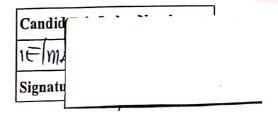
JANUARY 2023 EPS 211SW EDUCATIONAL STATISTICS 2 HOURS



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

FIVE-SEMESTER BACHELOR OF EDUCATION (SANDWICH) PROGRAMME LEVEL 300, END-OF-SECOND SEMESTER EXAMINATION, JANUARY 2023

5TH JANUARY 2023

EDUCATIONAL STATISTICS

9:30 AM - 11:00 AM

SECTION B (40 MARKS)

Answer only TWO questions in this Section. All questions carry equal marks. Show all your working, where appropriate.

1. You have just graduated from a College of Education. Explain to an untrained teacher, using appropriate examples, four reasons why it is important for teachers to study statistics in education. (20 marks)

2.

i. What is a standard score?

(2 marks)

ii. State three features of a Z standard score.

(6 marks)

iii. Describe, using appropriate examples, three uses of standard scores in Education.

(12 marks)

3.

i. State four features of the normal distribution.

(4 marks)

ii. In an entrance examination taken by 1200 students, the results were normally distributed with mean 56 and standard deviation of 8.

Given that:

1. $\mu+1\sigma = 0.3413 (34.13\%)$,

 $\mu \pm 1\sigma = 0.6826 (68.26\%)$

2. $\mu+2\sigma = 0.4772 (47.72\%)$,

 $\mu \pm 2\sigma \approx 0.9544 (95.44\%)$

3. $\mu+3\sigma = 0.4987 (49.87\%)$,

 $\mu \pm 3\sigma = 0.9974 (99.74\%)$

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a. What is the probability that a student selected at random from the class obtains a score greater than 64? (5 marks)

b. What percentage of students obtained scores more than 72?

(5 marks)

c. If the pass mark is 48, approximately how many students passed?

(6 marks)

4. The table below shows the performance of 20 students in a course in two quizzes.

Student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Quiz 1	11	17	12	15	8	15	16	10	17	12	17	15	12	14	13	15	20	20	12	9
(X)						ļ														
Quiz 2	10	14	15	16	12	16	15	15	18	16	18	18	15	16	10	12	20	19	14	11
(Y)																				

Given that:

$$r = \frac{\sum (X - \overline{X})(Y - \overline{Y})}{nS_xS_Y}$$

 $\overline{X} = 14$, $\overline{Y} = 15$, $S_x = 3.24$ and $S_Y = 2.81$)

i. Obtain the Pearson product moment correlation coefficient.

(12 marks)

ii. Interpret the correlation coefficient obtained.

(2 marks)

iii. State three uses of correlation in education.

(6 marks)