

Date: 09/12/25

Mock-5

Day: _____

MEMOONA ARSHAD

BATCH-211

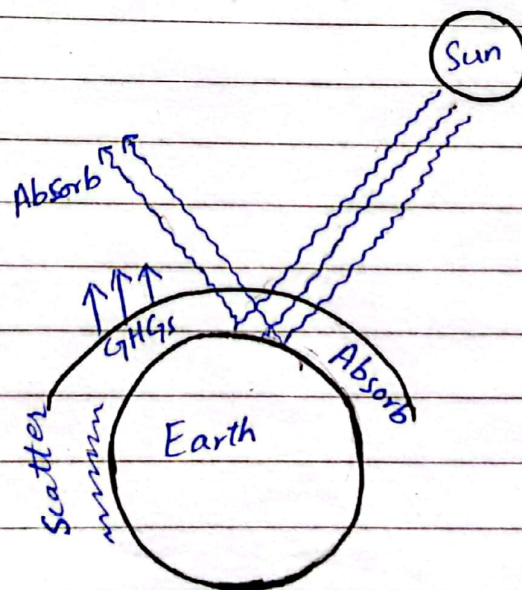
GENERAL SCIENCE AND ABILITY

Q-2 (c)

Global warming

A gradual increase in the temperature of the earth is called global warming.
~ IPCC ~

Mechanism of Greenhouse effect



∴ GHGs → Green House Gases.

- When sunlight reaches the earth, some of it gets absorbed by the earth, and increase the temperature of the earth.
- Some of heat reflected back into atmosphere, but the GreenHouse Gases (GHGs) present in the atmosphere, trap the heat and keep the temperature of the atmosphere warm.

Greenhouse Gases (GHGs)

- Carbon dioxide (CO_2)
- Carbon monoxide (CO)
- Methane (CH_4)
- Chloroflourocarbons (CFCs)

(b) Semiconductors

Semiconductors are the type of material that has electrical resistance between conductors and insulators.

Modern applications of Semiconductors

- Semiconductors are used as microchips in computing.
- Semiconductors are also used in home appliances such as microwave ovens.

(a)

	Star	Planet
1. Source of light	Stars have their own light. They do not need any external source of light.	Planets do not have their own source of light. They get it from external source.
2. Numbers	Billions of stars are present in the universe.	There are only 8 planets in the whole universe.
3. Temperature	High temperature	Low temperature
4. Life cycle	Most stars undergo a life cycle.	Planets do not undergo any life cycle.

(d) Tsunami

Tsunami is a series of long waves produced by large-scale, massive displacement of water in ocean.

Natural Causes of Tsunami

Following are the natural processes responsible for causing Tsunami:

- Volcanic eruption
- Earthquake

Impact on Coastal areas

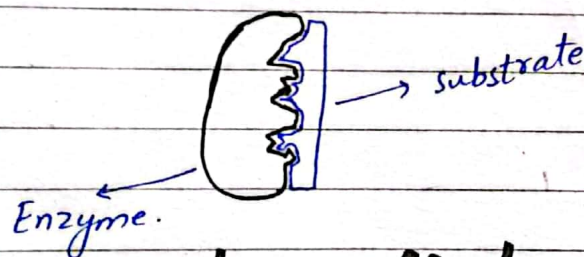
- Tsunami largely impacts coastal population. It results in destruction of homes and buildings, resulting into mass migration.

Q.3 (b) Enzymes

Enzymes are actually proteins, that serve as a catalyst to accelerate the chemical reactions in living organisms.

Lock and key model

Lock and key model of enzyme action explains that for the active site of particular enzyme is a particular substrate, like every lock has a specific key that fits into it.



Factors affecting enzyme activity

- Temperature
- pH

(d) Dengue fever

Dengue fever is a viral disease caused by dengue virus i.e. Aedes, and affects multiple organs specifically liver.

vector responsible

- caused by bite of Aedes mosquito that belongs to dengue virus group I class.
- There are four types of vector responsible for causing dengue fever.
 - DENV1
 - DENV2
 - DENV3
 - DENV4

Symptoms of dengue fever

- Fever
- Headache
- Red spots on the body
- Backache
- Nausea and vomiting
- Fatigue and body pain

Preventions

- Use mosquito nets
- Wear full sleeves dress in the dawn and evening.

- close doors and windows in the evening.
- Don't allow water to stand anywhere.

SECTION-II

Q.8

(C) Missing number

(i) 4, 12, 6, 18, 9, 27, —

$$4, 12, 6, 18, 9, 27, \underline{13}$$

$\underbrace{4 \quad 12}_{+2} \quad \underbrace{6 \quad 18}_{+3} \quad \underbrace{9 \quad 27}_{+4}$

Through this pattern, the number increases by 1 each time. So, the missing number would be 13.

(ii) 1, 2, 6, 24, 120, —

$$1, 2, 6, 24, 120, \underline{720}$$

$\underbrace{1 \quad 2}_{\times 2} \quad \underbrace{2 \quad 6}_{\times 3} \quad \underbrace{6 \quad 24}_{\times 4} \quad \underbrace{24 \quad 120}_{\times 5} \quad \underbrace{120 \quad 720}_{\times 6}$

The multiplier increases by 1 number each time. So, the next number is 720.

(a) Coding

If ROAD $\rightarrow$ UQDG
then,

LAKE $\rightarrow$ OCNH

In case of 2nd alphabet +2 shift rule is applied, while in all others +3 shift rule is applied. Like,

$R \rightarrow S \rightarrow T \rightarrow U \quad +3$
 $O \rightarrow P \rightarrow Q \quad +2$
 $A \rightarrow B \rightarrow C \rightarrow D \quad +3$
 $D \rightarrow E \rightarrow F \rightarrow G \quad +3$

Similarly,

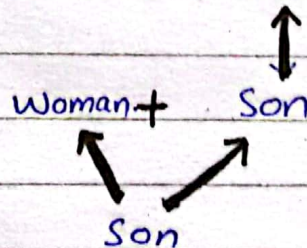
$L \rightarrow M \rightarrow N \rightarrow O \quad +3$
 $A \rightarrow B \rightarrow C \quad +2$
 $K \rightarrow L \rightarrow M \rightarrow N \quad +3$
 $E \rightarrow F \rightarrow G \rightarrow H \quad +3$

(b) Relation

- Sister's husband $\rightarrow$ Brother in law of man,
- his son is nephew of man
- Man's nephew is husband of woman

Ans: Woman is the wife of man's nephew.

Man = sister + Husband



(d) Five friends (P, Q, R, S, T)

- P is shorter than Q but taller than R
- S is shorter than T but taller than Q.

T — 180 cm

S

Q

P

R — 150 cm

The third tallest is Q.

Q.7 (d) Age Problems

Given Data:

Sum of current ages = 75 years

Ten years ago,

Father's age was 4 times than son.

To find:

current ages = ?

Solution:

Let, Son = $x - 10$

Father = $4(x - 10)$

$$(x - 10) + (4x - 40) = 75$$

$$x - 10 + 4x - 40 = 75$$

$$5x - 50 = 75$$

$$5x = 75 + 50$$

$$5x = 125$$

$$x = \frac{125}{5} = 25$$

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$$\boxed{x = 25y}$$

Let's subtract age of son from sum of their ages to find age of father

$$\text{Age of father} = \text{Sum of their ages} - \text{Age of son}$$

$$\text{Age of father} = 75 - 25 = 50 \text{ yrs.}$$

$$\boxed{\text{Current Age of son} = 25 \text{ yrs}}$$

$$\boxed{\text{Current Age of father} = 50 \text{ years.}}$$