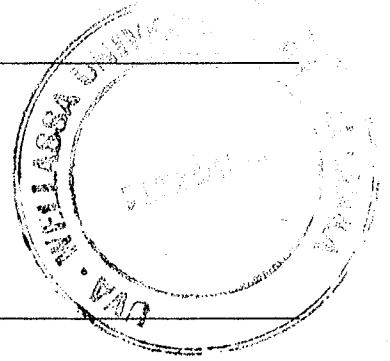


MRT 251-3 Mineralogy and Petrology - II



Instructions to candidates

Duration: Three (03) hours

Number of questions: Five (05)

Answer all questions

Mark allocation: 100

Illustrate your answers with sketches/diagrams where necessary

1. Explain the following in detail.

a) Characteristics of the fundamental structural unit of silicate minerals

(05 marks)

b) Abundance of silicate minerals in the Earth's crust

(10 marks)

2. Give detailed accounts on any two (02) silicate groups with special emphasis on their structural buildup and common minerals of the group.

(20 marks)

3.

a) Describe the steps of preparation of a rock thin section for microscopic studies.

(10 marks)

b) Sketch the optical path of transmitted light in a polarizing petrographic microscope.

(05 marks)

c) Briefly explain the functions of the essential components of a polarizing microscope.

(10 marks)

4. Write short notes on the following optical properties of minerals in thin section.

a) Pleochroism

b) Relief

c) Birefringence

d) Interference colours

e) Extinction

(20 marks)

5.

a) Describe igneous textures observed in hand specimen and explain how you determine the origin of igneous rocks based on their textures.

(10 marks)

b) Describe metamorphic fabrics and their corresponding metamorphic grades.

(10 marks)

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