

**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF PHYSICAL SCIENCES
DEPARTMENT OF GEOLOGY**

**FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BTech GEOLOGY
2017/2018 SESSION**

COURSE CODE: GEL 415

UNIT: 3

COURSE TITLE: REGIONAL STRUCTURAL GEOLOGY AND LATE TECTONICS

INSTRUCTIONS: ANSWER TWO QUESTIONS FROM EACH SECTION.

TIME ALLOWED: 2 HOURS

DATE: 30 APRIL 2018

SECTION A

1. Explain the geological features associated with plate tectonics
- 2a. Explain the mechanism responsible for sea-floor spreading
- 2b. Outline three information derived from Glomar Challenger drilling ship used for testing the sea-floor spreading hypothesis
- 3a. Explain the evidences that provide age estimation of the ocean crust
- 3b. A sea-floor spread for a distance of 7 strips linear magnetic anomalies of which each anomaly was about 40,000 meters from the ridge crest, if the age of the sea floor is 4 million years. What is the rate of sea-floor spreading?

SECTION B

- 1a. Define plate tectonics.
- 1b. What are geosynclines and state their economic importance.
2. State and explain the five orogenic events that have taken place in the African continent.
- 3a. Discuss Alfred Wegene's theory on continental drift.
- 3b. Mention any four geoscience evidences that support his theory.