Printed Pages : 1 **Roll No.** | | | | | | | | | | | **BOP125**

B.PHARM.

THEORY EXAMINATION (SEM–II) 2016-17

PHARMACEUTICAL MATHEMATICS AND BIOSTATICS

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

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION – A

1. Explain the following: **10 x 2 = 20**

(a) Define exhaustive event and mutually exclusive events.

(b) Calculate the media for following data 100 98 101 94 104 102 107 109

(c) Discuss the one dimensional diagrams?

(d) Write the Karl Pearson's formula for skewness and kurtosis.

(e) Discuss the null hypothesis.

(f) Find the median for the series 4, 6, 9, 4, 2, 8, 10.

(g) Write the formula for regression coefficient x on y.

(h) Define sampling?

(i) Write the formula for quartile deviation.

(j) What is the mean and variance of binomial distribution?

SECTION – B

2. Attempt any five of the following questions: **5 x 10 = 50**

(a) Calculate the mode of the following distribution

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	3	7	10	15	20	8	4

(b) What do you mean by diagrammatic representation of data? How they are useful.

(c) Drive the expression for Poisson distribution.

(d) Find the interquartile range and quartile deviation of the data:

Class	5-15	15-25	25-35	35-45	45-55	55-65	65-75
Frequency	15	20	50	55	40	15	5

(e) Calculate the coefficient of correlation between x and y from the following bivariate data: (1, 0), (2, 9), (3, 8), (4, 8), (5, 6), (6, 12), (7, 4), (8, 3), (9, 18), (10, 1).

(f) Discuss in detail about χ^2 –test.

(g) Six dice are thrown 729 times. How many times do you expect at least three dice to show a five or six?

SECTION – C

Attempt any two of the following questions: **2 x 15 = 30**

3. (a) The mean of binomial distribution is 20 and standard deviation is 4 calculate n, p, and q with usual notation.

(b) Find the standard deviation for following distribution

x	0-10	10-20	20-30	30-40	40-50	50-60	60-70
f	4	6	10	20	10	6	4

4. (a) Discuss in detail the analysis of variance for one way and two way classification.

(b) Write shorts on pie diagram, circle diagram and percentage bar diagram.

5. (a) Obtain the regression equation of Y on X by least square method for the following data

X	1	2	3	4	5
Y	9	9	10	12	11

(b) Fit a binomial distribution of the following frequency data:

x	0	1	2	3	4
y	30	62	46	10	2