



NATIONAL OPEN UNIVERSITY OF NIGERIA
91, Cadastral Zone, Nnamdi Azikiwe Express Way, Jabi-Abuja
FACULTY OF MANAGEMENT SCIENCES
2020_1 EXAMINATION

Course Code: BUS722

Course Title: Business Statistics

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

1. A wholesaler stocks heavy (2B), medium (HB), fine (2H) and extra fine (3H) pencils which come in packs of 10. Currently in stock are two packs of 3H, 14 packs of 2H, 35 packs of HB and 8 packs of 2B. If a pack of pencil is chosen at random for inspection, what is the probability that they are:

(a) Medium **(7.5 Marks)**

(b) heavy **(7.5 Marks)**

(c) not very fine **(7.5 Marks)**

(d) neither heavy nor medium? **(7.5 Marks)**

2. Write short notes on the following

(i) Entity (vi) Discrete Variable

(ii) Random Variable (vii) Continuous Variable

(iii) Variable (viii) Population

(iv) Quantitative Variable (ix) Sample

(v) Qualitative Variable (x) Random Variable **(20marks)**

3. From the following data calculate price index for 2015 with 2013 as the base year by (i) Laspeyre's method (ii) Pasche's method (iii) Fisher's method and (i) Dowbish-Bowley price index methods

<i>Commodities</i>	<i>2018</i>		<i>2020</i>	
	Price	Quantity	Price	Quantity
<i>Gaari</i>	20	8	40	6
<i>Rice</i>	50	10	60	5
<i>Fish</i>	40	15	50	15
<i>Palm-oil</i>	20	20	20	25

(20 Marks)

4. NOUN Centre's stores has been selling the Wonders of statistics study guide for 12 Semester and would like to estimates the relationship between sales and number of sections of elementary statistics taught in each Semester. The data below have been collected.

Sales (units)	33	35	24	61	52	45	65	82	29	63	50	79
No of sections	3	7	6	6	10	12	12	13	12	13	14	15

- a. Obtain the coefficient of correlation **(15 Marks)**
- b. Comment on your result? **(5 Marks)**

5. The School of Management Science (SMS) has investigated the relationship between some students performance in their various courses and lecture received per each semester and also the quality of some lecturers. The SMS has a data of ten candidates which are:

Student	1	2	3	4	5	6	7	8	9	10
No of lecturer	9	6	12	14	11	6	19	16	3	9
Quality of lecturers	99	100	119	95	110	117	98	101	100	115
Exams scores	56	45	80	73	71	55	95	86	34	66

From general representation: $y = a + b_1x_1 + b_2x_2 + b_3x_3 + \dots + b_n x_n$.

Use the above equation to obtain your findings i.e. Multiple Regression Analysis.

(20 Marks)