21U5114 (Pages: 2) Name: .....

Reg.No: .....

FIFTH SEMESTER B.Voc. DEGREE EXAMINATION, NOVEMBER 2023

(CBCSS - UG)

CC21U SDC5 SD15 - STATISTICAL DATA ANALYSIS USING SPSS

(Information Technology)

(2021 Admission - Regular)

Time : 2.5 Hours Maximum : 80 Marks

Credit : 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 2 marks.

1. In SPSS How do I import data ?
2. What is the difference between numeric and string variables in SPSS?
3. How can you merge two numeric variables in SPSS?
4. In SPSS,what is the purpose of computing total scores ?
5. How can you change the font style and size in tables in SPSS?
6. Explain construction of bar diagram.
7. In SPSS,how do you create a percentage chart?
8. Can you create a cumulative frequency table in SPSS?
9. What is scatterdiagram?
10. Describe the difference between correlation and regression.
11. Explain Null hypothesis and alternative hypothesis.
12. What do you mean by large sample tests and small sample tests?
13. Explain the difference between paired t-test and indipendent t-test?
14. What do you mean by Kruskal-wallis test?
15. Explain χ^2 test for goodness of fit.

(Ceiling: 25 Marks)

Part B (Paragraph questions)

Answer ***all*** questions. Each question carries 5 marks.

16. Explain Mean, Median, and Mode.
17. Explain the differences between the mean, median, and mode. When is each of these measures most appropriate to use?

18. Calculate the standard deviation for the following grouped data:

Class Interval	Frequency
0 - 5	3
5 - 10	7
10 - 15	5
15 - 20	8
20 - 25	4

19. Define kurtosis. What is "negative kurtosis" and describe the characteristics of a distribution with negative kurtosis?

20. Explain correlation. What are the methods for finding correlation.

21. Find the regression equation of X on Y
    X: 2, 4, 5, 7, 8, 10, 11, 13, 14, 16
    Y: 3, 6, 7, 9, 11, 13, 14, 16, 17, 19

22. A factory produces a certain type of item, and they claim that the average weight of this item is 100 grams. To test this claim, a quality control manager randomly selects 36 items from a recent production batch and measures their weights. The sample mean is 98.5 grams with a known population standard deviation of 5 grams. Is there enough evidence to reject the factory's claim?

23. What do you mean by two sample sign tests?

(Ceiling: 35 Marks)

Part C (Essay questions)

Answer any ***two*** questions. Each question carries 10 marks.

24. What are the different types of diagrammatic representations available in SPSS, and when is each type most appropriate?

25. Calculate the Spearman rank correlation coefficient for the dataset:
    X: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50
    Y: 50, 45, 40, 35, 30, 25, 20, 15, 10, 5

26. You have three groups of students, and you want to determine if there's a significant difference in their test scores.
    Group 1: [85, 88, 92, 78, 90] Group 2: [75, 80, 88, 72, 78] Group 3: [95, 92, 98, 85, 88]
    Perform a one-way ANOVA at a significance level of 0.05 ($\alpha = 0.05$).

27. What do you mean by ANOVA. Explain the prodedure of ANOVA in Two way classification

(2 × 10 = 20 Marks)

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