

JUNE 2021
EBS 348
EDUCATIONAL STATISTICS
25 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, END-OF-SECOND SEMESTER MID-SEMESTER QUIZ, JUNE, 2021

JUNE 25, 2021

EDUCATIONAL STATISTICS

8:00 AM – 8:25 AM

Answer ALL the questions.
(20 MARKS)

For items 1 to 20, 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. Aggie obtained 70 marks in an examination. If the mean score for the class was 60, with a variance of 16, what was Aggie's Z-score?
 - A. -2.5
 - B. -1.5
 - C. 1.5
 - D. 2.5
2. The phi correlation coefficient is **most appropriate** as a measure of linear relationship between two variables when the variables are
 - A. artificial dichotomies.
 - B. categorical and ranked.
 - C. continuous and ranked.
 - D. natural dichotomies.
3. Which one of the following percentiles lie above the second quartile but lower than third quartile?
 - A. 25th
 - B. 50th
 - C. 55th
 - D. 99th
4. All of these are properties of the variance or standard deviation **except** it
 - A. gives more weight to extreme values.
 - B. is independent of change of scale.
 - C. is not resistant to outliers.
 - D. uses all values in the distribution.

5. Which one of the following measures of spread is **most useful** in further statistical analysis?
- Decile deviation.
 - Quartile deviation.
 - Semi-interquartile range.
 - Standard deviation.
6. A tutor wishes to find the relationship between gender in her class and their academic performance. What is the most useful measure of relationship to use?
- Person's product moment coefficient.
 - Phi coefficient.
 - Point-biserial coefficient.
 - Spearman's rank coefficient.
7. The correlation between attendance and academic performance has been found to be -0.71 in a research study. The result of the study implies that a student with a score in attendance is more likely to score in academic performance.
- high; high
 - low; high
 - low; low
 - moderate; moderate
8. Which of the following correlation coefficient indicates the **strongest** relationship?
- -0.70
 - -0.08
 - 0.60
 - 0.65
9. After analysing his test scores in statistics, a teacher observed that the score at the third quartile was forty (40). This means that
- 25% of the students scored less than 40.
 - 40% of the students scored less than 75.
 - 75 of the students scored 40.
 - 75% of the students scored less than 40.
10. In a data distribution, variance is a measure of
- location.
 - position.
 - skewness.
 - spread.
11. Given that Anokye obtained 80 in an examination with a mean score of 70 and a Z-score of 2, what is the standard deviation for the class?
- 5
 - 10
 - 20
 - 35
12. The variance of test scores of 16 students is 25. What is the standard deviation of the test?
- 4
 - 5
 - 256
 - 625

13. The descriptive statistics of a mathematics quiz scores showed that the mean score was 48 and the standard deviation was 6.4. Which of the following describes the score of a student who obtained 62? The student's score is standard deviations the mean.
- 2.5; above
 - 2.5; from
 - 9.6; above
 - 16; from
14. After analysing the Statistics test scores, a lecturer observed that 48% of the students scored less than 56. What is the symbolic expression of this observation?
- $P_{44} = 48$
 - $P_{48} = 56$
 - $P_{52} = 56$
 - $P_{56} = 48$
15. The first quartile (Q_1) in a distribution of scores is 10. The third quartile (Q_3) is 40. What is the value of the semi-interquartile range?
- 30
 - 25
 - 15
 - 10
16. The scores obtained by a student on four different tests with their respective mean scores and standard deviations are presented below. Which of the tests did the student perform **best**?
- $X = 52, \bar{x} = 48, SD = 6$
 - $X = 68, \bar{x} = 65, SD = 8$
 - $X = 70, \bar{x} = 75, SD = 8$
 - $X = 72, \bar{x} = 64, SD = 10$
17. Emelia's score in a final examination is at the 65th percentile of the scores in the class. Emelia's score lies
- above the third quartile.
 - at the median.
 - below the first quartile.
 - between the median and the third quartile.
18. Martin's percentile rank in an end-of-year examination was 20. His actual examination score was 60. This information means that he performed **worse** than of the students in the class.
- 20%
 - 40%
 - 60%
 - 80%
19. A researcher wishes to determine the degree of relationship between the scores in a final examination and gender of the students. What is the **most appropriate** correlation 'statistic' to use?
- Pearson's product moment correlation coefficient.
 - Phi correlation coefficient.
 - Point-biserial correlation coefficient.
 - Spearman's rank correlation coefficient.

20. Given that a student obtained 17 in a quiz with a mean of 14 and standard deviation of 2. What is the T-score of the student?
- A. 1.50
 - B. 35.0
 - C. 60.0
 - D. 65.0