National Law University
Statistics for manager
IV Semester M.B.A., Insurance
Examination 2023

Time: 3 Hours **Max. Marks: 100**

Instructions:

- *All non-scientific calculators are allowed.*
- *Log table , Normal distribution table & t distribution table can be used.*
- *Solve any five questions. Each question carries twenty marks*

1a) Calculate standard deviation of following frequency distribution of marks.

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Number of students	5	12	30	45	50	37	21

b). Find the median wage of the following distribution:

Wages (in Rs.)	20-30	30-40	40-50	50-60	60-70
Number of labors	3	5	20	10	5

10+10=20 Marks

2 a). Bag A contains 2 white and 3 red balls and bag B contains 4 white and 5 red balls. One ball is drawn at random from one of the bags and is found to be red. Find the probability that it was drawn from bag A

b). Find the area of the standard normal curve i) To the right of Z=1.88. (ii) To the right of Z =-1.72

10+10=20 Marks

3 a). Define type of probability with an example?

b). Below are given the production (in thousand mounds) of a sugar factory. Obtain the secular trend by fitting straight line.

Years	1990	1991	1992	1993	1994	1995	1996
Production	12	10	14	11	13	15	16

10+10=20 Marks

4 a). The heights of a random sample of size 40 college students showed a mean of 174.5 cms and a standard deviation is 6.9 cms. Set up 99% confidence limits of the mean heights of the college students

b). A random sample of 10 items is taken and is found to have a mean weight of 50 grams and a standard deviation of 10 grams. What is mean weight of population with 99% confidence?

10+10=20 Marks

5 a) Find the coefficient of correlation for the followings

Exports	75	88	95	70	60	80	81	50
Imports	120	134	150	115	110	140	142	100

b). Find the two regression equations use method of least squares to determine sales for the year 1984. From the following data :

Year	1979	1980	1981	1982	1983
hours	47	42	38	35	32

10+10=20 Marks

6a). A Card is drawn at random from a well shuffled pack of playing cards. The events X and Y are defined as, X-The card drawn is an Ace, Y-The card drawn is a spade, Find P(X) , P(Y), P(X∩Y), P(XUY) and P(X/Y).

b). Estimate the production for the years 1994 and 1996 with the help of the following table:

Year	1991	1992	1993	1994	1995	1996	1997
Production (in'000 tones)	200	220	260	?	350	?	430

10+10=20 Marks
