

BOWEN UNIVERSITY, IWO
(Of the Nigerian Baptist Convention)
COLLEGE OF MANAGEMENT AND SOCIAL SCIENCES

ECONOMICS PROGRAMME
First Semester 2021/2022 Academic Session

Course Title: Statistics of Economics

Duration: 2:30 hrs

Course Code: ECN 205

Credits: 2 Units

Date: March 2022

Instruction: Answer question ONE and any other 3 questions.

1. The following results were obtained from tossing a die 300 times.

No. Turned up	1	2	3	4	5	6
frequency	43	55	39	56	63	43

Test the hypothesis that the die was fairly thrown without bias at 5% level of probability.

b. A certain drug is claimed to be effective in curing colds. In an experiment on 164 people with colds, half of them were given the drug and half of them given sugar pills. The patients' reactions to the treatment are recorded in the following table below. Test the hypothesis that the drug is no better than sugar pills for curing colds (Gupta and Gupta, 2010).

	helped	harmed	No effect
Drugs	52	10	20
Sugar pills	44	12	26

25 Marks

2. a. Provide the five steps procedure involved in hypothesis testing

- b. Distinguish between the following statistical terms
- i. Null and alternative hypothesis
 - ii. One tail and two tail test
 - iii. Point and confidence interval
 - iv. Type one and type two error
 - v. Statistic and parameter

15 Marks

3. Provide the appropriate formulae for testing the following

- i. Mean and Standard deviation of Sampling distribution of means with AND without replacement

ii. Mean and Standard deviation of Sampling distribution of Proportion
With AND without replacement

iii. Mean and Standard deviation of Sampling distribution of differences of the
Statistics with OR without replacement.

iv. Confidence Interval for large and small sample size

15 Marks

4. The hourly wages in a particular labour unit are to be normally distributed. A sample of 50 employees' record is examined and the sample mean and standard deviation are 13 and 2.2 respectively.

Find the population mean using 95% confidence interval.

15 Marks

5. The monthly sale of a provision seller was 120 cartons. After an increase in the demand for provisions, the mean monthly sale increased to 125 cartons for 20 kiosks and a standard deviation of 15 cartons. Show your views whether the seller is making good sales or not at 5% level of significance.

15 Marks

6. The two largest retail markets in Eastern Nigeria are the markets in the cities of Onitsha and Aba. Comparison of the prices of 10 items in both markets yields the following results:

Onitsha market: mean price of goods = ₦98.90 and standard deviation = ₦83.33

Aba market: mean price of goods ₦90.60 and standard deviation = ₦78.95.

At 0.05, is it concluded that goods in Aba market are significantly cheaper than in Onitsha market? (Ayandike, 2009).

15 Marks