

OPENER EXAMINATION

FORM TWO GEOGRAPHY

MARKING SCHEME

1. (a) What are earth movements? (2 marks)
- Earth movements are motions that occur on crustal rocks due to tectonic forces*
- (b) Apart from isostatic adjustment, give three other causes of earth movements. (3 marks)
- *Magma movements within crustal rocks.*
 - *Convection currents in the mantle.*
 - *Gravitative pressure acting on some crustal rocks.*
- (b) Explain how Isostatic adjustment causes earth movements. (4 marks)
- *Isostasy is the state of balance existing between the sial and the sima.*
 - *When intense erosion occurs on continents, the continents become thinner and lighter.*
 - *Rivers transport the eroded sediments and deposit them on the oceanic crust (sima) causing thick layers that make the sima layer to sink towards the mantle.*
 - *Sinking of the sima disrupts the isostasy causing the lighter continents to rise leading to vertical earth movements.*
2. (a) Name **three** types of tectonic plate boundaries. (3 marks)
- *Extensional/Constructive/divergent.*
 - *Compressional/Destructive/convergent.*
- (b) State **four** reasons why it is important to study plate tectonics theory. (4 marks)
- *It helps one to understand the formation of landforms such as Fold Mountains and Rift valleys.*
 - *It explains the frequent occurrence of major earthquakes in some areas.*
 - *It explains the causes of major volcanic eruptions.*
 - *It helps to explain the destruction of some structural landforms.*
 - *It explains the current position of continents.*
 - *It helps to understand how the earth maintains balance/isostasy.*
3. Describe the continental drift theory. (6 marks)
- *According to Alfred Wegener, the world was initially a single land mass called Pangaea.*

- *Pangaea was surrounded by a sima floored ocean called Panthalassa.*
- *The two super continents were separated by a narrow ocean called Tethys Ocean.*
- *Pangaea split during the late pre Cambrian to form two super continents: Laurasia to the North and Gondwanaland to the South.*
- *Laurasia split to form North America and Eurasia.*
- *Later, Gondwanaland split to form Africa, South America, Australia, Antarctica Arabia and India.*
- *The Americas drifted westwards while Australia drifted eastwards.*
- *Africa and India drifted northwards while Antarctica and Eurasia remained relatively static.*

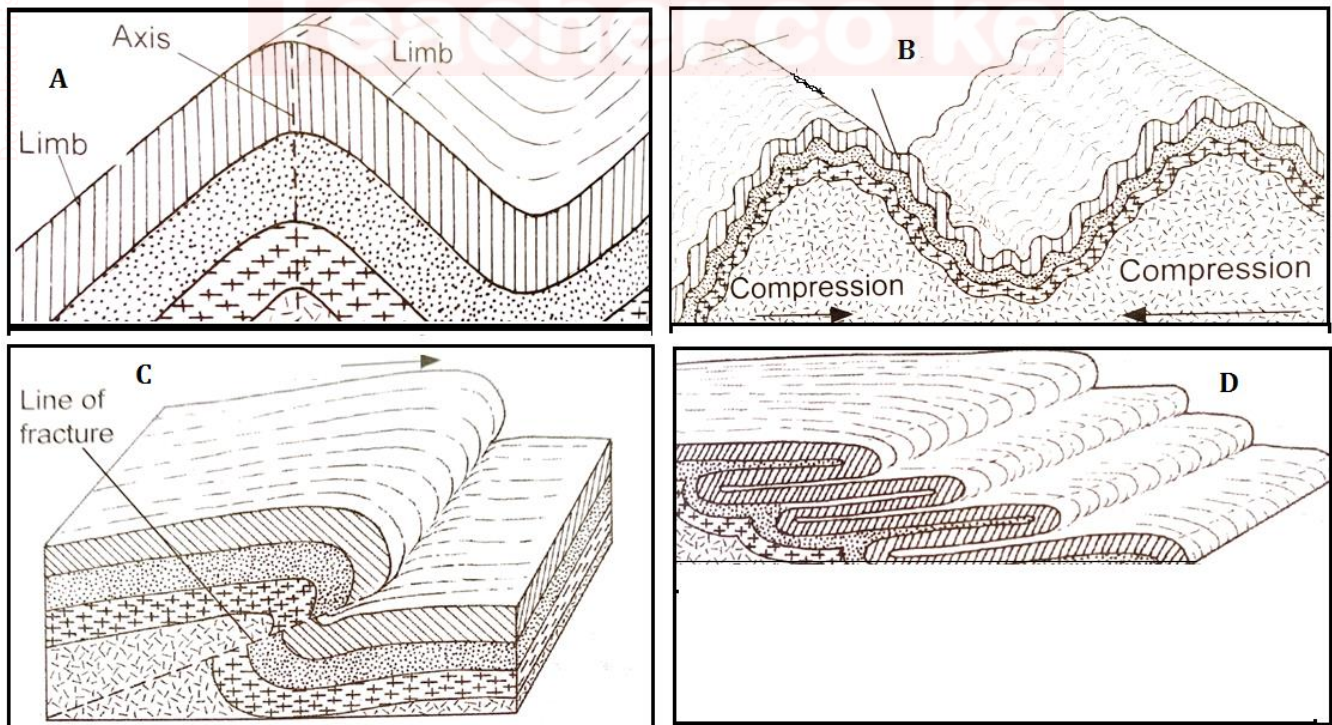
4. (a) Differentiate between folding and faulting. (2 marks)

Folding is the process through which crustal rocks bend upwards and downwards due to compressional forces whereas faulting is the process through which crustal rocks fracture due to tectonic forces such as tension, compression or shear.

- (b) State **three** factors that determine the degree of folding. (3 marks)

- *The strength of the compressional forces.*
- *The type of crustal rocks.*
- *The degree of resistance of the rocks.*
- *The age of the crustal rocks.*
- *The amount of rocks involved.*

5. The diagram below shows some types of folds



- (a) Identify the types of folds marked **A, B, C** and **D**. (4 marks)

- ***A – Symmetrical fold***

- **B – Anticlinorium – synclinorium complex**
- **C – Over thrust fold**
- **D – Recumbent fold.**

(b) Apart from the plate tectonics theory, give **three** other theories of Fold Mountain formation. (3 marks)

- **Contraction theory.**
- **Continental drift theory.**
- **Convection currents theory.**

(c) Explain plate tectonics theory as a theory of Fold Mountain formation. (6 marks)

- **According to the plate tectonics theory, Fold Mountains are formed when two tectonic plates meet along a compressional boundary.**
- **When two continental plates meet, the materials along their margins are squeezed into Fold Mountains Such As Himalayas.**
- **When an oceanic plate meets a continental plate, the edge of the heavier oceanic plate sinks beneath the continental one (subduction). Along the subduction zone, materials at the bottom of the ocean together with the materials at the edge of continents are squeezed into Fold Mountains such as Andes and Rockies.**

6. (a) Name a country where the following fold mountains are found:

(i) Alps Mountains (1mark)

Switzerland, France, Italy, Austria, Slovenia, Germany

(ii) Himalayas Mountains (1mark)

China, Nepal India, Russia, Afghanistan, Pakistan, Bhutan

(b) Explain **four** economic importance of Fold Mountains. (8 marks)

- **Windward slopes of most fold mountains receive high orographic rainfall which supports crop farming.**
- **Fold mountain scenery and snowcapped slopes are important tourist attractions with some slopes favouring winter sports such as skiing and ice skating, e.g Swiss Alps.**
- **Slopes of some Fold Mountains have valuable minerals formed during regional metamorphism thus are exploited and sold.**
- **Fold Mountains are vital water catchment areas due to melting of snow and high rainfall thus giving rise to some major rivers that supply water for many economic activities.**
- **Windward slopes of most fold mountains receive high orographic rainfall which supports the growth of key forests thus key lumbering areas e.g. Rockies slopes in British Columbia in Canada.**