|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Roll No |  |  |  |  |  |  |  |  |  |  |  |  |

 ****

**Presidency University**

**Bengaluru**

 **SCHOOL OF COMMERCE**

**Make-Up Examinations July 2024**

**Date**: 05 JULY 2024

**Time**: 09.30 am to 12.30Pm

**Marks**: 100

**Weightage**: 50%

**Winter Semester**: II

**Course Code**: SOC2003

**Course Name**: Business statistics

**Program**: BBA

 **Instructions:**

1. *Read the all questions carefully and answer accordingly.*
2. *Question paper consists of three parts.*
3. *Scientific and Non Programable Calculators are Permitted.*
4. *Do not write any information on the question paper other than roll number.*

**Part A**

**Answer any FIVE Questions. (5 Q x 2 M = 10 M)**

1. Given a survey data on the preference of people for the five savings instruments, collated from 500 working people in Bangalore city; which among the following is the most suitable tool for presentation of this data

1)Histogram

2)Bar diagram

3)Ogives

4)Frequency curve

 (C.O.No.1) [Knowledge]

2. Which among the following measure of central tendency is the most suited method in case of summarizing data on growth rates, percentages or ratios

1)Median

2)Geometric Mean

3)Mode

4)None of them

 (C.O.No.2) [Knowledge]

3. State the different scales of measurements used in statistical investigations (C.O.No.1) [Knowledge]

4. Discuss steps of calculating quartile deviation for a frequency distribution

 (C.O.No.3) [Knowledge]

5. If a distribution has its Arithmetic mean= 50 and its mode= 65, calculate median . (C.O.No.2) [Knowledge]

6. Discuss the importance of measures of correlation (C.O.No.4) [Knowledge]

7. Discuss the steps of calculating coefficient of variation for a raw data set (C.O.No.3) [Knowledge]

**Part B**

**Answer any FIVE Questions. (5 Q x 10 M = 50 M)**

8. Formulate a questionnaire to research regarding the preference over the programs chosen during the under-graduation. And to know what is the student preference and why they chose that particular program. Use 5 general questions to know about the demographics of the respondent and 15 specific questions on the topic you want to research over (C.O.No.1) [Comprehension]

9. Calculate Standard deviation for the following grouped data

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Class Interval | 100-150 | 150-200 | 200-250 | 250-300 | 300-350 | 350-400 | 400-450 | 450-500 |
| Frequency | 10 | 15 | 30 | 40 | 20 | 10 | 5 | 2 |

 (C.O.No.3) [Application]

10. Group the data into continuous series and calculate arithmetic mean.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | 28 | 15 | 41 | 15 | 18 | 9 | 52 | 54 | 10 |
| 38 | 20 | 55 | 55 | 40 | 6 | 45 | 48 | 5 | 33 |
| 15 | 6 | 0 | 2 | 10 | 6 | 17 | 48 | 5 | 57 |
| 35 | 5 | 24 | 21 | 60 | 0 | 10 | 23 | 20 | 15 |

 (C.O.No.2) [Application]

11.Calculate correlation between productivity and usage of fertilizers and provide an conclusive statement for the correlation value calculated. Use any method (Karl Pearson or Spearman rank method)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Productivity (000)** | **60** | **45** | **55** | **15** | **20** | **30** | **15** | **15** | **2** | **10** | **25** | **20** | **10** | **30** | **55** |
| **Fertilizer Use (000)** | **50** | **50** | **30** | **10** | **30** | **15** | **5** | **15** | **5** | **15** | **10** | **30** | **5** | **50** | **40** |

 (C.O.No.4) [Application]

12. The table given below is the record of not attending classes by 12 students and the marks scored by them in the examination conducted. Compute the Karl Pearson’s coefficient of correlation between absent records and performance in the examination

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Absent record** | **30** | **42** | **10** | **50** | **5** | **12** | **25** | **4** | **8** | **22** | **15** | **20** |
| **Marks scored** | **15** | **20** | **45** | **5** | **30** | **20** | **30** | **35** | **40** | **10** | **28** | **30** |

 (C.O.No.4) [Application]

13. The table given below shows the prices of Cereals and pulses for different years. Compute simple aggregate index numbers for all the years from 2018 to 2022, taking 2019 as the base year

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|                Year | 2018 | 2019 | 2020 | 2021 | 2022 |
| Cereals | 65 | 50 | 80 | 70 | 60 |
| Pulses | 90 | 80 | 50 | 85 | 55 |

 (C.O.No.5) [Application]

14. Given below is the raw data on runs scored by 40 different batsmen in a cricket tournament. Classify this data using appropriate techniques and present the Less than Ogive based on classification

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | 28 | 15 | 41 | 15 | 18 | 9 | 52 | 54 | 10 |
| 38 | 20 | 55 | 55 | 40 | 6 | 45 | 48 | 5 | 33 |
| 15 | 6 | 0 | 2 | 10 | 6 | 17 | 48 | 5 | 57 |
| 35 | 5 | 24 | 21 | 60 | 0 | 10 | 23 | 20 | 15 |

 (C.O.No.1) [Application]

**Part C**

**Answer any TWO Questions. (2 Q x 20 M = 40 M)**

15. A researcher wants to study the mental health of people living in the outskirts of big cities. They have chosen Bangalore as the city for their study. However, there is no existing data collected by any organization on this topic
a. Discuss in detail different approaches he can adopt to carry out the data collection process
b. Prepare a hypothetical statistical table on two variables of any health status variable (C.O.No.1) [Application]

16. The table below presents the raw data on runs scored by 40 different batsmen in a cricket tournament. Classify this data using appropriate techniques. Present it in a **historgram**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7 | 28 | 15 | 41 | 15 | 18 | 9 | 52 | 54 | 10 |
| 38 | 20 | 55 | 55 | 40 | 6 | 45 | 48 | 5 | 33 |
| 15 | 6 | 0 | 2 | 10 | 6 | 17 | 48 | 5 | 57 |
| 35 | 5 | 24 | 21 | 60 | 0 | 10 | 23 | 20 | 15 |

 (C.O.No.1) [Application]

17. Table below shows the set of data on Number of graduates and number of employment generated of 8 years. Compute Spearman’s coefficient of correlation and identify the association between these variables.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number of graduates | **40** | **60** | **80** | **120** | **50** | **100** | **110** | **90** |
| employment generated  | **50** | **55** | **70** | **80** | **60** | **90** | **85** | **75** |

 (C.O.No.4) [Application]