JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCES

UNIVERSITY EXAMINATION FOR BACHELOR OF SCIENCE IN COMMUNITY HEALTH AND DEVELPMENT

1st YEAR 1st SEMESTER 2015/2016

EXAM CENTRE: MAIN

COURSE CODE: **HCD 3111**

COURSE TITLE: **INTRODUCTION TO HUMAN ANATOMY**

EXAM VENUE: **STREAM**

DATE: **EXAM SESSION:**

TIME **HOURS**

Instructions:

1. **Answer all questions in section A and any other 2 questions in Section B.**
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**

SECTION A (30 MARKS)

1. Explain three reasons for studying statistics by the medical students. **(3mks)**

2. Distinguish between accuracy of data and precision of data. **(3mks)**

3. Explain three scales of measurement. **(3mks)**

4. State three sources of data. **(3mks)**

5. Distinguish between statistics and parameter. **(3mks)**

6. Find the mean, median and mode of the following numbers; **(6mks)**

   3, 2, 9, 8, 2, 5, 10

7. If a father of two children has an autosomally dominant gene. What is the probability that both children will have the gene. **(3mks)**

8. Mr. Oding' who is HIV patient in one month spend his salary as follows;

   Food - Sh. 2,000
   Clothing - Sh. 5,000
   Rent - Sh. 3,000
   Savings - Sh. 1,500

   While the remaining amount on others. If his earning per month is Shs. 15,500. Use pie chart to illustrate his expenditure per month. **(6mks)**

SECTION B

1 a) On the basis of a very large sample the mean (μ) weight of a population of seeds is 1.06 and standard deviations δ is 0.25

If a seed of weight 1.1g is collected from the laboratory. Is it likely to belong to the same population? **(5mks)**

b) The following table contains age at death in days for 78 cases of sudden infant death syndrome occurring in Kisumu district hospital.

Fill the table below. **(10mks)**

Age Interval (Day)	Frequency	Relative Frequency (%)	Cumulative Frequency	Cumulative Relative Frequency (%)
1-30	6			
31-60	10			
61-90	12			
91-120	20			
121-150	16			
151- 180	10			
181- 210	9			
211- 240	7			
241- 270	5			
271 - 300	3			
301 - 330	2			

2. a) State which of the following represent discrete data and continuous data **(5mks)**

i) Number of babies born in a maternity hospital in one year.

ii) Volume of urine passed per day.

iii) Temperature of a patient recorded every four hours.

iv) Number of drop-outs from the medical school each year.

v) Pulse-rate of a medical student as he waits for his final year oral examination.

b) Discuss four types of variables and give example for each. **(10mks)**

3. Use the frequency table below to answer the questions that follow;

Height (m)	Number of men (frequency)
1.6	1
1.8	3
2.0	6
2.2	8
2.4	13
2.6	18
2.8	19
3.0	14
3.2	14
3.4	4

i) Draw a histogram for the above data **(10mks)**

ii) State three properties of the standard deviation. **(5mks)**

1. The data below shows height of clinic attendance

X	Frequency
5	90
6	65
7	38
8	17
9	8

i) Calculate Arithmetic mean **(5mks)**

ii) Standard deviation **(5mks)**

iii) Standard error **(5mks)**

FORMULAE

$$\bar{x} = \frac{\sum xi}{n}$$

$$S^2 = \frac{1}{n-1} \sum (xi - \bar{x})^2$$

$$S = \sqrt{S^2}$$

$$S^2 = \frac{\sum (x^2) - \bar{x} \sum x}{n - 1}$$

$$S^2 = \frac{\sum (x^2) - \frac{(\sum x)^2}{n}}{n-1}$$

$$S^2 = \frac{\sum (fx^2) - \bar{x} \sum fx}{n - 1}$$

$$S = \sqrt{\frac{\sum (x^2) - \bar{x} \sum x}{n - 1}}$$

$$S = \sqrt{\frac{\sum (x^2) - \sum x}{n - 1}}$$

Arithmetic mean $\bar{x} = \frac{\sum fx}{n}$

Variance, $S^2 = \frac{\sum (fx^2) - \bar{x} \sum fx}{n - 1}$

Standard deviation $= \sqrt{\frac{\sum (fx^2) - \bar{x} \sum fx}{n - 1}}$

$= \sqrt{S^2}$

Standard error $S.e = \frac{\delta}{\sqrt{n}}$

$S.e = \frac{s}{\sqrt{n}}$