

DECEMBER 2021
EBS 351SW
STATISTICS AND PROBABILITY II
1 HOUR 20 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
ONE-YEAR THREE-SEMESTER BACHELOR OF EDUCATION
COHORT I, LEVEL 300, END-OF-SECOND SEMESTER EXAMINATION – DECEMBER 2021

DECEMBER 24, 2021 STATISTICS AND PROBABILITY II 2:40 PM – 4:00 PM

SECTION B
(60 MARKS)

Answer only THREE questions from this Section. Each question carries 20 marks.

1.

- a. i. The percentage shrinkage in samples of cloth after washing in directions along and across the cloth are presented in the following table:

Along(x)	12	4	10	10	11	10	6	6	13
Across(y)	5	2	5	8	6	8	3	4	5

Find the equation of line of regression of x on y .

(13 Marks)

- ii. A roll of cloth is sampled by cutting a narrow test strip across the roll. The strip shows a percentage shrinkage of 7. Use your regression equation to obtain an estimate of the percentage to be expected along the cloth.

(2 Marks)

- b. In the past, a machine has produced washers having a thickness of 0.50 mm. To determine whether the machine is in proper working condition, a sample of 10 washers is selected from the production for which the mean thickness is found to be 0.53 mm with a standard deviation of 0.03 mm. Test the hypothesis that the machine is in proper working condition using significance level of 5%.

(5 Marks)

2.

- a. An examination was given to two groups of students consisting of 100 and 120 respectively. In the first group, a random sample of 41 students were selected with a mean score of 75 and a standard deviation of 7. Again, a sample of 51 students with mean score of 79 with standard deviation of 8 we selected. Test the hypothesis to find out whether these two groups differ in performance significantly at 5%.

[14 Marks]