

**KFUPM--Term 161**

Math 260

Quiz 4(a)

Time: 25 minutes

Date: 22-12-2016

|      |    |        |         |             |
|------|----|--------|---------|-------------|
| Name | ID | Sec.03 | Sr. No. | Marks:- /10 |
|------|----|--------|---------|-------------|

Q1. Find a particular solution  $y_p$  of the DE:  $y'' + 9y = 2x^2e^{3x} + 5$ .

Q2. Find the eigenvalues of the matrix  $A = \begin{bmatrix} 3 & 6 & -2 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ .

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Quiz 4(b)

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|      |    |         |        |             |
|------|----|---------|--------|-------------|
| Name | ID | Sec. 03 | Sr No. | Marks:- /10 |
|------|----|---------|--------|-------------|

Q 1. Solve the IVP:  $y'' + 9y = \sin 2x$ ;  $y(0) = 1, y'(0) = 0$ .

Q2. Find the eigenvalues of the matrix  $A = \begin{bmatrix} 4 & -3 & 1 \\ 2 & -1 & 1 \\ 0 & 0 & 2 \end{bmatrix}$ .

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Quiz 4(c)

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|      |    |         |        |             |
|------|----|---------|--------|-------------|
| Name | ID | Sec. 04 | Sr No. | Marks:- /10 |
|------|----|---------|--------|-------------|

Q1 . Use the method of variation of parameters to find a particular solution of the DE:  $y'' + 4y = \sin^2 x$ .

Q2. Find the eigenvalues and eigenvectors of the matrix  $A = \begin{bmatrix} 13 & -15 \\ 6 & -6 \end{bmatrix}$ .

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Quiz 4(d)

Time: 25 minutes

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|      |    |         |        |             |
|------|----|---------|--------|-------------|
| Name | ID | Sec. 04 | Sr No. | Marks:- /10 |
|------|----|---------|--------|-------------|

Q 1. Use the method of variation of parameters to find a particular solution of the DE:  $y'' - 4y = xe^x$ .

Q2. Find the eigenvalues and eigenvectors of the matrix  $A = \begin{bmatrix} 7 & -6 \\ 12 & -10 \end{bmatrix}$ .