



AMREF INTERNATIONAL UNIVERSITY

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF COMMUNITY HEALTH

DIPLOMA IN COMMUNITY HEALTH PRACTICE

END OF MAY-AUGUST 2026 SEMESTER EXAMINATIONS

UNIT CODE: DCHP 128

UNIT NAME: BASIC BIOSTATISTICS

DATE: 6TH AUGUST 2026

TIME: 2 HOURS

START: 11:30AM

FINISH: 1:30PM

INSTRUCTIONS

1. Do not write on this question paper

SECTION A: ANSWER ALL QUESTIONS 20 MARKS

1. Using diagrams, differentiate between:

- a. Frequency polygon and Histogram (5 Marks)
- b. Scatter plot and Line graph (5 Marks)

2. Name the type of data for each of the following:

- a. Blood group (1 Mark)
- b. Number of patients admitted daily (1 Mark)
- c. Body temperature (1 Mark)
- d. Cancer stage (Stage I, II, III, IV) (1 Mark)
- e. Number of tablets prescribed per patient (1 Mark)

3. The waiting times (minutes) of patients in a hospital are:

15, 22, 18, 30, 25, 20, 17

- a. Calculate the sample mean. (1 Mark)
- b. Calculate the sample median. (1 Mark)
- c. Calculate the sample standard deviation. (3 Marks)

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

4.a) A box contains 6 yellow balls, 4 black balls, and 10 white balls. One ball is selected at random.

Find the probability that:

- i. The ball is not white. (2 Marks)
- ii. The ball is black. (2 Marks)
- iii. The ball is not black. (2 Marks)
- iv. The ball is white. (2 Marks)
- v. The ball is yellow. (2 Marks)

b) James, a student at AMIU, rolls a fair six-sided die twice.

- i. Calculate the probability of obtaining two sixes. (2 Marks)
- ii. Calculate the probability of obtaining exactly one six. (3 Marks)
- iii. Given that at least one six has been obtained, calculate the probability that both rolls are sixes. (5 Marks)

5. The table below shows the weights (kg) of 50 patients attending a health clinic.

Weight (kg) Frequency

40–49	6
50–59	9
60–69	14
70–79	12
80–89	7
90–99	2

Using the table above, calculate:

- a. Mean (4 Marks)
 - b. Median (4 Marks)
 - c. Mode (4 Marks)
 - d. Standard deviation (4 Marks)
 - e. Variance (4 Marks)
- 6.a) Using examples, explain the following terms in biostatistics:
- i. Population (2 Marks)
 - ii. Variable (3 Marks)
 - iii. Independent event (3 Marks)
 - iv. Frequency distribution (2 Marks)
 - v. Probability experiment (2 Marks)

b) 100 raffle tickets were sold at a certain entertainment venue in which 40 tickets were green in colour, 10 tickets were yellow and 50 tickets were blue. Required:

- (i) Present the above information in a tree diagram. (4 marks)
- (ii) The probability that the tickets chosen are of the same colour. (4 marks)

