NATIONAL OPEN UNIVERSITY OF NIGERIA

14/16 AHMADU BELLO WAY VICTORIA ISLAND LAGOS
SCHOOL OF MANAGEMENT SCIENCES
SECOND SEMESTER EXAMINATION

COURSE CODE: BHM 711   **CREDIT UNITS:2**

COURSE TITLE: BASIC MATHS AND STATISTICS FOR MANAGERS

TIME ALLOWED: 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 questions carry 20 marks each.
3. Present all your points in coherent and orderly manner

1 (a) If it can take 10 days for five workers to complete a job, how long will it take 8 workers to complete the same job?

(b) Discuss in detail the various techniques of statistical sampling. What are the various techniques used in data collection?   **(30 marks)**

2(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) The demand function for bread in markets x and y is given by $3x – 4y = 19$ and $x -2y = 5$ respectively. Solve for the variables x and y   **(20 marks)**

3(a) 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?

(b) A company pays the salespersons either N6.50, N7.50, or N8.50 with the corresponding weights given as 14, 10, and 2 respectively what is the weighted mean?
(20 marks)

4. The followings are data on the number of stores that purchase bottled water in the cities as listed: Jos 25,000   Abuja 20,000   Akure 20,000   Akwa Ibom 5,000, summarise these information using a pie chart.
(20 marks)

5. 1. XYZ Company produces product A for which cost (including labour and material) is N6/unit. Fixed cost are N80,000. Each unit is sold for N10. Determine the number of units which must be sold for the company to earn a profit of N60,000.

(20 marks)