



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF ENGINEERING AND SPATIAL SCIENCES**

**DEPARTMENT OF ARCHITECTURE AND SPATIAL SCIENCES**

<b>QUALIFICATIONS:</b> BACHELOR OF GEOMATICS, DIPLOMA IN GEOMATICS	
<b>QUALIFICATIONS CODES:</b> 07BGEO, 06DGEO	<b>QUALIFICATIONS LEVEL:</b> 7 - 07BGEO, 6 - 06DGEO
<b>COURSE CODE:</b> CAS520S	<b>COURSE NAME:</b> CADASTRAL SURVEYING 1
<b>SESSION:</b> JULY 2022	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

<b>SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER</b>	<b>Mr T. Makaza</b>
<b>MODERATOR:</b>	<b>Mr S. Sinvula</b>

<b>INSTRUCTIONS</b>
<ol style="list-style-type: none"><li>1. Answer ALL the questions.</li><li>2. Write clearly and neatly.</li><li>3. Number the answers clearly.</li></ol>

**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) In South Africa, the first land surveyor came to the Cape in 1657. The first cadastral survey was the survey of a piece of land on the banks of the Liesbeeck River. Describe the features that were adopted as boundaries for the said property. (2)
- (e) In Namibia, iron pegs have been adopted as beacons for marking property boundaries. State **three** natural or man-made features that in some countries have been/are used as property boundaries. (3)
- (f) State the FULL name of the South African piece of legislation on which the current Land Survey Act 33 of 1993 used in Namibia is based. (2)
- (g) Give a summary of the history of Cadastral Surveying in Namibia. (5)

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**Question 2**

- (a) Define ‘real servitude/praedial servitude’. (2)
- (b) State the **two** 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** 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** typical steps that a land surveyor follows in preparing to do the work? (4)
- (f) Name at least **four** reasons that may necessitate a beacon relocation and replacement. (8)
- (g) Describe what subdivision of an erf entails. Indicate also the statutory requirements, if any. (3)

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### Question 3

- (a) State **any four** kinds of information contained in the erf register. (4)
- (b) The survey diagram is the fundamental registrable document prepared by a land surveyor. Mention any eight essential information that is shown on a diagram. (8)
- (c) Indicate at least four 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) Concerning a subdivision, explain what a mother diagram is. (2)
- (f) Give a brief description of the four sections that comprise the Division Survey and Land Information. (8)

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**Question 4**

- (a) State **any eight** components of survey records. (8)
- (b) Name **any four** categories of coordinates that are found on a coordinate list. (4)
- (c) Indicate what the following symbols denote on a working plan.
- i) single back circle (1)
  - ii) double black circle (1)
  - iii) double red circle (1)
  - iv) single red circle (1)
  - v) circle with a cross (1)

**[17]**

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**Question 5**

- (a) Mention **two** ways by which you calculate the coordinates of new subdivision points? (2)
- (b) What is the importance of the subdivision sketch during examination at the Surveyor-General's Office? (2)
- (c) When a land surveyor has been appointed by the client the information about the property concerned is obtained from the Surveyor General's Office. In an urban area, there are two typical scenarios. State them and other records/documents that are used to get more information about the erf. (5)

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