

MAASAI MARA



UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS

2023/2024 ACADEMIC YEAR

FIRST YEAR FIRST SEMESTER

SCHOOL OF BUSINESS AND

ECONOMICS

**BSC ECONOMICS, BSC AGRICULTURAL
ECONOMICS, BSC AGRIBUSINESS,**

**BSC FINANCIAL ECONOMICS, BSC ECONOMICS
AND STATISTICS**

COURSE CODE: ECO 1105-1

COURSE TITLE: ECONOMICS STATISTICS I.

DATE:

TIME:

INSTRUCTIONS TO CANDIDATES

Answer Question ONE and any other TWO questions

QUESTION ONE

- a. Give three limitations of chain index method. **(3 Marks)**
- b. Differentiate between independent and dependent events. **(2 Marks)**
- c. Give two differences between dispersion and skewness. **(2 Marks)**
- d) The data below is for Narok town business center for the year 2020 and 2021.

Product	2020		2021	
	Price	Quantity	Price	Quantity
<i>Meat</i>	20	80	25	100
<i>Fish</i>	12	90	18	120
<i>Eggs</i>	5	150	10	180
<i>Vegetable</i>	13	70	17	130
<i>Fruits</i>	10	95	12	110

Calculate the weighted Aggregated Price index numbers for 2021 from the data taking 2020 as the base year using the following methods:

- i. Fisher's. **(2 Marks)**
 - ii. Laspeyres's. **(2 Marks)**
 - iii. Paasche's. **(2 Marks)**
 - iv. Marshall-Edgeworth. **(2 Marks)**
- e) Describe the statistical enquiry process used in research. **(5 Marks)**

Question Two

- a) Discuss three non-probability sampling methods giving examples. **(6 Marks)**
- b) A bag contains 4 red(R), 5 white(W), and 3 blue(B) beads. If a bead is picked at random from the bag, find:
 - i) With replacement; **(3 Marks)**
 - a. $P(RR)$
 - b. $P(RW)$
 - c. $P(BB)$
 - ii) Without replacement; **(6 Marks)**
 - a. $P(R_nR)$
 - b. $P(R_nW)$
 - c. $P(R_nB)$

Question Three

- a. Give any two limitations of General Index numbers. **(2 Marks)**
b. The table below shows marks for a certain unit obtained by students.

Marks	30--39	40--49	50--59	60--69	70--79	80--89	90--99
Number of students	08	87	190	304	211	85	20

Use the table above to calculate:

- i. Median. **(2 Marks)**
ii. Mode. **(2 Marks)**
iii. 3rd Quartile. **(2 Marks)**
iv. 6th Decile. **(2 Marks)**
v. 56th Percentile. **(2 Marks)**
c. Distinguish between structured and unstructured observation in data collection. **(3 Marks)**

Question Four

- a. The data given below is collected from the economists in Narok county

Age	Frequency
25-30	2
30-35	8
35-40	18
40-45	27
45-50	25
50-55	16
55-60	7
60-65	2

Calculate the following:

- i. Arithmetic mean. **(2 Marks)**
ii. Geometric mean. **(2 Marks)**
iii. Harmonic mean. **(2 Marks)**
iv. Standard deviation. **(3 Marks)**
v. Kelly's coefficient of skewness based on deciles. **(3 Marks)**
vi. Karl Pearson's coefficient of skewness. **(3 Marks)**