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 Class and Section: **B.A. /B.Sc IInd Sem**  
 Subject: **ODE/ Number Theory and Trigonometry**

| Week | Date      | Topic                                                                                        |
|------|-----------|----------------------------------------------------------------------------------------------|
| 1    | 1-Jan-18  | Geometrical meaning of a differential equation. Exact differential equations                 |
|      | 2-Jan-18  | Integrating factors. Equation reducible to Clairaut's form. Singular solutions.              |
|      | 3-Jan-18  | -do-                                                                                         |
|      | 4-Jan-18  | -do-                                                                                         |
|      | 5-Jan-18  | <b>Guru Gobind Singh Jayanati</b>                                                            |
|      | 6-Jan-18  | -do-                                                                                         |
|      | 7-Jan-18  | <b>Sunday</b>                                                                                |
| 2    | 8-Jan-18  | First order higher degree equations solvable for x,y,p Lagrange's equations                  |
|      | 9-Jan-18  | -do-                                                                                         |
|      | 10-Jan-18 | -do-                                                                                         |
|      | 11-Jan-18 | -do-                                                                                         |
|      | 12-Jan-18 | Clairaut's equations                                                                         |
|      | 13-Jan-18 | -do-                                                                                         |
|      | 14-Jan-18 | <b>Sunday</b>                                                                                |
| 3    | 15-Jan-18 | Orthogonal trajectories: in Cartesian coordinates and polar coordinates.                     |
|      | 16-Jan-18 | -do-                                                                                         |
|      | 17-Jan-18 | -do-                                                                                         |
|      | 18-Jan-18 | -do-                                                                                         |
|      | 19-Jan-18 | -do-                                                                                         |
|      | 20-Jan-18 | -do-                                                                                         |
|      | 21-Jan-18 | <b>Sunday</b>                                                                                |
| 4    | 22-Jan-18 | <b>Basant Panchami</b>                                                                       |
|      | 23-Jan-18 | Self orthogonal, family of curves. Linear differential equations with constant coefficients. |
|      | 24-Jan-18 | <b>Sir Chhotu Ram Jayanti</b>                                                                |
|      | 25-Jan-18 | -do-                                                                                         |
|      | 26-Jan-18 | <b>Republic Day</b>                                                                          |
|      | 27-Jan-18 | -do-                                                                                         |
|      | 28-Jan-18 | <b>Sunday</b>                                                                                |
| 5    | 29-Jan-18 | -do-                                                                                         |
|      | 30-Jan-18 | -do-                                                                                         |
|      | 31-Jan-18 | <b>Guru Ravidas Jayanti</b>                                                                  |

| Week | Date      | Topic                                                      |
|------|-----------|------------------------------------------------------------|
| 1    | 1-Feb-18  | Homogeneous linear ordinary differential equations.        |
|      | 2-Feb-18  | -do-                                                       |
|      | 3-Feb-18  | -do-                                                       |
|      | 4-Feb-18  | <b>Sunday</b>                                              |
| 2    | 5-Feb-18  | Equations reducible to homogeneous differential equations. |
|      | 6-Feb-18  | -do-                                                       |
|      | 7-Feb-18  | -do-                                                       |
|      | 8-Feb-18  | -do-                                                       |
|      | 9-Feb-18  | -do-                                                       |
|      | 10-Feb-18 | <b>Maharishi Dayanand Saraswati Jayanti</b>                |

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|          | 11-Feb-18 | <b>Sunday</b>                                                                                |
| <b>3</b> | 12-Feb-18 | Linear differential equations of second order: Reduction to normal form.                     |
|          | 13-Feb-18 | <b>Mahashivratri</b>                                                                         |
|          | 14-Feb-18 | -do-                                                                                         |
|          | 15-Feb-18 | Transformation of the equation by changing the dependent variable/ the independent variable. |
|          | 16-Feb-18 | -do-                                                                                         |
|          | 17-Feb-18 | Solution by operators of non-homogeneous linear differential equations.                      |
|          | 18-Feb-18 | <b>Sunday</b>                                                                                |
| <b>4</b> | 19-Feb-18 | -do-                                                                                         |
|          | 20-Feb-18 | Reduction of order of a differential equation.                                               |
|          | 21-Feb-18 | -do-                                                                                         |
|          | 22-Feb-18 | Method of variations of parameters.                                                          |
|          | 23-Feb-18 | -do-                                                                                         |
|          | 24-Feb-18 | -do-                                                                                         |
|          | 25-Feb-18 | <b>Sunday</b>                                                                                |
| <b>5</b> | 26-Feb-18 | Method of undetermined coefficients.                                                         |
|          | 27-Feb-18 | -do-                                                                                         |
|          | 28-Feb-18 | <b>University Holidays</b>                                                                   |

| <b>Week</b> | <b>Date</b> | <b>Topic</b>                                                                                  |
|-------------|-------------|-----------------------------------------------------------------------------------------------|
| <b>1</b>    | 1-Mar-18    | <b>University Holidays</b>                                                                    |
|             | 2-Mar-18    | <b>University Holidays</b>                                                                    |
|             | 3-Mar-18    | <b>University Holidays</b>                                                                    |
|             | 4-Mar-18    | <b>University Holidays/Sunday</b>                                                             |
| <b>2</b>    | 5-Mar-18    | Ordinary simultaneous differential equations. Solution of simultaneous differential equations |
|             | 6-Mar-18    | -do-                                                                                          |
|             | 7-Mar-18    | Total differential equations                                                                  |
|             | 8-Mar-18    | -do-                                                                                          |
|             | 9-Mar-18    | Sessional                                                                                     |
|             | 10-Mar-18   | -do-                                                                                          |
|             | 11-Mar-18   | <b>Sunday</b>                                                                                 |
| <b>3</b>    | 12-Mar-18   | Method of auxiliary equations.                                                                |
|             | 13-Mar-18   | -do-                                                                                          |
|             | 14-Mar-18   | De Moivre's Theorem and its Applications.                                                     |
|             | 15-Mar-18   | -do-                                                                                          |
|             | 16-Mar-18   | -do-                                                                                          |
|             | 17-Mar-18   | -do-                                                                                          |
|             | 18-Mar-18   | <b>Sunday</b>                                                                                 |
| <b>4</b>    | 19-Mar-18   | Expansion of trigonometrical functions.                                                       |
|             | 20-Mar-18   | -do-                                                                                          |
|             | 21-Mar-18   | -do-                                                                                          |
|             | 22-Mar-18   | Direct circular and hyperbolic functions and their properties.                                |
|             | 23-Mar-18   | <b>Shahidi diwas of Bhagat Singh</b>                                                          |

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|          | 24-Mar-18 | -do-                                                            |
|          | 25-Mar-18 | <b>Sunday</b>                                                   |
| <b>5</b> | 26-Mar-18 | Inverse circular and hyperbolic functions and their properties. |
|          | 27-Mar-18 | -do-                                                            |
|          | 28-Mar-18 | -do-                                                            |
|          | 29-Mar-18 | <b>Mahavir Jayanti</b>                                          |
|          | 30-Mar-18 | -do-                                                            |
|          | 31-Mar-18 | -do-                                                            |

| <b>Week</b> | <b>Date</b> | <b>Topic</b>                            |
|-------------|-------------|-----------------------------------------|
|             | 1-Apr-18    | <b>Sunday</b>                           |
| <b>1</b>    | 2-Apr-18    | Logarithm of a complex quantity         |
|             | 3-Apr-18    | -do-                                    |
|             | 4-Apr-18    | -do-                                    |
|             | 5-Apr-18    | -do-                                    |
|             | 6-Apr-18    | -do-                                    |
|             | 7-Apr-18    | -do-                                    |
|             | 8-Apr-18    | <b>Sunday</b>                           |
| <b>2</b>    | 9-Apr-18    | Gregory's series.                       |
|             | 10-Apr-18   | -do-                                    |
|             | 11-Apr-18   | -do-                                    |
|             | 12-Apr-18   | -do-                                    |
|             | 13-Apr-18   | -do-                                    |
|             | 14-Apr-18   | <b>Dr. Amedkar Jayanti and Vaisakhi</b> |
|             | 15-Apr-18   | <b>Sunday</b>                           |
| <b>3</b>    | 16-Apr-18   | -do-                                    |
|             | 17-Apr-18   | -do-                                    |
|             | 18-Apr-18   | <b>Parshuram Jayanti</b>                |
|             | 19-Apr-18   | Summation of Trigonometry series        |
|             | 20-Apr-18   | -do-                                    |
|             | 21-Apr-18   | -do-                                    |
|             | 22-Apr-18   | <b>Sunday</b>                           |
| <b>4</b>    | 23-Apr-18   | -do-                                    |
|             | 24-Apr-18   | -do-                                    |
|             | 25-Apr-18   | Revision                                |
|             | 26-Apr-18   | Revision                                |
|             | 27-Apr-18   | Revision                                |
|             | 28-Apr-18   | Revision                                |