



NATIONAL OPEN UNIVERSITY OF NIGERIA
14/16, AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS
SCHOOL OF MANAGEMENT SCIENCES
MARCH, 2014 EXAMINATIONS

Course Code: MBA 816

Credit Unit: 3

Course Title: BASIC MATHS AND STATISTICS FOR MANAGERS

Time Allowed: 2^{1/2} Hours

Instructions:

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

1. A Ship travels between two ports. The cost of fuel is $100(ax + b/x + 10)$ naira, where x is the average speed of the Ship in knots, and a and b are constants. If the Ship travels at 4 knots, the cost of fuel would be N9,000, but at 6 knots, the cost would be N7,000.

(a) Find the values of a and b

(b) What is the cost of fuel at an average speed of 5 knots?

(30 marks)

2.(a) What is the value of the 8th term in a geometric progression with first term 20 and common ratio $1/3$?

(b) The sum of the first 10 terms of an arithmetic progression is -145 and the common difference is 4.5. What is the value of the 6th term?

(20 marks)

3.(a) In a market survey it was discovered that within Bello city way 6 exercise books (x) and 12 biros (y) cost N144. In another city it was discovered that 8 exercise books and 10 biros cost N132. Determine the quantities x and y .

(b) The ages of a sample of 5 patients in a clinic are recorded as: 38yrs 26yrs 13yrs 41yrs and 22yrs. What is the standard deviation of ages of the patients?

(20 marks)

4.(a) The length of a one-room apartment is 8 metres more than width. If the area of the

apartment is 48 square metres what are the dimensions?

(b) Joe and Nick are to share N54 such that Joe has N8 less than Nick. What are the shares

of Joe and Nick?

(20

Marks)

5. Given the income distribution of a sample of 50 customers as follows:

Income (N'000s)	Number of Subscriber
20 - 30	20
31 - 41	15
42 - 52	10
53 - 63	5

(a) Compute the arithmetic mean of the incomes;

(b) Compute the Median income

(20

marks)