Printing Page(s) : 1 **Paper Code :DSC-102**

Roll No.

B.Sc. (PCM)-2, B.A(Math)-2

1st Year Examination, Academic Batch 2017-18

Mathematics-2 (Geometry & Calculus)

Time : 3 Hours] *[Max. Marks : 100*

***Note**. Attempt any **five** questions. Each questions carry equal marks.*

Q1. Find the area of the region bounded by the line x = 2 and the parabola $y^2 = 8x$.

Q2. Prove that confocals cut at right angles.

Q.3. find the n^{th} derivative of $x^2 \sin x$.

Q.4. show that the points (3,-2,4) , (1,1,1) and (-1,4,-2) are collinear.

Q-5 Show that the equation of second degree $5x^2 - 2xy + 5y^2 + 2x - 10y - 7 = 0$

Q-6 If $y = \sin^{-1} x = a_0 + a_1 x + a_2 x^2 + \ldots\ldots\ldots$Prove the $(n+1)(n+2)a_{n+2} = n^2 a_n$.

Q.7. Find the equation of the planes bisecting the angle between the planes $x+2y+2z=9$ and $4x-3y+12z+13=0$.

Q8. Solve $y = apx + bp^3$