****

Register Number:

DATE: 06-04-2017

**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. Briefly explain pivot table.
2. Differentiate between symmetric and skewness.
3. Give the classical definition of probability.
4. Mention the requisites of a good measure of Dispersion.
5. Give the property of combined mean.
6. Define linear regression.
7. Define pilot survey.

 **PART-B**

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

1. Construct appropriate frequency distribution from the following raw data about number of typing errors in a page (5)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6 | 2 | 2 | 2 | 4 | 5 | 5 | 0 | 5 | 0 | 4 | 4 | 2 | 1 |
| 2 | 5 | 3 | 0 | 4 | 0 | 2 | 6 | 4 | 1 | 2 | 6 | 6 | 0 |
| 2 | 3 | 1 | 5 | 4 | 2 | 1 | 2 | 3 | 5 | 5 | 4 | 1 | 5 |

1. Goals scored by two teams A and B in a football season were as follows: (5)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Team A | 2 | 4 | 4 | 0 | 0 | 2 | 3 | 1 | 5 | 5 |
| Team B | 5 | 2 | 1 | 0 | 3 | 1 | 4 | 4 | 4 | 2 |

Which team is more consistent?

1. Find correlation between X and Y. comment on the result. (5)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Price of shirt (X) (in Rs) | 90 | 100 | 116 | 115 | 120 | 190 |
| Price of trousers (Y) (in Rs) | 190 | 200 | 190 | 215 | 220 | 170 |

1. Explain i) Stratified sampling (5)

 ii) Simple random sampling

1. A) A committee of University teachers consists of three professors, five readers and two lecturers. A subcommittee of six is selected by drawing names out of that. What is the probability that the subcommittee is composed of two professors, three readers and one lecturer? (2)

 B) Explain i) Equally likely event

 ii) Mutually exclusive event with example (3)

**PART – C**

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

1. A) Following data gives the cost components of construction of a house. Represent the data by component bars. (5)

|  |  |
| --- | --- |
| Particulars | cost in rupees(in thousand) |
| 1980 | 1990 | 2000 |
| steel | 20 | 60 | 120 |
| cement | 20 | 30 | 60 |
| wood | 10 | 20 | 50 |
| bricks | 10 | 20 | 30 |
| labour | 20 | 30 | 50 |
| miscellaneous | 20 | 40 | 90 |
| Total | 100 | 200 | 400 |

B) Prepare a draft of questionnaire for collecting data on “opinion about conducting students council election” in a college for the first time. (5)

1. A) The frequency of Chirps(pulse of sound)made by a striped ground cricket at various ground temperature.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Chirps/second | 20 | 16 | 19 | 18 | 17 | 15 |
| Temperature(⁰F) | 89 | 72 | 93 | 84 | 81 | 75 |

 Fit a regression line of chirps on temperature. (5)

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