UNIVERSITY OF MINES AND TECHNOLOGY, TARKWA

FIRST SEMESTER EXAMINATIONS, NOV. – DEC. 2018

COURSE NO: GL 271
COURSE NAME: OPTICAL MICROSCOPY
CLASS: GL II **TIME:** 3 HOURS

Name**:** _____Index Number: _____

Attempt any five (5) questions
Marks will be awarded for organisation, content, neat illustrations and good English.

Qu. 1 Briefly outline the steps you would take to prepare a thin section **[10 marks]** and describe how you would go about identifying the minerals contained in the prepared thin section under the microscope. **[10 marks]**

Qu. 2 Discus the essential features of the polarising microscope for transmitted light microscopy **[20 marks]**

Qu. 3 List and explain the properties of rock-forming minerals observed in
(a) Plane polarised light **[10 marks]**
(b) Crossed polars **[10 marks]**

Qu. 4 Briefly describe, with the aid of neat diagrams **[8 marks],** what happens to an unpolarised ray of light as it travels from the source through the polarising microscope (with an anisotropic mineral on stage) to the observer looking through the eyepiece. **[12 marks]**

Qu.5 How would you identify a positive or negative uniaxial mineral with the petrological microscope? **[20 marks]**

Qu. 6 a) How would you distinguish between augite and hornblende under the microscope? **[10 marks]**

b) Why may quartz be confused with orthoclase under the microscope? **[10 marks]**

D. AIKINS/ DR G. M. TETTEH