**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27**

**Register No:**

**Date:**

OPEN ELECTIVE STATISTICS – IV SEMESTER

SEMESTER EXAMINATION – APRIL 2019

**STOE 4116: Descriptive Statistics**

**Time: 1 ½ hrs Max Marks 35**

This Question Paper Contains **TWO** Printed Pages and **THREE** Parts

**Note: Graph sheets will be provided on request.**

**PART-A**

**I Answer any FIVE from the following 5 x 2 = 10**

* 1. Define Statistics
  2. Distinguish between Population and Sample
  3. State the Additive property of Probability
  4. Define Stratified random sampling
  5. Five people play golf and at one hole their scores are 7, 4, 3, 4, 5; Calculate the range and average of score.
  6. Define Correlation with an example.
  7. List out the measures of dispersions

**PART-B**

**II Answer any THREE from the following 3 x 5 = 15**

* 1. Explain different scales of measurement with examples
  2. What do you mean by non-sampling errors? How do you control it?
  3. A) Give the classical definition of probability

B) The mean height of a class of 28 students is 162cms. A new girl of height 149cms joins the class. What is the mean height of the class now? (2+3)

* 1. Two people work in a factory making parts for cars. The table shows how many complete parts they make in one week.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Worker | Mon | Tue | Wed | Thu | Fri | Sat |
| Fred  Harry | 20  30 | 21  15 | 22  12 | 20  36 | 21  28 | 23  20 |

* + 1. Who makes more parts in a week?
    2. Who is more consistent? (5)
  1. Write a short note on Scatter Diagrams with suitable graphs. (5)

**PART – C**

**III Answer any ONE from the following 1 x 10 = 10**

* 1. A) Explain any one method of drawing a simple random sampling? (4)

B) Height and arm length for each of eight pupils are shown in the table.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Height (in cms) | 169 | 176 | 182 | 157 | 166 | 188 | 154 | 190 |
| Arm length (in cms) | 67 | 73 | 70 | 63 | 69 | 74 | 62 | 77 |

Fit a linear regression to estimate the arm length, if height is 171cms (6)

* 1. A) The number of days that children were missing from school due to sickness in one year was recorded. Find the variance for the following data. (6)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Number of days of Sick | 1 – 5 | 6 – 10 | 11 – 15 | 16 – 20 | 21 – 25 |
| Frequency | 12 | 11 | 10 | 4 | 3 |

B) Use the data of Q.No. 14 A) and draw Histogram with suitable title. (4)