ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27
B.Sc. STATISTICS – I SEMESTER
MID-SEMESTER EXAMINATION – AUGUST 2019
ST 118: INTRODUCTION TO PROBABILITY AND STATISTICS

Time: 1 Hour   Max: 30 marks

I   Answer any <u>five</u> of the following: 5 x 2 = 10

1. Define Statistics in plural noun and singular noun sense.
2. Distinguish between sample and population with an example.
3. Explain primary and secondary data with an example.
4. Mention the requisites of a good measure of central tendency.
5. What are partition values? Find P_{35} from the data given below
    61, 73, 93, 107, 112, 68, 74, 82, 109, 85, 96, 115, 79, 120, 76, 128.
6. Draw Stem and Leaf diagram for the above data given in 5.
7. Define dispersion. Differentiate between absolute and relative measures of dispersion

II   Answer any <u>two</u> of the following: 2 x 5 = 10

8. Define frequency distribution. Explain the method of construction of continuous frequency distribution.
9. Define Geometric mean. Prove that Geometric mean is capable of further algebraic treatment.
10. Define correlation. Prove that Karl Pearson's correlation coefficient lies between -1 and +1.

III   Answer any <u>one</u> of the following: 1 x 10 = 10

11. A) Explain different types of scales of measurements with example.   (4)

    B) The mean weight of 150 students in a certain class is 60 kilograms. The mean weight of the boys in the class is 70 kilograms and that of the girls is 55 kilograms. Find the number of boys and number of girls in the class.   (2)

    C) Define standard deviation. Prove that it is affected by change of scale but not origin.

    (4)

12. A) Define Scatter diagram and explain different types of correlation with neat diagram (4)

    B) Derive interrelationship between raw moments and central moments. Hence obtain first four central moments.   (6)