

# DAYANANDA SAGAR COLLEGE OF ENGINEERING

Date: 13/4/2018

Marks: 50

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|---|----|---|---|
| 1. The weights of 1500 ball bearings are normally distributed with a mean of 635 gms and S.D of 1.36gms. If 300 random samples of size are drawn from this population , determine the expected mean and S.D of the sampling distribution of means if sampling is done a) with replacement b) without replacement. | 10 | 3 | 3 |
| 2. Given that $dy/dx=x^2(1+y)$ and $y(1)=1$ ; $y(1.1)=1.233$ ; $y(1.2)=1.548$ ; $y(1.3)=1.979$ , find $y$ at $x=1.4$ using Milne's predictor and corrector method.  | 10 | 4 | 4 |
| 3. Test the validity of the arguments i)p $\wedge$ q $\wedge$ [p $\rightarrow$ (r $\wedge$ q)] $\wedge$ [r $\rightarrow$ (s $\vee$ t)] $\wedge$ ~s concludes t ii)p $\wedge$ (p $\rightarrow$ r) $\wedge$ [p $\rightarrow$ (q $\vee$ r)] $\wedge$ (~q $\vee$ ~s) concludes  | 10 | 4 | 5 |
| 4. Solve by Euler's modified method to obtain $y(1.2)$ given $dy/dx= (y+x)/(y-x)$ , $y(1)=2$ . Using step size $h=0.2$ .  | 10 | 1 | 2 |
| 5. Find the probability of getting a sum different from 10 or 12 after rolling two dice.  | 10 | 2 | 3 |

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.