

Section I

Question 03

(9)

Lunar Eclipse

Lunar eclipse refers to the condition of moon when it is deprived of its light coming directly from the Sun. It occurs when earth comes in between the Sun and moon.

The Sun, being a star, provides light to planets. The moon is also a planet. Both Earth and moon revolves around Sun. Simply, the Earth revolves around the Sun while moon revolves around the Earth. During this period of revolution, Earth comes between the Sun and the moon and obstruct light going towards the moon. This condition of yellowish moon is known as Lunar Eclipse.

Lunar eclipse has two types

★ Penumbra

★ Umbrā

• Nama 2-ee Kasoof is offered at the time of lunar eclipse.

Explanation with diagram

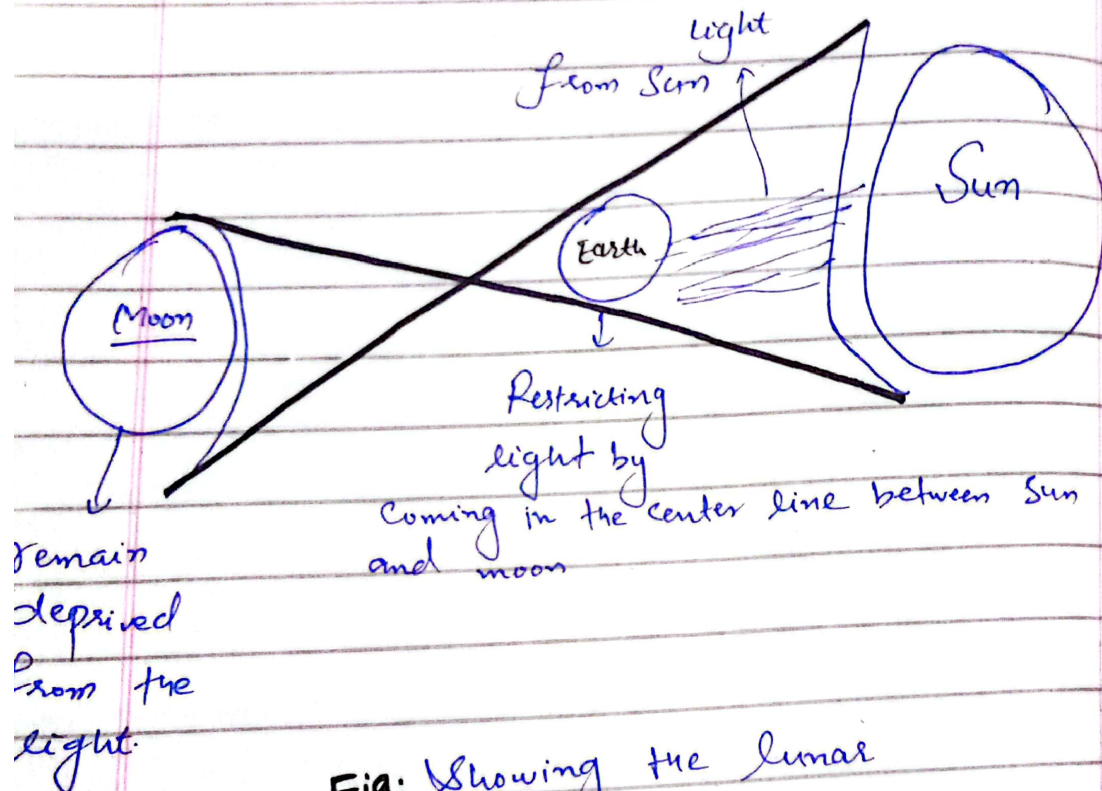


Fig: Showing the Lunar Eclipse

(c)

Electromagnetic Radiation

Electromagnetic radiation refers to the radiation of different light waves. These waves require no medium for their propagation. These waves use light for travelling from one place to another place.

The examples include

- Gamma rays
- X-Rays
- Ultra-violet rays
- etc --

EMR Spectrum

Emr Spectrum

refers to the combination of lights different rays that require no medium for their propagation. It includes various rays such as:

- i) Gamma rays
- ii) X-rays

iii) Ultra-violet rays

iv) Infrared rays

v) Microwaves

vi) Radio waves.

These all have different frequency and wavelength

Rays	Frequency	wavelength
Gamma	Highest	Shortest
X-Rays	less than Gamma	more than Gamma
Ultra-violet	less than X-Ray	More than X-Rays
Infrared	less than ultra	More than ultra
Radio	less than Infrared	More than infrared
Microwave	Shortest Frequency	Shortest Highest wavelength

Usage

Gamma → destroy cancer cells,

X-ray → visualize body

ultra-violet → Skin cream; Sun block

Infrared → heat

Radio → Transmit signals

Microwave → heat: food

(d)

Interconnection of Earthquake and volcanic eruption

- Understanding Earthquake

Earthquake

is a natural disaster that cause the Earth to tremble. It occurs due to the movement of tectonic plates inside the Earth. In Oct, 2005, Pakistan has faced a bad earthquake in its city Abotabad.

- Understanding Volcanic eruption

Volcanic

eruption is also a natural disaster. Volcanic eruption causes the circulation of lava on Earth. It badly hits the surrounding environment of the Earth. Pacific ocean is considered a prone region to volcanic eruption. Pacific ocean is known as "ring of fire" due to the occurrence of volcanic eruption.

Interconnection of Earthquake and Volcanic eruption

Earthquake is one of the biggest cause of volcanic eruption. During the occurrence of earthquake, the tectonic plates move irregularly. This movement of tectonic plates forces lava to go out. The occurrence lava from the inside of Earth is known as volcanic eruption.

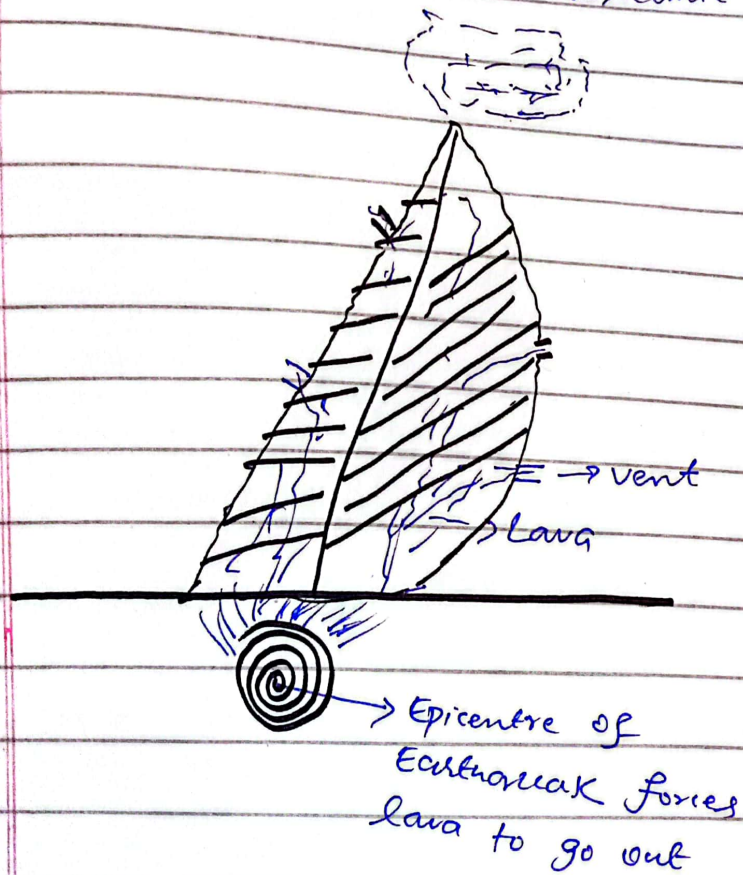


Fig: Showing the relation of Earthquake and volcanic eruption

(b)

Enzymes' function in body

Enzymes

are essential part of human body. They play a vital role in the growth of human body.

Function of Enzymes

They play an important role during hunger. When human feels hunger and does not eat required food, the enzymes provides essential energy to the body.

They store excessive energy in the body and delivers it to the body upon demand of the body.

They play an important role in waste removal from the body.

They are known as additional cells of human body.

Question 4

(a)

Noise Pollution

Noise pollution refers to the pollution created by excessive and unwanted sounds. The unwanted sounds directly contribute in enhancing the noise pollution. Although, it is least-talked type of pollution, it contains serious effects.

Harmful effects of Noise Pollution

Noise pollution contains many harmful effects:

- It severely damages the listening capability of humans. In rare cases, it results in deafening humans.
- It negatively frightens the birds and they migrate from that place. This is an impact on ecosystem.

- It creates anxiety among humans.
- It is harmful for the stress patients.
- It disturbs the peace of society.

Ways to curb noise Pollution

- Mostly Transport sector is responsible for noise pollution. The proper repairment of transport vehicles can result in low noise on road.

The industries should be established away from the living areas. People should be made aware of this pollution.

- The proper training should be given to people in order to not create noise during traffic signal.

(b)

importance of fiber in diet

Fiber is necessary in diet due to its benefits. The balanced diet is impossible without adding the quantity of fiber in it.

- Fiber plays an important role in the growth of human body
- Fiber plays a vital role in the proper digestion of diet.
- Fiber adds strength in diet.

Platter of Food Considered balanced

The platter of food would be considered balanced if it contains all necessary components of a balanced diet. These components are:

- Carbohydrates
- Protein
- Vitamin
- Fats/lipids
- Fiber

- Water

- Calcium

The vegetables, fruits, meat, egg, and milk are necessary items that fulfill the requirements of a balanced diet.

(d)

Lithosphere, rocks and Minerals

Lithosphere

is a part of Earth. It is situated at the upper side of ionosphere. The lithosphere contains rocks, minerals and other natural ingredients.

Rocks

are essential part of earth. They are used for various purposes ranging from home domestic needs to industrial and constructional

needs. In the Northern side of Pakistan, many rocks are available.

Minerals

The minerals are useful components. They are also used for various purposes. China has very rich minerals. The minerals are naturally created components. They are not man-made.

(c)

Drinking water quality

The safe water and secure from pollutants is known as water necessary for drinking. The drinking water quality of water also refers to that water which is safe from pollutants and harmful chemicals. There are various factors that determine the quality of water

These factors are

- Lead \rightarrow not in water

PH quality

- Mercury \rightarrow not in water

The standards of drinking water refers to secure water safe from pollutants.
