

# DAYANANDA SAGAR COLLEGE OF ENGINEERING

Date: 7/4/2018

Marks: 50

Marks LL CO

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|---|----|---|---|
| 1. Apply Runge-kutta method of 4th order, to compute $y(0.2)$ . Given that $10 \frac{dy}{dx} = x^2 + y^2$ , $y(0) = 1$ by taking $h = 0.1$ .  | 7  | 6 | 5 |
| 2. The mean and S.D of the maximum loads supported by 60 cables are 11.09 tonnes and 0.73 tonnes respectively. Find a) 95% b) 99% confidence limits for mean of the maximum loads of all cables by the company. | 10 | 3 | 5 |
| 3. 3% of the product produced by a machine are found to be defective. Find the probability that first defective occurs in the (i) 5th item inspected (ii) first five inspected (iii) mean (iv) variance.        | 10 | 1 | 4 |
| 4. Explain the following (i) Null hypothesis (ii) Alternative hypothesis (iii) Type I and type II error (iv) Level of significance (v) Standard error   | 10 | 3 | 2 |
| 5. For any three sets A, B and C, Prove that i) $(A \Delta B) = (B \cap A') \cup (A \cap B') = (B - A) \cup (A - B)$<br>ii) $(A \cap B) \cup (A \cap B \cap C' \cap D) \cup (A' \cap B) = B$ .                  | 8  | 3 | 1 |
| 6. Write and explain the sequence of system calls for copying a file to another (new) file  | 5  | 5 | 2 |

CO	Statement
1	Use the core python scripting concepts like control statements, string manipulation functions and the built-in data structures like list and dictionary.
2	Be able to design, code and test small python programs that make use of functions.
3	Demonstrate usage of file handling and pattern matching using regular expressions.
4	Build GUI for applications using python libraries.
5	Demonstrate MySQL database connectivity using python scripting.
6	Apply the knowledge of python and use the language scripting elements and constructs, data structures, and repository of standard library, to develop real world applications.