

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE – 27
M.SC BDA – I SEMESTER
MID-SEMESTER TEST – AUGUST 2016
BDA-1416: Computing for Data Science

Time: 1 hrs

Max marks: 20

Answer any four questions of the following.

1. Define the following terms with appropriate example. (1 X 5=5 marks)
 - a. Algorithm
 - b. Convergence
 - c. Pseudo code
 - d. Optimal solution
 - e. Time complexity
2. Name the different sorting algorithms. Write pseudo code for Merge sort (5 Marks)
3. Name the searching algorithms. Write pseudo code for Binary search. (5 Marks)
4. Solve the problem using Newton Raphson method (5 Marks)
 $e^x = x + 6$
5. Solve the problem using Steepest ascent method (Upto5 iterations) (5 Marks)
 $max f(x, y) = 2xy + 2x - x^2 - 2y^2$ where $x = -1, y = 1$
6. Solve the problem using Steepest decent method (Upto5 iterations) (5 Marks)
 $min f(x, y) = 25x^2 + y^2$ where $x = 0.6, y = 4$