ILARA MOKIN, ONDO STATE

FACULTY OF BASIC AND APPLIED SCIENCES

DEPARTMENT OF PHYSICAL AND CHEMICAL SCIENCES

B.SC DEGREE EXAMINATIONS SECOND SEMESTER 2017/2018 ACADEMIC SESSION

COURSE CODE: AGY 306
COURSE TITLE: STRUCTURAL GEOLOGY AND PLATE TECTONICS

DURATION: 2 Hrs: 30 minutes

HOD's SIGNATURE

INSTRUCTION: ***Attempt four (4) Questions in all. Question 1 is compulsory.***

1. (a) Describe the structure and composition of the earth's interior.
   (b) Outline the properties of the following:
      (i) hydrostatic stress
      (ii) deviatoric stress
   (c) Discuss polar wandering.

2. (a) Discuss each of the following stress-strain behaviour of rocks:
      (i) Elastic behaviour
      (ii) Plastic behaviour
   (b) Explain the following:
      (i) Pure shear
      (ii) Simple shear

3. (a) Differentiate between the following pairs with the aid of diagrams:
      (i) Dextral and sinistral faults.
      (ii) Anticline and syeline.
      (iii) Reverse and normal faults.
      (iv) Miogeosyncline and eugeosyncline
      (v) Brittle and ductile deformation.

4. (a) Explain continental drift and the main evidences in support of it.
   (b) Write short notes on extensional fractures and explain how they form.
   (c) Describe the relationship of the various types of faults to the principal stress axes.

5. (a) Explain the factors determining dominant deformation mechanism
   (b) Explain the following:
      (i) Pressure solution and its evidences.
      (ii) Cataclasis deformation

6. (a) Write short note on oceanic ridges.
   (b) Outline the mechanisms for plate motion.
   (c) Describe the general morphology of island arcs.