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| **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27** |
| **B.A. ECONOMICS - IV SEMESTER** |
| **SEMESTER EXAMINATION: APRIL 2019** |
| **EC 412: Statistical Methods for Economics** |
|  |  |  |  |  |  |  |
| **Time- 2 1/2 hrs** |  |  **Max Marks-70** |  |
| **Supplementary candidates only.****Attach the question paper with the answer booklet** |
| **This paper contains 2 printed pages and 3 parts** |

**PART A**

**I Answer any 10 of the following: 3X10=30**

1. Define statistics.
2. Distinguish between a questionnaire and a schedule.
3. What are the various sampling techniques used in research.
4. Calculate the arithmetic mean for the following data:

10, 15, 20, 25, 30, 40

1. Calculate the median for 28, 32, 27, 46, 38, 43.
2. Calculate Q3 for the following data:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Marks | 10 | 20 | 30 | 40 | 50 | 60 |
| F | 4 | 7 | 15 | 8 | 7 | 2 |

1. Calculate coefficient of variation when mean=90 and standard deviation=18.
2. Calculate mode when median=72 and mean= 68.
3. Calculate range for the following data:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Days | Mon | Tue | Wed | Thu | Fri | Sat |
| Price | 200 | 210 | 208 | 160 | 220 | 250 |

1. Mention the 2 regression equations..
2. Define skewness. Represent a negatively skewed distribution diagrammatically.
3. Define probability.

**PART B**

**II Answer any 2 of the following: 5X2=10**

1. The following are the marks obtained by 50 students in statistics. Prepare a frequency distribution by taking the 1st class interval as 0-10.

70, 45, 33, 64, 50, 25, 65, 72, 30, 20, 55, 60, 65, 58, 52, 36, 45, 42, 35, 40, 51, 47, 39, 61, 53, 59, 49, 41, 15, 55, 42, 63, 82, 65, 45, 63, 54, 52, 48, 46, 57, 53, 55, 42, 45, 39, 64, 35, 26, 18.

1. Represent the following data using a pie diagram.

|  |  |
| --- | --- |
| Items of expenditure | Family |
| Food | 400 |
| Cloth | 150 |
| House Rent | 200 |
| Education | 100 |
| Other expenses | 50 |
| Savings | 100 |

1. Calculate rank correlation for the following data:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| X | 65 | 63 | 67 | 64 | 68 | 62 | 70 | 66 | 68 | 67 | 69 | 71 |
| Y | 68 | 66 | 68 | 65 | 69 | 66 | 68 | 65 | 71 | 67 | 68 | 70 |

**PART C**

**III Answer any 2 of the following: 15X2=30**

1. What are diagrams? Explain the various types of diagrams. Mention its merits and limitations.
2. Calculate Karl Pearson’s coefficient of skewness

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CI | 10-15 | 15-20 | 20-25 | 25-30 | 30-35 | 35-40 | 40-45 | 45-50 | 50-55 | 55-60 |
| f | 2 | 8 | 6 | 12 | 7 | 6 | 4 | 3 | 1 | 1 |

1. Calculate index numbers using the Laspeyer’s method, Paasche’s method and Fisher’s method.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | P0 | Q0 | P1 | Q1 |
| A | 4 | 20 | 6 | 10 |
| B | 3 | 15 | 5 | 20 |
| C | 2 | 25 | 3 | 15 |
| D | 5 | 10 | 4 | 40 |

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| **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27** |
| **B.A. ECONOMICS - III SEMESTER** |
| **SEMESTER EXAMINATION: OCTOBER 2018** |
| **ECA 3118: STATISTICAL METHODS FOR ECONOMICS** |

**SCHEME**

**3 MARKS:**

1. Any definition of statistics can be given.
2. Questionnaire filled up by respondent and schedule by the investigator.
3. Random sampling, judgemental, stratified sampling, etc.
4. 23.33
5. 35
6. 40
7. 20
8. 80
9. 90
10. ∑Y= Na+b∑x and ∑xy= a∑x+b∑x2 ( Y on X)

∑x= Na+b∑y and ∑xy= a∑y+b∑y2 ( X on Y)

1. Skewness shows variation in data. Negatively skewed diagram to be given.
2. Chances of occurance of an event.

**5 MARKS:**

1. Merits and limitations of statistics to be listed.
2. 0-10=0 , 10-20=2, 20-30=3, 30-40=7, 40-50=13, 50-60=13, 60-70=9, 70-80=2, 80-90=1
3. 144, 54, 72, 36, 18, 36
4. 0.715

**15 MARKS:**

1. Bar diagrams, pie charts , etc. Mention its merits and demerits.
2. Mean= 30.1, Mode= 27.7, SD= 10.45, Sk=0.229
3. Y=1.73x-28.2 and x=0.54y+17.1
4. Laspeyer’s = 137.8, Paasche’s = 110.6, Fisher’s= 123.45.

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