BHARATIYA VIDYA BHAVAN'S

SARDAR PATEL INSTITUTE OF TECHNOLOGY

MUNSHI NAGAR, ANDHERI (WEST), MUMBAI – 400 058, India
(Autonomous College Affiliated to University of Mumbai)

ISE Examination 2019-20

Max. Marks: 20 | Duration: 1 hrs
Class: FYMCA | Semester: II
Course Code: MCA 23 | Date: 06 / 03/2020
Subject: **Probability and Statistics** | Time: 12-01 pm

Instructions: (1) All questions are compulsory.
(2) Use of scientific calculator is allowed.
(3) Assume any necessary data but justify the same.

Q.N		Marks	CO-BL-PI
1. (a)	Calculate the Bowley's coefficient of skewness for the following data.	[5]	2-1-1.1.1 2-1-1.1.2

C.I.	30-35	35-40	40-45	45-50	50-55	55-60
Frequency	5	10	30	35	15	5

OR

The following is the age distribution of 125 persons. Find the coefficient of variation. [5] 2-1-1.1.1, 2-1-1.1.2

Age	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No of persons	15	15	23	22	25	10	5	10

(b)	Find the missing frequency of the following, if mode=136cms.								[5]	1-1-1.1.1

Class interval	120-125	125-130	130-135	135-140	140-145	145-150
frequency	7	10	18	?	12	7

2. (a)	The following table gives the number of accidents in a city during 10 days of time. Find whether the accidents are uniformly distributed over that period.								[5]	3-4-1.1.1

Day	1	2	3	4	5	6	7	8	9	10
Number of accidents	8	8	10	9	12	8	10	14	10	11

(Given for 9 degrees of freedom at 5% level of significance, the table value of χ^2 is 16.9)

OR

A random sample of 100 students gave mean weight of 58 kg. with a s.d. of 4 kg. Test the hypothesis that the mean weight in the population is 60 kg. Use 1% level of significance. [Give at 1% level of significance z_α=2.58] [5] 3-4-1.1.1

(b)	Fit a linear regression of sales on year.								[5]	2-1-1.1.1 2-1-1.1.2

Year	1991	1992	1993	1994	1995
Sales('000 Rs.)	56	68	60	51	66

Estimate the value of sales for 1997.

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