

NOVEMBER 2022  
EBS 348  
EDUCATIONAL STATISTICS  
30 MINUTES

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, SECOND SEMESTER MID-SEMESTER QUIZ, NOVEMBER 2022

18<sup>TH</sup> NOVEMBER 2022      EDUCATIONAL STATISTICS      9:00 AM – 9:30 AM

Answer ALL the questions.  
[20 MARKS]

For items 1 to 17, each stem is followed by four options lettered A to D. Read each item carefully and circle the letter of the correct or best option.

1. The mean and the variance of 10 observations are given to be 4 and 2 respectively. If every observation is multiplied by 2, the mean and the variance of the new series will be respectively.  
A. 8 and 4  
B. 8 and 8  
C. 8 and 20  
D. 80 and 40
2. If the variance of a distribution is 81 and the coefficient variation is 30%, the value of the mean is .....  
A. 25  
B. 30  
C. 35  
D. 40
3. If the standard deviation of a data set is 0.012. Find the variance.  
A. 0.144  
B. 0.00144  
C. 0.000144  
D. 0.0000144
4. If the standard deviation of the numbers 2, 4, 5 & 6 is a constant  $y$ , then find the standard deviation of the numbers 4, 6, 7 & 8.  
A.  $y + 2$   
B.  $2y$   
C.  $4y$   
D.  $Y$

5. Assuming the variance of four numbers  $w$ ,  $x$ ,  $y$ , and  $z$  as 9, find the variance of  $5a$ ,  $5b$ ,  $5c$  and  $5d$ .
  - A.  $5/9$
  - B.  $9/5$
  - C. 54
  - D. 225
  
6. If the S.D. of a set of observations is 4, and if each observation is divided by 4, find the S.D. of the new observations.
  - A. 1
  - B. 2
  - C. 3
  - D. 4
  
7. Which of the following values indicates the greatest strength of relationship for a Person's correlation of coefficient?
  - A. -0.85
  - B. -0.22
  - C. 0.00
  - D. 0.75
  
8. If the correlation coefficient is 0.8, the percentage of variation in the response variable explained by the variation in the explanatory variable is .....
  - A. 0.64%
  - B. 0.80%
  - C. 64%
  - D. 80%
  
9. If I tell you that you scored at the 65th percentile on your final exam, you will know .....
  - A. 35% of the class scored worse than you did.
  - B. 65% of the class scored as good or worse than you did.
  - C. you did better than 65% of the students in the class.
  - D. you earned a 65% on the exam.
  
10. June's percentile rank on a science exam is 78. This means that .....
  - A. June achieved a score of 78% on the exam.
  - B. June answered 78% of the questions correctly on the exam.
  - C. June scored the same as 78% of the other students in the class.
  - D. June's score was greater than 78% of the other students' scores.
  
11. If the population mean is 50 and the standard deviation is 5, what is the Z score for a student with a score of 46 in a class of 48?
  - A. -0.8
  - B. -0.4
  - C. 0.4
  - D. 0.8

12. The **most** appropriate measure of correlation coefficient to use to establish relationship between swimming ability and sex of students is .....
- A. Biserial
  - B. Pearson
  - C. Point Biserial
  - D. Spearman
13. The lower quartile has a percentile rank of .....
- A. 10%
  - B. 25%
  - C. 60%
  - D. 80%
14. What is the percentile rank of 16 in the statement: "15% of the students in the class are above 16 years of age."
- A. 15%
  - B. 25%
  - C. 85%
  - D. 90%
15. How many percent corresponds to the third quartile (Q3) if you will interpret it?
- A. 25%
  - B. 50%
  - C. 75%
  - D. 90%
16. What will be the interquartile range given that the lower and upper quartiles of a distribution is 35 and 50 respectively with a mean of 20.
- A. 7.5
  - B. 10
  - C. 15
  - D. 20
17. Given that the standard deviation of a set of data is 3, what will be the variance of the same set of data?
- A. 3
  - B. 6
  - C. 9
  - D. 81
18. The mean weight of a group of 7 boys is 56 kg. The individual weights (in kg) of 6 of them are 52, 57, 55, 60, 59, and 55. Find the weight of the seventh boy. **(3 marks)**

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