King Fahd University of Petroleum & Minerals

Department of Mathematical Sciences

Math 201, Sections: 3, 6, 13 (061)

Quiz-1(a)

Time: 15 Minutes **Marks:……..../9**

Name: Serial #:

ID#: Section #:

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1. Describe the surface: $2x^2 + 2y^2 + 2z^2 - 2x - 3y + 5z - 2 = 0$

2. Find the distance from the point $(-7, 5, -3)$ to the $xz-$plane and $y-$axis.

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Quiz-1(b)

Time: 15 Minutes **Marks:……../9**

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1. For the curve $r = 3\cos 6\theta,$ find slope of the tangent line at $\theta = \pi/3$.

2. Describe the region $R = \{(x, y, z) : x^2 + y^2 + z^2 \geq 49\}$ geometrically in space.

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Quiz-1(c)

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1. Show complete procedure to draw the polar curve $r = 2 - 2\cos\theta$. Also find arc length of this curve.

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Quiz-1(d)

Time: 15 Minutes **Marks:……../9**

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1. Find Polar coordinates of all points at which the curve $r = 5\sin\theta$ has a horizontal or a vertical tangent line.