



Kingdom of Saudi Arabia
King Abdulaziz University

Faculty of Science – Mathematics Department
Second Mid-Term Exam (90 Minutes) - (204 Math).
1/2/1435 H – 4/12/2013 A.D. First Semester
1434-1435 H

Model B

Name:	Section:
Student's I.N. :	Serial Number:

Q_1	Q_2	Q_3	Q_4	Q_5	Total Marks (30)

(Answer the following questions)

1 Determine the form of a particular solution of

[4 Marks]

$$y'' + 4y = (x^2 - 3) \sin 2x$$

2 Show that the IVP:

[3 Marks]

$x^2 y'' - 4xy' + xy = 3x + 8, y(0) = 4, y'(0) = 2$ has a unique solution.

3 Solve

$$3y'' - 6y' + 6y = e^x \csc x$$

[7 Marks]

4 Solve $x^2 y'' + xy' - y = \frac{1}{x+1}$

[8 Marks]

5 Solve

$$Dx - 2y = 4t,$$

[8 Marks]

$$-4x + (D + 2)y = -4t - 2$$