

MRT 161-3 / MRT 152-3 Mineralogy and Petrology I

This paper consists of three (03) parts

Part A: MCQ, Part B: Structured, Part C: Essay

Total number of questions: Part A: Twenty (20), Part B: Ten (10), Part C: Three (03)

Answer all questions

Time Allocated: Three (03) hours

Mark Allocation: 100 (Part A: 20, Part B: 20, Part C: 60)

Part C - (01 hour and 30 minutes)

1. a. Write an account on physical properties of minerals.
b. Describe the common characteristics of following mineral pairs and explain their main differences.
 - i. Calcite and Aragonite
 - ii. Gypsum and Anhydrite
 - iii. Copper and Iron

(20 mark)

2. a. Describe how polymerization of SiO_4^{4-} tetrahedra leads to different silicate mineral groups.
b. Describe the solid-solution of olivine series.

(20 mark)

3. a. Describe aphanitic and phaneritic textures of igneous rocks.
b. Explain the Bowen's Reaction Series. Relate it to mineral stability.
c. Illustrate sedimentary structures with explanatory notes.
d. Write a short note on dynamo-thermal metamorphism.

(20 mark)

