Improve paper presentation
Insufficient length
Insufficient headings
Write complete logic and steps in math portion



## Part II

### QNo 4:

a) Methods employed in solid waste management are:

i) **Land fill:**

In Landfill method of waste disposal, a huge pit is made is an open low lying area, usually away from the places where people resides. The wastes are collected in trucks and dumped into these pits. When these pits are full, are covered with soil.

ii) **Composting**

Composting is the biological decomposition of organic waste. This method is environmentally friendly and results in valuable soil amendment that can be used in agriculture and landscaping.

iii) **Incineration/Combustion:-**

Incineration, involve the controlled burning of solid waste at high temperatures. This method reduces the volume of waste and generate energy through combustion.

) **Recycling:-** Recycling involves separat

processing, and reusing materials from Solid Waste Paper, plastics, glass, metals, and some types of organic waste are typical recyclable materials

v) Biogas Generation:

Waste disposal that involve the decomposition of organic waste in an anaerobic environment, producing methane-rich and nutrient-rich digestate.

B)

The heart is muscle chiefly responsible for Circulating blood Throughout one's body. The blood is circulated in body by Contraction and relaxation of heart.

There are two phases of heart's Pumping Cycle.

1) Systole: this is when heart Contracts. pushing blood out of the chambers.

2) Diastole: This is the period between Contraction and (when heart muscle relax) and the Chambers fill with blood.

The right side of the heart receives blood that is low in oxygen because

most has been used up by the brain and body. It pumps this to lungs, where it picks up a fresh supply of oxygen. The blood then returns to the left side of the heart, ready to be pumped back out to the brain and the rest of ~~your~~ body.

c) Myopia and hyperopia are vision defects. Myopia is also known shortsightness and hyperopia is known as longsightness.

→ Myopia:- In this condition, the person can see the object nearby clearly but cannot see distant objects. This occurs when eye lense bend the rays in wrong way, focusing the images infront of the retina rather than focusing on the retina.

For correction of myopia, a concave lense is used. Concave lense is a diverging lenses and assists in focusing the image on to the retina.

2) Hypermetropia:- Hypermetropia is commonly known as longsightness. In this condition the person can see objects at

distance but cannot see nearby object clearly. In hypermetropia the right ray from Closeby object are focussed at a point behind the retina.
This defect can be corrected by using Convex lenses. Convex lense help in focusing the image at retina.

## Mayor parts of eye:

Different parts of eye are below.

1) Iris
2) lense
3) Retina
4) Vitreous humor
5) Cornea
6) ciliary body
7) choroid.

d)

## Microwaves

Microwaves is a form of electromagnetic radiation. These waves have long wavelengths and low frequencies. The wavelength ranges from 1mm to 30cm. and frequency varying between 300MHz to 300GHz.

These waves are used in microwave ovens, cell phones, and radar

(iv) Ultraviolet (UV)

These are Electromagnetic radiation with wave length short than these of visible light but longer than x-rays.

Their wavelength lies between 10nm to 400nm and frequency ranges between 30PHz to 750THz Ultra violet Ultraviolet wave are used in medical and dental treatments.

(v) X-rays

These are electromagnetic wave, wavelength ranging from 0.01 to 10 nanometers. Frequency ranging 30 PHz to 30 exaHz.

X rays are used x-ray imaging, also used with CT Scanner. In industries X-rays are used for detecting the defect in materials

Q No 5:-

a) Food Processor:- Food

is the technique to prevent food Spoilage → food poisoning, and microbial Contamination in food.

Commen method used for food preservation are

1) Freezing
2) Sugaring
3) Salting
4) Canning
5) Vaccum Packing.

## Milky way:-

Milky way is the galaxy that include the solar system. The milk way is a huge collection of stars, dust and gas. It is called a spiral ~~gla~~ galaxy because if you could view it from the top and bottom, it would ~~take~~ look like a spinning pinwheel.

## Dark matter:

Dark matter is mysterious form of matter that does not emit, absorb, or reflect light, making it invisible and

and undetectable by electromagnetic radiation. Despite its elusive nature, dark matter plays a crucial role in the structure and dynamic of galaxies. Dark matter is believed to constitute significant portion of the total mass in galaxies, far exceeding the mass of visible matter.

## iii) Parts of Galaxies:

Galaxies consists of

1. Nucleus
2. A Central bulge.
3. Spiral arm
4. A spherical component
5. A Disk

## c) Solar and Lunar Eclipse

A solar eclipse occurs when the moon passes between Earth and sun, thereby blocking the sun and preventing sunlight from reaching earth. whereas in lunar eclipse the earth comes in between the sun and moon. Earth's

shadow falls upon the surface of the moon.

d) Nuclear fission and Nuclear fusion

In Nuclear fission reaction a nucleus of an atom splits into two or more smaller nuclei. This reaction produce large amount of energy. Atomic bomb uses Nuclear fission reaction.

Nuclear fusion is the process by which two light atomic nuclei combine to form a single heavier one. This process release massive amount of energy. Nuclear fusion occurs in the sun.

# SECTION II

Q NO 01

i) Total votes = 15000 + 10000 + 8000

Total votes = 33,000

Percentage of Winning Candidate = $\frac{15000 \times 100}{33,000}$

percentage = 45%

b) Ratio of side of triangle 3:4:5

Let first Angle be A, second B & C, third be C. So

We know that Sum of angle of triangle is 180°.

Sum of ratio = 3+4+5 = 12

$\angle A = \frac{3 \times 180}{12_4} = 180/4$

$\angle A = 45°$

$\angle B = \frac{4}{12_3} \times 180$

$\angle B = 60°$

$\angle C = \frac{5}{12} \times 180$

$\angle C = 75°$

c. Ratio of boys to girls = 4:6

No of girls = 102. / let total be y.

No of boy = x.

Sol:- Sum of Ratio = 6+4 = 10

Total = $102 = \frac{6}{10} \times y$

$\frac{102 \times 10^3}{\theta_3}$ J

$y = 34 \times 5$

$y = 170$

Total = 170

No of boys = 170 - 102

$x = 68$

2) Present age ratio 6:7

$\frac{A}{B} = \frac{6}{7}$

$A = \frac{6}{7} B$

After five years.

$\frac{A+5}{B+5} = \frac{7}{8}$

$\frac{6}{7} B + 5 = \frac{7}{8}$

$\frac{6B+35}{7} = \frac{7}{8}$

$B+5$

$(6B+35)8 = 7(B+5)$

$7$

$48B + 280 = 7B + 35$

~~48B - 7B = 280 - 35~~

~~48B + 280 = 49B +~~

let present age of A be 6x and of B be 7x.

$$\frac{6x+5}{7x+5} = \frac{7}{8}$$

$$8(6x+5) = 7(7x+5)$$

$$48n + 40 = 49x + 35$$

$$40 - 35 = 49x - 48n$$

$$\boxed{5 = n}$$

So

A's age be $6 \times 5 = 30$

B's age be $7 \times 5 = 35$

No 8:-

$n + n+2 + n+4 = 273$

$3n + 6 = 273$

$3n = 273 - 6$

$3n = 267$

$n = 267/3$

$\boxed{n = 89}$

Then 2nd No = $n+2 = 89+2$

2nd No = 91

Third No = $89+4$

Third No = 93

b)

1) 4, 16, 36, 64, 100

2) 30, 29, 27, 24, 20, 15

3) 1, 7, 15, 25, 37, 51

v) 0, 2, 6, 12, 20, 30, 42

vi) 48, 24, 72, 36, 108, 54

vi) 48, 24, 72, 36, 108, 54

d) Let ages of Sara, Ali, and their mother be x, y, z respectively
Accordg to Condition.

$6x = z \rightarrow (1)$

$2x = y \rightarrow (2)$

~~$6x+3+2y+2+z+3=72$~~

~~$6x+2y+$~~

~~$x^3+y+z=$~~

$x+3+y+3+z+3=72$

$x+y+z+9=72$

$x+y+z=72-9$

$x+y+z=63 \rightarrow (iii)$

Put y and z in (iii)

$x+6x+2x=63$

$Q_n = 63$

$n = 63/9$

$\boxed{n = 7}$

So Sara is 7 year

Bethu is age $2x = 2 \times 7 = 14$ year.

and Mother's age $6x = 6 \times 7 = 42$ years

c)

1) SHIRT

2) ~~I~~ D ~~A~~ NG ~~ER~~

v) Holi ~~D~~ DAY