

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**THIRD YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF
SCIENCE IN NATURAL RESOURCES MANAGEMENT**

NARE 325: PETROLOGY

STREAMS: BSC. NARE (Y3S1)

TIME: 2 HOURS

DAY/DATE: TUESDAY 11/12/2018

2.30 P.M. – 4.30 P.M.

INSTRUCTIONS:

- Answer ALL questions in section A and ANY TWO questions in section B.
- Do not write on the question paper.

SECTION A (30 MARKS)

- Q1. (a) Explain the use of the following terms in petrology
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|---------------------------------|-----------|
| (i) Rheology | (2 marks) |
| (ii) Petrogenesis | (2 marks) |
| (iii) Mohorovicic discontinuity | (2 marks) |
| (iv) Lithification | (2 marks) |
- (b) Using a diagram, describe the structure of the Earth. (5 marks)
- Q2. Classify the following rocks on the basis of chemical content, texture and application.
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|-----------------|-----------|
| (i) Granite | (2 marks) |
| (ii) Gabbro | (2 marks) |
| (iii) Sandstone | (2 marks) |
| (iv) Limestone | (2 marks) |
- Q3. Describe the classification of igneous rocks according to chemical composition. (4 marks)
- Q4. Discuss the economic and environmental significance of studying petrology. (4 marks)

SECTION B (40 MARKS)

- Q4. (a) Describe the role of the primary metamorphic agents on rock formation. (10 marks)
- (b) Using a diagram, discuss the formation of metamorphic rocks in the Earth's crust. (10 marks)
- Q5. Using Bowen's reaction series, discuss the texture of plutonic and volcanic rocks. (20 marks)
- Q6. (a) Discuss the weathering process and its role in rock formation. (10 marks)
- (b) Define orogeny and explain the types of orogenic movements in the Earth's surface. (10 marks)
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