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| **FACULTY** | Agriculture, Engineering & Natural Sciences | | |
| **DEPARTMENT** | Geosciences | | |
| **SUBJECT** | Economic Geology | | |
| **SUBJECT CODE** | GLY 3831 | | |
| **PAPER** | Paper 1 | | |
| **DATE** | June 2026 | | |
| **DURATION** | 180 min (3 Hours) | **Marks** | 100 |

## 1st Opportunity examination

**Examiner(s): Dr E Shalimba .....**

**Internal Moderators: Dr M Tshiningayamwe.....**

**External moderators: Prof D Zhang .....**

This question paper consists of 2 pages (including this one).

Instructions
1. Closed book examination
2. Read each question carefully
3. Answer all questions
4. Use diagrams where appropriate to illustrate your answers

# UNIVERSITY OF NAMIBIA EXAMINATIONS

## Part 1: Theory (70 Marks)

1. Explain the key geological processes involved in the formation of ore deposits. **(10 Marks)**
2. Discuss the concept of metallogenic epochs and it's significance to ore deposit formation. **(6 Marks)**
3. Briefly discuss the importance of resource estimation in mine planning. **(10 Marks)**
4. Explain the role of a desk study in the targeting stage of mineral exploration. What data sources are consulted, and what outputs are produced? **(10 Marks)**
5. Differentiate between primary and secondary ore textures. In your answer, provide one example of each. **(4 Marks)**
6. Briefly explain the processes involved in the formation of rare-metal pegmatites. In your answer, refer to a Namibian example to illustrate these processes. **(15 Marks)**
7. Explain the significance of the sub-seafloor replacement zone (stringer / stockwork zone) beneath a VMS massive sulphide lens. How does it form, what is its mineralogy, and what is its economic significance? **(15 Marks)**

## Part 2:

1. Using the Mckelvey Box, describe the relationship between mineral reserves and resources and summarise the factors that influence changes in both. **(20 Marks)**
2. Explain the purpose of drilling in mineral exploration. **(5 Marks)**
3. Identify two environmental challenges associated with mineral exploration in Namibia. **(5 Marks)**

# END OF EXAMINATION