



NATIONAL OPEN UNIVERSITY OF NIGERIA
91, CADASTRAL ZONE, NNAMDI AZIKWE EXPRESS WAY, JABI – ABUJA
FACULTY OF MANAGEMENT SCIENCES
2023_1 POP EXAMINATION

COURSE CODE: BUS 800

CREDIT UNIT: 2

COURSE TITLE: Quantitative Analysis

TIME ALLOWED: 2Hrs

- INSTRUCTION:
1. Attempt question number one (1) and any other (2) questions.
 2. Question number 1 carries 30 marks, while the other two (2) questions carry 20 marks each.
 3. Present all your points in coherent and orderly manner.

1a. Discuss any five (5) classification of Models. 4marks each = 20marks

1b. Find the equality of sets F & G also set A & B 10marks

2a. Dangote group has constructed the matrix payoff table below. Using the Expected monetary value criterion, analyse the situation and advise dangote group on the kind of property to invest on. 15marks

Decision to invest	Good economic condition (#)	Poor economic condition (#)	Turbulent economic condition (#)
Warehouse d_1	50,000	30,000	15,000
Office Building d_2	100,000	40,000	10,000
Apartment Building d_3	30,000	10,000	-20,000
Probabilities	0.5	0.3	0.2

2b. Find the power of set of the following;

i. Let $M = \{c,d\}$, then 2^M equal 2marks

ii. Let $T = \{2,7,9\}$, then 2^T equal 3marks

3a. BUA sugar refinery has analysed the number of orders placed by each of the 5 departments in the company as follows:

Department

Types of Order	Sales	Purchasing	Production	Account	Maintenance	Total
Consumables	10	12	4	8	4	38
Equipment	1	3	9	1	1	15
Special	0	0	4	1	1	6
Total	11	15	17	10	6	60

An error has been found in one of these orders. What is the probability that the incorrect order:

- a) came from maintenance? **3marks**
- b) came from production? **3marks**
- c) came from maintenance or production? **4marks**

3b. Discuss any five (5) limitations of Linear Programming model **2marks each = 10marks**

4a. Jelfad drug store has 10 antibiotic capsules of which 6 capsules are effective and 4 are defective. What is the probability of purchasing the effective capsules from the drug store?

10 marks

4b. Discuss decisions that are made under conditions of uncertainty and certainty. **10marks**