

17) a) Explain three determinants of weathering.

(6 marks)

b) Distinguish between weathering and erosion.

(4 marks)

18) Discuss the significance of folding to man.

(10 marks)

SECTION C:

Teacher's guidance.

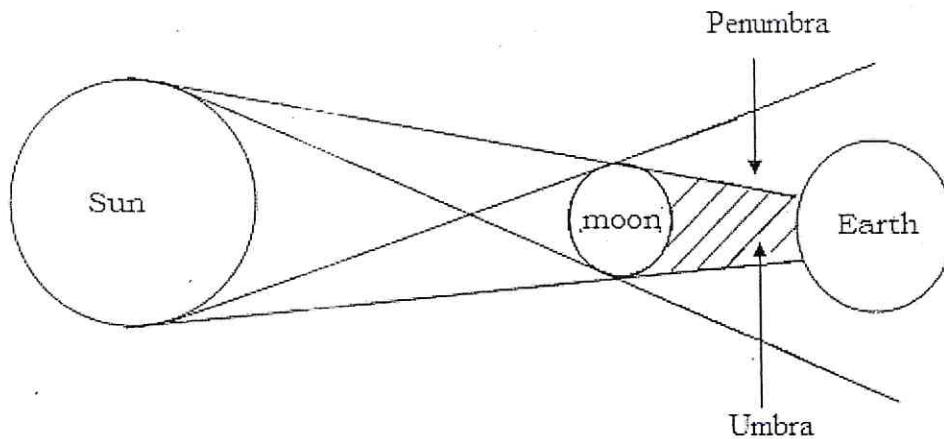
2017 GEOGRAPHY PAPER 1 ANSWER KEY

1. A **galaxy** is a giant family of billions of stars, dust, gases in the sky held together by the forces of gravity. **Constellation** is a group of celestial bodies (stars) that form a pattern in the sky.

2. - Forces of gravity which pull everything to the center.
- Centripetal force
- Centrifugal force
- Rotation of the earth.

3. - It has dense rocks
- Its composed of silica and magnesium (SIMA)
- Has dark colored rocks
- Composed of basaltic rocks
- Forms the oceanic bed
- It is thinner
- It is a young crust
- It is subdivided under the continental crust
- It covers the largest part of the earth crust (60 – 70%)

4.



A solar eclipse occurs when the moon passes between the sun and the earth and blocks the sun's rays from reaching the earth.

5. a) *Global warming* is the gradual increase in temperature of the earth's atmosphere as a result of green house effect.

b) *Relative humidity* is the ratio of the amount of water vapour present in a given volume of air at a particular temperature and maximum amount of water vapour that air can hold at the same temperature.

$$R.H = \frac{\text{Actual vapour density}}{\text{Saturation vapour density}} \times 100$$

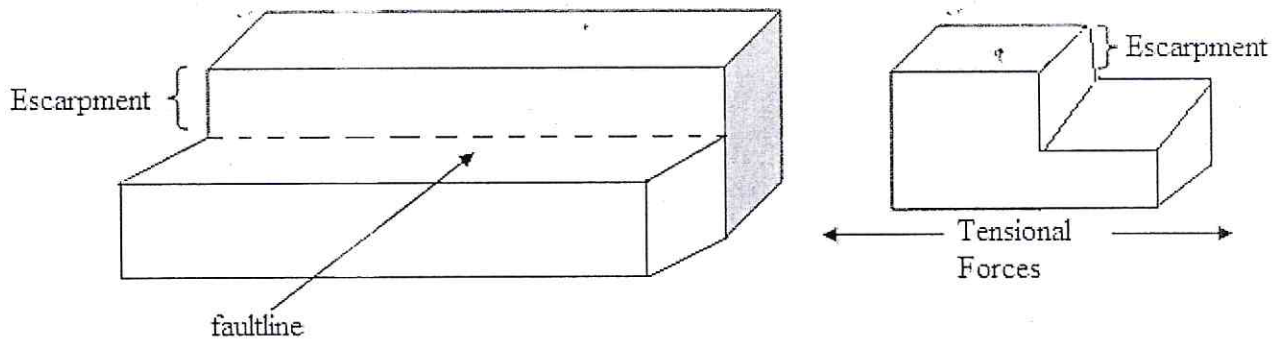
6. a) i) The white color helps to reflect the sun's light from reaching inside the screen.

ii) For free circulation of air.

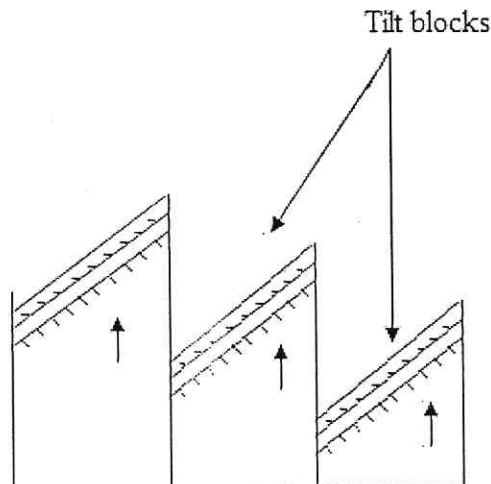
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b) Climate is the average weather condition of a place which is recorded over a long period of time. Weather is the state of the atmosphere recorded over a short period of time.

7. a) An escarpment: is a steep rock face along a faultline which results from vertical displacement of rocks along a fault.



b) Tilt block: Is a landscape of angular ridges and expressions formed by tilted blocks which result from differential uplifting of the faulted region.



- 8. - Formation of a block mountain which becomes a source of rivers that flow to different directions hence radial drainage pattern.
- Formation of depression into which rivers flow forming centripetal drainage pattern.
- Formation of fault-guided valleys which result into fault-guided drainage pattern.
- Uplifting of land caused by faulting leads to river reversal which results into the formation of a hooked drainage pattern.
- Faulting leads to the development of rectangular rock jointing forming trellis drainage pattern.
- Faulting forms parallel faults through which rivers flow forming parallel drainage pattern.

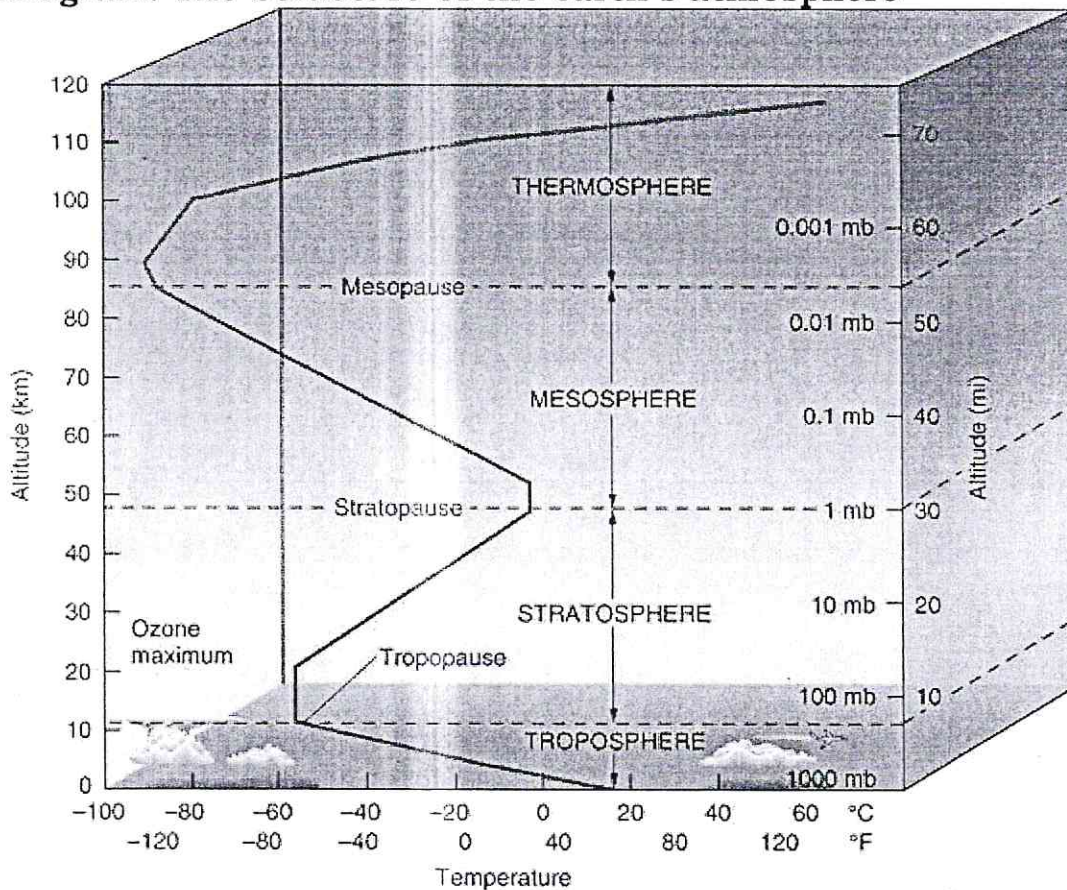
<p>9. - Nitrogen - Oxygen - Carbon dioxide - Ozone - Methane</p>	<p>10. a) surface runoff: Is excess water that flows over the ground surface b) Infiltration: Is a process where water soaks into the subsurface soil c) Transpiration: Is the process of water by plants into the atmosphere.</p>
<p>11. a) Heavy rainfall, ice and snow melting, earthquakes occurring in water bodies, vegetation clearance, blockage of rivers by landslides, failure of dams on major rivers.</p>	<p>11. b) soils are light colored, are shallow, are sandy, have low organic matter due to limited vegetable cover, are dry, are saline/salty, are porous, can easily be washed by water (erosive)</p>
<p>12. a) - Are formed due to solidification</p>	<p>12. b) - Formation of rift valley lakes/graben lakes</p>

<p>of molten matter</p> <ul style="list-style-type: none"> - Are not stratified - They do not have fossils - They are dark in color - They are hard rocks - Their chemical composition varies e.g. basic acidic. - They contain minerals. 	<ul style="list-style-type: none"> - Formation of water falls on escarpments - Formation of Horsts which are sources of rivers - Formation of fault-guided valleys with fault guided rivers - Leads to river capture and river rejuvenation - Formation of rift valley lakes which are sources of rivers - Leads to the development of drainage patterns - Disappearance of rivers in the fault lines - Leads to river reversal due to uplifting of land.
<p>13. a) - They represent both physical and human features.</p> <ul style="list-style-type: none"> - They have reference relief by use of contours - They possess the elements of a good map i.e. key, scale, Title, compass, frame - They are drawn on scale - They are large scale maps 	<p>b) - steep slopes shown by thick and close hachures.</p> <ul style="list-style-type: none"> - Gentle slopes shown by thin and widespread hachures .

SECTION B:

14.

Diagram: The Structure of the earth's atmosphere

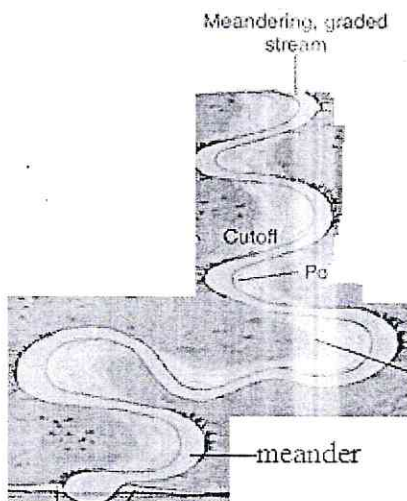


- The atmosphere is an envelope of gases held onto the earth's surface by gravitational force.
- It is made up of gases like nitrogen, oxygen, water vapor, carbon dioxide, methane, nitrous oxide, and ozone.
- The atmosphere is divided into various zones (layers) according to the temperature profile e.g. Troposphere, stratosphere, thermosphere, exosphere

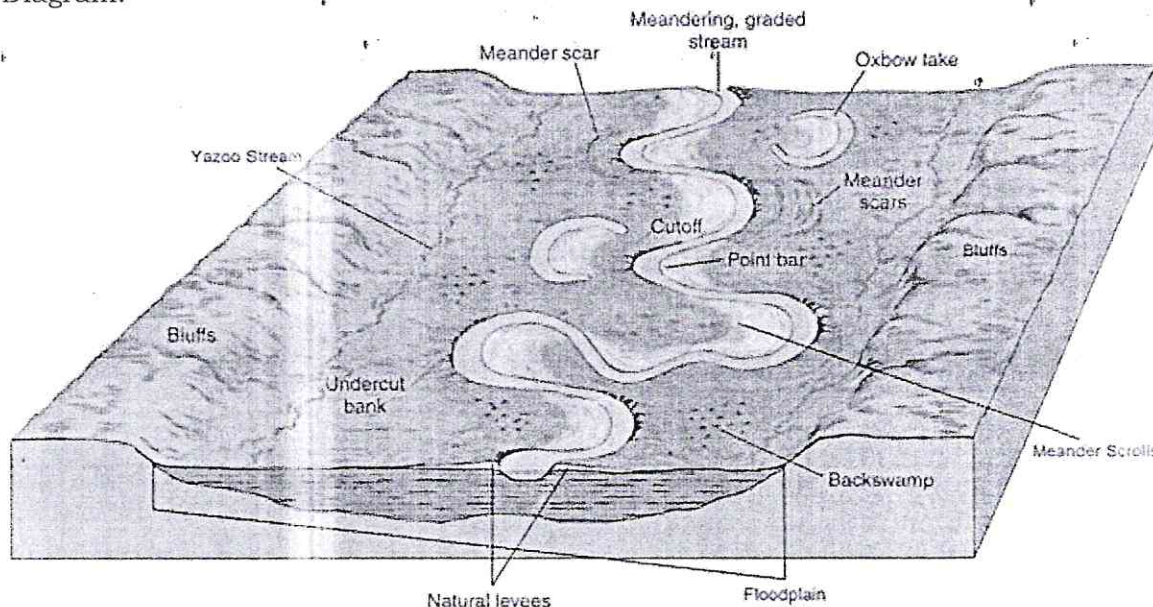
- The troposphere is the ground most layer which begins from the sea level to about 12km in space. In this layer, temperature decreases with increasing altitude and it is where most atmospheric processes take place.
- The troposphere is separated from the stratosphere by the tropopause layer.
- The stratosphere is the second layer after the troposphere which begins from the tropopause boundary and it extends to about 50km. Here temperature increases with altitude.
- The stratosphere contains the ozone layer which filters the sun's harmful ultraviolet rays.
- The mesosphere is separated from the mesosphere by a transitional zone called stratopause.
- The mesosphere is the third atmospheric layer after the stratosphere and it extends from this layer upwards to about 80km. In this layer, temperatures decrease with altitude reaching about -101°C at the mesopause.
- The thermosphere then starts from the mesopause and continues to the upper limit of the atmosphere. It has the ionosphere with high concentration of ions. Here temperatures increase with altitude.
- Exosphere: It is above the thermosphere and rises up to 60,000 miles (10,000km) from the ground. It has less molecules.

15. a) (i) Meander: Is a bend in the course of the river. It is formed as a river swings and water erodes the outer bank and deposits materials in the inner bank.

Diagram: Meander



- (ii) Ox-bow lake is a horse shoe shaped lake formed in the flood plain when a meander loops has been cut off from the main river by deposits of alluvium
Diagram:



- b) - Rivers provide water for domestic use
 - Rivers provide water for irrigation
 - Rivers promote water for transport
 - Rivers provide fish (Fishing grounds)
 - Rivers facilitate construction of HEP dams
 - Provision of building materials
 - Rivers provide grounds for research

17. a)

- Nature of rocks
- Climate
- Plants and animals (living organisms)
- Relief
- Time factor
- Man's activities
- Volcanic activity

- b) - Weathering is the breakdown and decay of rocks in situ, below or on to the earth's surface
 Erosion is the removal of rock particles.
 - Weathering doesn't involve movement of materials while erosion involves movement of materials.
 - Weathering involves physical, chemical and biological processes while erosion involves sheet, rill, gully, deflation types.

16. a) - Moderate rainfall (860 mm per annum) in hot seasons

- Alternate wet and dry seasons
- Trade winds bring rainfall to the eastern coast land
- Is a traditional climate between equatorial and desert climate
- Hot days and cold nights due to clear blue skies.
- High temperature throughout the year
- Hot summers of 30°C and cold summers with temperature of 20°C.
- Terrestrial radiation is rapid
- Variation of rainfall depending on vegetation and water bodies.
- Low level of relative humidity.

b) - Promotes ranching.

- Indigenous trees are planted e.g. acacia for lumbering.
- Wildlife conservation is carried out for tourism
- Provide research grounds
- Promotes settlement
- Source of medicine
- Promotes livestock rearing
- Promotes charcoal burning and firewood collection
- Promotes bee keeping.

18. **Positive:**

- Some fold lands are rich in minerals
- Fossil fuels e.g. petroleum are found in folded sedimentary rocks.
- Fold mountains offer beautiful scenery that attract tourists.

- They form water catchment areas and are sources of rivers.
- Folding forms lakes in depression between mountains.
- Folding brings minerals closer to the surface
- Fold mountains form relief rainfall on the windward side which favors forest growth.
- Fold mountains form political boundaries.
- Fold mountains form grounds for scientific research
- Ice capped mountains promote sporting activities.
- Foot hills of fold mountains have fertile soils for agriculture.

Negative:

- Folding may bury minerals under synclines/anticlines
- The leeward side of the Fold Mountains is dry.
- Folding causes fracturing and weakening of rocks resulting into volcanic eruption that destroys life and property.
- Fold Mountains are barriers to transport and communication lines.
- Fold Mountains limit mechanized agriculture.
- Landslides occur on steep slopes of fold mountains
- Ice capped fold mountains discourage settlement
- Soil erosion is common on steep slopes of fold mountains
- Flooding on the windward slopes of Fold Mountains due to heavy relief rainfall.

SECTION C:

Teacher's guidance.