DAYANANDA SAGAR COLLEGE OF ENGINEERING

Date: 13/4/2018 Marks: 50

	Marks	LL	CO
1. 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
2. In 324 throws of a six faced die, an odd number turned up 181 times. Is it reasonable to think that die is an unbiased one?	10	2	2
3. A sample of 100 dry battery cells tested to find the length of life produced by a company and following results are recorded: mean life is 12 hrs, SD is 3 hrs. Assuming data to be normally distributed, find the expected life of a dry cell. (i) have more than 15 hrs (ii) between 10 and 14 hrs.[P(0.667)=0.2486,P(1)=0.3413].	10	6	4
4. In a certain town the duration of a shower is exponentially distributed with mean 5min. what is the probability that the shower will last for (i) 10min or more (ii) less than 10min (iii) between 10 to 12min.	10	5	3
5. Solve the following by modified Euler's method thatdy/dx=log_e■[(x+y)]■, y(0)=2 and find y(0.4) by taking h=0.2.	10	1	1