



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCES AND TECHNOLOGY  
SCHOOL OF HEALTH SCIENCES  
DIPLOMA IN COMMUNITY HEALTH PROGRAM  
NAMBALE CAMPUS**

---

**COURSE CODE:                   HDC 2223**

**COURSE TITLE:                    BIOSTATISTICS**

**EXAM VENUE:                    STREAM:**

**DATE:                            EXAM SESSION:**

**TIME:                            2.00 HOURS**

---

**Instructions:**

- 1. Answer question one and any other two Questions (Question One is Compulsory)**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

## QUESTIONS

Q1) Given the masses of 6 BSC students as 40,30,50,80,90,70;

- compute standard deviation
- Explain the following terminologies using relevant examples, continuous data, skewness of data, qualitative data, independent variable and sample space
- The data relates to performance of BSC community health students in biostatistics

Score	Number of students
20-24	4
25-29	6
30-34	10
35-39	8
40-45	2

Required;

Pearson measure of skewers using

$$s_k = \frac{\text{mean} - \text{mode}}{\text{standard deviation}}$$

Explain if;

Q2) The life time of a malarial test kit is known to be normally distributed with mean – 50hours and variance 36hours. What is the probability that a kit picked at random will have a lifetime of

- $P(51 < x < 60)$
- $P(x > 60)$
- $P(50 < x < 60)$

Q3) The following raw data was collected from a health facility

13	22	31	41	59
57	43	33	10	11
15	24	36	47	54
17	26	37	48	53
19	28	40	49	51
15	23	32	45	52

18

27

34

43

46

Required;

- a) Classify the data beginning 10-20
- b) Compute (i) mean      (ii) median                      (iii) mode
- c) Frequency polygon

Q4) Based on the data below:-

<b>Mass</b>	50-55	56-61	62-67	68-74	75-80
<b>Frequency</b>	10	12	18	13	7

Required;

- a)  $P_{30}$
- b) Mode
- c) Pearson coefficient of variance

Q5)

<b>Temperature (<math>^{\circ}\text{C}</math>)</b>	20-24	25-29	30-34	35-39	40-44
<b>No. of patients</b>	4	6	10	8	2

Required;

- a) Cumulative frequency curve (ogive)
- b) Use the curve in (a) to determine  $P_{25}$  and upper quartile