**ST. JOSEPH’S UNIVERSITY, BENGALURU -27**

Registration Number:

Date & Session:

B.A. ECONOMICS - IV SEMESTER

**SEMESTER EXAMINATION: APRIL 2024**

**(Examination conducted in May/June 2024)**

**ECA 4222: STATISTICAL METHODS FOR ECONOMICS**

**(For current batch students only)**

(Kindly note: Calculators/scientific calculators are permitted)

**Time: 2.00 Hours Max Marks: 60**

**This paper contains 4 printed pages and 3 parts**

**Part A**

**I. Answer any 10 questions of the following [10 x 3 =30]**

1. Mention different sources of Data.
2. Write a brief note on Cluster Sampling.
3. In an economic analysis undertaken following are the final results, L1 = 30, $\frac{N}{2}$ = 21.5, cf = 16, f = 30 and i = 10. Find the median.
4. In an Economic analysis regarding income distribution of a given two regions- it was found the presence of inconsistency in Income distribution. The region -1, had the highest income [H] of Rs 14000 cr and lowest income[L] was Rs10000 cr. In the region – 2 following were the values of the evaluated income, the highest income [H] was Rs 13000 cr and lowest income[L] was Rs 5000 cr. Find which region is more consistent in the distribution of income.
5. What is correlation? mention the types of correlation.
6. What is Kurtosis?
7. Mention the two regression equations of X on Y and Y on X.
8. Find the correlation between 2 variables – Income [X] and consumption [Y] when ∑ xy = 84, ∑x2 =132 and ∑y2 = 56.
9. Mention any 4 problems in the construction of Index numbers.
10. What is Factor Reversal Test?
11. What are 3 three methods of measuring index numbers? Which of them is the ideal index number?
12. What are the different methods of analysing the time series.

 **PART -B**

II**. Answer any 3 questions of the following [3 x 5 =15]**

1. Explain the different uses of Statistical methods for Economics.
2. Explain the different types of Non -Random Sampling.
3. Calculate correlation coefficient between expenditure [x] and sales [y] for the following data of a certain industry

|  |  |
| --- | --- |
| x | y |
| 40 | 50 |
| 39 | 52 |
| 50 | 50 |
| 65 | 55 |
| 70 | 58 |
| 75 | 80 |
| 80 | 85 |

1. Calculate the standard deviation for the following data of profit levels earned by different firms

|  |  |
| --- | --- |
| C – I[profit levels] | F[firms] |
| 0-3 | 2 |
| 3-6 | 7 |
| 6-9 | 10 |
| 9-12 | 12 |
| 12-15 | 9 |
| 15-18 | 6 |
| 18-21 | 4 |

1. Construct the index number by Fischer’s method for the following 5 consumer essentials

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Commodities | P1 | Q1 | P0 | Q0 |
| H | 15 | 25 | 12 | 02 |
| L | 16 | 10 | 10 | 08 |
| M | 12 | 01 | 15 | 02 |
| N | 65 | 01 | 60 | 01 |
| P | 10 | 01 | 03 | 02 |

 **PART - C**

III. **Answer any 1 question of the following [1 x 15 =15]**

1. Calculate Bowley’s coefficient of Skewness for the following data, regarding profits of different firms.

|  |  |
| --- | --- |
| Profit [in cr] | Firms  |
| 70-80 | 12 |
| 80-90 | 18 |
| 90-100 | 35 |
| 100-110 | 42 |
| 110-120 | 50 |
| 120-130 | 45 |
| 130-140 | 30 |
| 140-150 | 8 |

1. From the data given regarding price and demand, obtain 2 regression equations using deviation method.

|  |  |
| --- | --- |
| XPrice  | YDemand  |
| 1 | 2 |
| 2 | 3 |
| 3 | 4 |
| 4 | 5 |
| 5 | 6 |

 \*\*\*\*\*

 ECA4222-B-24