|  |
| --- |
| **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Student’s Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question Number** | **I** | **II** | **III** | **Total** |
| **Mark** |  |  |  |  |

|  |
| --- |
| **Question I:** Choose the correct answer  (1) The differential equation is of  (a) order 4 and nonlinear (b) order 6 and nonlinear (c) order 4 and linear (d) None of the previous |
| (2) The value of that makes exact is  (a) (b) (c) -2 (d) None of the previous |
| (3) The function is homogeneous of degree  (a) (b) (c) (d) None of the previous  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| (4) To solve the differential equation we use the substitution  (a) (b) (c) (d) None of the previous  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (5) The one parameter family of solutions for is The trivial solution for this differential equation is a  (a) particular solution (b) member of the family of solutions (c) singular solution (d) None of the previous |
| **Question II:** A. Determine the region of the for which the differential equation has a unique solution  B. Find the integrating factor for the following linear differential equation    **Question III**: A. Solve the following differential equations    (2) = 4  B. Solve the Initial Value Problem  Good Luck☺ |
| **Question III:** A. Solve the following differential equations:  1.  2.  B. Solve the Initial Value Problem |

Good Luck ☺