



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2020/2021

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE (REAL ESTATE MANAGEMENT)
BRE 211: REAL ESTATE STATISTICS II

DATE: Wednesday, 7th April 2021

TIME: 11.00 a.m. - 1.00 p.m.

INSTRUCTIONS:

Answer Question ONE and any other TWO Questions from Section TWO.

SECTION 1: COMPULSORY (30 MARKS)

Question 1

- a) For the data set obtained below, tabulate the grouped frequency distribution and calculate the mean for the grouped distribution. (9 marks)

32, 45, 38, 7, 40, 15, 5, 26, 0, 11, 40, 2, 18, 8, 31, 4, 27, 7, 0, 15, 12, 35, 28, 46, 9,
29, 10, 34, 2, 7, 5, 17, 2, 8, 35, 30, 11, 36, 47, 19, 16, 0, 18, 16, 14, 2, 38, 41, 42,
17, 45, 28, 48, 20, 7, 21, 8, 5, 28, 13, 22, 27, 41, 40, 36, 29, 29, 31, 34, 48.

- b) State and explain THREE methods of collecting primary data. (9 marks)
c) Define statistics and discuss its SIX stages. (8 marks)
d) Distinguish between primary and secondary data. (2 marks)
e) Distinguish between descriptive and inferential statistics. (2 marks)

SECTION 2: ANSWER ANY TWO QUESTIONS (40 MARKS)

Question 2

- a) State and explain FOUR non-random sampling methods. (12 marks)
b) Explain the concept of conditional probability. (3 marks)
c) The average rent paid by 300 people in Kileleshwa ward is Kshs 34,000 and the standard deviation is Kshs 3,000. Assuming the rents to be normally distributed, determine how many people:

- (i) Pay a rent of more than Kshs 40,000. (2.5 marks)
- (ii) Pay a rent of between Kshs. 28,000 and Kshs 43,000. (2.5 marks)

Question 3

For the data set given below on floor plan area of studio apartments in Kiambu County, compute the

- a) Mode (4 marks)
- b) Mean (4 marks)
- c) Median (4 marks)
- d) Standard deviation (4 marks)
- e) 40th percentile (P_{40}) (4 marks)

Floor plan area (m^2)	Frequency
23.6 - 26.5	4
26.6 - 29.5	36
29.6 - 32.5	51
32.6 - 35.5	63
35.6 - 38.5	58
38.6 - 41.5	52
41.6 - 44.5	34
44.6 - 47.5	16
47.6 - 50.5	6

Question 4

- a) Using the least squares method, compute the equation of line of best fit for the data set below and compute the value of y when the X is 9. (15 marks)

x	6	10	2	4	6	7	0	1	8	5	3
y	82	88	56	64	77	92	23	41	80	59	47

- b) State and explain the two types of hypothesis (5 marks)

Question 5

- a) Outline the FOUR steps in hypothesis testing. (4 marks)
- b) From a survey done on a simple random sample of 400 properties in Nairobi County, properties were classified by floor finishes (terrazzo, granite tiles, parquet and marble) and by location (Kileleshwa and Gigiri). Results are shown in the contingency table below.

Do the floor finish preferences for Kileleshwa location differ significantly from the Gigiri's location for the 400 cases at 5% significance level? Use the X^2 (chi-squared) test to determine this. Take X^2 (critical) = 7.815. (16 marks)

Housing Location	Floor finishes				Row total
	Marble	Granite tiles	Parquet	Terazzo	
Kileleshwa	08	28	39	25	100
Gigiri	29	91	116	64	300
Column total	37	119	155	68	400