



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**FACULTY OF SOCIAL SCIENCES**  
**DEPARTMENT OF ECONOMICS**  
**2023\_1 POP EXAMINATION.**

**COURSE TITLE: APPLIED STATISTICS**

**COURSE CODE: ECO 452**

**UNITS: 2 UNITS**

**TIME ALLOWED: 2 HOURS**

**INSTRUCTION: ANSWER ANY THREE (3) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS**

1. Use the below information to calculate the following;
  - i. The Simple Price Index **(7marks)**
  - ii. Paasche's Price Index **(8marks)**
  - iii. Laspeyre's Price Index **(8marks)**

| COMMODITIES | 2000   |            | 2001   |            |
|-------------|--------|------------|--------|------------|
|             | PRICES | QUANTITIES | PRICES | QUANTITIES |
| A           | 2      | 8          | 4      | 6          |
| B           | 5      | 10         | 6      | 5          |
| C           | 4      | 14         | 5      | 10         |
| D           | 2      | 19         | 2      | 13         |

2. a. Given the following dataset, 21, 22, 23, 24, 25 as population.  
Determine;
  - i. The Mean    ii. The Standard Deviation    iii. The Variance **(4marks each = 12marks)**  
b. Taking sample of two (2) ,  
Determine;
  - ii. The Sample Means    ii. The Sample Standard Deviation    iii. The Sample Variance **(11marks)**
3. a. When do you apply Analysis of Variance (ANOVA) as a statistical tool? **(5 marks)**  
b. State the steps involve in resolving ANOVA related problem **(10marks)**  
c. What are the salient assumption in ANOVA? **(8marks)**
4. What do you understand by multiple regression analysis? **(6Marks)**
  - b. Highlight the assumptions of multiple regression you know. **(10Marks)**
  - c. In a simple regression analysis, differentiate between  $B_0$  and  $B_1$  **(8marks)**