



## BIOSTATISTICS AND APPLICATIONS

NATIONAL OPEN UNIVERSITY OF NIGERIA

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

NOVEMBER 2021\_2 EXAMINATION<sup>5678</sup>

COURSE TITLE: PUBLIC HEALTH BIostatISTICS APPLICATION

COURSE CODE: PHS813

UNIT:3

INSTRUCTION: ANSWER ALL

TIME:2 HOURS

1. a). What is Chi Square Goodness of Fit? **(5 marks)**  
b). A manager of a hospital supply store which has Five (5) branches believed that the amount of revenue generated from each branch are the same. A survey was then carried out to see whether this claim is valid at 5 percent level of significance and the following results were obtained. **(15 marks)**

Branch	A	B	C	D	E
Revenue generated(₦)	380	450	430	390	350

2. (a) Differentiate between Statistics and Biostatistics **(2 marks)**  
(b) Define and explain the following terms:
  - (i) Population **(2 marks)**
  - (ii) Sample **(2 marks)**
  - (iii) Statistics **(2 marks)**
  - (iv) Variable **(2 marks)**
  - (v) Experiment **(2 marks)**
- (c). Basic Differences between Experimental and Observational Studies **(8 marks)**

3. The following table shows the intake through JAMB by the Faculty of Science of a certain University in three consecutive years.

Department	2010	2011	2012
Botany	25	23	50
Chemistry	16	20	36

Zoology	44	37	23
Computer Science	50	16	30
Physics	43	26	25
Mathematics	15	18	27
Biology	17	35	38
<b>Total</b>	<b>210</b>	<b>175</b>	<b>229</b>

Draw (i) Multiple bar chart department by department for the three years. **(8 marks)**

(ii) A component bar chart. **(8 marks)**

iii) Differentiate between a bar chart and a histogram. **(4 marks maximum)**

4. i) Differentiate between a population and a sample. **(4 marks maximum)**

ii) The quantities of rice (x) and beans (y) purchased by a group of friends for annually celebration is tabulated below:

<b>Year</b>	1981	1982	1983	1984	1985	1986	1987
Rice (x)	118	112	101	98	94	91	62
Bean (y)	76	57	58	80	70	43	53

Estimate the regression coefficient **(6 marks)**