Candidate's Index Number
Signature:

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
SCHOOL OF EDUCATIONAL DEVELOPMENT AND OUTREACH
INSTITUTE OF EDUCATION

COLLEGES OF EDUCATION
FOUR-YEAR BACHELOR OF EDUCATION (B.ED)
THIRD YEAR, END-OF-SECOND SEMESTER EXAMINATION, DECEMBER 2023

14TH DECEMBER 2023   EDUCATIONAL STATISTICS   2:00 PM – 2:30 PM

This paper consists of two sections, A and B. Answer ALL the questions in Section A and TWO questions from Section B. Section A will be collected after the first 30 minutes.

SECTION A
(20 MARKS)

Answer ALL the questions in this Section.

Items 1 to 20 are stems followed by four options lettered A to D. Read each item carefully and circle the letter of the correct or best option.

1. The range of a sample indicates the ....
   A. degree to which the mean value differs from its expected value.
   B. maximum variation in the sample.
   C. number of observations bearing the same value.
   D. way in which the values cluster about a particular point.

2. What is the median of samples 5, 5, 11, 9, 8, 5, 8?
   A. 5
   B. 6
   C. 8
   D. 9

3. The sum of the deviations about the mean of the data set of 2 is ....
   A. -1
   B. 0
   C. 1
   D. 10

4. If you secure 97 percentile in an examination with a score of 10, it means that your position is below .... percent of the total candidates who had appeared in the exam.
   A. 3
   B. 10
   C. 90
   D. 97

5. Which of the following measures of dispersion can attain a negative value?
   A. Mean deviation
   B. Range
   C. Standard deviation
   D. Variance

6. The arithmetic mean of 10 items is 4 and that of 5 items is 10. What would be the combined arithmetic mean?
   A. 4
   B. 5
   C. 6
   D. 10

7. Which level of measurement is used with the Movie Ratings Scale?
   A. Interval
   B. Nominal
   C. Ordinal
   D. Ratio

8. If the values of two variables move in the same direction, the correlation is said to be ....
   A. linear.
   B. negative.
   C. non-linear.
   D. positive.

9. The mean of ten numbers is 58. If one of the numbers is 40, what is the mean of the other nine?
   A. 18
   B. 60
   C. 162
   D. 540

10. The correlation between self-efficacy and academic performance is -0.7. This means that a learner with .... self-efficacy is *likely* to perform ....
    A. high, better.
    B. low, better.
    C. low, poor.
    D. moderate, poor.

11. What level of measurement is used to measure shoe size?
    A. Interval
    B. Nominal
    C. Ordinal
    D. Ratio

12. For a negatively skewed distribution, the median would be equal to which of the following measures?
    A. Fifth quartile
    B. Mean
    C. Mode
    D. Second quartile

13. The mean of 11 numbers is 7. One of the numbers, 13, is deleted. What is the mean of the remaining 10 numbers?
    A. 5.8
    B. 6.0
    C. 6.4
    D. 7.7

14. If all the observations within a series are multiplied by five, then the new standard deviation would be ....
    A. decreased by five.
    B. half of the previous standard deviation.
    C. increased by five.
    D. multiplied by five.

15. The coefficient of variation is a percentage expression for .... deviation.
    A. mean
    B. quartile
    C. standard
    D. zero

16. The correlation coefficient of Mathematics and English performance is 0.3. What will be the amount of variance explained by English?
    A. 0.9%
    B. 8.1%
    C. 9.0%
    D. 81%

17. The standard deviation of a set of 90 observations is 105. If the value of each observation is decreased by 9, then the new standard deviation of these observations would be ....
    A. 96
    B. 99
    C. 105
    D. 111

18. The average daily wage of 100 workers in a Coca-Cola company was GH¢200.00, with a standard deviation of GH¢ 40.00. Now, if each worker gets an increment of 20% in their wages, how will it affect the mean wage?
    I.   The mean wage will remain unchanged.
    II.   The mean wage will be increased by 20%
    III. The mean wage will be GH¢ 240.00

    A. I
    B. I & II
    C. I & III
    D. II & III

19. A statistics professor asked students in a class their ages. Based on this information, the professor states that the average age of all the students in the university is 21 years. This is an example of
   . . . .
   A. an experiment
   B. census
   C. descriptive statistics
   D. inferential statistics

20. The variance of a sample of 81 observations equals 64. The standard deviation of the sample equals
   A. 3
   B. 4
   C. 8
   D. 9