1- (A) or (B) **(1 Mark)**

(A) Reverse fault. **(P. 1, Ch. 1, Pg. 15)**

(B) Joints. **(P. 1, Ch. 1, Pg. 16)**

2- (A) or (B) **(1 Mark)**

(A) d) Concoidal fracture **(p. 1 ch. 2 pg. 31)**

(B) b) Kaolinite **(p. 1 ch. 2 pg. 28)**

3- (A) or (B) **(1 Mark)**

A)These types of structures, remain in rocks of the crust under the influence of climatic and environmental conditions and without any interference of tectonic forces or earth movements.

(p. 1 ch. 1 pg. 11)

B) The atmospheric pressure decreased as we go higher from the earth's surface to be low as one half of its value for every 5.5 km high. **(P. 1, Ch. 1, Pg. 10)**

4- **(1 Mark)**

Red algae, cannot make its food, it can manufacture its food at 25 meter depth **(P. 1, Ch. 1, Pg. 100)**

5- **(1 Mark)**

Aerating soil and make nitrogen available to nodular bacteria.

(P. 2, Ch. 1, Pg. 116)

6- **(2 Marks)**

(P. 1, Ch. 5, Pg. 89)

	Fresh water lakes	Saline lakes.
Mode of formation	as a result of sea regression or drop of sea water, then turned river stream and torrents to the sea In the craters of volcanoes which subsided then filled with rain water and torrents.	result of grow of coral reefs or deposition of barriers that closed bays or arise on land

7- **(2 Marks)**

a) Converging motion.

b) where the density of two plates are different.

c) as Andes mountain in southern America - Mediterranean sea. (one example only) **(P. 1, Ch. 4, Pg. 62)**

8- **(2 Marks)**

The concentration of the salts dissolved in the sea water varies according to the quantity of rain or falling water from river mouths of polar glacier and the extent of evaporation due to the prevailing temperatrue. (1 Mark)

Saltiness is increased to 40gm/liter or more as it is the case in the Red Sea and the Arabian Gulf. (½ mark)

On the contrary, the salt concentration decreases in some seas to reach 20 gm/liter or less as in the case in the North and Baltic Seas.

(½ mark) (P. 2, Ch. 1, Pg. 103)

9- **(1 Mark)**

a) The crystal axis

b) Angels betwean axis.

c) The crystal symmetrical plane.

(two points only)

(P. 1, Ch. 2, Pg. 27)

10- (A) or (B) **(1 Mark)**

(A) alluvial cone (alluvial fan) **(P. 1, Ch. 5, Pg. 79)**

(B) suspended load **(P. 1, Ch. 5, Pg. 80)**

11- **(1 Mark)**

d) Native elements minerals. **(P. 2, Ch. 1, Pg. 25)**

12- **(1 Mark)**

Quartz becomes purple or violet.

Or amethyst. **(P. 1, Ch. 3, Pg. 28)**

13- **(2 Marks)**

	Producers	decomposers
similarity	They are living factors	
difference	*the green plants *that convert the solar energy into chemical energy stored in the food through the process of photosynthesis.	*bacteria and fungi They taken from the dead bodies of other organisms their food where it decomposes bodies extracting energy from it and leaving minerals and other components that go to the soil.

(P. 2, Ch. 1, Pg. 97)

14- **(1 Mark)**

Through the study of these waves:

- **The scientists discover Earth's interior structure core**
- **Can determine the earthquake foci.** **(P. 1, Ch. 4, Pg. 65)**

15- **(1 Mark)**

Where the conditions are suitable for landfilling (rapid burial) of plant remains in the absence of oxygen (reducing environment).

(P. 1, Ch. 3, Pg. 47)

16- (A) or (B) **(2 Marks)**

(A) **(P. 2, Ch. 2, Pg. 119)**

Grazing in weed areas	Grazing in the area of shrubs and trees.
Leads to erodes the vegetation and the rule of species unpalatable or the complement their life cycle in a short period so the animal doesn't able to eat it.	causing an increase in the number and size of these shrubs as a result of the removal of the weeds which compete it on the water.

(B) **(P. 2, Ch. 1, Pg. 116)**

Organic fertilizers	Chemical fertilizers
it activates living organisms in the soil and enters into the food chains thus giving the soil desirable physical characteristics.	led to the deterioration of the soil and made it more liable to erosion.

17- **(1 Mark)**

a- Permian Period Or Paleozoic Era **(P. 1, Ch. 4, Pg. 53)**

b- Mesozoic Era **(P. 1, Ch. 4, Pg. 57)**

18- **(2 Marks)**

- **The living plankton move up to the surface or descend to the sea floor daily the roaming Crustaceans for example, are affected by ultraviolet light, thus it keeps all day under a depth of about 27 meters and migrate to the surface during the night. (1 Mark)**
- **Some fishes leave the deep to the shallow waters to lay eggs during night and return to the deep waters during the day. (1 Mark)**

(P. 2, Ch. 1, Pg. 102)

19- (A) or (B) **(1 Mark)**

(A) Dinosaurs. **(P. 1, Ch. 1, Pg. 18)**

(B) Iron or nickel . **(P. 1, Ch. 1, Pg. 10)**

20- (A) or (B) **(1 Mark)**

(A) carving of limestone rocks surfaces due to rainfall to form a set of grooves including low-rise grove **(P. 1, Ch. 5, Pg. 78)**

(B) oxidation process occurs. **(P. 1, Ch. 5, Pg. 74)**

21- (A) or (B) **(1 Mark)**

(A) Living marine organisms produce carbon dioxide gas in its respiration, which is used by the marine plants in the process of photosynthesis which produces the oxygen gas which is necessary for respiration. **(P. 2, Ch. 1, Pg. 99)**

(B) due to the elongation of the stem cells far away from the light more than cells that face the light. **(P. 2, Ch. 1, Pg. 100)**

22- **(1 Mark)**

Sliding (transform) plate motion. **(P.1, Ch. 4, Pg. 61)**

23- **(1 Mark)**

Provide food for cattle herds which a man raise it and depending on it as an animals' wealth which provide him with protein

(P. 2, Ch. 2, Pg. 119)

24- **(1 Mark)**

a) increased light intensity & reduction in relative humidity.

(P. 2, Ch. 1, Pg. 101)

25- **(2 Marks)**

a- Oil shale (Kerogen) – an important source of energy

(P. 1, Ch. 4, Pg. 47)

b- Marble - using marble as one of the ornamental stones

(P. 1, Ch. 4, Pg. 48)

26- **(2 Marks)**

Calcite	Quartz
*$CaCO_3$ (calcium carbonates) *has rhombohedra cleavage.	*SiO_2. (Silicon dioxide) * has no cleavage. (P. 1, Ch. 2, Pg. 31)

27- **(2 Marks)**

a- (1) precipitation process (2) erosion process. **(1 Mark)**

(P. 1, Ch. 5, Pg. 74)

b- increasing the curvature of the river occurred where increases in the erosion the outer side of the path of the water and increase of the sedimentation in the inner side of the river that side cut a new path, leaving oxbow lake (1 Mark) (P. 1, Ch. 5, Pg. 81)

28- (A) or (B) **(1 Mark)**

(A)Eroding the agricultural land. **(P. 2, Ch. 2, Pg. 117)**

(B) Humus. **(P. 2, Ch. 2, Pg. 118)**

29- **(1 Mark)**

d) sedimentation effect of seas. **(P. 1, Ch. 5, Pg. 87)**

30- **(1 Mark)**

An evidence of the paleoclimate which supporting continental drift theory. Or indicates that these regions were in environments differ than the environments formation. **(P. 1, Ch. 4, Pg. 59)**

31- **(1 Mark)**

The mountains rise up and earth crust regain its balance.
Or isostatic Equilibrium (Isostatic Balance). **(P. 1, Ch. 4, Pg. 55)**

32- **(1 Mark)**

a- Malachite. **(P. 1, Ch. 2, Pg. 28)**

b- Sphalerite **(P. 1, Ch. 2, Pg. 28)**

33- **(2 Marks)**

a) (c) Anticlines Fold The layers are concaved upward or its oldest layers are found in the center (1 mark)

b) (A)normal fault (½ mark)

c) structure (B) (½ mark)

(P. 1, Ch. 1, Pg. 13)

34- (A) or (B) **(2 Marks)**

(A) Any ecosystem is complicated to a certain degree. This is because of its components of physical and chemical factors and variety of living organisms, and its mutual intricate relationships between these organisms on one side and between them and the nonliving factors on the other side.

(P. 2, Ch. 1, Pg. 98)

(B) depend on the blood of its preys as a source of water.

Have big ears so that it can collect sound waves from far distances in additions to their participation in the dissipation of the body heat. (P. 2, Ch. 2, Pg. 111)

35- **(1 Mark)**

It is containing minerals of Monazite (containing radioactive uranium) ilmenite and Zircon (mineral of zirconium element) which are used in Ceramics industry.
Or it's characterized by the presence of black sand that containing mineral deposits of economic value, such as gold, diamond,tin and limonite.

(P. 1, Ch. 5, Pg. 84)

36- **(2 Marks)**

Source rocks	Reservoir rocks
fine grained muddy sediments contains animal and plant remains of marine microorganisms, which are deposited to be buried with fine grained muddy sediments away from atmospheric air	The porous reservoir rocks which are made of the sands, sandstone and sometimes limestone.

(P. 1, Ch. 4, Pg. 47)

37- (A) or (B) **(1 Mark)**

(A) Appearance a new volcanic island **(P. 1, Ch. 3, Pg. 43)**

(B) Sills occur. **(P. 1, Ch. 3, Pg. 45)**

38- **(1 Mark)**

d) The water temperature. **(P.2, Ch. 1, Pg. 104)**

39- **(1 Mark)**

As the degree of rocks resistance vary based on the kind of rocks where soft layers of rocks eroded and hard layers remain.

(P. 1, Ch. 5, Pg. 87)

40- **(1 Mark)**

Periodtite Or formation of ultramafic rocks or ultrabasic plutonic igneous rocks. **(P.1, Ch. 3, Pg. 41)**

41- **(1 Mark)**

The crystal symmetrical plane **(P. 1, Ch. 2, Pg. 26)**

42- **(1 Mark)**

Adding water to the mineral composition or minerals that formed rocks and this process lead to chemical decomposition of rocks.

(P. 1, Ch. 5, Pg. 75)

43- (A) or (B) **(2 Marks)**

(P. 1, Ch. 4, Pg. 62)

(A)

	Formation of volcanic island arcs	Formation of Red sea
tectonic motion	Convergent tectonic motion between Two oceanic plates.	Divergent tectonic motion between two continental plates.

(P. 1, Ch. 4, Pg. 64,65)

(B)

Primary seismic waves	Secondary seismic waves.
*They are longitudinal waves *spread very fast and they are the first to reach the seismic monitoring machines seismogram). *They spreads all over solids, liquids and gaseous bodies	*They are transverse (oscillatory) waves *slower than primary waves. *They can't spread in liquids or gases that means they spread only in solid bodies

44- **(2 Marks)**

a- (x-x)Disconformity (½ mark) – (z-z) Nonconformity(½ mark).

(P. 1, Ch. 1, Pg. 15)

b) Quartizite. (1 Mark) **(P. 1, Ch. 1, Pg. 13)**

45- **(2 Marks)**

- **The importance of trees:**
- **It acts as natural filter for carbon dioxide gas**
- **Providing us with oxygen gas.**
- **it acts as wind and torrents breakers**
- **it provides shade and wood.**
- **In the forest, it sheds its leaves periodically. These shaded leaves decompose forming (humus) which nourishes the soil and keeps its fertility.**
- **It ensures almost a constant temperature for wild animals which find in the forest a shelter and a suitable place for its life.**

(P.2, Ch. 2, Pg. 118)

(any four points)