

LMS ID: 31858

Section IIQuestion No. 6(a) partGiven Data:

Let suppose the three candidate as A, B, and C.

Votes of candidate A = 15000

votes of candidate B = 10000

Votes of candidate C = 8000

To Prove:

Percentage of total votes of the winning candidate = ?

Solution:

Total votes casted = votes of A + votes of B +
votes of C

$$= 15000 + 10000 + 8000$$

$$= 33000 \text{ votes.}$$

Percentage of the votes of candidate A = ?

$$100 \times \frac{\text{Vote casted to A}}{\text{total votes}} = \frac{15000}{33000} \times 100$$

Vote casted to A = 45.45%

Hence, it is the percentage of the votes casted to the winning candidate.

(C)

Given Data:

Boys in a group = 4

Girls in a group = 6

if,

Girls are increase to 102

No. of boys will be: ?

Solution:

No. of Boys : NO. of Girls
 \uparrow 4 : \uparrow 6
x : 102

}
 \downarrow
directly
Proportional

$$\frac{x}{4} = \frac{102}{6}$$

$$6x = 102 \times 4$$

$$6x = 408$$

$$6x = 408$$

$$x = \frac{408}{6} = 68$$

$$x = 68$$

Hence, the number of boys will be
increased to $\boxed{68}$.

Question No. 8

(a) part

Given Data:

Sum of the consecutive odd numbers = 273

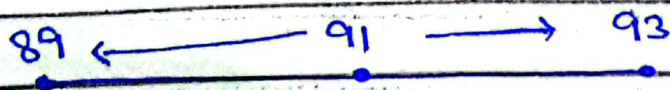
To find:

Consecutive three odd numbers = ?

Solution:

Dividing the sum by 3 = $\frac{273}{3} = 91$

So, 91 is the value in the middle.



Showing the 3 numbers of number line, suggesting the three consecutive odd numbers are 89, 91, 93

Additionally, the sum of 89, 91 and 93 is 273.

(b) Part

(i)

4, 16, 36, 64, ?, 144

• $(2)^2, (4)^2, (6)^2, (8)^2, (10)^2, (12)^2$

So, the missing value is 100

(ii)

30, 29, 27, ?, 20, 15

~~Let 30 be the x.~~

~~$x, x-1, x-2, x-3, x-4,$~~

(ii)

30, 29, 27, ?, 20, 15

$\begin{array}{cccccc} & -1 & & -3 & & -5 \\ \text{---} & \text{---} & & \text{---} & & \text{---} \\ 30, & 29, & 27, & 24, & 20, & 15 \\ \text{---} & \text{---} & & \text{---} & & \text{---} \\ & -2 & & -4 & & \end{array}$

Hence, the missing value is 24

(iii)

1, 7, 15, 25, ?, 51

$\begin{array}{cccccc} & +6 & & +10 & & +14 \\ \text{---} & \text{---} & & \text{---} & & \text{---} \\ 1, & 7, & 15, & 25, & 37, & 51 \\ \text{---} & \text{---} & & \text{---} & & \text{---} \\ & +8 & & +12 & & \end{array}$

Hence, the missing value is $\boxed{37}$.

(iv)

0, 2, 6, 12, 20, 30, ?

$\begin{array}{ccccccc} & +2 & & +6 & & +10 & \\ \underbrace{} & & \underbrace{} & & \underbrace{} & & \\ 0, & 2, & 6, & 12, & 20, & 30, & 42 \\ & +4 & & +8 & & +12 & \end{array}$

Hence, the missing value is $\boxed{42}$.

(v)

48, 24, 72, 35, 108, ?

There is a mistake in the question.

(c) part

(i)

THRSI = SHIRT

(ii)

GNDREA = DANGER

(iii)

SCHAMOT =

(iv)

ONLND O =

(v)

H1ODALY = HOLIDAY

(d) part

	Present Age	Age after 3 years
SARA	x	$x+3$
Sara's mother	$6x$	$6x+3$
Sara's Brother	$2x$	$2x+3$

sum = 72

$$x+3 + 6x+3 + 2x+3 = 72$$

$$9x + 9 = 72$$

$$9x = 72 - 9 = 63$$

$$x = \frac{63}{9} = 7$$

$$\boxed{x = 7}$$

So, Sara's age = 7 years
after 3 years

Sara's mother age after 3 years = 7×6
 $= 42$

Sara's brother age after 3 years = 11

Sara's current age = $7 - 3 = 4$

Sara's brother current age = $14 - 3 = 11$

Sara's mother current age = 39

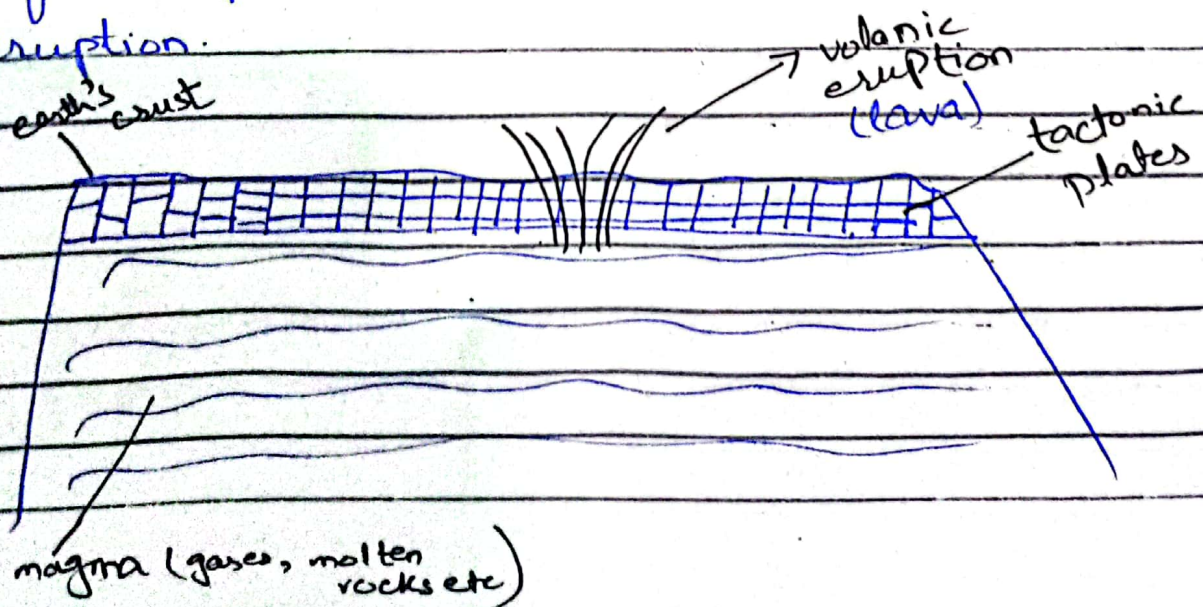
Section I

Question No. 2

(a) part

Volcano:

The mechanism of the eruption of the molten magma and coming out on the surface of the earth is called volcano eruption.



Mechanism of Volcanic eruption:

Lava is composed of molten rocks and gases, which takes much time to prepare and to gather heat at the maximum level to erupt.

Most of the cases of volcanic eruption has been recorded in the mountainous regions.

When it fully prepared then it erupts from where it finds the space in between the tectonic plates.

Relevance of earthquake with volcano:

Volcano ~~eruption~~ eruption is one of major causes of earthquake. As volcano erupts the movement of tectonic plates just beneath the earth's crust cause earthquake.

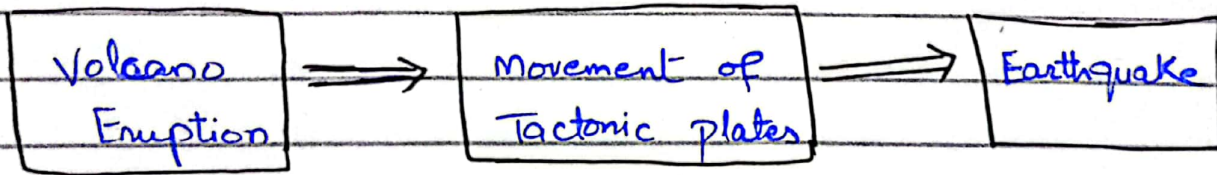


Figure represents the relevance of volcano and earthquake

Volcano Eruption in Iceland:

The volcano eruption in Iceland was occurred on 18th December, 2023, which was followed by frequent earthquakes. This series of earthquakes was also because of that space making from where the lava erupted.

Movement in Tectonic plates is necessary for volcanic eruption

Other Factors of earthquakes:

Beside the importance of volcanic factor in earthquake earthquakes, some other factors are like soil surfacing, blast explosions etc.

This volcanic eruption is also known as 2023-2024 Sundhnukar eruptions.

Conclusion:

Volcanic eruption is usually followed by the earthquake due to the movement of tectonic plates, as observed in the mentioned case of Iceland where volcanic eruption took place after the series of earthquakes.

(b) part

Big Bang:

Big Bang refers to the phenomenon by which this whole universe came into being. Later on the Big Bang Theory was given by George Lemaitre in 1931.

It is estimated that the big bang occurred 13.7 billion years ago.

Big Bang Theory:

According to the Big Bang Theory:

"There was a single entity comprised of enormous amount of heat and gases which

was exploded and the universe came into being."

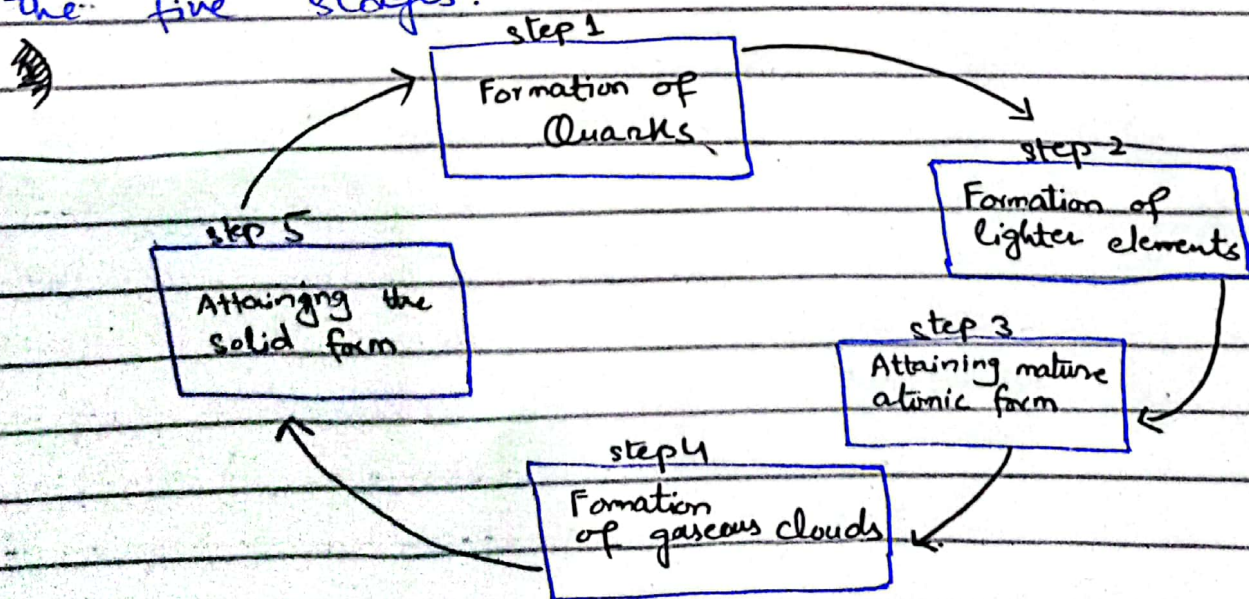
It is also obvious that the universe is expanding day by day. The poet of East and a philosopher, Dr. Allama Muhammad Iqbal, also referred to this phenomenon in his couplet:

"It seems that the universe is incomplete; therefore, the verses of "Kun Fayakun" are echoing."

The Big Bang Theory is backed by the discovery of Cosmic Background Radiations, which was done by Arno Penzias and Robert Wilson in 1964.

Phases of Big Bang:

After the explosion of Big Bang, which is estimated around 13.7 billion year before, the formation of the universe went through the five stages:



Step 1:

Formation of Quarks - protons and neutrons - by cooling of the exploded particles

Step 2:

Formation lighter elements like Deuterium, Lithium, and Helium.

Step 3:

Mature atomic state was attained, and H_2 and He was formed.

Step 4:

Formation of gaseous clouds by the joining of H_2 and He by that formed galaxies.

Step 5:

Super-saturated gases attained solid form. Reactive gases were released and formed layers around the solid bodies. Stars were also formed this way.

Big Crunch:

Big crunch also refers to a phenomenon but opposite to the Big Bang. Unlike Big Bang, it is the mechanism of the destruction of this universe. It is assumed that as the universe came into being due to the Big Bang, at once it will also be destroyed at once.

This assumption does not have solid scientific grounds till yet. The Holy Book of Muslims has elaborated this mechanism that the universe will be collapsed one day and other that "the Day of judgement" will be organized.

Estimated of the Age of the universe:

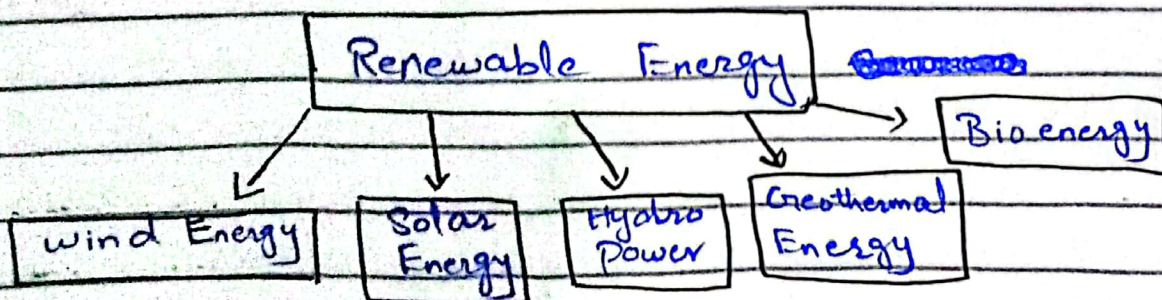
It has been estimated by the scientists that the universe came into being around 13.7 billion years ago, is the result of Big Bang.

(c) Part

Renewable Energy:

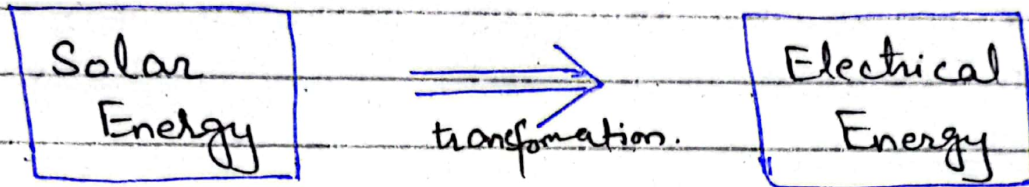
The energy that is obtained from the renewable sources of energy like sunlight, water, wind etc. is called renewable energy.

Sources of Renewable Energy:



Solar Energy:

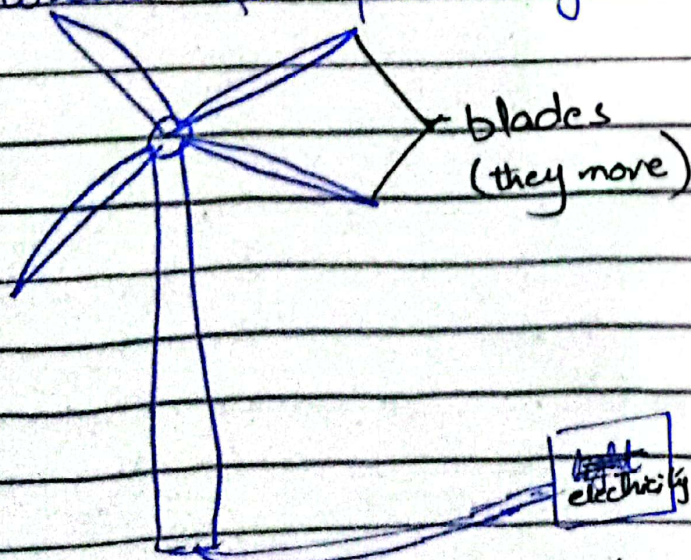
Solar energy is a type of energy that is directly obtained from the sunlight. The mechanism utilizes the solar cells that convert the light coming from sun into the electrical energy.



Wind Energy:

Wind energy is the type of energy that is obtained from wind. For this purpose, the wind mills are installed that moves by the wind and produces energy. Modern world is oriented towards this type of energy formation. Pakistan has also installed some of its projects at the coastal areas for producing energy by this way.

Wind energy is a clean source of getting energy.

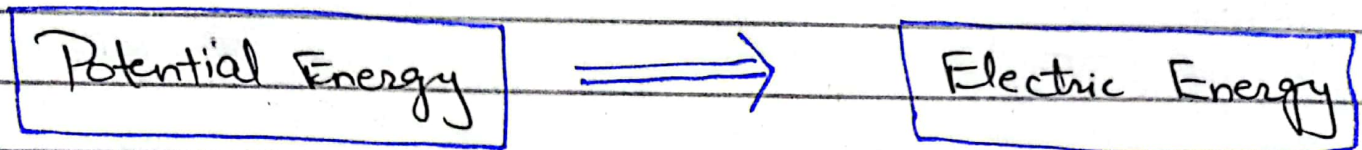


set up at the coastal areas where the speed of wind is high.

A wind plant that produces electricity.

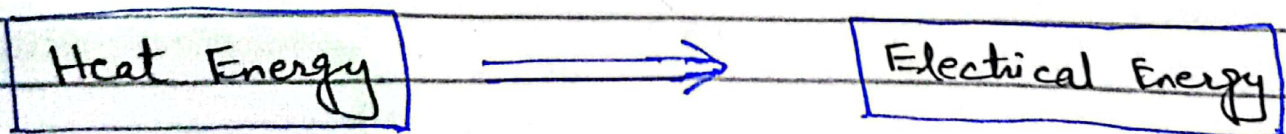
Hydropower:

Hydropower is the type of energy that is formed through hydro power plants. The mechanism is that the water is stored in the dam having potential energy and then ~~throughly~~ throwing it downwards with pressure causes electricity.



Geothermal Energy:

It is the form of energy that is produced by getting the thermal (heat) energy from the land by the mechanism of digging well in the ground to have heat. Here heat energy is transformed into the electrical energy.



Bioenergy:

This type of energy is produced by using a variety of organic materials called biomass, such as wood, charcoal, dung etc. It is mostly used in the rural areas for cooking, lighting and space heating.

Conclusion:

Energy ~~from~~ always transforms from one form to the other. These were the five renewable sources of energy.

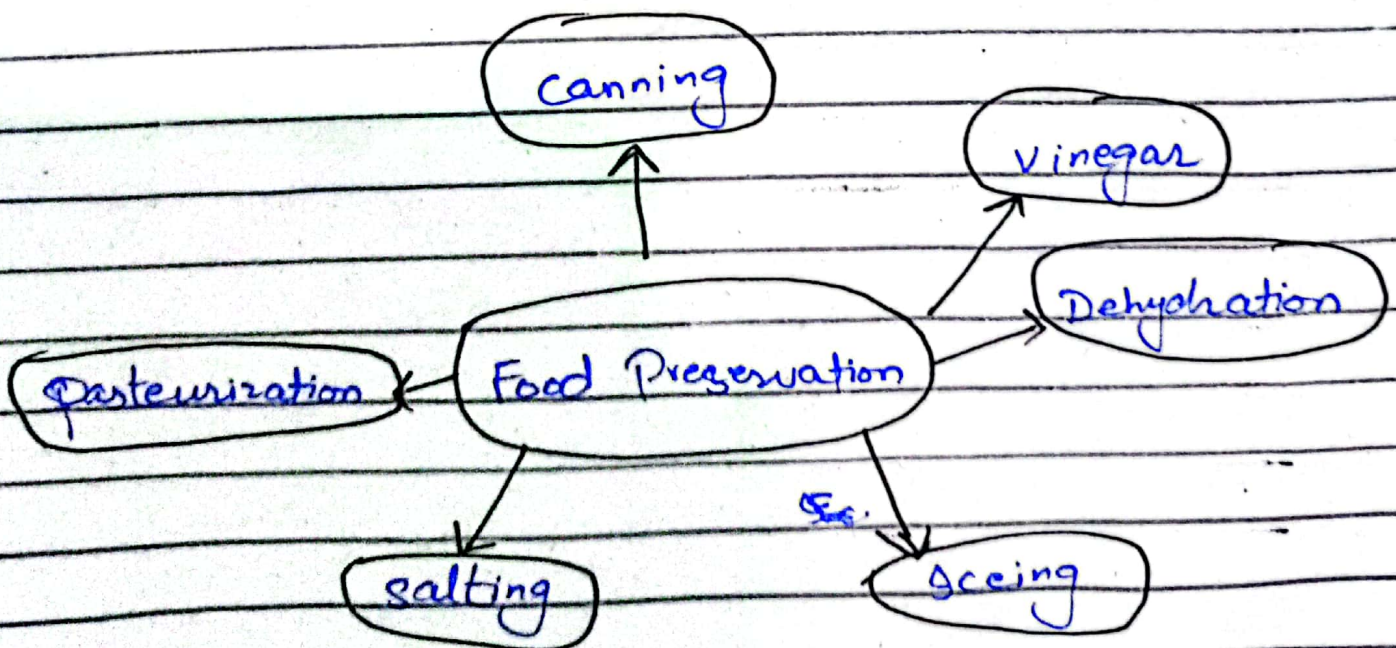
Question No. 5

(a) Part.

Food Preservation:

Food Preservation are the measure to make food safe and eatable for the later use.

Methods of food preservation:



Canning:

It is the most latest technique to preserve food, in which the food is stored in the tin canes which are air-tight. This help to use the food later without any taste change.

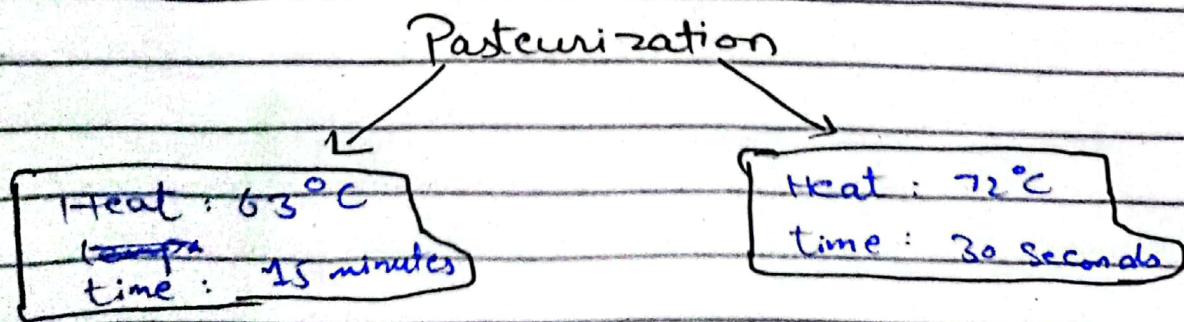
For example: the pineapple or the cocktails are canned along with the addition of some serum.

Pasteurization:

Pasteurization is the technique in which high temperature is given for short time and vice verse to preserve food. It is basically a mechanism of boiling food especially used for liquids such as, milk.

- Mechanism :

- 1) Any liquid is heated at 63°C for 15 minutes. OR
- 2) For 30 seconds at 72°C



Dehydrating the Food:

This is the technique of preserving food in which water is separated from food to make it preserved for later use. For example: used to preserve meat for later, or the chillies as well.

Iceing:

Iceing is another food preservation technique in which food is frozen at the lowest point to preserve it. The freezing point of water is 0°C .

Salting:

In this technique, salt is added to the food to preserve it from microbes and make it safe for later use.

Vinegar:

Food is also preserved by adding some amount of vinegar into it. For example: to preserve the olives for later use, vinegar is added to it.

Conclusion:

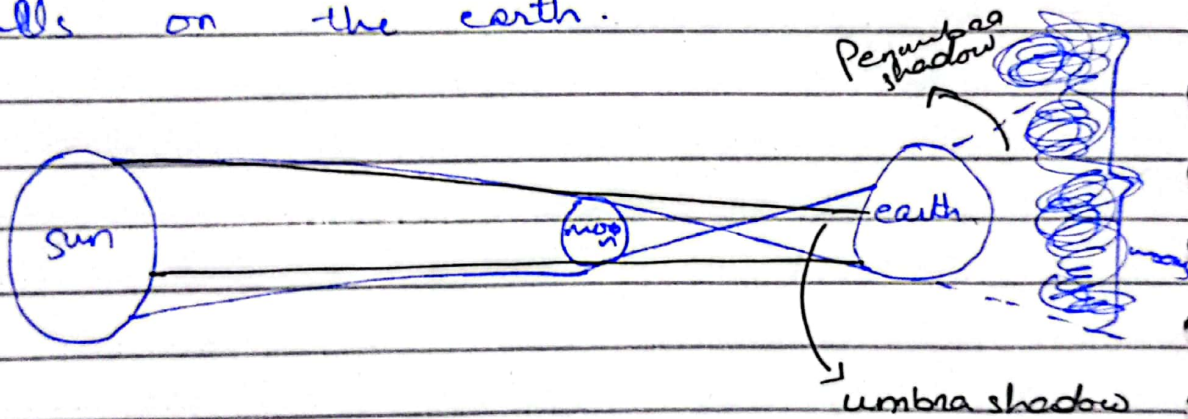
There are various methods to preserve food for making them able to use later. Some of the techniques of

Preservation are discussed above.

(c) part

Solar Eclipse:

Solar Eclipse is a natural phenomenon that occurs when moon comes between the earth and the sun, and the shadow of the moon directly falls on the earth.



Lunar Eclipse:

Lunar Eclipse is when earth comes in between the moon and the sun.

