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Register Number:

DATE:

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

OPEN ELECTIVE -IV SEMESTER

SEMESTER EXAMINATION – APRIL 2017

**ST OE 4116 – Descriptive Statistics**

**Time: 90 Min Max: 35 marks**

This question paper has **THREE** parts and **ONE** printed page

Scientific calculators are allowed and **GRAPHS** sheets will be provided on request

**PART – A**

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

1. Define Statistics and mention some of its limitations.
2. Explain Qualitative and Quantitative data with examples.
3. Define correlation coefficient and specify the measures of it.
4. Give any two application of Geometric mean.
5. Define Dispersion and list all measures of it
6. Define i)Event ii) Sample space
7. Define population and sample.

 **PART – B**

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

1. Explain the different scales of measurement with example. (5)
2. A) Explain i) Random experiment ii) Deterministic experiment (2)

B) 2 cards are drawn at random from a pack of cards. Find the probability that (3)

 i) Both are spades ii) Cards belong to different suits

1. A) What do you mean by bivariate data? (1)

B) Calculate Karl Pearson coefficient of correlation and plot scatter diagram

 and give conclusion. (4)

**Yields of Potatoes Receiving Different Amounts of Fertilizers**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Amount (Kg) | 0 | 4 | 8 | 12 | 16 | 20 |
| Yield (Quintals) | 8.34 | 8.89 | 9.16 | 9.5 | 9.9 | 10.2 |

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1. Following data about age on 20 randomly selected students are obtained from a class.

 their ages were : 18,19,19,19,19,20,20,20,20,20,21,21,21,21,22,23,24,27,30,36 (in years)

a) Find the median age of all students (5)

b) Find modal age of all students

c) Find mean age for all students

d) Two more students enter into the class with age 20 and 22 respectively. Compute mean, and mode for the revised data.

1. Explain i) Simple Random sampling (5)

 ii) Cluster sampling

**PART – C**

**III Answer any ONE of the following: 1 x 10 = 10**

1. A) Following data is obtained from six randomly selected people about their bike performances.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Mileage (in kms) | 35 | 45 | 49 | 28 | 37 | 55 |
| Maintenance cost (in Rs ‘00) | 29 | 36 | 45 | 40 | 30 | 30 |

Fit a regression line for mileage on maintenance cost and estimate mileage

when maintenance cost is Rs. 3500. (4+1)

B) Define Central tendency and explain any four measures of it. (5)

1. A) Explain the requisites of a good questionnaire. (5)

B) Represent the following data regarding density of rat population by multiple bars. (5)

|  |  |
| --- | --- |
| State | Density(per sq.km.) |
| 1981 | 1991 | 2001 |
| West Bengal | 615 | 766 | 904 |
| Kerala | 655 | 747 | 819 |
| U.P | 377 | 471 | 689 |
| Maharashtra | 204 | 256 | 314 |
| Karnataka | 194 | 234 | 275 |
| Rajasthan | 100 | 128 | 165 |

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