



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

DEPARTMENT OF LAND AND SPATIAL SCIENCES

QUALIFICATIONS: BACHELOR OF GEOMATICS, DIPLOMA IN GEOMATICS	
QUALIFICATIONS CODES: 07BGEO,06DGEO	QUALIFICATIONS LEVEL: 7 - 07BGEO, 6 - 06DGEO
COURSE CODE: CAS520S	COURSE NAME: CADASTRAL SURVEYING 1
SESSION: JULY 2023	PAPER: THEORY
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION QUESTION PAPER

EXAMINER:	Mr T. Makaza
MODERATOR:	Mr S. Sinvula

INSTRUCTIONS

1. Answer ALL the questions.
2. Write clearly and neatly.
3. Number the answers clearly.

PERMISSIBLE MATERIALS

Calculator, ruler, pencil and eraser

THIS QUESTION PAPER CONSISTS OF 4 PAGES (Including this front page)

Question 1

- (a) Define Cadastral Surveying. (4)
- (b) Explain how the need for land measurement and the need to keep records of claims to ownership of individual land parcels arose in ancient Egypt. (2)
- (c) "Because the cadastral system in Egypt developed around the definition of arable land, the system became also quite important in re-establishing the delineated boundaries after the annual floods of the Nile River washed away the evidence of land boundaries." Describe how these boundaries were re-established after the annual floods. (2)
- (d) Describe the purpose of the Land Survey Act 33 of 1993. (1)
- (e) Describe the four (4) duties of a Land Surveyor as per the Land Survey Act. (8)
- (f) In countries like South Africa and Namibia, where natural and cultural features are few and far apart, what is the practical method of demarcating properties? (2)
- (g) Outline any five (5) powers and duties of the Surveyor-General. (5)

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Question 2

Describe the following types of demarcation surveys.

- (a) Beacon relocation (2)
- (b) Subdivision survey (2)
- (c) Sectional title surveys (2)

[6]

Question 3

- (a) Define 'real servitude/praedial servitude'. (2)
- (b) State the two (2) terms given to two properties that are involved in a servitude such as a right of way servitude. Indicate the correct term for each property. (4)
- (c) Mention three (3) conditions that must be satisfied for consolidation to be possible. (3)
- (d) What is the purpose of demarcation? (2)
- (e) When a client wants his/her property beacons to be relocated or the property to be surveyed the client appoints a land surveyor to do the necessary work. What are the four (4) typical steps that a land surveyor follows in preparing to do the work? (4)

[15]

Question 4

- (a) State any six (6) kinds of information contained on a farm index card. (6)
- (b) The survey diagram is the fundamental registrable document prepared by a land surveyor. Mention any seven (7) essential information that is shown on a diagram. (7)
- (c) Indicate at least four (4) scales which can be used to plot the figure of a diagram. (4)
- (d) What situation necessitates the preparation of a general plan rather than a diagram? (2)
- (e) With regards to a subdivision survey, explain what a mother diagram is. (2)
- (f) Describe any three (3) characteristics of a noting plan. (6)

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Question 5

- (a) State any eight (8) components of survey records. (8)
- (b) Name any four (4) categories of coordinates that are found on a coordinate list. (4)
- [12]**
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Question 6

- (a) Mention three (3) approaches to beaconing a servitude of uniform width. (6)
- (b) What is the importance of the subdivision sketch during examination at the Surveyor-General's Office? (2)
- (c) Outline two (2) typical demarcation methods/scenarios encountered in ensuring that beacons are placed in the correct positions as desired by a client. (Answer should indicate how coordinates are obtained for each case). (4)
- [12]**
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Question 7

Indicate what the following symbols denote on a working plan.

- (a) single black circle (1)
- (b) double black circle (1)
- (c) double red circle (1)
- (d) circle with a cross (1)
- [4]**
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