



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

MAIN EXAMINATION

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AUGUST – DECEMBER 2018 TRIMESTER

FACULTY OF ARTS AND SOCIAL SCIENCES

DEPARTMENT OF DEVELOPMENT STUDIES

REGULAR PROGRAMME

SDS 311: STATISTICAL TECHNIQUES

Date: DECEMBER 2018

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and ANY OTHER TWO Questions

Q1. a) Differentiate between:

- i) Descriptive and inferential statistics **(3marks)**
- ii) Quantitative and qualitative techniques **(3marks)**
- iii) Parametric and non-parametric statistics **(3marks)**
- iv) Nominal and ordinal scale **(3marks)**
- v) Independent and dependent variables **(3marks)**

b) You are provided with the following set of data

Data set-high temperature for 50 days

57	39	52	52	43
50	53	42	58	55
58	50	53	50	49
45	49	51	44	54
49	57	55	59	45
50	45	51	54	58
53	49	52	51	41
52	40	44	49	45
43	47	47	43	51
45	55	46	54	41

Using two as the class interval, construct a grouped frequency distribution
(15marks)

Q2. The following figures relate to the preferences with regard to size of screen (in inches) of T.V. sets of 30 persons selected at random from a locality.

12 20 12 24 29
20 12 20 29 24
24 20 12 20 24
29 24 24 20 24
24 20 24 24 12
24 20 29 24 24

Use the above data to construct a simple frequency table and find:

- i) Modal size of the T.V. screen. (10marks)
ii) Mean size of the screen (10marks)

Q3. The following data pertains to 1,500 workers working in an industrial establishment. Their age is classified as follows:

Age (yrs)	No. of workers	Age (yrs)	No. of workers
18 – 22	120	38 – 42	184
22 – 26	125	42 – 46	162
26 – 30	280	46 – 50	86
30 – 34	260	50 – 54	75
34 – 38	155	54 – 58	53

- i) Calculate the median age. (10marks)
ii) Calculate the interquartile range (10marks)

Q4. The following are the figures of profits earned by 1,400 companies during 2010 – 2011.

Profits (\$)	No. of Companies	Profits (\$)	No. of Companies
200 – 400	500	1000 – 1200	100
400 – 600	300	1200 – 1400	80
600 – 800	280	1400 – 1600	20
800 – 1000	120		

- i) Calculate the average profits for all the companies. (15marks)
ii) Describe the merits and demerits of the mean (10marks)

Q5. You are provided with the following set of data between reading and spelling.

Reading	Spelling
3	11
7	1
2	19
9	5
8	17
4	3
1	15
10	9
6	15
5	8

- i) Draw a scatter plot on the provided graph paper **(10marks)**
- ii) Compute a Pearson's product moment correlation coefficient and comment on your findings **(10marks)**

END