

Total Marks: 15

AMTL101 Quiz-3

Time: 40 mins

Name:

Entry No:

1. Find the solution of the following initial value problem:

[5]

$$x^2y'' + xy' - 4y = 0; \quad y(1) = 3, \quad y'(1) = 2.$$

Name:

Entry No:

2. Use the **method of undetermined coefficients** to find the general solution of [5]

$$y'' - 2y' + y = x^2 + 2e^x.$$

Name:

Entry No:

3. Use the **variation of parameters method** to find the general solution of [5]

$$y'' - 2y' + 5y = e^x \sec(2x).$$