KFUPM--Term 151

Math 201 Quiz # 1(a) Time: 25 minutes Date: 15-09-15

Name	ID #	Sr #	Sec.	Marks:- /8

Q 1. Convert the parametric equations

$$x = 1 + \cos(\pi - t)\,, y = 2 + \sin(\pi - t),\ \ \pi \le t \le 2\pi$$

into Cartesian(rectangular) equation. Sketch the curve and indicate the direction in which it is traced.

Q2. Find the length of the curve C : $x = \cos t + t \sin t$, $y = \sin t - t \cos t$, $-\frac{\pi}{2} \le t \le \frac{\pi}{2}$.

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Math 201 Quiz # 1(b) Time: 25 minutes Date: 15-09-15

Name	ID #	Sr #	Sec.	Marks:- /8

Q 1. Convert the parametric equations

$$x = 2\sec t,\ y = 2\tan t,\ \ -\frac{\pi}{2} < t < \frac{\pi}{2}$$

into Cartesian(rectangular) equation. Sketch the curve and indicate the direction in which it is traced.

Q2. Find an equation of the tangent line at t = 1 for the curve

$$x = lnt,\ y = \sqrt{t+1}\ .$$

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Math 201 Quiz # 1(c) Time: 20 minutes Date: 15-09-15

Name	ID #	Sr #	Sec.	Marks:- $/_8$

Q1 Convert the parametric equations

$$x = \cos 2t\,, y = \sin t,\ -\frac{\pi}{2} \le t \le \frac{\pi}{2}$$

into cartesian(rectangular) equation. Sketch the curve and indicate the direction in which it is traced.

Q2. Find the area of the surface obtained by rotating the curve (about the x-axis)

$$x = 3\cos t\,, y = 3\sin t,\ 0 \le t \le \frac{\pi}{3}.$$

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Math 201 Quiz # 1(d) Time: 25 minutes Date: 15-09-15

Name	ID #	Sr #	Sec.	Marks:- $/_8$

Q 1. Convert the parametric equations $x = t + \frac{1}{t},\ y = t - \frac{1}{t},\quad t > 0$
into Cartesian(rectangular) equation. Sketch the curve and indicate the direction in which it is traced.

Q2. Graph the set of points whose polar coordinates (r, θ) satisfy the given conditions:

(i) $\theta = -\frac{\pi}{4}, -3 \le r \le 3$ (ii) $\frac{\pi}{3} \le \theta \le \frac{2\pi}{3},\ -2 \le r \le 0$

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Math 201 Quiz # 1(e) Time: 25 minutes Date: 15-09-15

Name	ID #	Sr #	Sec.	Marks:- $/_8$

Q 1. Convert the parametric equations

$$x = \sin t\,, \qquad y = \cos 2t\,, \qquad -\frac{\pi}{2} \le t \le \frac{\pi}{2}$$

into Cartesian (rectangular) equation. Sketch the curve and indicate the direction in which it is traced.

Q. 2 Find the slope of the curve C: $x = \sqrt{3 - \sqrt{t}}\,, y = yt - \sqrt{t}$ at $t = 4$.

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Math 201 Quiz # 1(a) Time: 25 minutes Date: 15-09-15

Name	ID #	Sr #	Sec.	Marks:- $/_8$

Q 1. Convert the parametric equations

$$x = 1 + \cos(\pi - t), y = 2 + \sin(\pi - t), \ \pi \le t \le 2\pi$$

into Cartesian(rectangular) equation. Sketch the curve and indicate the direction in which it is traced.

Q2. Q2. Graph the set of points whose polar coordinates (r, θ) satisfy the given conditions:

(i) $\theta = \frac{\pi}{4}, -2 \le r \le 2$ (ii) $\frac{\pi}{3} \le \theta \le \frac{2\pi}{3}, \ -2 \le r \le 2$