



## **BIostatISTICS AND APPLICATIONS**

### **NATIONAL OPEN UNIVERSITY OF NIGERIA**

**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, University Village, Jabi-Abuja**

**2021\_1 EXAMINATION ...**

**COURSE TITLE: PUBLIC HEALTH BIostatISTICS APPLICATION**

**COURSE CODE: PHS813**

**UNIT:3**

**INSTRUCTION: ANSWER ALL**

**TIME:2 HOURS**

#### **Question 1**

**20 marks.**

Suppose a sample consists of birth weights (in grams) of all live born infants born at a private hospital in a city, during a 1week period. This sample is shown as follow:

3265 ,3323, 2581, 2759, 3260 ,3649, 2841, 3248, 3245, 3200 ,3609 ,3314, 3484 ,3031, 2838, 3101, 4146 2069 ,3541, 2834.

- i. Calculate Sample Mean (10 Marks)**
- ii. Calculate the Harmonic mean for the following data 2, 5, 3, 6, 7. (5 Marks)**
- iii. Calculate the median of these numbers 4, 6, 7, 8, 12 (5 Marks)**

#### **Question 2**

**10 Marks**

Find the probability of getting:

- (i) 2 heads (4Marks)**
- (ii) 1 head (3 Marks)**
- (iii) no head (3Marks)**  
if a coin is tossed twice.

#### **Question 3 (20 Marks)**

- a. Differentiate between a population and a sample (12 Marks)**
- b. Explain the concept of sampling distribution (8 Marks)**

**Question 4**

**(20 Marks)**

**a) Define the following terms:**

i. Prevalence **(3 Marks)**

ii. Incidence **(3 Marks)**

iii. Screen Test **(3 Marks)**

iv. Clinical Trial **(3 Marks)**

v. Epidemiological Studies **(3 Marks)**

**b) Describe the three main types of bias errors in epidemiological studies (5 Marks)**