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(2124)

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B. Pharmacy (Ayurveda) 3rd Semester Examination
Pharmaceutical Statistics (NS)

BPA-335

Time : 3 Hours

Max. Marks : 70

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt any six questions including question no. 1 which is compulsory. The marks for each question are indicated against it.

1. Attempt all parts:
 - (a) Why statistics is used in pharmacy?
 - (b) What is sampling?
 - (c) Explain probable error.
 - (d) State the tests of skewness.
 - (e) A single letter is selected at random from the word 'PROBABILITY'. What is the probability that it is a vowel?
 - (f) Define poisson distribution.
 - (g) Mention two uses of F-test.
 - (h) Explain the concept of regression.
 - (i) What is coefficient of variation?

[P.T.O.]

- (j) The mean of 5 observations is 7. Later on, it was found that two observations 4 and 8 were wrongly taken instead of 5 and 9. Find out correct mean. (10×2=20)
- 2. What is frequency distribution? What are the problems in its construction? (10)
- 3. (a) Distinguish between 'less than' and 'more than' ogives.
- (b) Calculate the values of Q3 and D8 from the following data:

Wages	0-10	10-20	20-30	30-40	40-50
No. of workers	22	38	46	35	19

(5+5=10)

- 4. The first four moments of a distribution about X=4 are 1, 4, 10 and 45. Find mean, variance, a coefficient of skewness and measure of kurtosis. (10)

- 5. Calculate coefficient of rank correlation from the following data:

x	15	10	20	28	12	10	16	18
y	16	14	10	12	11	15	18	12

(10)

- 6. (a) Discuss the properties of Binomial distribution.
- (b) Assuming that half the population is vegetarian, so that the chance of an individual being vegetarian is 1/2 and assuming that 100 investigators each take 10 individuals to see whether they are vegetarian, how many investigators would you expect to report that three or less people were vegetarian? (5+5=10)

- 7. The following table shows the result of inoculation against cholera in a certain state:

	Attacked	Not Attacked	Total
Inoculated	30	470	500
Not inoculated	190	1,310	1,500
Total	220	1,780	2,000

Test the effectiveness of inoculation in preventing the attack of cholera. Five percent value of χ^2 for one degree of freedom is 3.841. (10)