

SELF ASSESSMENT TEST -7**CLASS B.A, B.SC-1****RECTIFICATION**

1. Find the length of the arc of the parabola $y^2 - 6y + 3x = 0$ which lies in first quadrant.
2. Find the length of the bdy of the region bdd by the curve $y = \frac{x^2}{2} + 1$ and the lines $y = x$, $x = 0$ & $x = 2$.
3. Find the length of the arc of the curve $y = \log(\sec x)$ from $x=0$ to $x = \frac{\pi}{3}$
4. Find the perimeter of the loop of the curve $9ay^2 = (x-2a)(x-5a)^2$ $a > 0$.
5. Find the whole length of the curve $x^{\frac{2}{3}} + y^{\frac{2}{3}} = a^{\frac{2}{3}}$.
6. Find the length of the arc of curve $x = a(t - \sin t)$, $y = a(1 + \cos t)$.
7. Find the length of any arc $r = a \cos \theta$.
8. Find the whole length of arc of the cardioid $r = a(1 + \cos \theta)$. Also show that the arc of the upper half is bisected by $\theta = \frac{\pi}{3}$.
9. Show that the whole length of the lamicon $r = a + b \cos \theta$, $b < a$, is equal to that of ellipse whose semi axes are equal in length to the maximum and minimum radii vectors of the lamicon.
10. show that the length of the arc of the curve $r = a(1 + \cos \theta)$ which lies on the side of the line $4r = 3a \sec \theta$ remote from pole is equal to $4a$.