

General Science and Ability

Mock-1 May-24

PART-II

SECTION-I

Insufficient length

Add more headings

Draw diagrams

Work on math portion

QUESTION-2

(a)

Climate

Differentiate

Environment

Climate is the overall environment in the world i.e. on planet earth.

It covers the whole of the planet earth to give a narrative.

Example

Climate of earth is getting hotter day by day and glaciers are melting due to this.

Environment is the hot and cold that you sense around yourself.

It ranges from small areas like your room to the area which you can feel around.

Example

The environment of my room or house is cool as I am in Kashmir.

Causes of Air Pollution in Pakistan

Def: Air pollution is caused by sources which are released in the air.

Causes:

- Traffic of cars, buses, bikes and other modes of transport running on a combustion fuel like petrol, diesel etc.
- Horns of traffic also contribute to the air pollution in Pakistan.
- Thermal power plants using combustion fuel i.e non-renewable fuels.
- Factories releasing untreated fumes/smokes in the air.
- Burning of huge dumps of trash.
- Brick kilns are also the main contributors of air pollution.
- Loudspeakers and speakers used in public events are also one of the causes of air pollution.

(b) Note on Vitamins

What are vitamins

Vitamins are those substances which are required by human body in small quantities over a period of time.

Types, resources and Uses.

Types There are multiple types of vitamins and each one is required and responsible for a specific purpose.

Following are the types of vitamins

Resources & Uses

- **Vitamin A** It is very good for eyesight/diseases. It is found in carrots.
- **Vitamin B**
- **Vitamin C** It is very good for skin and it is found in citrus fruits like lemon, oranges.
- **Vitamin D** It is found in fruits and milk. It is essential for keeping our bones strong and avoiding any kind of fracture.

Vitamin K: It is required by our body in very small quantity and is found in vegetables like brinjal.

Role in Human body

They perform multiple roles in human body,

• They regulate minerals & other substances in your body.

• They prevent eye diseases

• They make your bones strong such as vitamin obtained from milk and Sun.

• They maintain fertility in your body.

• They are good for your skin and stomach.

Vitamins are such ones that are required in small quantities but are essential for proper growth.

(c)

Compare COP-27 and COP-28 on Climate change

COP-27 and COP-28 are the cooperation meetings of many members nations of the world to address the current climate change.

Their goal is to reduce the emissions and pollution and they give target to participating nations to reduce their carbon emissions.

Every year this conference takes place.

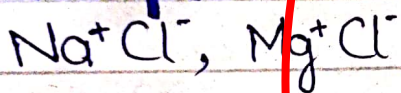
Qno. 5

(b)

Ionic Bond

- Ionic bonds are formed by transfer of electrons by ions to each other.
- By transfer of electrons the ions complete themselves.

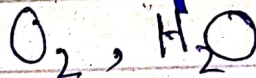
Examples



Covalent bond

- Covalent bonds are formed by sharing of electrons by two atoms so that they become stable by joining.
- The electrons are shared by them in this way both have their cycles completed and become stable.

Examples



(c)
Uses

Gamma Rays:

- They are used to reduce and diminish the tumors, in the treatment of cancer.
- They are used in nuclear power stations and nuclear facilities to produce heat and energy.

X-Rays

- They have their uses in hospitals.
They are used to perform X-ray imaging of patients by machines.
They are used in treating tumors.

Radio Waves

Radio waves are used in radio transmissions for transferring signals from radio station to listeners.

They are used in mobile networks.

They are used in television channels.

(d) Tides

Tides are the rising in the sea of water due to attraction by the Sun and the moon causing changes in the wavelengths of sea.

This results in a pull pressure by the Sun and the moon forming tidal waves.

Note on LED

- LED stands for light-emitting diode.
- It is used as a substance to generate light by using electricity.
- It is used in bulbs and tubelights to lit our homes.
- It is used in screens to make LED screens which are used as television screens and computer screens.
- LEDs have become very popular nowadays as they are energy efficient.
- They are brighter than their alternatives as well.
- They are also of higher quality.

(a) Cyclones

Formation

- Cyclones are formed due to changes in the pressures of air and when it becomes wind.

As wind has a higher speed. When this pressure increases continuously and winds in the same direction combine and become large they become Cyclones.

- Now these winds become so powerful that they can throw away a deep rooted tree, a car or even a house from its base and these heavy objects start flying inside cyclone.

- Currently these are formed due to climate changes.

- They are also formed due to the volcanic eruption and wild fires in forests.

Q no. 7 (a)

$$x \times \frac{3}{5} = \frac{3x}{5}$$

$$x \times \frac{5}{3} = \frac{5x}{3}$$

$$\frac{5x}{3} - \frac{3x}{5} = \frac{25x - 9x}{15}$$

$$= \frac{16x}{15}$$

Percentage error = 10.067%

10.067% is the percentage error in the calculation.

$$15 \overline{) 16} \begin{array}{r} 1.06 \\ \underline{15} \\ 100 \\ \underline{90} \\ 10 \end{array}$$

(b)

Given: Ratio of chocolates to ice cream cones in a box is = 5:8 → ice-cream cones.

↓
Chocolates

No. of chocolates = 30

To Find:

ice-cream cones = ?

Solution:

$$\frac{30}{5} \times 8 = 48 \text{ ice cream cones}$$

48 ice cream cones are there

(c)

Given:

1 Tablet = 30mg medication

To Find

How many tablets = 240mg medications = ?

Solutions:

$$\begin{aligned} \text{No. of tablets} &= \frac{\text{Required mg of medication}}{\text{One tablet's mg of medication}} \\ &= \frac{240\text{mg}}{30} \end{aligned}$$

$$\text{No. of tablets} = 8 \text{ Tablets.}$$

8 Tablets are required to provide Mr Smith with 240mg of medication.

(d)

GIVEN

Average of how many no.s = 50

Average value = 20

Numbers discarded = 37 and 43.

To Find

Average of the remaining numbers = ?

Solution:

$$\text{Sum of 50 numbers} = 50 \times 20 = 1000$$

$$\text{less discarded no.s} = 1000 - 80 = 920$$

$$\text{Average of remaining} = \frac{920}{48} = 19.16667$$

Conclusion

The average of the remaining 48 numbers will be 19.1667

Working

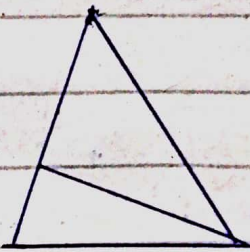
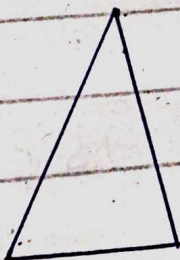
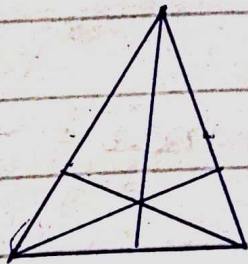
$$\begin{array}{r} 19.166 \\ 48 \overline{) 920} \\ \underline{-48} \\ 440 \\ \underline{-432} \\ 80 \\ \underline{-48} \\ 320 \\ \underline{-288} \\ 32 \end{array}$$

Q8

(b)

No. of triangles

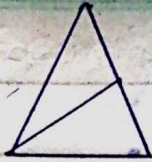
The total number of triangles in the below equilateral triangle are 13.



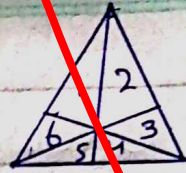
One in itself

2 in this way

2 in this way



2 in this way.



6 in this way

Total Triangles = 1 + 2 + 2 + 2 + 6 = 13 triangles.

(c) Probability of a word being vowel

Given

Word "Superintendent"

Total words = 14.

Vowel words = 5.

1 word is chosen

To Find

Probability of being a vowel = ?

Solution:

$$\text{Probability} = \frac{\text{No. of vowel words}}{\text{Total no. of words}} = \frac{5}{14} = 0.3571$$

$$\begin{array}{r} 0.3571 \\ 14 \overline{) 50} \\ \underline{-42} \\ 80 \\ \underline{-70} \\ 100 \\ \underline{-98} \\ 200 \end{array}$$

~~$$\begin{array}{r} 0.3571 \\ 14 \overline{) 50} \\ \underline{-42} \\ 80 \\ \underline{-70} \\ 100 \\ \underline{-98} \\ 200 \end{array}$$~~

Hence, the probability that the one word chosen is a vowel is $\boxed{0.3571}$

(d) Distribute

Given

$$\text{Amount} = \text{Rs. } 4320.$$

$$\text{Persons} = 3$$

$$\text{Ratio} = 2 : 3 : 7$$

Zain Aslam Ashraf

$$\text{Sum of ratios} = 12$$

To Find

Amount distributed with respect to ratio = ?

Solution

$$\begin{aligned} 1 \text{ share} &= \frac{\text{Total amount}}{\text{sum of ratios}} \\ &= \frac{4320}{12} \end{aligned}$$

$$1 \text{ part of share} = 370$$

$$\begin{array}{r} 370 \\ 12 \overline{) 4320} \\ \underline{-36} \\ 72 \\ \underline{-72} \\ 0 \\ \underline{-0} \\ 0 \end{array}$$

$$\text{Zain's Share} = 370 \times 2$$
$$= 740$$

$$\text{Aslam's Share} = 370 \times 3$$
$$= 1110$$

$$\text{Ashraf's Share} = 370 \times 7$$
$$= 2590$$

Above are Zain, Aslam and Ashraf's with respect to their parts of the amount given in ratio of 2:3:7.

$$\begin{array}{r} 6100 \\ 3700 \\ 1110 \\ \hline 2590 \end{array}$$

(a)

Formula of IQ

Intelligence Quotient

Factors Affecting IQ

Following are the factors which effect the IQ.

- The level of stress in a person
- The level of focus in him.
- The speed of attempting.
- It's also affected by the environment and the surroundings in which a person lives.