

# WOMEN'S UNIVERSITY IN AFRICA



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*Addressing gender disparity and fostering equity in University Education*

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**FACULTY OF SOCIAL AND GENDER TRANSFORMATIVE SCIENCES**

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**DIPLOMA IN EDUCATION SPECIALISING IN EARLY CHILDHOOD  
DEVELOPMENT**

**MAIN PAPER**

**DECD 311: INTRODUCTION TO RESEARCH METHODS AND STATISTICS**

**INTAKE 6, 7 & 8: THIRD YEAR FIRST SEMESTER**

**TIME: 2 HOURS**

## **INSTRUCTIONS TO CANDIDATES**

1. Answer **two** questions, *at least one from each section.*
2. All questions carry equal marks.

## SECTION A

### Question 1

- a) Six ECD learners had their weight measured in kilograms and the following were the results:

<b>Learner</b>	A	B	C	E	D	F
<b>Weight</b>	13	16	15	11	18	15

- (i) Find the range. [1]  
(ii) Find the median weight. [2]  
(iii) Calculate the mean weight. [2]
- b) Differentiate:  
(i) Discrete data from continuous data. [2]  
(ii) Parameter from statistic. [2]
- c) Twenty numbers of not more than 100 were picked at random with replacement, giving the following distribution:  
60; 38; 91; 55; 85; 47; 55; 28; 6; 18; 75; 69; 13; 53; 27; 15; 51; 83; 34; 2.  
(i) Find the mode. [1]  
(ii) Construct a stem and leaf diagram to represent the distribution. [5]
- d) An Early Childhood Development (ECD) teacher asked for ages in years of her 25 ECD B children's mothers. The following were the data obtained:

<b>Age Range</b>	21-25	26-30	31-35	36-40	41-45
<b>Frequency</b>	2	4	8	6	5

- (i) Construct a histogram to represent the data above. [4]  
(ii) Complete the following table about the data: [2]

<b>Age range</b>	<b>Mid-point</b>	<b>Frequency</b>	<b>Cumulative Frequency</b>
Less than 25	23	2	2
Less than 30	-	4	-
Less than 35	-	8	-
Less than 40	-	6	-
Less than 45	-	5	-

- (iii) Draw a cumulative frequency curve for the mothers' ages. [4]

**Question 2**

- a) Provide two examples for each of the following:
- (i) Nominal data [2]
  - (ii) Interval data [2]

- b) There are four ECD classes at Dzidzo School whose sizes and compositions are as follows:

Class	No. of Children	Boys	Girls
Blue	28	13	15
Green	30	16	14
Yellow	30	15	15
Orange	29	15	14

- (i) Compute the mean number of children for each of the four classes [2]
  - (ii) Present the data using a componential bar graph. [6]
- c) Information on age (x) in years and weight (y) in kilograms of 7 randomly selected female teachers from Sakubva is as follows:

<b>x</b>	26	29	31	43	36	54	48
<b>y</b>	55	71	70	61	64	68	78

- (i) Clearly showing all the necessary stages, compute the Pearson r correlation coefficient for the data above. [11]
- (ii) Commend on the correlation between age and weight in (i) above. [2]

**SECTION B**

**Question 3**

Using a topic of your choice, come up with the following aspects of a research proposal:

- a) Background of the study; [15]
- b) Research Questions; and [5]
- c) Significance of the study (giving examples of two intended beneficiaries). [5]

**Question 4**

Analyse any two probability and two non-probability sampling techniques, giving their advantages and disadvantages. [25]

**Question 5**

Examine the relevance of literature review to a research process. [25]

**END**