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

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

|  |
| --- |
| **Question I:** Choose the correct answer (1) The initial value problem , has(a) no solutions (b) many solutions (c) a unique solution (d) None of the previous |
|  (2) If is a solution of then a second solution to the differential equation is  (a) (b) (c) (d) None of the previous |
|   (3) If and are two linearly independent solutions of the same second order differential equation, then  (a) is a solution (b) is a solution (c) is a solution (d) None of the previous\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| (4) If the general solution of is given by then (a) (b) (c) None of the previous\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(5) If is particular solution of and is particular solution of , then a particular solution of is given by (a) (b) (c) (d) None of the previous |
| **Question II:** Consider the nonhomogenous differential equation Using the superposition approach, find the form of the solution in the following cases:1.

B. Find the integrating factor for the following linear differential equation **Question III**: A. Solve the following differential equations (2) = 4B. Solve the Initial Value ProblemGood Luck☺ |
|   **Question III:** A. Solve the initial-value problem using the annihilator method |

B. Solve the following differential equation

Good Luck ☺