NATIONAL OPEN UNIVERSITY OF NIGERIA
91, Cadastral Zone, Nnamdi Azikiwe Express Way, Jabi-Abuja
FACULTY OF MANAGEMENT SCIENCES
2025_2 EXAMINATIONS

Course Code: Business Statistics
Course Title: BUS722
Credit Unit: 2
Instructions: 1. Indicate your Matriculation Number clearly
2. Attempt Question 1 and any other two (2) questions
3. Question 1 is compulsory and carries 30 marks while the other 2 questions carry 20marks each
4. Present all your points in coherent and orderly manner
Time Allowed: 2 Hours

QUESTION 1 (Compulsory)
a) Distinguish between primary and secondary sources of data collection. Use suitable illustrations. What data collection method would you employ to study consumer perceptions of a new product in the foods and beverage industry in Nigeria?

b) The ages of 100 Employees in a business enterprise are given as follows:

58	37	21	28	27	24	27	39	38	30
60	20	30	50	44	33	23	26	31	32
18	23	41	32	27	42	40	29	28	34
56	19	28	29	23	47	29	24	31	34
30	19	22	53	49	26	16	38	42	36
41	32	33	20	31	36	32	32	31	32
21	24	55	21	24	34	37	29	33	32
32	49	38	48	33	43	26	38	30	28
24	46	15	43	43	23	23	28	34	28
41	23	25	19	51	23	36	31	35	31

For the data
(i) Prepare the frequency distribution using the class intervals: 11-20, 21-30, 31-40........
(ii) Represent the data with a histogram
(iii) Estimate the mode of the grouped data. (30 Marks)

QUESTION 2
a) Write short notes on the following basic concepts in statistics:
  i.   Entity
  ii.   Random Variable
  iii.   Quantitative Variable
  iv.   Random Sample.

b) The salaries of workers are given in the table below.

Salaries	1000-	3000-	5000-	7000-	9000-11000	11000-13000

No of worker	10	14	18	23	19	14

Calculate (i) standard deviation and (ii) the coefficient of variation. (20 Marks)

QUESTION 3

a) There are 6 positions available to be filled by 6 persons from 3 tribes in Nigeria on equal basis. How many distinguishable arrangements are possible based on tribes?.

b) The table below shows the number of industrial accidents suffered by 50 employees of a large manufacturing firm in a year.

Number of Accidents	Number of Employees
0	5
1	10
2	16
3	8
4	6
5	3
6	2

Construct the probability distribution for the table and the cumulative relative frequency for the distribution $(P x = x1)$. Also determine the probability that a randomly selected employee will be the one who had:

- (i) 4 accidents.
- (ii) More than 2 accidents.
- (iii) At least an accident.
- (iv) Between 2 and 5 accidents.
- (v) 2 or 3 accidents (20 Marks)

QUESTION 4

a) What do you understand by multiple linear regression? Discuss two main methods of calculating regression line. Use suitable illustrations

b) A market researcher asked two (2) smokers to express their difference for 12 difference brands of cigarettes. The reply is shown in the following table.

Brand of cigarette	A	B	C	D	E	F	G	H	I	J	K	L
Smoker z (v)	9	10	4	1	8	11	3	2	5	7	12	6
Smoker W (x)	7	8	3	2	10	12	1	6	5	4	11	9

Use Spearman's rank correlation technique to evaluate the strength of relationship between the smokers. (20 Marks)