NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
SCHOOL OF SCIENCE AND TECHNOLOGY
MAY/JUNE 2012 EXAMINATION

HEM 607 Biostatistics
Time Allowed: 2 hours

Total Score: 100 marks

Instruction: Answer all questions in section A and any 3 questions in section B
(Total: 4 questions)

SECTION A: Compulsory (25 marks)
1. A sampling process that gives each element in the population an equal chance of being included in the sample is called a ----------- sampling
2. A single member of a population is referred to as -------------
3. Simple random sampling, stratified sampling and cluster sampling are categorized as -------- sampling
4. Quota sampling, accidental sampling and purposive sampling are categories of ------- sampling
5. Quota sampling is also called -------- sampling
6. In a given research work, there are three main methods by which data can be collected. These include: documents, observation and the ---------------
7. ----------- scale is a measurement scale that assigns values to objects based on their ranking with respect to one another
8. When observations on the same phenomenon remain constant in successive trials, the phenomenon is called --------
9. There are two types of statistics which are important for application in the sciences. They are descriptive and -------- statistics
10. When observations on the same phenomenon varies in successive trials, the phenomenon is called ------
11. Statistics is the study of the collection, ----------- and analysis of data

1	data

12. Median age is an indicator of the -------- age
13. Standard deviation is regarded as the positive root of -------

14. The differences between an upper and lower quartiles of a set of population is known as ---
15. It is possible for two observations to occur most frequently. When a situation like this occurs, it is described as a -------------
16. The ------------- shows how distant each statistical observation is to the mean
17. The arithematic ------- is defined as the difference between the largest and smallest scores of ungrouped data
18. The observation that occurs most frequently in a set of data is called the ------
19. The most central or the figure at the centre of the observation or scores is called the -----
20. A variable, which is postulated as a necessary or causal factor in a given relationship is termed the -------
21. The main goal of any scientific research is to discover answers to questions through the application of -------- methods
22. Another name for 'measure of location' is ------------
23. The --------- is the calculated average of a group observation
24. The goal of experimental study is to establish some sort of relationship between two or more variables where one is a cause and the other the ------
25. A --------- condition is one that is always followed by the observed phenomenon of which it is a cause *(1 mark each = 25 marks)*

SECTION B:
Instruction: Answer any 3 questions in this section (5 to answer 3)

Question 1:
  i.   Define statistics (7 marks)
 ii.   Define Biostatistics (5 marks)
iii.   Define with example, a statistical variable (7 marks)
iv.   List types of probability and non-probability sampling (6 marks) *Total: 25 marks*

Question 2:
  i.   There are four scales of which variables are measured. Identify and explain each of the scales. *(25 marks)*

Question 3
Define with examples any 5 of the following statistical terms
  i.   Standard Deviation (5 marks)
 ii.   Arithematic mean (5 marks)
iii.   Median (5 marks)
iv.   Mode (5 marks)
 v.   Range (5 marks)
vi.   Variance (5 marks) *(Total: 25 marks)*

Question 4
What are the features and characteristics of the following?
  i.   Exploratory studies (9 marks)
 ii.   Descriptive studies (8 marks)
iii.   Experimental studies (8 marks)   (Total: 25 marks)

Question 5
The research process consists of a number of closely-related activities.
Identify and briefly explain stages of research *(25 marks)*