BABCOCK UNIVERSITY

37 3125
ANYANWU
JESSICA

2014/2015 FIRST SEMESTER EXAMINATION

COURSE CODE: STAT 101, COURSE TITLE: INTRODUCTORY STATISTICS

INSTRUCTION: Answer three questions out of five questions. Each question is 20marks.

LECTURER: Mr. Osundina S.A. & Mr. Bamisile O.O., TIME ALLOWED: Two hours.

1. a) What is statistics? *5marks*

   b) Briefly explain data *5marks*

   c) Differentiate between primary and secondary data *5marks*

   c) Construct the more-than cumulative frequency for the data below: *5marks*

Age Interval	15-19	20-24	25-29	30-35
Number of Students(f)	40	30	20	10

2. a) Find the probability of getting a 3 or 5 while throwing a die. *8marks*

   b) A coin is tossed three times. Find the probability that it lands on head exactly one time. *8marks*

   c) A set S consists of points labeled 1,2,3,4,5,6,7,8,9, and 10. If A={1,2,4, 6, 8,10}, and B={1,2,3,4}. Find $A \cap B$ *4marks*

3. Define the following:

   a) Probability. 3 *marks*

   b) Complementary Event 3 *marks*

   c) Dependent Event 3 *marks*

   d) Independent Event 3 *marks*

   e) A manufacturer purchased two set of machines A and B. The probability that A will last for 5 years is $\frac{4}{5}$ and the probability that B will last for 5 years is $\frac{3}{4}$. Hence

   (i) Find the probability that both machines will last for 5 years. *4 marks*

   (ii) Only machine A will last for 5 years. *4 marks*

4. The scores below represent the performance of 40 students on a 30marks achievement test in Introductory Statistics.

25	29	28	20	22	29	26	24	27	29	22	27	27	26	21	25	28	26	25	20
22	27	23	29	27	27	28	23	24	27	27	26	24	29	28	20	27	26	26	20

Calculate:

20 - 25
26 - 30
20 - 2

a) Mean — *5marks*
b) Median — *5marks*
c) Mode — *4marks*
d) Standard deviation — *6marks*

5. A population consists of the four numbers 3, 5, 7, and 9. Consider all possible samples of size 2 that can be drawn without replacement. Find

a) the mean of the population — *5marks*
b) the standard deviation of the population — *8marks*
c) the mean of the sampling distribution of means — *7marks*