Term 1 - 2023

GEOGRAPHY

MARKING SCHEME

FORM TWO

TIME: 2½ HOURS

**SECTION A**

1. a) What is the time at station Y 30oW when the time at point Z 20oE is 4.00 p.m.

30 + 20 = 50o

1o = 4 min

50o = ?

50 x 4 = 200 = 3 hrs 20 min

60

Time at Y = 4.00

+ 3.20

7.20 p.m. (2 mks)

b) Three effects of revolution of the earth.

* Changes the position of midday sun at different types of the year
* Varying length of day and night
* Causes lunar eclipse
* Causes four seasons

(Any 3 x 1 = 3 mks)

2. a) Effects of the following forces on the shape of the earth.

i) Centrifugal force – causes bulging at the equator

ii) Centripetal force – pulls poles towards each other and causing flattening

iii) Gravitation force – pulls towards the centre causing rounding effect

(3 x 1 = 3 mks)

b) Why the interior of the earth is hot.

- Pressure exerted by overlying rock masses

- Radioactivity/Radioactive decay

* Process of cooling – outer part cooled faster than inner part therefore inner part retains much of original heat

(Any 2 x 1 = 2 mks)

3. Conditions for formation of dew.

* Daytime should be warm to accelerate evaporation for provision of water vapour
* Calm air so that air can remain in contact with ground long enough to be cooled below its dew point
* A cloudless night as this accelerates the rate at which the earth loses the heat during the night

(3 x 1 = 3 mks)

4. Characteristics of extrusive rocks.

* Forms small crystals
* Fine grained/fine texture
* Some are porous
* Cooling and solidification is extremely rapidly

(3 x 1 = 3 mks)

5. a) Reasons why it is necessary to study the plate tectonic theory.

* It explains the current position of continents
* Enables one to understand the creation of structural landforms
* Explains the destruction of structural landforms
* Helps one to understand how the earth maintains balance/isostacy
* Explains the causes of earthquakes/volcanicity

(Any 2 x 1 = 2 mks)

b) Name two types of tectonic plate boundaries.

* Divergence/Extension/Constructive
* Convergence/Compressional/Destructive
* Transform/Conservative

(Any 2 x 1 = 2 mks)

**SECTION B**

6. a) Types of maps studied in geography.

* Topographical maps
* Atlas maps
* Sketch maps

(3 x 1 = 3 mks)

b) Ways of locating places on maps.

* Use of place names
* Use of latitudes and longitudes
* Use of grid references
* Use of direction/bearing/distances

(3 x 1 = 3 mks)

c) Marginal information on a map sheet.

* Map series
* Sheet name/title
* Sheet index number
* Grid system
* Scales
* Key
* Edition/publisher/copyright
* Latitudes and longitudes

(Any 4 x 1 = 4 mks)

d) i) The total annual rainfall

2038mm (2 mks)

ii) Wettest month

July (1 mk)

iii) Annual range of temperature

30 – 23 = 7oc (2 mks)

iv) Mean annual rainfall

2038 12 = 169.83mm (2 mks)

v) The hottest month

October (1 mk)

e) Instruments which could have been used to collect the data in the table above.

* Rain gauge
* Thermometer

(2 x 1 = 2 mks)

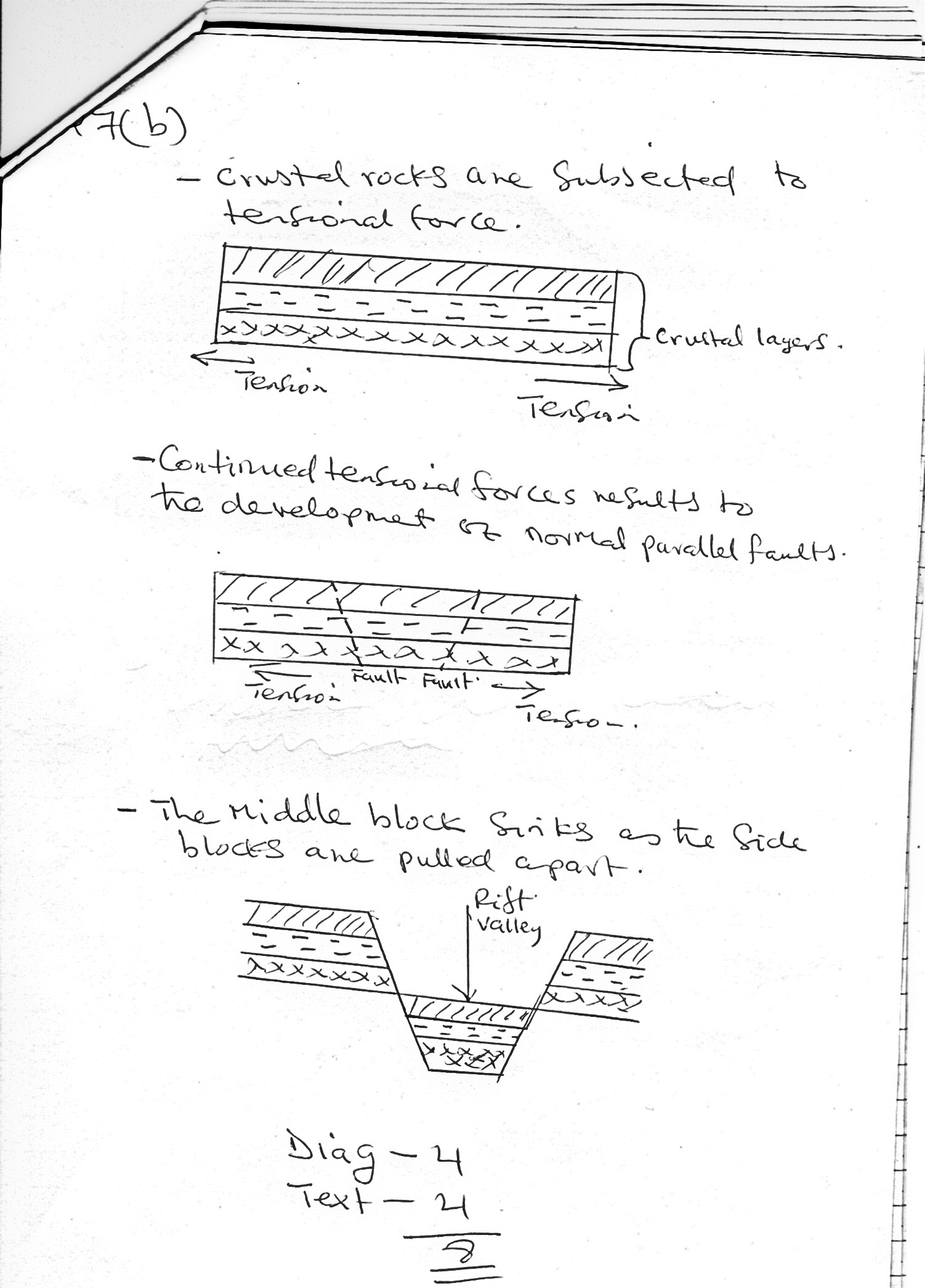
7. a) Relief features formed as a result of faulting.

* Tilt block
* Escarpment/fault scarp
* Block mountain/horst
* Fault steps

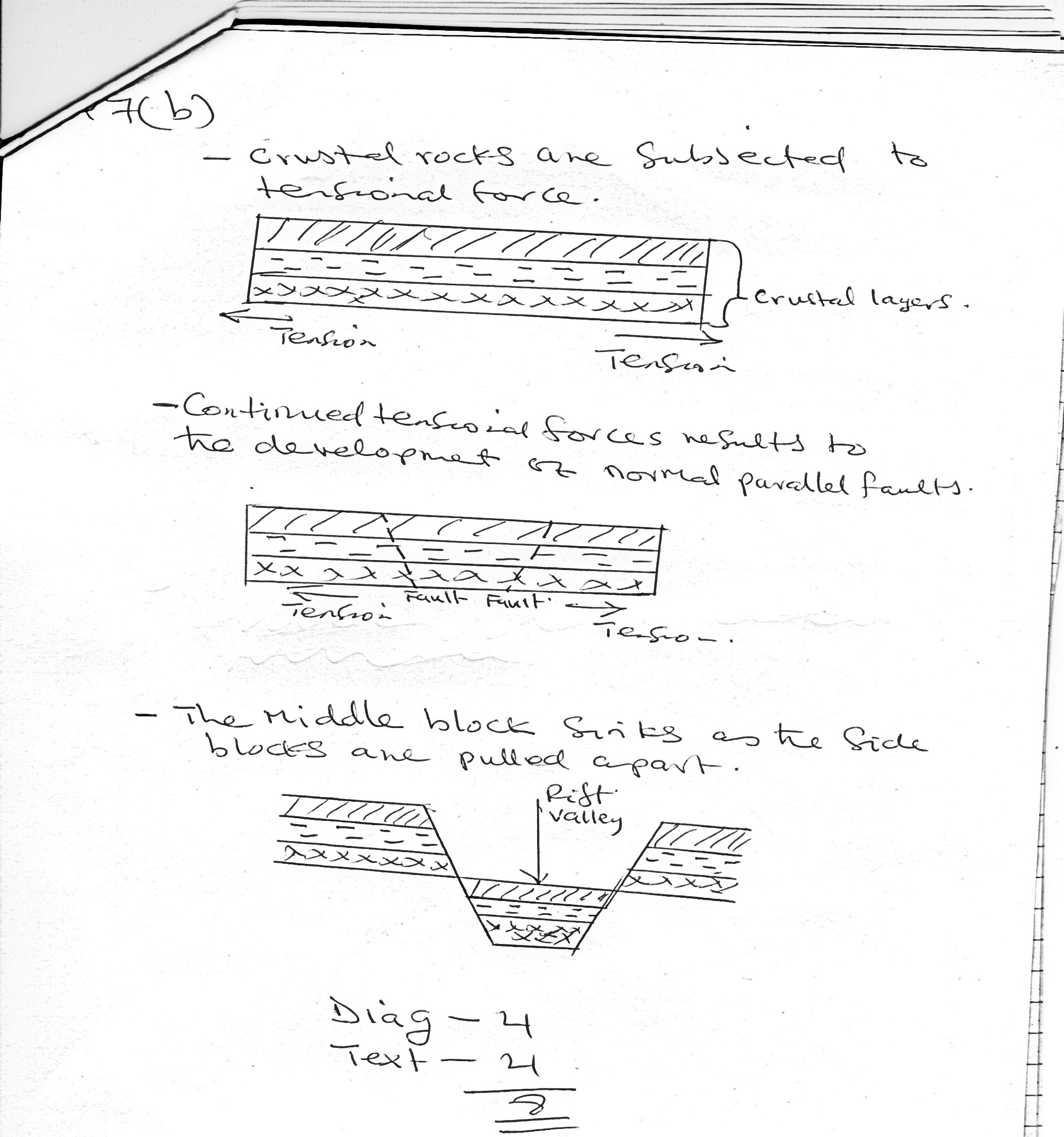
(Any 3 x 1 = 3 mks)

b) Formation of rift valley through tension force.

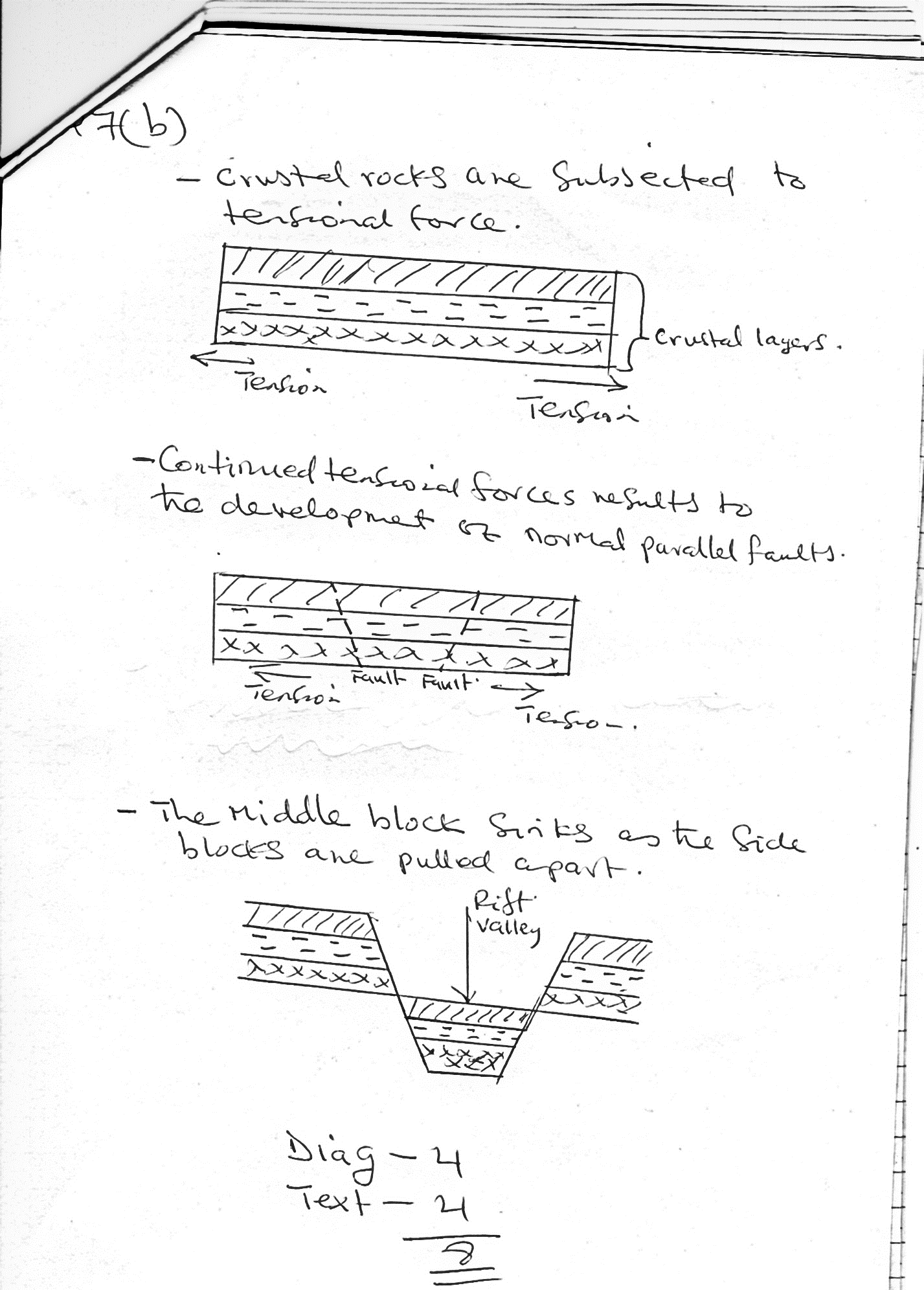
* Crusted rocks are subjected to tension force



* Continued tensional forces results to the development of normal parallel faults.



* The middle block sinks as the side blocks are pulled apart.



Diag – 4

Text – 4

8

c) Reasons why it is important to carry out a pre-visit.

* To familiarize with the area of study
* To enable them draw a route map
* Enables them to prepare a work schedule
* Enables them to identify the relevant tools/equipment of study
* Enables them to prepare financially/estimate cost
* Enables them to estimate time for the study
* Enables them to contact people whose assistance will be needed during the study
* To assess the suitability of the area for the study
* Enables them to draw objectives/hypothesis
* Enables them to identify suitable method of data collection
* Enables them to identify the possible problems and look for solution in advance

(Any 4 x 1 = 4 mks)

8. a) i) Three features found in rift valley of Kenya.

* Hot springs
* Crater/caldera/crater lake
* Volcanic cones/mountains
* Lava plateaus/plain
* Plug dome/spines
* Ash and cinder cones
* Fumuroles/solfatara

(Any 3 x 1 = 3 mks)

ii) Two negative effects of vulcanicity in Kenya.

* Some volcanic features create barriers making construction of transport and communication lines expensive
* Rugged nature of volcanic landscapes make settlement and agriculture difficult
* Volcanic mountain range create a rain shadow effect which result in aridity
* Recent volcanic lava flows have poorly developed soils unsuitable for agriculture

(Any 2 x 1 = 2 mks)

iii) Describe the characteristic of composite volcano.

* It has a vent or pipe
* It is composed of alternating layers or ash/and lava
* It is conical in shape/steep sided
* It has side vents
* It has conelets/parasitic cones on the sides
* At the peak it may have caldera/crater/plug

(Any 3 x 1 = 3 mks)

b) i) Name two types of earthquake waves.

* Primary/push/p-waves
* Secondary/shear/s-waves
* Longitudinal/l-waves

(Any 2 x 1 = 2 mks)

ii) Five ways in which the earth’s crust is affected by earthquake.

* Earthquake cause lateral/vertical displacement of rocks
* They cause raising/lowering/uplifting and warping of parts of the sea floor
* Cause raising/lowering of land
* They cause landslides/slumps
* They lead to faulting of the crust
* They lead to volcanic eruptions

(Any 5 x 1 = 5 mks)

9. a) What is a rock?

* A rock is an aggregate of mineral particles forming part of the earth’s crust.

(2 mks)

b) Classify the rocks listed in the table below.

|  |  |
| --- | --- |
| **Name of rock** | **Class** |
| Marble | Metamorphic |
| Gneiss | Metamorphic |
| Peridotite | Igneous |
| Sandstone | Sedimentary |
| Granite | Igneous |

(5 x 1 = 5 mks)

c) i) Methods of estimating the age of rocks.

* Radio-carbon dating
* Relative dating
* Absolute dating

(Any 2 x 1 = 2 mks)

ii) Factors that influence metamorphism in rocks.

* Resistance of the rock to crushing
* Grain size of the rock being changed
* Porosity of the rocks
* Solubility of the constituents of the rocks
* Chemical action of the minerals
* Stability of the minerals that are produced

(Any 4 x 1 = 4 mks)

d) Characteristics of sedimentary rocks.

* They are stratified
* They contain fossils
* They are non-crystalline
* They are formed from sediments
* They are formed from sediments of pre-existing rocks

(Any 2 x 1 = 2 mks)

10. a) i) Examples of non-metallic minerals.

* Diatomite
* Coal
* Soda ash
* Soap stone
* Fluorspar
* Limestone
* Gemstone
* Salt

(Any 2 x 1 = 2 mks)

ii) Minerals mined in the following areas in East Africa.

1. Kereita in Limuru Kenya – Carbon (IV) oxide
2. Geita in Tanzania – Coal
3. Kilembe in Uganda – Copper

(3 x 1 = 3 mks)

b) Describe how shaft mining is carried out.

* Vertical shafts are sunk beneath the earth’s crust to the mineral deposit
* Horizontal tunnels are dug to reach the minerals
* Props/beams are erected to the support of the roof of the tunnel
* Mineral is dug, blasted or drilled
* Minerals are transported by rail tracks or conveyor belts from the bottom to the surface

Sequence must be followed (5 x 1 = 5 mks)

c) Name three conditions necessary for the formation of petroleum.

* Pressure of sedimentary rocks
* Presence of organic remains and fossils
* Presence of porous rocks
* Presence of non-porous rocks
* Presence of pressure to compress the organic remains

(Any 3 x 1 = 3 mks)

d) State two effects of mining on environment.

* Pollution from poisonous gases and dust causing respiratory diseases
* Dereliction of land
* Mining leads to soil erosion
* Loss of biodiversity

(Any 2 x 1 = 2 mks)