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GSA Test 1

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Q.No-3

a.

## 1. HEPATITIS:

Hepatitis can be described as inflammation of liver. The liver is a vital organ that processes nutrients, filters the blood and fights infections. When liver is inflamed, its function can be affected.

## 2. Symptoms of Hepatitis

The symptoms of Hepatitis include:

- i- Pain or bloating in the belly area.
- ii- Dark urine and pale or clay colored stools.
- iii- Fatigue
- iv- Low grade fever
- v- Jaundice
- vi- Itching
- vii- Loss of appetite
- viii- Nausea and vomiting



### 3. Causes of Hepatitis:

Liver inflammation can be caused by.

- i- Several viruses
- ii- Chemicals
- iii- Drugs
- iv- Alcohols
- v- Genetic diseases
- vi- Autoimmune response due to overreactive immune system

### 4. Preventive Measures:

The prevention of ~~liver~~ Hepatitis include:

- a- Frequent hand washing with soap
  - b- Drink plenty of water to help prevent Hepatitis A.
  - c- The best way to prevent Hepatitis A is to get vaccinated
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Q.3.  
(b)

### 1. SOLAR SYSTEM:

"The Solar System is the gravitationally bound system of the Sun and the



masses that orbit it."

## 2. COMPOSITION OF SOLAR SYSTEM:

Our solar system consists of our star, the Sun, and everything bound to it by gravity — the planets Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune are parts of solar system.

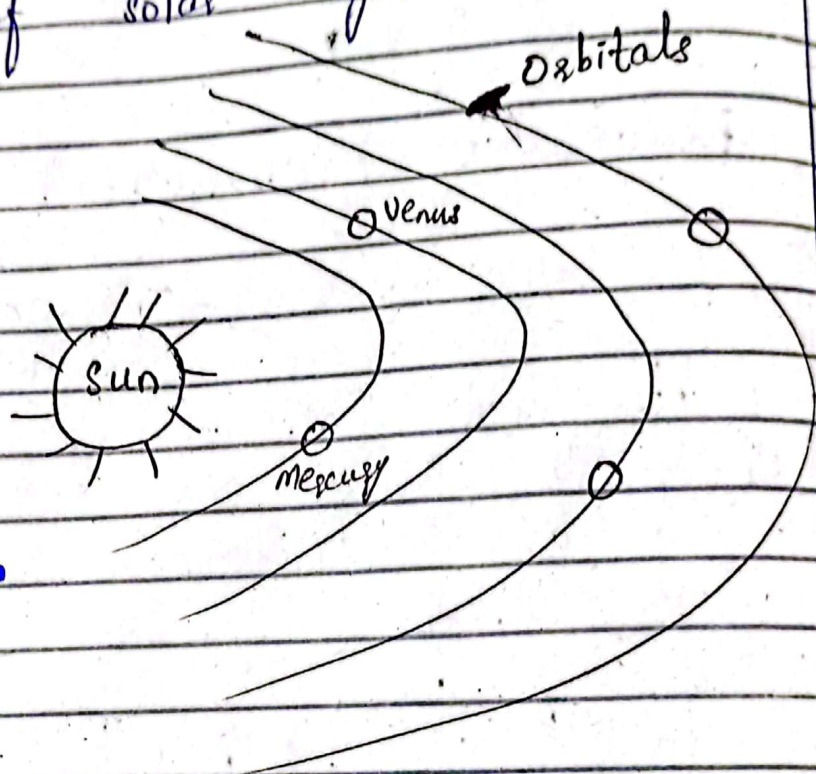
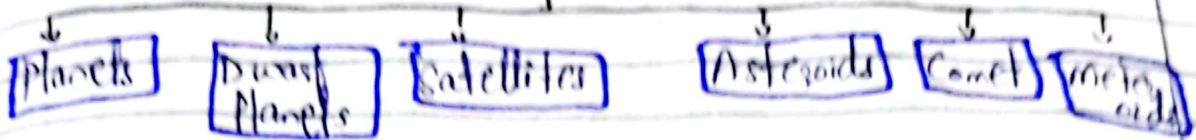


Fig: Solar System

Dozens of ~~asteroids~~ moons, asteroids, comets and meteoroids are part of solar system in elliptical shape. The Sun is the biggest object in solar system and contains more than 99% of the solar system's mass.

# Solar system



Our solar system is 4.5 billion years old.

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Q.No.3  
(d)

## 1- ECLIPSE:

"The obscuring of one astronomical object by another astronomical object is called **eclipse**."

An eclipse takes place when one heavenly object such as moon or planet moves into the shadow of another heavenly body.

## 2- TYPES OF ECLIPSE:

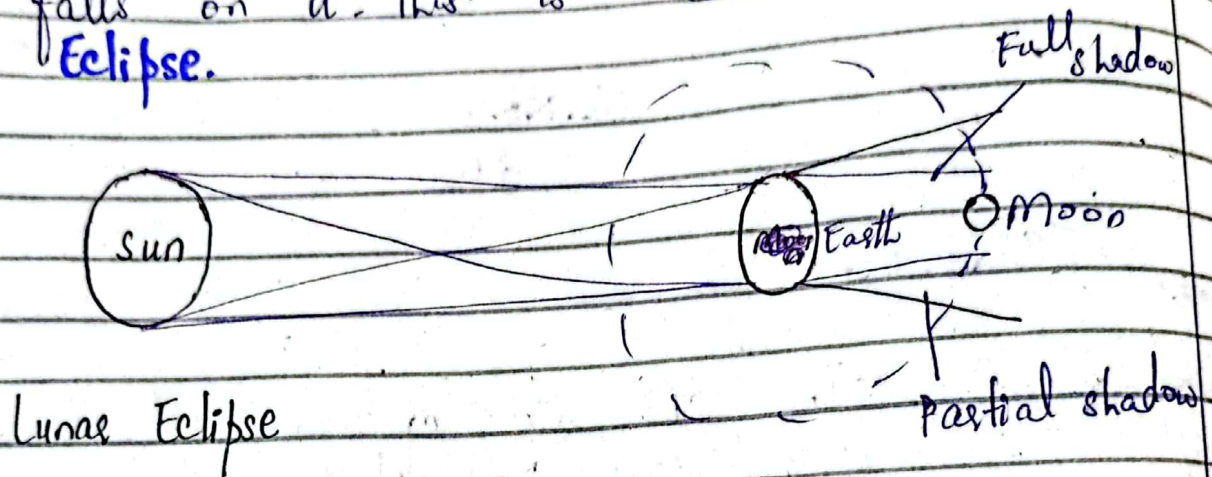
- i- Lunar Eclipse
- ii- Solar Eclipse

### i- Lunar Eclipse:

The Moon moves in an



orbit around the Sun. At the same time, Earth orbits the Sun. Sometimes Earth's orbit moves between the Sun and the Moon. When this happens, Earth blocks the sunlight that is reflected by the Moon. Instead of light hitting the moon's surface, Earth's shadow falls on it. This is called **lunar Eclipse**.



### Types of Lunar Eclipse:

There are three types of Lunar Eclipse.

- i- Partial Lunar Eclipse
- ii- Full/Total Lunar Eclipse

When the Earth and is exactly aligned on the same line joining the center of the Sun and Moon, such an Eclipse is called **Total Lunar Eclipse**.



When the Earth is above or below the celestial line, joining the centre of the Sun and Moon, such an Eclipse is called **Partial Lunar Eclipse**.

## ii- SOLAR ECLIPSE:

Sometime when the Moon orbits the Earth, it moves between the Sun and Earth. When this happens, the Moon blocks the light of the Sun from reaching Earth. This causes an eclipse of Sun, or **Solar Eclipse**. Unlike Lunar Eclipse, Solar Eclipse only last for a few minutes. It always occurs at the time of new moon.

## Types of Solar Eclipse:

There are three types of Solar Eclipse.

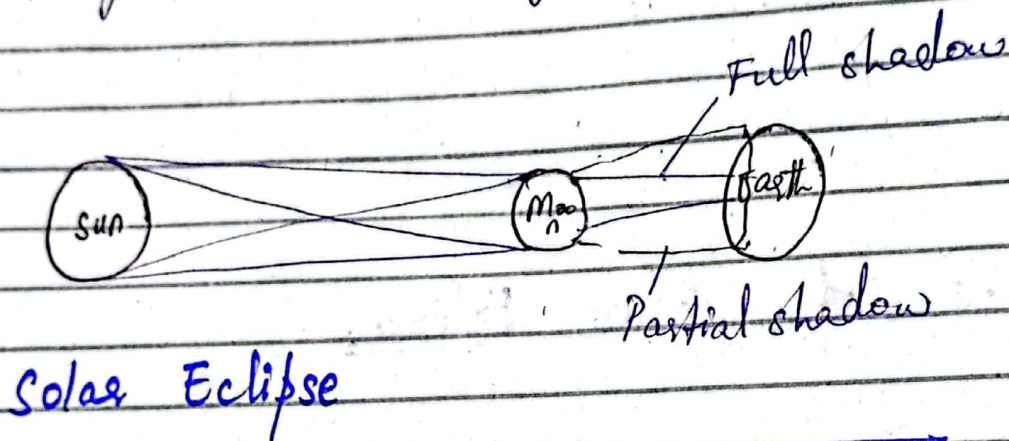
- i- Total Solar Eclipse
- ii- Partial Solar eclipse
- iii - Annular solar Eclipse

When the Moon is exactly aligned on the same line joining the center of the Sun and Earth, is

called Total Lunar Eclipse.

When the Moon is above or below the central line, joining the centre of the Earth and Sun. Such an eclipse is called partial Solar eclipse.

When the Moon appears smaller than the sun and the sun appears as bright ring around it. This configuration of sun, moon and Earth line up in a straight line during an annular spectrum.



Q. No. 3

C.

### 1- GASEOUS EXCHANGE:

Organisms get the oxygen needed for cellular respiration, from their environment and provide it to their cells. The  $\text{CO}_2$  produced during cellular respiration



is taken out of the cells and ultimately from the body. Taking in oxygen and giving out carbon dioxide is termed as **Gaseous exchange.**

## **2. GASEOUS EXCHANGE IN HUMAN BODY:**

In Human body Respiratory system is responsible for gaseous exchange. It consists of two phases:

- i- Inhalation: Breathe in air (Nitrogen 78%, ~~Oxygen~~ Oxygen 21%,  $\text{CO}_2$  0.3%)
- ii- Exhalation: Breathe out air (Nitrogen 78%, Oxygen 17%,  $\text{CO}_2$  4%)

## **3. COMPONENTS OF RESPIRATORY SYSTEM INVOLVED IN GASEOUS EXCHANGE**

The Gaseous exchange consists of following components:

- i- Nose: It is the starting point of respiratory system. Nose hairs are responsible for trapping dust particles.
- ii- ~~Trachea~~ Trachea (wind pipe):  
It is the passage for air.



iii - Bronchioles are smaller branches present in the lungs and they help in increasing the surface area.

iv - Alveoli: Here gaseous exchange takes place.

v - Diaphragm provides a push for up and down movement of lungs which help in exhalation of air.

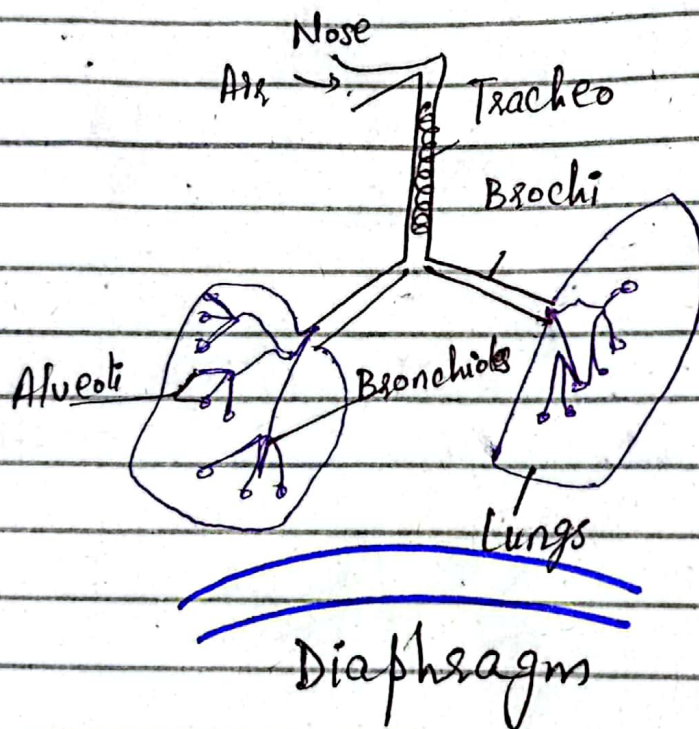


Fig: Gaseous Exchange in Human body.



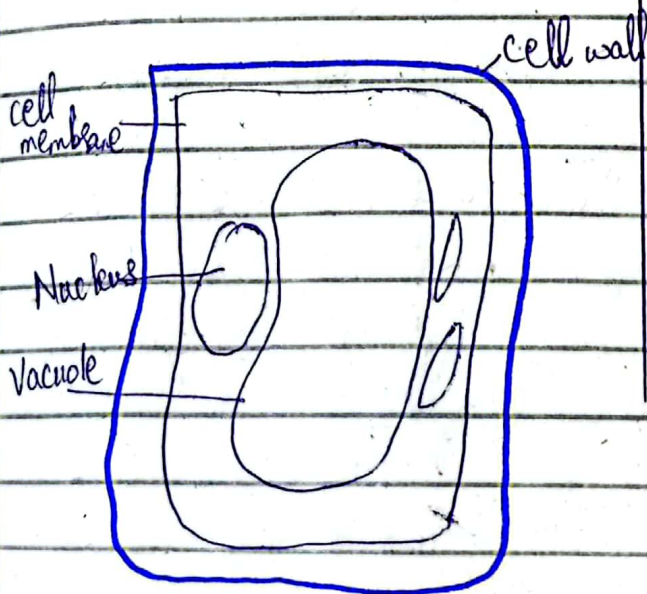
Q. No. 2

a-

Differentiate in plant and Animal cell.

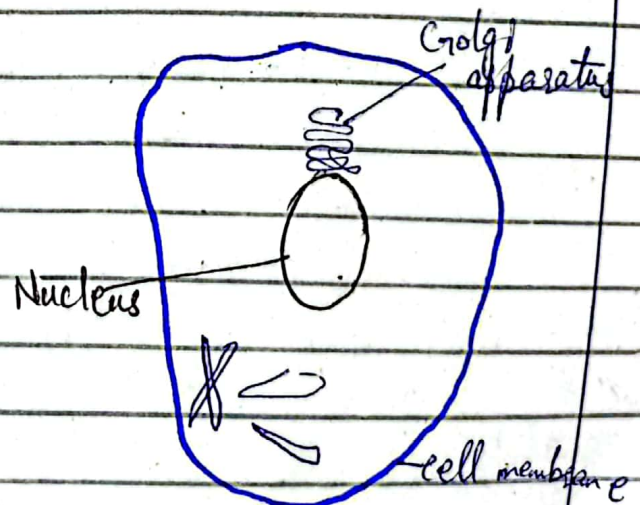
### PLANT CELL

1. Plant cells have cell wall made of cellulose.
2. Plant cell possesses large vacuole.
3. Plant cells have chloroplasts.
4. Plant cells have flagella only in gametes.



### ANIMAL CELL

- Animal cells do not have cell wall.
- Animal cell has small or no vacuole.
- Animal cell has no chloroplasts.
- Animal cells have no flagella.



Q.2 b c.

What is DRM? ---

## 1- DISASTER RISK MANAGEMENT:

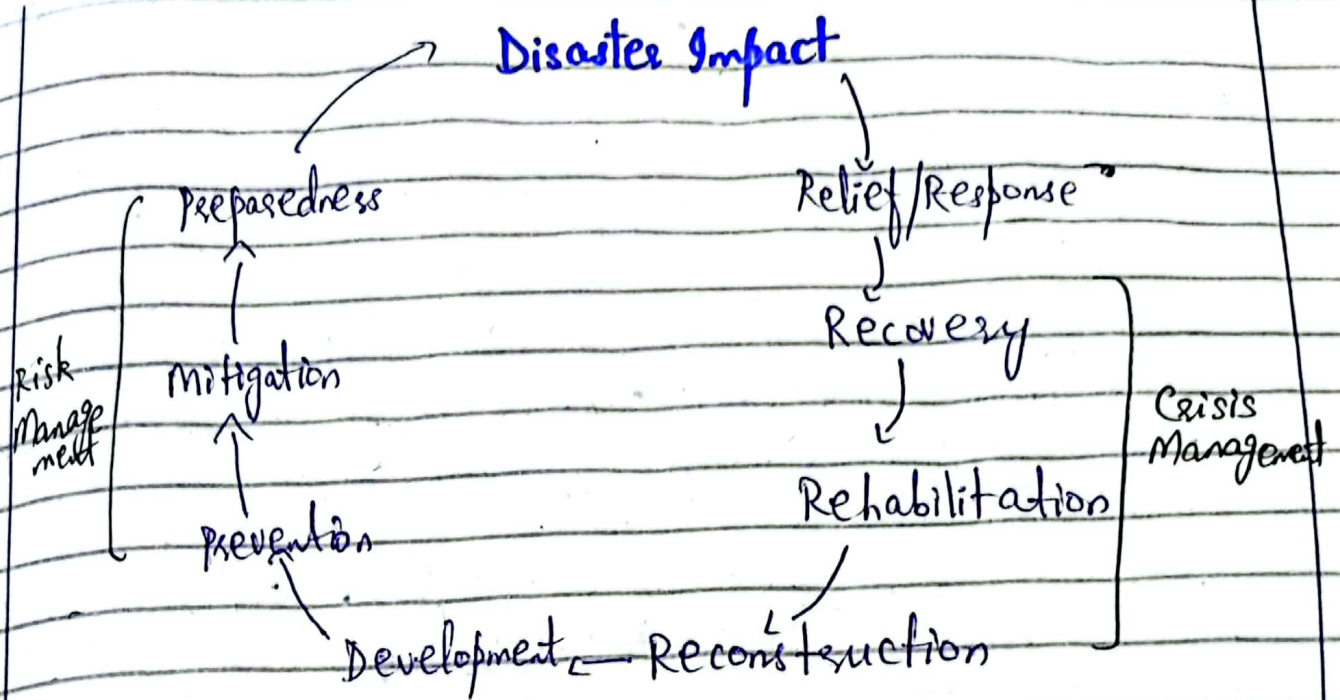
"Disaster Risk Management is the application of disaster risk reduction policies and strategies to prevent new disaster risk, reduce existing disaster risk and manage residual risk, contributing to the strengthening of resilience and reduction of disaster losses."

(IPCC)

## 2- DISASTER MANAGEMENT CYCLE:

The disaster management cycle illustrates the ongoing process to reduce the impact of disasters, react during and immediately following a disaster, and take steps to recover after a disaster has occurred. It is the practice of reducing disaster risks through systematic efforts to reduce disaster losses.





## DISASTER MANAGEMENT CYCLE

### 3- WEAKNESSES IN DRM OF PAKISTAN:

Disaster Risk Management has following flaws in Pakistan.

- i- lack of knowledge and information about disaster risk assessment and management among disaster management bodies.
- ii- Dearth of long-term, inclusive and coherent institutional arrangements to address disaster issues.



iii- Disaster management, development planning and environmental management institutions ~~are~~ operate in isolation and integrated planning among these sectors is lacking.

iv- Disaster management policy responses are not influenced by methods for cost-effective interventions.

A devastating Earthquake struck in the north in October 2005 which exposed the vulnerability of the existing emergency and disaster response apparatus. This led to the creation of National Disaster Management Authority (NDMA) and provincial management authorities afterwards.

Q.2 - (d)

Define Ceramics —

1- CERAMICS:

Ceramic is an organic, non-metallic solid i.e., hard, brittle and resistant to corrosion and heat. They are made by shaping clay or other earthen minerals



and hardened by heating them to high temperatures.

## 2- TYPES OF CERAMICS:

- i- Porcelain
- ii- Bone China
- iii- Earthenware
- iv- Stoneware
- v- Glass ceramics

**Porcelain** is an expensive material. It was used to form pottery. It is also used in electric insulating material in power transformers.

**Earthenware** is used in inexpensive tiles and pottery such as flower pots.

## 3- APPLICATIONS OF CERAMICS:

Ceramics play a wide range of applications.

### a- Aerospace:

Ceramics are used in space shuttle tiles, high-temperature glass windows, thermal barriers, fuel cells etc.

b- Consumer ~~cells~~ uses:

They are used in glassware, pottery, windows and electronics, lenses etc.

c- Automotive:

In automotive industry, ceramics are used in catalytic converters, ceramic filters, enamel coating, spark plugs and thermistors.

d- Medical (Bio-ceramics):

Ceramic particles can be used for bone repairs, drug delivery and dental restoration.

e- Military:

Ceramics are also used as structural components for ground, air and naval vehicles, sensors and missiles etc.

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