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, APRIL 2023

27TH APRIL 2023   EDUCATIONAL STATISTICS   8:30 AM – 10:00 AM

SECTION B
[40 MARKS]

Answer any TWO questions from this Section.

1.

a. Explain two uses of correlation in education.   (6 marks)

b. The mean temperature in Boti Falls for the month of February is 23 degrees with a standard deviation of 4.2 degrees. What is the T-score for a temperature of 17 degrees? (5 marks)

c. State **three** properties of the mean as a measure of central tendency.   (3 marks)

d. The mean age of five students is 28 years. If one of the students is excluded, the mean gets reduced by 2 years. Find the age of the excluded student.   (6 marks)

2.

a. The average height of 30 learners was calculated to be 150 cm. It was later detected during the computation of the mean that one value of 165 cm was wrongly copied as 135 cm. Find the correct mean.   (6 marks)

b. Determine the appropriate correlation coefficient that can be used to measure the following relationships.   (4 marks)
   i.   gender and weight of students

   ii.   age and height of nineteen (19) students in terms of ranks

   iii. colour (white and brown) of hen's eggs and temperature

   iv.   dancing ability and performance in a beauty contest

c. Differentiate between regression and correlation in statistics. Give an example of a research question/hypothesis that can be analysed by each statistical tool. **(6 marks)**

d. State **two** assumptions of correlation. **(4 marks)**

3.

a. State **three** properties of the normal distribution. **(3 marks)**

A teacher wanted to find out which of these two fruits (apples and oranges) weighs more. He took an apple that weighs 110 grams and an orange that weighs 100 grams. Assume that the weights of apples and oranges follow a normal distribution with the following parameter values:

	Apples	Oranges
Mean weight grams	100	140
Standard Deviation	15	25

b. Which fruit weighs more than the average and why? **(7 marks)**

c. Explain **three** uses of the measures of central tendencies. **(6 marks)**

d. State the **two** reasons why a statistician would prefer the standard deviation to variance. **(4 marks)**