

# Engineering Mathematics(1)

Started on	Thursday, 29 July 2021, 1:00 PM
State	Finished
Completed on	Thursday, 29 July 2021, 1:13 PM
Time taken	13 mins 38 secs
Marks	2.00/2.00
Grade	6.00 out of 6.00 (100%)

**Question 1**

Correct

Mark 1.00 out of 1.00

Flag question

When solving the ODE

$$y'' + 6y' + 9y = e^{-3x}$$

using the variation of parameters method you will get

Write the number that corresponds to the correct answer

The value of the Wronskian  $w_1$  is

- $w_1 = e^{-3x}$
- $w_1 = -xe^{-6x}$
- $w_1 = -xe^{-3x}$
- $w_1 = e^{-6x}$

3

The value of the Wronskian  $w_2$  is

- $w_2 = e^{-3x}$
- $w_2 = -xe^{-3x}$
- $w_2 = -xe^{-6x}$
- $w_2 = e^{-6x}$

1

The particular solution  $y_p$  is

- $y_p = -\frac{x^2}{2}e^{-6x}$
- $y_p = \frac{x^2}{2}e^{-3x}$
- $y_p = -\frac{x^2}{6}e^{-3x}$
- $y_p = \frac{x^2}{3}e^{-3x}$

2

**Question 2**

Correct

Mark 1.00 out of 1.00

Flag question

When using the undetermined coefficients method to solve the ODE

$$y'' + 8y' + 12y = e^{-2x} + \sin x$$

the appropriate form of the particular solution  $y_p$  is?

Select the number that corresponds to the correct answer

- $y_p = Ae^{-2x} + B \sin x$
- $y_p = Ae^{-2x} + B \sin x + C \cos x$
- $y_p = Axe^{-2x} + B \sin x$
- $y_p = Ae^{-6x} + B \sin x + C \cos x$
- $y_p = Axe^{-2x} + B \sin x + C \cos x$

5

Quiz navigation

1 2

Show one page at a time

**FINISH REVIEW**