KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2020/2021

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE

(REAL ESTATE MANAGEMENT)

BRE 403: APPLIED VALUATION III

DATE: MONDAY 29TH MARCH 2021 **TIME: 11.00 A.M. - 1.00 P.M.**

INSTRUCTIONS: ANSWER QUESTIONI ONE AND ANY OTHER TWO QUESTIONS.

Question One

a. Conventional valuation approaches are universal and can be used to value nearly anything including natural resources. Discuss. (10 marks)

b. Discuss the approach that you would adopt in assessing the benefits of watershed protection and soil erosion control of the Mount Kenya Forest. (6 marks)

c. The following data was obtained from Nairobi County regarding the number of people who visited the City Park in the year 2020.

Zone	Visitation rate per 1,000	Round Trip Travel Distance (KMs)	Round Trip Travel Time (Minutes)	Zone Population
0	500	0	0	3,000
1	300	10	20	4,000
2	200	30	50	6,000
3	100	70	100	9,000
4	0	100	120	12,000

The relationship between the visits per 1,000 against travel costs is given as: 975-1.452 x, where x = Travel costs Cost per Kilometre = KES.3 and cost of time per minute = KES.5.

i. Calculate the total number of visits to City Park per year if an entry fee of KES.30 is introduced by the County Government of Nairobi. (5 marks)

ii. Using the data provided, discuss the approach that you will adopt in estimating the total economic benefit of City Park. (5 marks)

iii. Discuss the concept of Willingness to Pay (WTP) and indicate how the total economic benefit derived in (b) above captures this concept. (4 marks)

Question Two

a. Describe the application of Hedonic Pricing Method (HPM) in estimating the economic benefits of Nyali Beach in Mombasa. (5 marks)

b. Explain the strengths and weaknesses of the approach adopted in (a) above. (5 marks)

c. Demonstrate and explain how you can adopt any other two approaches in estimating the economic benefits of Nyali Beach. (10 marks)

Question Three

a. Briefly explain the two main approaches to the valuation of forest lands. (5 marks)

b. You have been appointed to undertake a market valuation of mineral land in Ngurunga quarry. The land comprises hard rock minerals that is suitable for construction. In detail, discuss the procedure and approach that you will adopt in undertaking the valuation exercise. (10 marks)

c. Briefly discuss any ten key contents of the valuation report in (b) above. (5 marks)

Question Four

A survey of visitors was undertaken in Karura Forest, Nairobi with a sample size of 500 visitors. The zones of origin for the visitors was based on 8 administrative divisions in Nairobi while the population was based on the 1999 census. The population for each administrative zone and sample size per zone is presented in the below table.

Zone	Zone population	Sample size per Zone
A	229,330	42
B	355,526	60
C	120,048	51
D	193,061	106
E	232,401	36
F	247,552	85
G	254,964	65
H	467,118	55

The study found out that there was an average of 1,100 visits during peak days (i.e. the 11 public holidays and 104 weekends in a year); an average of 100 visits during light days; and 100 cars on peak days with an average of 6 visitors per car. Further, the study established the average willingness to pay (WTP) bid to maintain the current use of the site as KES.172 while the average number of visits per person was 54. The average WTP for gate fee offered is KES.20 per visit and the average travel cost (i.e. cost of transport, time, food, parking fee) is KES.61.80 per visit. Annual expenditure to maintain the forest is estimated at KES.800,000.

a. Calculate the visitation rate per 1,000 population for each zone (8 marks)

b. Compare and explain the expected visits in Zone D and E. (2 marks)

c. Whilst making necessary assumptions, determine the economic value of Karura Forest using travel cost method (TCM) and Contingent Valuation Method (CVM). (8 marks)

d. Compare and explain the valuation figures derived in (c) above. (2 marks)

Question Five

a. With aid of examples, explain the approach that you would adopt in the valuation of any wetland of your choice. (10 marks)

b. Discuss any five key benefits of ground water resources and explain the application of preventive expenditure method in the valuation of these resources. (10 marks)

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