F.Y.B.PHARM. SEMESTER-I (CBCS - 2015 COURSE) : SUMMER - 2018

SUBJECT: PHARMACEUTICAL STATISTICS

Day: **Saturday** | **S-2018-3908** | Time: **10.00 AM TO 01.00 PM**
Date: **05/05/2018** | Max Marks. 80

N.B.

1) Q. No. **1** and Q. No.**5** are **COMPULSORY**. Out of the remaining solve any **TWO** questions from Section – **I** and any **TWO** questions from Section – **II.**
2) Answers to the two sections should be written in **SEPARATE** answer books. .
3) Figures to the **RIGHT** indicate full marks.
4) Draw diagrams or graph **WHEREVER** necessary

SECTION – I

Q.1 Attempt any **FIVE** of the following **(10)**

a) Define median and mode.

b) Explain primary data.

c) Explain the term probability distribution.

d) Define Poisson distribution.

e) If $byx = \frac{9}{20}$ and $bxy = \frac{4}{5}$ find correlation coefficient between X and Y.

f) State mean and variance of normal distribution.

Q.2 Weight in miligram of 25 residuals are given below: **(15)**

50, 46, 31, 49, 33, 42, 55, 37, 36, 35, 65, 57, 27, 37, 42

Find:

i) Mean and median weight of residual.

ii) Variation in weight of residuals.

iii) Coefficient of variation of weight in residuals.

Q.3 Find out the coefficient of correlation between the per capita income and the price level from the following data. Also fit the line of regression of Y on X. **(15)**

Per Capita income (Y)	360	420	500	550	600	590
Price index (X)	100	110	120	160	280	290

Q.4 Attempt any **THREE** of the following. **(15)**

a) Draw a histogram for the following data related to the sales of 100 companies.

Sales (Rs. In Lakhs	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45
No. of companies	5	12	13	20	18	15	10	07

b) State the properties of normal distribution.

c) State the properties of regression coefficients.

d) An oil exploration firm finds that 5% of the test wells if drills yield a deposit of natural gas. If it drills 6 wells, find the probability that at least one well will yield gas

SECTION - II

Q.5 Attempt any **FIVE** of the following. **(10)**

a) Define null hypothesis.

b) Define critical region.

c) Explain t- test.

d) What is level of significance?

e) Explain sign test.

f) Define parametric test.

Q.6 **a)** Discuss Chi – Square test of independence of attributes. **(07)**

b) A sample of size 20 from normal population gives sample mean of 42 and standard deviation 6. Test the hypothesis that population standard deviation is 9. **(08)**

Q.7 Discuss briefly on various non parametric tests. **(15)**

Q.8 Attempt any **THREE** of the following. **(15)**

a) Test of significance of means.

b) Analysis of variance.

c) Latin square designs.

d) Explain briefly control chart for means.

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