



COLLEGE OF SCIENCE AND TECHNOLOGY
SCHOOL OF ENGINEERING
DEPARTMENT OF
CIVIL, ENVIRONMENTAL AND GEOMATIC ENGINEERING

Academic year 2024-2025

Year: 2 Semester: II

Module: SGE2265 - Cadastre and Land Administration II
CAT I/30Marks

Date: 24/04/2025

Program: SGE

Time: 1:30 hour

Question one (12marks)

- What is cadastral survey? (2marks)
- Give at least three users of cadastral data and explain what each mentioned user can do with cadastral data. (6marks)
- Among the five general principles of land boundary re-establishment, give and clearly explain the four of them. (4marks)

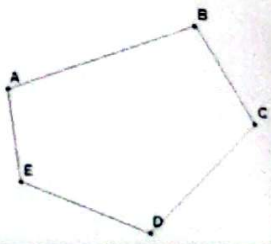
Question two (4marks)

- Which method of boundary description is used, if the land parcel to be described is irregularly shaped? (1mark)
- Give at least three main elements of such boundary description for the land parcel to be properly described. (3marks)

Question three (6marks)

The figure below shows a parcel of land defined by points A, B, C, D and E. Boundary computation resulted in determination of coordinates of the points as recorded in the table below. With the provided data in this table, use shoelace formula to compute an area of the parcel in hectares (ha)

Point	Easting (m)	Northing (m)
A	1043.87	5492.91
B	1112.14	5516.18
C	1133.67	5480.34
D	1095.13	5440.84
E	1048.24	5459.04



Question four (8marks)

Demonstrate that knowing the coordinates of P_1 and P_2 as well as the bearing of the line P_1P_3 and bearing of the line P_2P_3 , we can compute the coordinates of point P_3 as follow:

$$N_3 = \frac{(E_2 - E_1) + N_1 \tan A_1 - N_2 \tan A_2}{\tan A_1 - \tan A_2} \quad \text{and} \quad E_3 = \frac{(N_2 - N_1) + E_1 \cot A_1 - E_2 \cot A_2}{\cot A_1 - \cot A_2}$$

END



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END OF SEMESTER I EXAMINATION -ACADEMIC YEAR 2024-2025

YEAR: 2 SEMESTER: II PROGRAMME(S): SGE

MODULE: SGE2265 CADASTRE AND LAND ADMINISTRATION II

DATE: 09/06/2025

TIME: 2hours

MAXIMUM MARKS = 50

INSTRUCTIONS

1. This paper contains **FOUR (4)** questions.
2. **Answer THREE (3) Questions only:**
Question ONE (1) from Section "A" is Compulsory and Answer any TWO (2) from Section "B"
3. Any written materials and Programmable calculators are NOT allowed.
4. Do not forget to write your Registration Number.
5. Write all your answers in the booklet provided
6. Do not write any answers on this questions paper.
7. **Start each question in a NEW page**

SECTION: A

Question: 1

[20]

Having learnt the module of Cadastre and Land Administration II, answer the following questions:

- Give the definition of the term "cadastral survey" as defined by International Federation of Surveyors (FIG). [2]
- Clearly explain this statement: "According to the general principles for land boundary re-establishment, it is recommended to follow the intention of the title plan and to provide reasons for any significant discrepancies if identified". [4]
- Provided that you are a land surveyor, assuming that a person wants to buy a piece of land and comes to you asking for your help to check parcel related information before buying it so that he doesn't buy a caveated land. Explain two options of land search you can use personally to help him on his request. [4]
- The process of international boundary making is generally undertaken into five main stages. chronologically outline the first four of them and among them explain the first three ones. [5]
- In the context of international maritime boundaries and rights of coastal states, clearly discuss about how the contiguous zone differs from the Exclusive Economic Zone. [5]

SECTION: B

Question: 2

[15]

- A, B and C form boundary corners of a parcel of land; coordinates of stations B and C as well as bearings of lines BA and line CA are documented in the table below: Use the data to compute the coordinate of point A. [10]

Table 1: Boundary data

Beacon	Easting (m)	Northing (m)	—	From	To	Bearing
B	1112.14	5516.18		B	A	251°10'42"
C	1048.24	5459.04		C	A	352°38'53"

- What does each of the following RTK/GPS Status means and which one is recommended in cadastral data collection: Fixed, Float and Single? [4]
- What is shelf break? [1]

Question: 3

- a) As a student who conducted field practical in this module, explain the procedures of collecting corner coordinates of land parcel by using DGPS. [6]
- b) Discuss about the role of cadastral data in resolving land disputes and improving land governance in Rwanda. [5]
- c) Differentiate the two components of land records and provide example for each component. [4]

Question: 4

- a) Describe the process of producing a deed plan in ArcMap as learnt in Cadastre and Land Administration II module. [15]
 - b) After explaining what the term "condominium" is about? Talk about the role of a certified surveyor in the process of registering condominium / condominium units in Land Information System. [6]
 - c) Under United Nations Convention on the Law Of the Sea (UNCLOS), explain how the exploitation of resources beyond the standard Exclusive Economic Zone (EEZ)/continental shelf is managed. [4]
 - d) Give two examples of international courts that deal with international maritime disputes and conflicts. [4]
- [1]

END