

# DAYANANDA SAGAR COLLEGE OF ENGINEERING

Date: 13/4/2018

Marks: 50

Marks LL CO

- |  |    |   |   |
|--|----|---|---|
| 1. The following table gives the solution of $dy/dx=x-y^2$ . Find the value of $y$ at $x=0.8$ using Milne's predictor and corrector formulae. $x$ 0 0.2 0.4 0.6 $y$ 0 0.02 0.07 0.1  | 10 | 3 | 2 |
| 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. The probability density $f(x)$ of continuous random variable is given by $f(x)=ke^{- x }$ , $-\infty$   | 10 | 4 | 2 |
| 4. The mean weight of 1000 students during medical examination was found to be 70kg and S.D weight 6kg. Assume that the weight are normally distributed, find the number of students having weight (i) less than 65kg (ii) more than 75kg (iii) between 65kg to 75kg. $[P(0.83)=0.2967]$ | 10 | 1 | 2 |
| 5. 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 |