



NATIONAL OPEN UNIVERSITY OF NIGERIA
14/16 AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS
SCHOOL OF MANAGEMENT SCIENCES
SEPTEMBER/OCTOBER 2015 EXAMINATION

COURSE CODE: BUS800

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. Let $A = \{1, 3, 4\}$, $B = \{2, 4, 8\}$ and $C = \{3, 5, 6\}$. Find

(i) $A \cup B$ 2marks

(ii) $A \cap C$ 2marks

(iii) $B \cup C$ 2marks

(iv) $B \cap B$ 2marks

b. Find the equality of sets A & B

Let $A = \{1, 2, 3, 4\}$ and $B = \{3, 1, 4, 2\}$ 7marks

c. Define the following;

(i) Equality of Sets 3marks

(ii) Null Sets 3marks

(iii) Subsets 3marks

(iv) Proper Subsets 3marks

(v) Rational Numbers 3marks

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

i. Let $M = \{a, b\}$, then 2^M equal 4marks

ii. Let $T = \{4, 7, 8\}$, then 2^T equal 4marks

b. Solve the following Disjoint Sets;

i. Let $A = \{1, 3, 7, 8\}$ and $B = \{2, 4, 7, 9\}$, Then solve A and B **4marks**

ii. Let A be the positive numbers and let B be the negative numbers. Then solve A and B
4marks

c. Let $A = \{a, b, c, d\}$ and $B = \{c, d, e, f\}$. Then illustrate these sets in a Venn diagram form
4marks

3a. A wholesaler stocks heavy (2B), medium (HB), fine (2H) and extra fine (3H) pencils which come in packs of 10. Currently in stock are 2 packs of 3H, 14 packs of 2H, 35 packs of HB and 8 packs of 2B. If a pack of pencil is chosen at random for inspection, what is the probability that they are:

(i) not very fine (ii) neither heavy nor medium? **10marks**

b. Outline the characteristics of OR. **10marks**

4a. List and explain the classification of models by structure. **10marks**

b. Assume there is a drug store with 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?
10marks

5a. Write short notes on the following:

i Decision Node **5marks**

ii Change Node **5marks**

b. Outline the advantages and application of simulation. **10marks**