



NATIONAL OPEN UNIVERSITY OF NIGERIA,  
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JABI, ABUJA NIGERIA  
FACULTY OF MANAGEMENT SCIENCES  
DEPARTMENT OF PUBLIC ADMINISTRATION  
**2024 1 EXAMINATION**

**COURSE CODE:** PAD 813

**COURSE TITLE:** QUANTITATIVE METHODS FOR PUBLIC ADMINISTRATION

**CREDIT UNITS:** 3

**TIME ALLOWED:** 3Hrs

**INSTRUCTIONS:**

1. Attempt four (4) questions in All, Question one (1) and any other three (3)
2. Question number 1 is compulsory and carries 25 marks, while the other questions carry 15 marks each
3. Present all your points in coherent and orderly manner

Q1a. Quantitative Technique is an effective decision making in organization or business. Discuss

Q1b. Explain the usages of quantitative Methods

Q1c. Use the data below to calculate the media.

S/N	Price (N)	No. of Days (f)
1	110-114	2
2	115-119	6
3	120-124	8
4	125-129	12
5	130-134	14

Q1d. The following data show the sales by 90 sales representatives. Calculate the modal value of sales.

Sales (N'000s)	No. of Sales Reps.(f)
10 – 15	10
16 – 21	36
22 – 27	28
28 – 33	10
34 – 39	6
Total	

Q1e. A wholesale supplier for the food industry sells an average of 2,500 cans of creamed corn each year. The purchase orders and inventory costs for each shipment of 100 cans of corn costs \$75 and storage of each can costs you \$20 per year.

Calculate the optimal EOQ for cans of creamed corn.

Q2a what is the meaning of spearman's rank correlation coefficient?

Q2b State and indicate the Formula for Pearson correlation coefficient

Q3a Analysis of Variance (ANOVA) is the technique use to test the difference between more than two independent means. Discuss.

Q3b. Consider a set of data on monthly sales of a company's product, the mean of which was found to be N901, 000; the model found to be N282, 000; and the standard deviation found to be N102, 000.

Calculate the Pearson's No. 2 Coefficient of skewness?

Q3c what is Statistical Package for the Social Sciences (SPSS)?

Q4 Why organizations use time series data analysis?

Q4b. Calculate the Relative Price Index Time Series for Monthly Salaries of workers

Years	Average Monthly Salaries (N)
1985	1,200
1990	2,000
1995	1,800
2000	3,600
2005	5000
2010	6500

Q5a Itemize and explain models of time series analysis.

Q5b. The data below show the number of sales in both Local and exports value. Draw the component bar Chart to shows the analysis and explain the graph

Years	Exports (₦ million)	Imports (₦ million)	Total
1994	1.8	1.4	3.2
1995	0.6	2.0	2.6
1996	0.5	2.3	2.8
1997	3.0	2.0	5.0