scalar and Vector point functions | 32 | 2/4/2024 | Lecture Method | |
| Vector point functions | 33 | 3/4/2024 | Lecture Method | |
| Directional Derivative | 34 | 2/4/2024 | Lecture Method | |
| Gradient | 35 | 5/4/2024 | Lecture Method | |
| Divergence | 36 | 8/4/2024 | Lecture Method | |
| Curl | 37 | 9/4/2024 | Lecture Method | |
| Line Integral | 38 | 10/4/2024 | Lecture Method | |
| Surface integral | 39 | 11/4/2024 | Lecture Method | CO-1, CO-3 |
| Green Theorem in plane | 40 | 12/4/2024 | Lecture Method | |
| Green Theorem in plane | 41 | 15/4/2024 | | |
| Stokes theorem | 42 | 16/4/2024 | Lecture Method | |
| Stokes theorem | 43 | 17/4/2024 | Lecture Method | |
| Guass Divergence theorem | 44 | 18/4/2024 | Lecture Method | |
| Guass Divergence theorem | 45 | 19/4/2024 | Lecture Method | |
| Test III | 46 | 22/4/2024 | | |
| Revision | 47 | 23/4/2024 | Lecture Method | |
| **Unit iv:** Basic of complex variable | 48 | 24/4/2024 | Lecture Method | |
| Exponential Function | 49 | 25/4/2024 | Lecture Method | |
| Trigonometric function | 50 | 26/4/2024 | Lecture Method | |
| Hyperbolic function | 51 | 29/4/2024 | Lecture Method | |
| Logarithmic Function | 52 | 30/4/2024 | Lecture Method | |
| Limit and continuity of complex function | 53 | 1/5/2024 | Lecture Method | |
| Analytic function | 54 | 2/5/2024 | Lecture Method | |
| Analytic function | 55 | 3/5/2024 | Lecture Method | CO-1, CO- 5 |
| CR Equations | 56 | 6/5/2024 | Lecture Method | |
| Milne Thomson method | 57 | 13/5/2024 | Lecture Method | |
| Some theorems of complex | 58 | 14/5/2024 | Lecture Method | |
| Complex Integration | 59 | 15/5/2024 | Lecture Method | |
| Cauchy Integral Formula | 60 | 16/5/2024 | Lecture Method | |
| Taylors and Laurent Series | 61 | 17/5/2024 | Lecture Method | |
| Singularity and Residue theorem | 62 | 20/5/2024 | Lecture Method | |
| Singularity and Residue theorem | 63 | 21/5/2024 | Lecture Method | |
| Test IV | 62 | 22/5/2024 | | |
| Revision | 64 | 23/5/2024 | Lecture Method | |
| Revision | 65 | 24/5/2024 | Lecture Method | |
| Revision | 66 | 26/5/2024 | Lecture Method | |

*****Highlighted part represents Content beyond Syllabus topics

* Quizzes on Saturdays