

# SECTION - 1

Insufficient length  
Insufficient headings  
Draw diagrams  
Work on math portion too

Q NO 4

## a) SOLID WASTE MANAGEMENT :-

There are various ways in which solid waste is handled and disposed off. The following are some environmental friendly methods.

### i) COMPOSTING :-

This method involves decomposing organic waste to create nutrient rich material for soil enrichment.

### ii) CONVERTING WASTE TO ENERGY :-

This method requires converting waste into energy by anaerobic digestion. Where microorganisms break down organic waste and produce energy.

### iii) RECYCLING :-

This process requires collecting and processing waste material to create new form of materials.

### iv) LANDFILLING :-

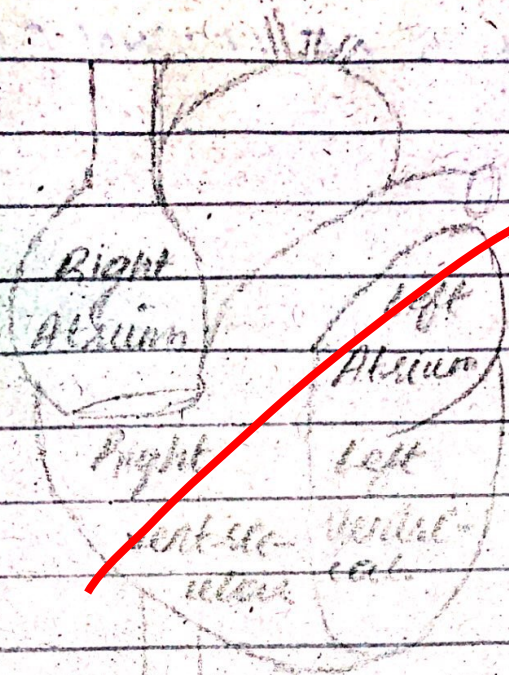
This process requires throwing waste under the soil to avoid environmental damage.

## b) HUMAN HEART AND BLOOD CIRCULATION:-

The human heart is the most vital organ of the body. It pumps blood throughout the body ensuring every tissue receives oxygen and nutrients.

The process involves where the right and left (ventricle) atrium receive deoxygenated and oxygenated blood. They contract pushing blood into the ventricles. The ventricles then contract pushing blood into the pulmonary artery and aorta, which carries blood to the lungs and rest of the body.

The heart has four valves that open and close according to the direction where the blood is supposed to go. The deoxygenated blood is pumped towards the lungs for oxygenation. While the oxygenated blood is distributed throughout the body.



#### c) MYOPIA AND HYPEROPIA:-

##### i) MYOPIA:-

Myopia also known as nearsightedness. Here the person is able to only view closer objects clearly, but the far vision is blurry. This occurs when the eyeball tends to enlarge more than the normal size.

##### ii) HYPEROPIA:-

This is a reverse condition of myopia. Here the person's far sight is clear but the near sight becomes blurry. This occurs when the eyeball reduces from its normal size limit.

## MAJOR PARTS OF HUMAN EYE:

- i) **CORNEA**:- It is a transparent sheet covering the eyeball allowing light to enter inside.
- ii) **RETINA**:- The retina converts light into nerve signals via neurons to send it towards the brain.
- iii) **PUPIL**:- The pupil is a round body inside the Iris. The size of the pupil changes with the amount of light entering it.
- iv) **IRIS**:- This is the colored part of the eye, it consists of muscles that enables the (people)'s pupil to change its size.
- v) **SCLERA**:- It is the (or) white outer matter of the eye, which gives structural support to the eye.

## d) USES OF MICROWAVE, UV, X-RAYS.

- i) **MICROWAVE**:- The microwave has various uses food related such as; heating up food, cooking food quickly, defrosting food and baking etc.
- ii) **ULTRA-VIOLET**:- The UV is largely used in industrial processes, such as

killing bacteria from medical equipment, UV lamps for to purify water and UV lights for bed tanning.

- iii) **X-RAYS**:- The x-rays are used in medical imaging to detect any sort fracture injury in the bones. It is also used in security checkpoints, such as the airport for baggage inspection.

## QNO:6 FOOD PRESERVATION METHODS:-

The food preservation methods are implemented to avoid the food turning bad and to increase the shelf life of the food. To do so, there are various methods used to prevent food spoilage, such as the following:

- i) **CANNING**:- Canning is a common way to preserve food, it is done by heating the food at high temperatures and then storing them in air tight cans to kill the bacteria.
- ii) **FREEZING**:- Using extreme, low temperatures to preserve food. The low temperature stops prevents it from producing enzymes and molds.

iii) **PICKLING:-** The process of adding acidic solutions such as, vinegar to food (a) to avoid it from turning bad and also add flavor.

iv) **DRYING:-** Drying is a common technique used to preserve food. With dry the excessive moisture gets soaked up and leaves no room for enzymes to form.

d) **NUCLEAR FISSION:-**

Nuclear fission takes place when a heavy nucleus is broken into many smaller nuclei whilst releasing energy. The process of nuclear fission is done in blasting of atomic bombs.

**NUCLEAR FUSION:-**

Nuclear fusion takes place when smaller nuclei are combined to create a heavier nucleus releasing energy. This process takes place when the sun emits light and it is also found to occur in hydrogen (bomb) bombs.

## IONIC BOND IN TABLE SALT (NaCl)

Table salt which is also known as sodium chloride it forms through ionic bond. When sodium gives up an electron and gives it to chlorine, sodium becomes positively charged. The positively charged sodium attracts the negatively charged chlorine resulting in the formation of ionic bond.

## c) SOLAR AND LUNAR ECLIPSES:-

### i) SOLAR ECLIPSE:-

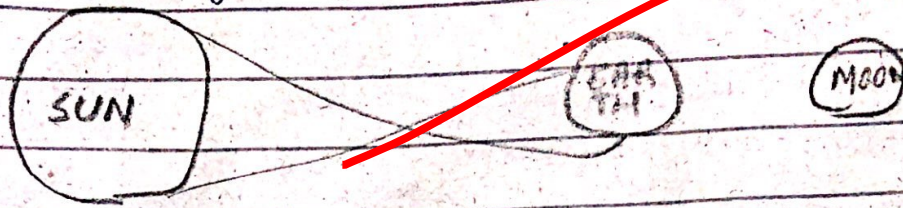
The solar eclipse is formed when the moon passes between the sun and Earth, blocking the light coming towards the Earth.



### ii) LUNAR ECLIPSE:-

The lunar eclipse occurs when (then) the Earth comes in between of the sun and Moon, with the

completely shadowing the moon.



## b) MILKY WAY, DARK MATTER AND GALAXIES:-

**Milky way:-** It is a spiral galaxy which consists of our solar system, stars, planets, gases and the dark matter.

**Dark matter related to galaxies:-**

The dark matter is considered to be invisible. It is believed that it makes up a greater portion of the mass of the universe with dense energy enabling the rotation of galaxies including the milky way.

The parts of galaxy are as following:-

i) **Nucleus:**

It is the center part which consist of a massive black hole.

ii) **Spiral Arms:-** The are long, spiral structures that start from the



nucleus and extend outwards. The spiral arms consist of stars and gases.

iii) **Bulge:-** This is a spherical structure which lies in the center of the galaxy mainly consisting of stars.

iv) **Halo:** The outer region of the galaxy is known as halo, the halo contains old stars, dark matter and globular clusters.

## SECTION - II

QNO8

b) i) 4, 16, 36, 64, ?, 144

$2 \times 2, 4 \times 4, 6 \times 6, 8 \times 8, 10 \times 10, 12 \times 12$

Ans

4, 16, 36, 64, ~~100~~, 144

ii) 30, 29, 27, ?, 20, 15

Ans:

30, 29, 27, ~~24~~, 20, 15

iii) 1, 7, 15, 25, ?, 51.

Ans,

1, 7, 15, 25, ~~35~~, 51.

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

Ans

0, 2, 6, 12, 20, 30, 42.

v) 48, 24, 72, 35, 108, ?

Ans

48, 24, 72, 35, 108, 72.