

MRT 213-2 Mineralogy and Petrology - II

Instructions to candidates

Duration: Two (02) hours

Number of questions: Four (04)

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. Briefly explain polymerization in silicate minerals. Give detailed accounts on any two (02) silicate groups with special emphasis on their structural buildup and common minerals of the group. (25 marks)
3. Distinguish between following optical properties of minerals in thin section.
 - a) Pleochroism and Interference Colours
 - b) Relief and Colour
 - c) Birefringence and Extinction (30 marks)
4.
 - a) Illustrate how you would use graded bedding to establish the original top and bottom of a deformed sedimentary sequence. (10 marks)
 - b) Describe igneous textures observed in hand specimen and explain how you determine the origin of igneous rocks based on their textures. (10 marks)
 - c) Describe metamorphic fabrics and their corresponding metamorphic grades. (10 marks)

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