Printing Page(s) : 1 **Paper Code : DCS-119**

Roll No.

BCA-2

1st Year Examination, Academic Batch 2017-18

Mathematics

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

Note*. (A)Attempt any* ***five*** *questions. (B) Each question carries equal marks. (20*5)*

Q.1: State Rolle's theorem and also verify Rolle's theorem for the function x2=5x+4 on [1,4].

Q.2: Prove that every rational funn is continuous.

Q.3. Find the number of permutations of n dissimilar things taken r at a time.

Q.4: Determine two positive numbers whose Sum is 24 and whose product is maximum.

Q.5: Differentiate the function

y= log x-4x3
log x+4x3

Q.6. State and prove Lagrange's mean value theorem.

Q7: (a) State and prove DE-MORGAN'S LAWS?
(b) Define an invertible mapping. Prove that the inverse of an invertible mapping is invertible?

Q.8: Solve the following equations by matrix method

x+y+z = 3
2x – y + z = 2
x – 2y + 3z = 2