DECEMBER 2023
EBS 350
STATISTICS AND PROBABILITY I
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
FOUR-YEAR BACHELOR OF EDUCATION (B.ED)
THIRD YEAR, END-OF-SECOND SEMESTER EXAMINATION, DECEMBER 2023

19TH DECEMBER 2023 STATISTICS AND PROBABILITY I 9:40 AM – 11:00 AM

SECTION B
(60 MARKS)

Answer any TWO questions from this Section.
Please, note that if you answer more than two questions, only the first two will be marked.

1.

a. What does range mean in statistics? **[2 marks]**

b. How do you find the range for both grouped and ungrouped data? **[4 marks]**

c. Is the range always positive? Explain your answer **[4 marks]**

d. What is the range of a list of numbers? **[3 marks]**

e. Can the range be negative? Explain your answer. **[4 marks]**

f. Calculate the range of the data given below: **[3 marks]**

Class	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90	90 – 100
Frequency	2	3	8	15	12	7	3

g. With the help of class intervals 1 – 10, 11 – 20, 21 – 30, … Prepare the frequency distribution for the given data: 22, 65, 32, 36, 28, 17, 15, 64, 86, 52, 36, 55, 9, 48, 65, 96, 14, 6, 37, 69, 76, 49, 37, 46, 21, 67, 92, 98 **[10 marks]**

2.

a. A ludo die is thrown once, what is the probability of scoring a;
   i. prime number **[6 marks]**
   ii. composite number **[6 marks]**
   iii. perfect square **[6 marks]**

b. There are 16 white, 20 blue and a number of green identical tennis balls in a box. The probability of picking a green tennis ball from the box is $\frac{7}{15}$.
   i. Find the total number of balls in the box. **[9 marks]**
   ii. Find the probability of picking a blue tennis ball from the same box. **[3 marks]**

3. Below are the marks (out of 50) obtained by 22 students in a test:
12 8 19 13 27 22 21 32 30 35 39 36 37 42 45 40 41 44 46 44 46.

a. Prepare a group frequency table for the data using the intervals $5-9, 10-14, \ldots$ **[12 marks]**

b. From the table, determine the mean mark. **[4 marks]**

c. Draw a histogram to represent the data. **[14 marks]**

4. The table below shows the distribution of the masses of parcels in a local post office.

Mass (Kg)	Frequency
20-24	2
25-29	3
30-34	7
35-39	26
40-44	29
45-49	25
50-54	6
55-59	2

Find from the table, determine the:

a. mean mass **[10 marks]**

b. modal mass **[10 marks]**

c. median mass **[10 marks]**