Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐   **Total No. of Pages : 02**

Total No. of Questions : 09

B.Sc.(BT) (2013 to 2017)   (Sem.–1)
BIOSTATISTICS
Subject Code : BSBTM-09
Paper ID : [F0239]

Time : 3 Hrs.   **Max. Marks : 60**

INSTRUCTION TO CANDIDATES :
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION–A

1. **Write briefly :**

   (a) Differentiate between primary data and secondary data.

   (b) Define a random variable and sample space.

   (c) Features of a good average.

   (d) What is C.V. (Coefficient of Variation)?

   (e) State multiplication theorem of Probability.

   (f) What are the types of errors?

   (g) What is null hypothesis?

   (h) What is degree of freedom?

   (i) Write any three uses of chi-square test.

   (j) Comment the statement *"figures cannot lie"*.

SECTION–B

2. What is main difference between graphic and diagrammatic presentation? In what way graphical representations of data is superior to tabular presentation?

3. A hospital carries out experiments on 10 patients for the effect of two medicines A and B on to reduce the total cholesterol level in their blood. Following results are obtained. Find which medicine has more variable effect.

Medicine	Mean	Standard deviation
A	157 mg/dl	2.6 mg/dl
B	175 mg/dl	3.1 mg/dl

4. A new pregnancy test was given to 100 pregnant women and 100 non-pregnant women. The test indicated pregnancy of 92 of 100 pregnant and to 12 of the 100 non-pregnant women. If a randomly selected woman takes this test and the test indicates that she is pregnant. What is the probability that she was not pregnant?

5. Of a large number of group of children 5% are under 60 cm in height and 40% are between 60 and 65 cm. Assuming a normal distribution, find the mean and standard deviation.

6. What we mean by Analysis of Variance?

SECTION–C

7. Find the standard deviation of (I.Q.) of 68 students of the following data:

I.Q.	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
No. of students	5	12	15	20	10	4	2

8. What is Probability mass function of a binomial distribution and give a real life example which conforms to binomial distribution. Under what conditions a binomial distribution can be approximated by a poission distribution?

9. What is Hypothesis? List the important steps in testing procedure.