Ch- 4 (Landforms)

Ques / Ans

Q1) What is landform?

A) The term 'landform' may be defined as the surface configuration of the earth. Thus the different shapes of the land surface are called 'Landforms'. The term 'Landforms' may be defined as physical features of area- land on the earth's surface. It describes height, shape, pattern, size and structure of the land. A landform is a natural feature of an land area on the earth's surface. In fact, it gives a total view of landscape, i.e. all the features of a land area.

Q2) Explain the origin and development of Landform?

A) The various landforms on the surface of the earth are produced by the interaction of two processes or forces. These are:

1) Endogenetic Forces: This force is generated in the interior of the earth and causes mountain, plateaus, e.t.c. to subside. These endogenetic forces are also called internal processes. On the basis of intensity, these force can be divide into

Two main groups.

a) Sudden Endogenetic Forces: The main forces in this sub-group are volcanic or of earthquake. Earthquake and volcano are a natural process of readjustment of the earth's crust along a weak zone.

b) Diastrophic Forces: These forces act very slowly. Their effects becomes discernable after thousands of year. The diastrophic forces which are the result of the internal processes are also called Geotectonic Forces or Tectonic movements. This diastrophic forces from the point of view of areas distribution can be divided into two further sub-groups:

i) Epeirogenic Movement: These are vertical movement of the earth's crust. These movements are called the epeirogenic movements after the Greek word 'epeiros' meaning a continent. These movements generally cause rising or sinking of a crust over broad areas without fracturing or folding of the rocks. These movement affect the ancient stable blocks or shields of the earth.

ii) Orogenic Movements: These are horizontal movements of earth's crust. These movements may be

caused By compressional forces of tensional forces. Compressional forces result in the formation of fold mountains. These movements come from the Greek word 'Oros' means mountain. Fold mountains are formed by these movement.

2) Exogenetic Forces: These forces are also called the external processes. The external processes are those which act on the surface of the land. These are the agents of denudation like rivers, glaciers, wind and waves. These agents wear down the rocks on the surface and the difference in the rate of their denudation "processes products different features, like valleys, lowland ridges e.t.c. Hence these forces are also called Graditional Forces.

Q3) What are the types of landforms?

A) Landform may be classified into three major groups; 1) Mountains, 2) Plateaus and 3) Plains.

Q4) What are mountains? What ~~is~~ are the types?

A) A mountain may be defined as a huge landmass on the earth's surface attaining a great height

(above 900m) above the surroundings with a series of ranges and lofty crests and peak.
There are five types :- a) Fold mountain, b) Block mountain, c) Dome mountain, d) Volcanic mountain and e) Residual mountain.

Q5) What are the differences between hill and mountain?

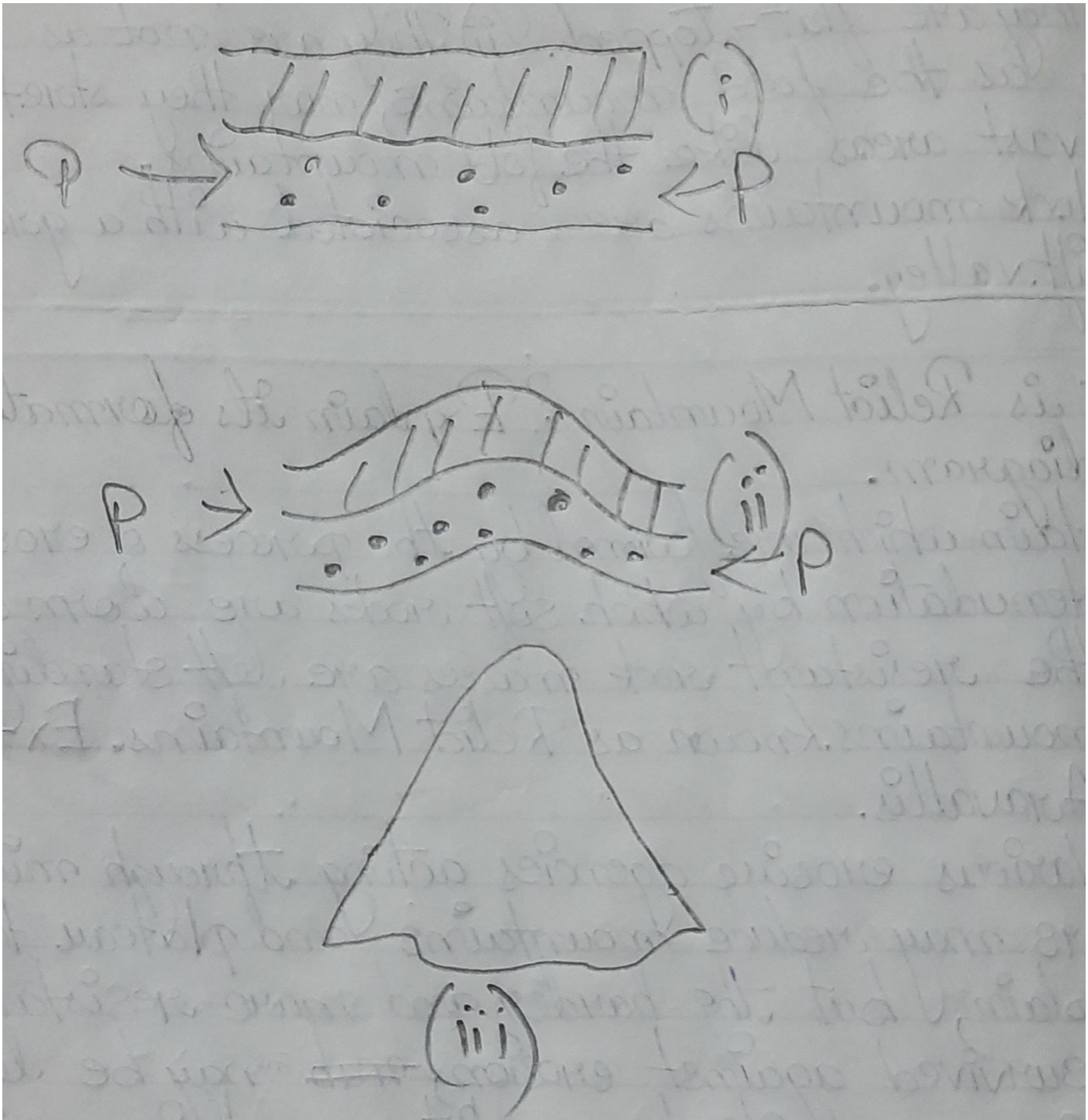
A)

Hills	Mountains
i) A natural elevation of the earth's surface, not so high as mountain, is loosely called hill.	i) A high landmass on the earth's surface, attaining a great height above the surrounding with a series of ranges and peaks is called mountains.
ii) The height of a hill generally ranges from 600m to 1000m.	ii) The height of a mountain is above 1000m.
iii) Hills are not much extensive as mountains.	iii) Mountain are extensively located.
iv) They are gently slopes.	iv) They have more rugged features like steeper slopes and deeper valleys.
v) Hills have rounded peaks.	v) Mountains have sharp peaks.

Q6) What is fold mountain? Explain the formation of fold mountain with diagram.

A) The mountains which are formed by folding of sedimentary rocks strata of the earth's crust due to the forces of compression are known as Fold Mountains, e.g. the Himalayas (Asia), Alps (Europe), Rockies (N. America), Andes (S. America), Atlas (Africa).

Fold mountain are formed due to forces of compression. Large scale horizontal earth movement produce wrinkles or folds on the surface of the earth. The arch shaped upfolds are called anticlines and the down fold troughs are called synclines. These up and down folds are like the wrinkles of a tablecloth, when it is pushed from either one or both sides of the table. The horizontal movement of earth's crust due to compression and tension give birth to fold mountains.



Formation of fold mountain

Q7) What are the types of Fold mountains?

A) There are three types of fold mountain :-

1) Young mountain, 2) Mature mountain and

3) Ancient or old mountain.

Q8) What are the characteristics of fold mountain?

A) 1) Fold mountains consist of great mass of folded sedimentary rocks whose thickness is often as much as about 12 km. 2) Various types of fold are present fold mountains. 3) Complex folding is more common in fold mountain. 4) Simple folding gives rise to mountains and valleys. The anticlines become the mountains and the syncline the valleys. Simple fold mountains are rare. Faults are also common in fold mountain.

Q9) What are the differences between ~~Young~~ Young Fold mountain and Old Fold mountain?

A)

Young Fold mountain	Old Fold mountain
i) Have been formed relatively recently.	i) Have been formed long ago.
ii) They are higher than the old mountains.	ii) They are lower than the young fold mountains.
iii) They have pointed peaks.	iii) They have rounded peaks.
iv) They have more rugged features like steeper slopes	iv) They have gentler slopes.

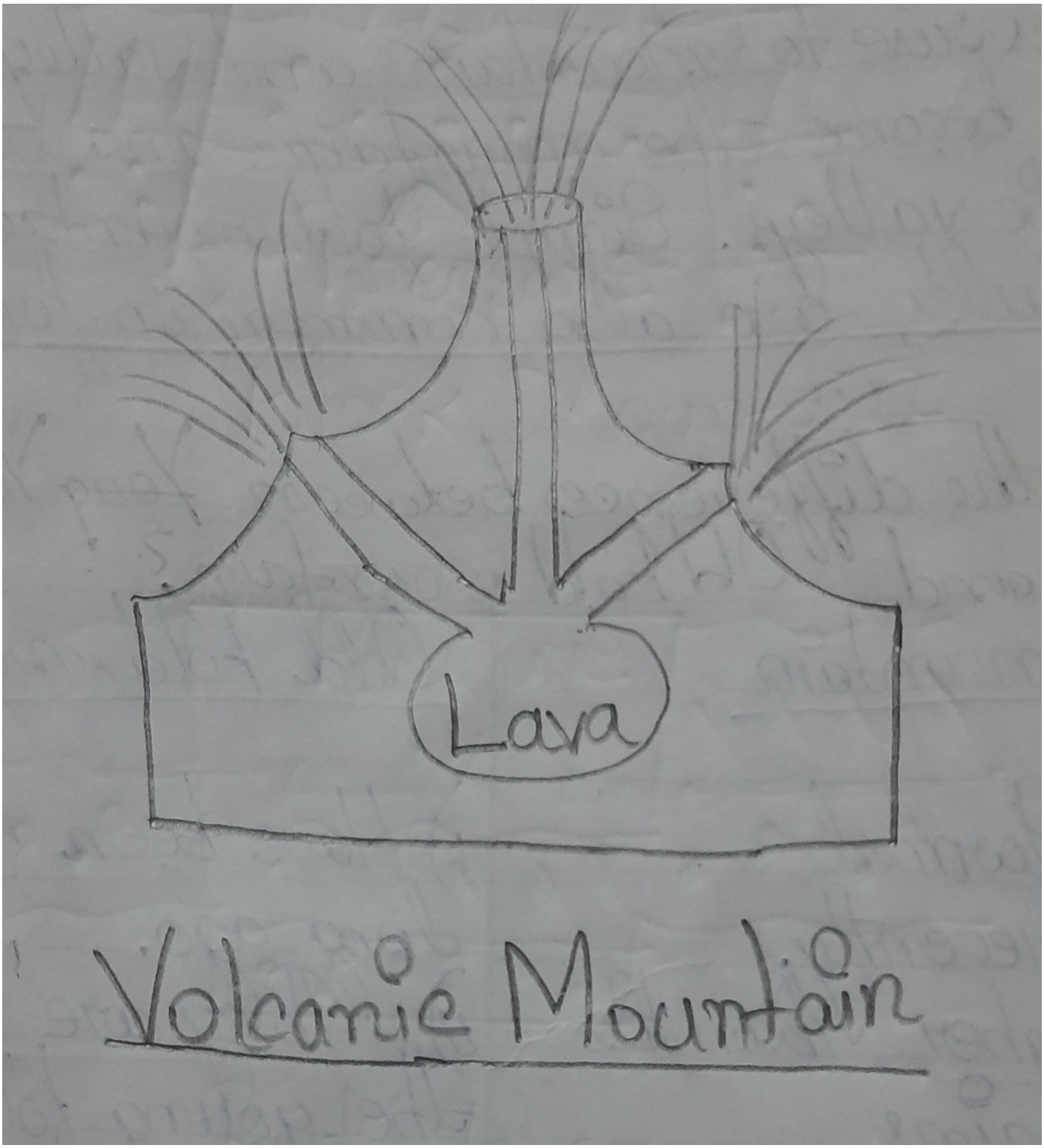
and deeper valleys. v) Andes, Rockies, Alps and the Himalayas are example of young fold mountains.	v) The Appalachains, the Urals and the Aravallis are example of old fold mountains.

Q10) What is Volcanic mountain? Explain its formation.

A) The mountains which are formed in the form of tall conical or dome shaped extrusions at the volcanic site by the accumulation of lava, as dust and liquid mud, ed ejected via a vent round of the mouth of the volcano in successive layers are Volcano Mountains. Ex- i) The Coto-paxi in Equador (the highest active volcano).

Volcanic mountains are formed the accumulation of volcanic materials like lava, magma, volcanic ash and dust e.t.c. These materials are deposited in layers around the vent. They build up volcanic cone in time. These volcanic cones are called volcanic mountains. The lava is basic, a flat cone is formed and if the lava is acidic, a steep cone is formed. Volcanic mountains are formed due to volcanic eruption from the earth's interior. The major causes of volcanic eruption are-

(i) Geologist, Prof. MacDonald states the earth's interior heat is the primary cause of volcanic eruption. ii) According to the Plate Tectonic Theory, the volcanic eruption occurs when two plates approach each other and collide.



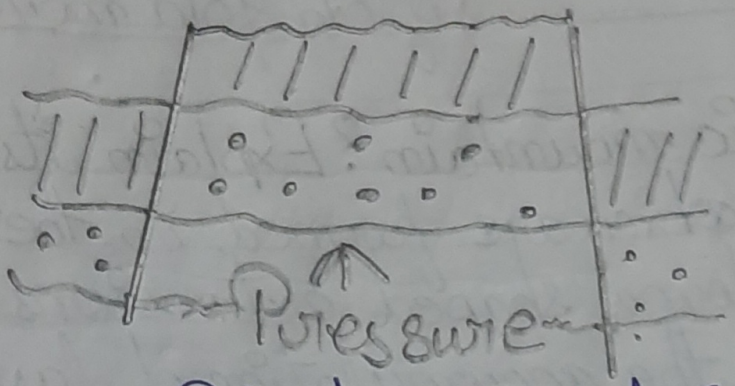
Volcanic Mountain

Q11) Explain the characteristics of Volcanic mountain?

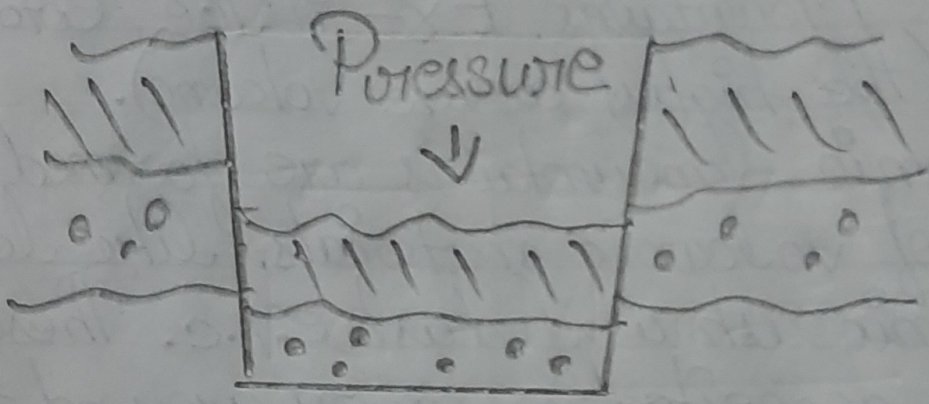
A) Most of the volcanic mountains are conical or dome shaped. ii) They are formed by the magmeous rocks. iii) They are steep sided. iv) The height of volcanic mountain may be raised, as eruptions takes place.

Q12) What is Block mountain? Explain the formation with diagram?

A) When a landmass is formed by the upliftment of land between the two parallel fault's or by subsidence of land outside the faults is called Block Mountain. Block mountains are also called block mountains since they are formed due to faulting as a result of tensile and compressive forces. In Germany a block mountain is called a horst. Ex- The Great Basin Ranges (USA), Vosges (France) and Black



Block Mountain



Rift Valley

Formation of Block mountain and Rift valley.

forest (Germany) Vindhyas, Satpuras and Tura (India), are the examples of block mountains.

13) Explain the characteristics of block mountain.

A) The characteristics of block mountain are :-

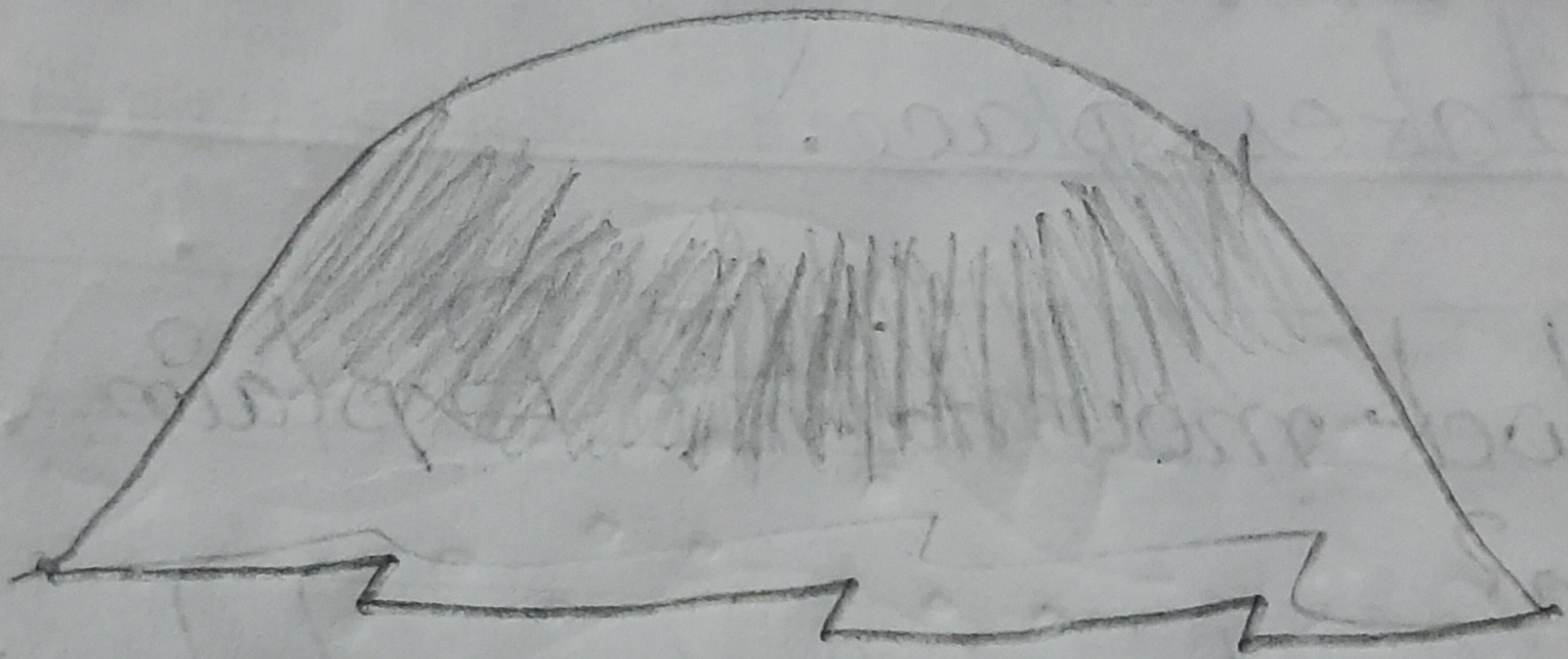
i) These mountains are usually very steep-sided and they are flat-topped. ii) They are not as lofty as the fold mountains, nor they stretch for vast areas like the fold mountains.

iii) Block mountains are associated with a graben or rift valley.

14) What is Relict Mountain? Explain its formation with diagram.

A) Mountain which are formed by the process of erosion and denudation by which soft rocks are worn down and the resistant rock masses are left standing still mountains known as Relict Mountains. Ex- The Aravallis.

Various erosive agencies acting through millions of years may reduce mountains and plateau to a block plain, but the harder and more resistant ones, survived against erosion, may be left standing as residual or relict mountain.



Relict Mountain

Q15) Explain the characteristics of Relict Mountain.

A) i) Most of the erosional mountains are of irregular shaped. ii) In the erosional, the top is generally flat or of rounded shape. iii) The erosional mountains are very old in age and are of ancient origin. iv) They have gentle slope. v) They are not so lofty.

Q16) What are the types of Relict Mountain? Explain.

A) Relict Mountains are of different types namely :-

a) Butte : A butte is residual hill formed by erosion of a mesa. After additional erosion from all sides. A mesa was further reduced to a smaller remnant flat summit called a butte. They are found in Arizona desert of the USA.

b) Inselberg : It is a German word. It means 'island mountains'. Inselbergs are outstanding rounded steep sided residual hills. They are mainly formed of granite and gniess and are remnants of original plateau which has been eroded away by wind action. They have steep slope and rounded top and are found in Kalahari and West Australian Deserts.

c) Monadrocks : Eroded and isolated remains of

resistant rocks materials appearing like mountains are called Monadrocks, after Mt. monadrock in New Hampshire in USA. Thus all mondarocks may be called Residual Mountains. These eroded and lowered relicts of landforms were called Monadrocks by W.M. Davis.

Q 17) Explain the importance of Mountains.

A) Mountain exert significant influence on the life and activity of man such as — 1) The undulating and rugged relief of the mountains with limited level land, thin layer of soil and rocky surface are not favourable for agriculture. 2) Absence of means of transportation (road, rail e.t.c) and land for settlement hinder the growth of trade, commerce and industry. 3) Due to lack of economic facilities of mountain region, mountains are sparsely populated. 4) Terraced farming is practised in some parts of the mountain slope. 5) Some special types valuable crop and fruit such as tea, orange, apples e.t.c are grown on the mountain areas.

Q18) Write short notes on –

a) Denudation :– Weathering and erosion are simultaneously called denudation. Gradation = Erosion + Transportation + Deposition.

b) Base and Range – The foot of a mountain is called is Base while the sharp, pointed top is called Peak of Summit.

c) Range or chain – When a several mountains stretch over a long distance in a line or chain, they are collectively known as Mountain Range or Chain. Such as the Siwaliks, the Himachal e.t.c are the ranges of Himalayan Mountains.

d) Knot and System – A highland from which many mountain ranges radiate or spread out in all direction is called a Mountain Knot and all these ranges together make up a mountain system.

e) Ridge – It is a high and narrow continuation of hills. It has many passes.

f) Pacific Ring of Fire – There are about more than 500 active volcanoes concentrated in a belt which encircles the Pacific Ocean like a ring. This is called the 'Pacific Ocean like a ring. This is called the 'Pacific Ring of Fire.' This belt contains nearly 80% of the total number of active

volcanoes. This belt includes the Andes Mountains of South America and the Rockies of North America.

g) Horst - It is a German term by which sometimes a block mountain is known.

h) Graben - It is a German term by which sometimes a rift valley is known.

i) Fault - A fault is well defined rock along which the rock masses on either side have suffered relative displacement.

j) Faulting - The movement of a part of the earth crust along a fault is known as faulting.

k) Fault line - The line along which the displacement of blocks of rock takes place is called fault line.