Printed Pages : 6

PHARM125

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 150220

Roll No.

B. Pharm.

(SEM. II) THEORY EXAMINATION, 2014-15

PHARMACEUTICAL BIOSTATISTICS

Time : **3** Hours] [Total Marks : **80**

PART - A

Note : Attempt all questions. **8×2=16**
Each question carries equal marks.

1 Write Relation between mean, median and mode.

2 If mean = 36.48 and S.D. = 15.67, find coefficient of variation.

3 Find the arithmetic mean of the following frequency distribution :

x	3	8	10	13	16	19
f	8	9	15	20	25	30

4 What is the probability that a leap year, selected at random, will have 53 Sunday.

5 Write mean and variance of binomial distribution.

6 What do you mean by Sample and Population ?

7 What is the equation of the line of regression of y on x.

8 Find the median of the following data :
5, 19, 42, 11, 50, 30, 21, 0, 52, 36, 54

PART - B

Note : Attempt any six questions. **6×4=24**
Each question carries equal marks.

1 Represent the given data by means of a histogram.

Class Interval	8-10	10-12	12-14	14-16	16-18	18-20
Frequency	24	52	42	48	12	8

2 Explain the difference between primary data and secondary data.

3 Compute the mode of the following distribution :

Class Interval	0-7	7-14	14-21	21-28	28-35	35-42	42-49
Frequency	19	25	36	72	51	43	28

,

4 Ten individuals are chosen at random from a populaton and their heights are found to be in inches 63, 63, 64, 65, 66, 69, 69, 70, 70, 71. Discuss the suggestion that the mean height in universe is 65 inches given that for 9 degree of freedom, the value of student 't' and 5 percent level of significance is 2.262.

5 What is sampling ? Discuss its types and how is it different from systematic sampling ?

6 For a poission distribution prove that

$$p(r+1) = \frac{m}{r+1} P(r)$$

7 If mean and variance of binomial distribution is 20 and 2 then find n, p and q.

8 Calculate Spearman rank correlation coefficients from following data :

Rank X	5	3	4	8	2	1	7	10	6	9
Rank Y	3	7	5	9	2	4	1	10	8	6

PART - C

Note : Attempt any four questions. **10×4=40**
Each question carries equal marks.

1 Set up ANOVA for the following data. Also discuss the hypothesis :

X_1	X_2	X_3
8	7	12
10	5	9
7	10	13
14	9	12
11	9	14

Given that $F_{(2,12)} = 3.88$ at 5% level of significance.

2 From the following data obtain two regression lines y on x and x on y. Also calculate correlation coefficients :

x	2	4	6	8	10
y	5	7	9	8	11

3 Find the Karl Pearson's coefficient of skewness from the formula $\text{Skew}=\frac{\text{mean - mode}}{\text{S.D}}$ of the following data :

Marks	0-10	10-20	20-30	30-40	40-50
No. of Students	5	15	20	5	5

4 The following table gives the number of accidents that take place in an industry during various days of week. Test if accidents are uniformly distributed over the week. f^2 at 5% level of significance for 5 degree of freedom is 11.07 and expected frequencies of the accidents on each of these days = 14.

Days	Mon	Tue	Wed	Thu	Fri	Sat
No. of Students	14	18	12	11	15	14

5 The following figure relate to cost of construction of a house in Bombay : Represent a pie diagram of the data :

Items	Bricks	Steel	Cement	Timber	Labour	Miscellaneous
Expenditure	20%	18%	10%	15%	25%	12%

6 Write short notes on any five of the following :

(a) Level of significance

(b) Kurtosis

(c) Skewness

(d) Sampling

(e) Normal Distribution

(f) Mean Deviation.
