KFUPM--Term 161

Math 260 Quiz 3(a) Time: 25 minutes Date: 29-11-2016

Name	ID	Sr	Sec.	Marks:- $/_{10}$

Q1. Find a basis for the solution space of the following homogenous linear system:

$$x_1 + 5x_2 + 13x_3 + 14x_4 = 0$$
$$2x_1 + 5x_2 + 11x_3 + 12x_4 = 0$$
$$2x_1 + 7x_2 + 17x_3 + 19x_4 = 0$$

Q2. Find a second order DE whose general solution is: $y(x) = e^x\left(c_1 e^{x\sqrt{2}} + c_2 e^{-x\sqrt{2}}\right)$

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Math 260 Quiz 3(b) Time: 25 minutes Date: 29-11-2016

Name	ID	Sr	Sec.	Marks:- $/_{10}$

Q 1. Find a basis for the solution space of the following homogenous linear system:

$$x_1 - 2x_2 - 3x_3 - 16x_4 = 0$$
$$2x_1 - 4x_2 + x_3 + 17x_4 = 0$$
$$x_1 - 2x_2 + 3x_3 + 26x_4 = 0$$

Q2. Find a general solution of the DE: $35y'' - y' - 12y = 0$.

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Math 260 Quiz 3(c) Time: 25 minutes Date: 29-11-2016

Name	ID	Sr	Sec.	Marks:- $/_{10}$

Q1 . Find a basis for the solution space of the following homogenous linear system:

$$x_1 - 3x_2 + 2x_3 - 4x_4 = 0$$
$$2x_1 - 5x_2 + 7x_3 - 3x_4 = 0$$

Q2. If $y_p = x + 1$ is the particular solution of the DE:$y'' - 2y' + 2y = 2x$ and that $y_c = c_1 e^x \cos x + c_2 e^x \sin x$ is its complementary solution. Find a solution of the DE that satisfies conditions:

$$y(0) = 4, y'(0) = 8.$$

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Math 260 Quiz 3(d) Time: 25 minutes Date: 29-11-2016

Name	ID	Sr	Sec.	Marks:- $/_{10}$

Q 1. Find a basis for the solution space of the following homogenous linear system:

$$x_1 + 3x_2 + 4x_3 + 5x_4 = 0$$
$$2x_1 + 6x_2 + 9x_3 + 5x_4 = 0$$

Q2. If $y_p = -2$ is the particular solution of the DE:$y'' - 2y' - 3y = 6$ and that $y_c = c_1e^{-x} + c_2e^{3x}$ is its complementary solution. Find a solution of the DE that satisfies conditions:

$$y(0) = 3, y'(0) = 11.$$