

# Section II

Q#06 (5)

Initial Enrollment in January 2022 was — 850

Enrollment in January 2023 is 1120

Increase percentage ??

As we know that:-

Final — Initial

$$1120 - 850 = 270$$

10

$$\text{Percentage Increase} = \frac{270}{850} \times 100$$

$$= 31.76\%$$

Hence increase percentage is

31.76%

percentage increase

31.76%

Q# 06 (c)

we know that

$$\text{No. of Heads} = 48$$

$$\text{No. of Feet} = 140$$

The No. of Hens

Let Hens =  $x$   
Cows =  $y$

Formula.

$$2H - \frac{C}{2}$$

$$2(48) - \frac{140}{2}$$

$$96 - \frac{140}{2}$$

$$\frac{192 - 140}{2} = \frac{52}{2}$$

$$x = 26$$

$$y = 48 - 26 = 22$$

$$\text{No. of Hens} = 26$$

$$\text{No. of Cows} = 22$$

Q#6 (d)

$$v_1 = 40 \text{ km/h}$$

$$d_1 = \frac{x}{2}$$

$$v_2 = 60 \text{ km/h}$$

$$d_2 = \frac{x}{2}$$

Average speed.

Time taken first part

$$t_1 = \frac{x}{40}$$

Time taken second part

$$t_2 = \frac{x}{60}$$

Average speed.

$$v = \frac{\text{total distance}}{\text{Total time}}$$

$$v = \frac{2x}{\frac{x}{40} + \frac{x}{60}} = \frac{2 \times 40 \times 60}{40 + 60}$$

$$v = 48 \text{ km/h}$$

Q#7 (a)

A Number is divided by 6 and then 50 is added. If the total is 60. What is that Number

Solution.

$$\frac{x}{6} + 50 = 60$$

$$\frac{x + 300}{6} = 60$$

$$x + 300 = 360$$

$$x = 360 - 300$$

$$x = 60$$

The Number is — 60.

Q#7 (b). Ring the odd one out

8, 16, 24, 34, 40, 48

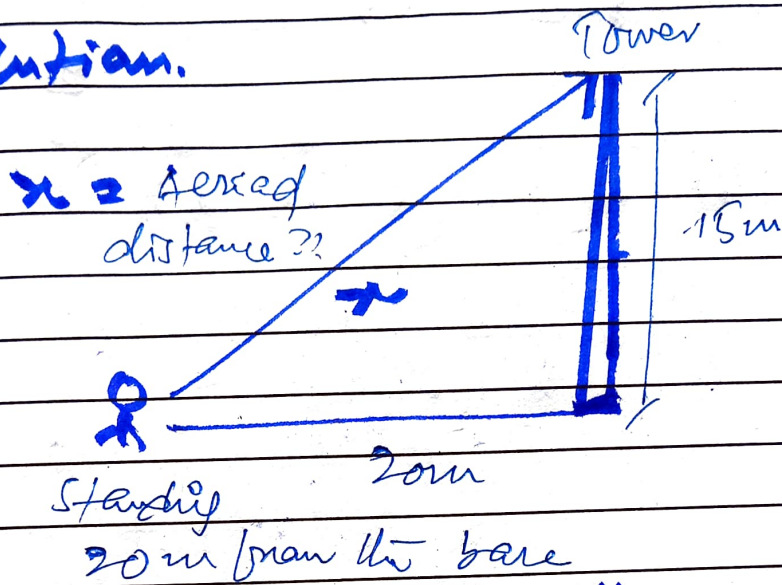
The odd one is 34

Because 34 is not divide by exactly divide by 8  
Except 34, all the number exactly divide by 8.

Q# 7(c)

A tower is 15 m tall.  
If I am standing 20 m from  
the base of the tower.  
What is my aerial distance  
from the top of the tower

**Solution.**



We know that, it's Pythagorean  
Theorem

$$\text{Hyp}^2 = \text{Base}^2 + \text{Perp}^2$$

$$x^2 = (20)^2 + (15)^2$$
$$x^2 = 400 + 225$$

$$x^2 = 625$$

Square root both side

$$\sqrt{x^2} = \sqrt{625}$$

$$x = \sqrt{3 \times (5 \times 5) \times 7}$$

$$= 5\sqrt{21}$$

$$x = 22.9 \text{ m}$$

Q#7 (d)

Total Temp = 30000

For odd dates, 5<sup>th</sup>, 7<sup>th</sup> = 1000For even dates, 6<sup>th</sup>, 8<sup>th</sup> = 2000Average Amount =  $\frac{1000 + 2000}{2}$ 

= 1500

Total Amount paid = 30000

No: of days he stayed in  
the hotel = 20

$$\frac{30000}{1500} = 20$$

Hence, The person stayed  
in a hotel according to  
given data in 20 days.

# Section - I

Q#04 (5)

Cause of Floods?

Answer:-

The main causes of floods can be perceived widely, and due to various factors floods occurs, and these are

- 1) Rivers can overflow their banks due to heavy rain cause flooding.
- 2) Breach of dams
- 3) Global warming, due to extreme heat and temperature layers in non-polar regions melts rapidly and then the volume of rivers and canal rise high.
- 4) Improper agriculture practices
- 5) Deforestation
- 6) Inadequate maintenance of drainage facilities, blockage of debris brought waters.

These are the main cause of floods.

## Flood 2022 and 2010

The monetary damages incurred by Pakistan due to recent floods are nearly twice as high as those incurred in 2010 floods.

Official estimates put the losses due to recent floods at over \$18 Billion, compared to \$10B in 2010.

### 2010 Flood

### 2022 Flood

Area hit - 20%	33%
people affected 20 Million	33m
Deaths 1885	1400
Crop damage 4.9m hect	8.3m hect
Livestock - 1.2m	0.75m

## Role of NDMA

The Role of NDMA in flood 2010 and 2022 involves creating and implementing disaster management preparedness plans which include

- warning system
- community training and disaster risk reduction strategies.



Others operation such as

Relief operation

Rehabilitation and Reconstruction  
public awareness.

In a summary, NDMA

National disaster Management  
authority plays a crucial  
role in disaster management.

Q# 4  
a)

**Planet-**

There are some  
body in space  
that orbit the star

They do not produce their  
own light

Example  
Earth, Venus,  
Mars,

**Stars**

There are  
shiny sphere  
of hot gas.

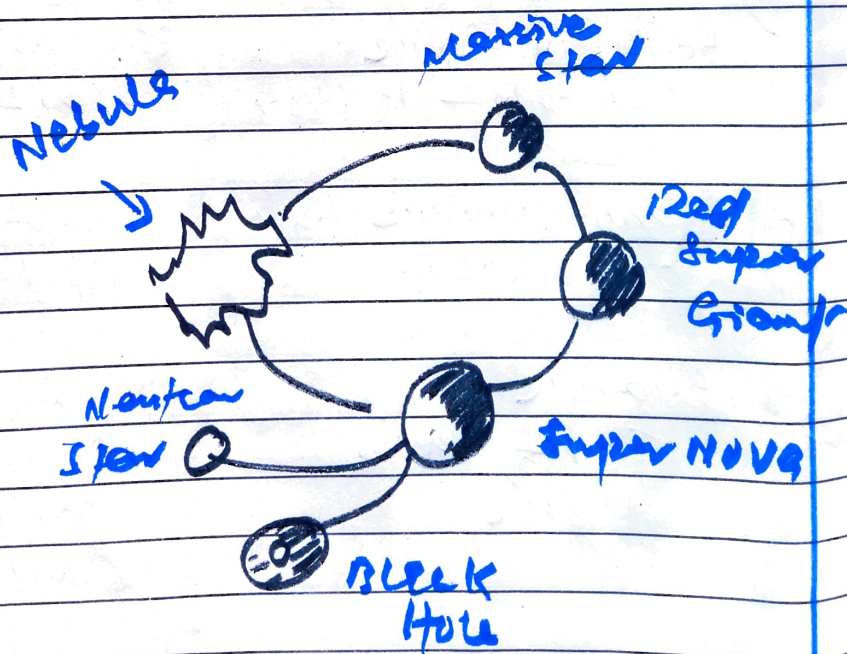
Emit light  
and heat

Example  
Sun,  
Proxima  
Centauri.

## How ~~How~~ Star become a Black hole.

When a massive star much larger than the sun exhausts its nuclear fuel, it undergoes a supernova explosion, ejecting its outer layer.

If remaining core is sufficiently massive about 3 times the sun's mass, it collapses under its own gravity, forming a black hole.



## Q#04 (a)

### Conductors

Materials that allow easy flow of electricity due to presence of free electrons.

Example - Copper is a common

### Semi-Conductor

Are materials that conduct or conduct electricity at certain conditions.

Example - Silicon

### Metals

Metals or elements that are typically shiny, malleable and conductive elements.

Example - Aluminium -

### Plastics

Synthetic material made from polymers, which is long chains of molecules

Such as polyethylene used in plastic.

## Ceramics

Inorganic or non-metallic that are typically brittle, heat resistant and insulators.

They are made from clay at high temperature.

Example  $\Rightarrow$  porcelain

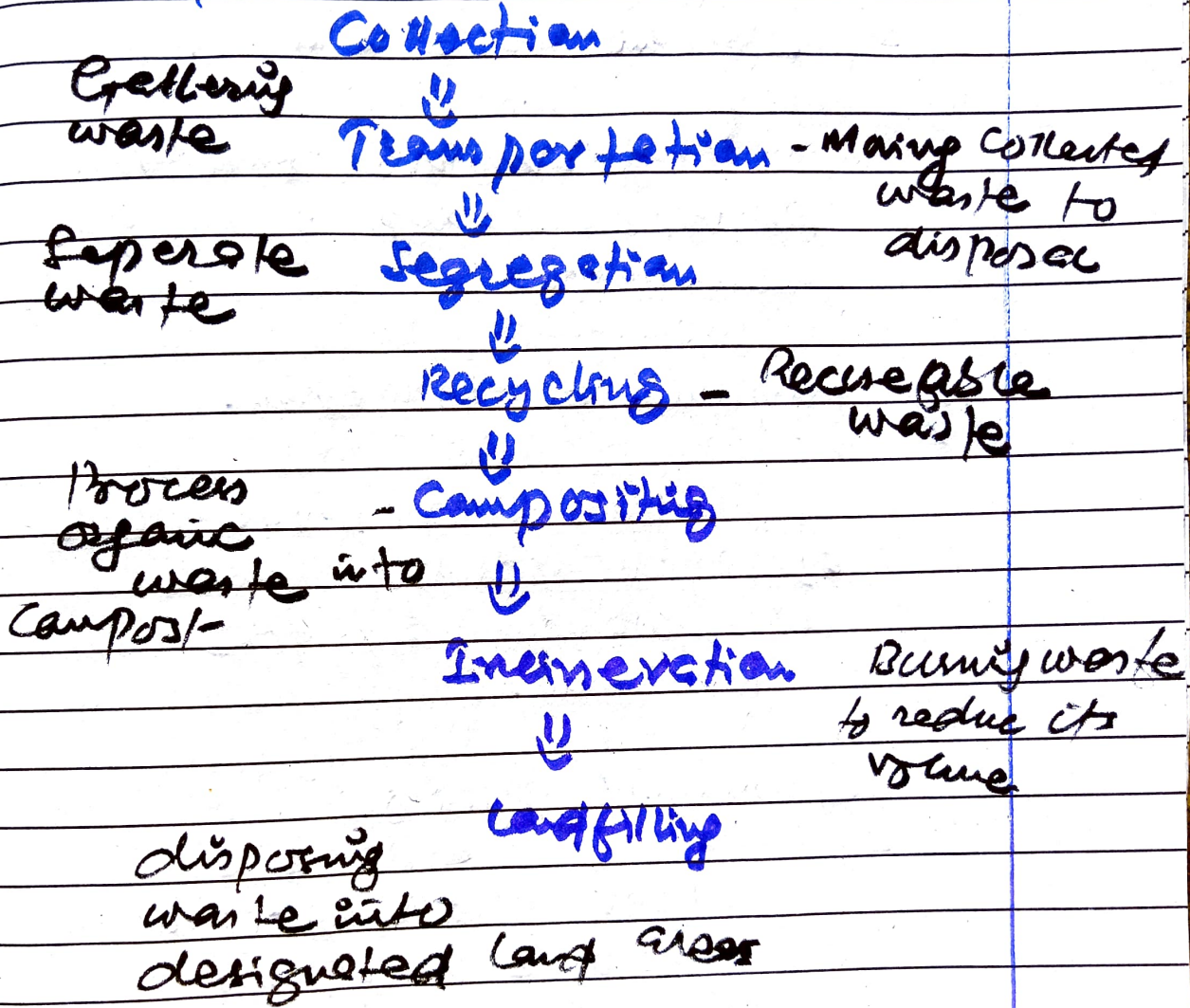
A type of material used in household.

like - dishes

Q# 5 (c)

## Solid waste management.

Steps:-



main issues in solid waste management in our country.

- 1) Lack of infrastructure  
In-sufficient facilities for collecting waste

## ii) Public Awareness

Low level of public awareness and participation in waste segregation and recycling.

## iii) Inefficient waste collection.

Irregular waste collection service leading to illegal dumping.

## iv) Environmental pollution.

Improper disposal, such as open burning, cause air, water and soil pollution.

## v) Government policies.

Weak enforcement policies of waste management regulation.

Q.05 (c)

## Radio activity.

↓ process by which unstable atomic nuclei lose energy by emitting radiation.

This includes release of  
Alpha particle  
Beta particles or  
Gamma rays.

Radioactive material spontaneously emit these particles or rays

Example = Uranium  
Thorium or Radon  
gas.

### Natural Radioactivity

- Occurs naturally in  
Environment  
Such as  
Uranium  
Thorium or  
Radon gas.

- Undergo radioactive decay without any human intervention.

### Artificial Radioactivity

- Induced by  
Humans through  
nuclear reactions.

Such as

Carbon-14

Used in Radio-

Carbon dating

Used in nuclear  
reactor or

particle accelerator

Q. 5(a)

## Population Planning

Strategies and action-taken to manage and control the growth of population

It involves implementing policies and programmes aimed at balancing the population size with available resources.

Improving quality of life and ensuring sustainable development

## Benefits.

### 1) Economic growth

a) Balance work force

b) Reduce poverty.

Controlling population growth can reduce ~~population growth~~ poverty.

### ii) Improve health

a) Maternal and child health

b) Disease control



### iii) Environmental Sustainability.

- a) Resource Management
- b) Reduced Pollution.

### iv) Social Stability.

- a) Reduce unemployment
- b) Social Service.

### v) Empower of women.

- a) Reproductive rights
- b) Gender equality.

### vi) Educational opportunities

- a) Better access
- b) Quality of education.

### Conclusion.

Population Planning is a crucial tool for promoting sustainable development and economic stability, and enhancing the quality of life by managing population growth.