

Q No 3

a.

1. Introduction

The focus of COP-30 in Brazil showed an increased push for a concrete roadmap to scale up climate finance for developing countries, possibly setting a more ambitious tone than COP-29 in Egypt.

2. COP-29 (Azerbaijan or Egypt Context)

While the final agreement may have included a formal climate finance goal like \$300bn per-year mentioned in the lead up, there was general disappointment among developing nations regarding the ambition and concrete mechanisms to meet their

Date: _____

Day: _____

climate finance needs, especially for loss and Damage funding.

3. COP-30 (Brazil Context)

Spearheaded by Azerbaijan and Brazilian presidencies, the creation of "Baku to Belém roadmap" was a significant development. This aimed to provide a coherent reference framework on existing initiatives and leverage points to scale climate finance to at least \$1.3 trillion a year by 2035. This offered a pathway to unlock the trillions that developing countries state are needed for climate targets.

4. Conclusion

COP-30, through Baku to Belém roadmap, demonstrated a higher aspiration and more detailed framework for

Date: _____

Day: _____

305
reaching the required targets in climate finance compared to the outcomes of COP-27, which often faced opposition from petrostates regarding finance and fossil fuel transition.

b.

1. Introduction

Output Devices

Equipments used to present the results of the processed data (information) from the computer system (CPLI) to the user. They convert machine readable data back into a human readable or understandable form (visual, print or auditory).

Examples of Output Devices

Monitor, printer, speakers, projector, headphones.

Date: _____

Day: _____

Input Devices

Equipment used to enter data or instructions from the user into the computer system (CPU) for processing. They convert human-readable data into a machine-readable binary format.

3

Examples of Input Devices

Keyboard, Mouse, Scanner, Microphone, Joystick.

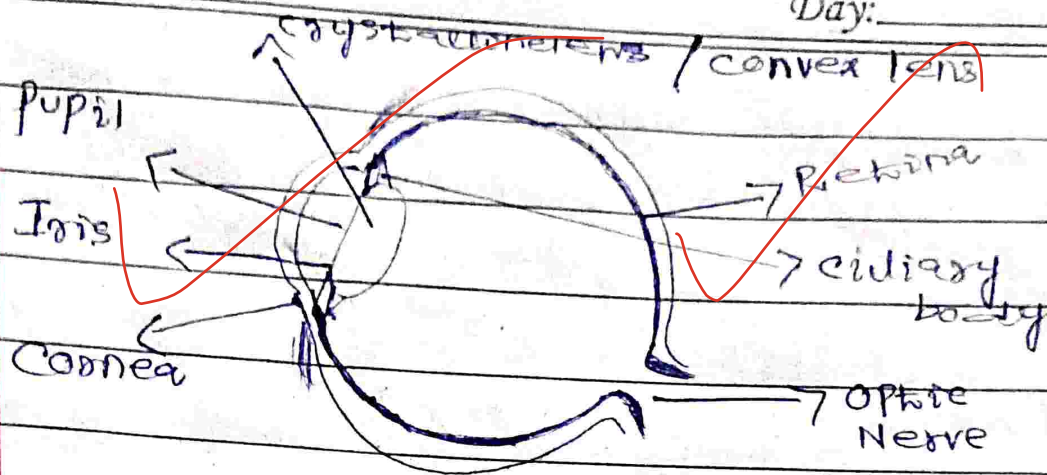
C.

2. Introduction

The human eye functions like camera, using several components to focus light and convert into electrical signals the brain can interpret.

Date: _____

Day: _____



2. Structure of an eye

3. Explanation of Parts of eye

3.1. Cornea and its Function

The transparent & outermost front layer of the eye. Its main function is to provide the major part of the light refraction (bending) to begin focusing the light rays onto the retina.

3.2. Pupil and its Function

The opening at the center of the Iris through which light passes. Its function is to regulate the amount

Date: _____

Day: _____

of light entering the eye.
It appears black.

3.3. Convex Lens and It's Function

Located behind the pupil, this clear structure provides the finer adjustment of focus. It changes its shape via ciliary muscles to ensure the image is sharply focused on retina, whether object is near or far.

3.1. Retina and It's Function

The light-sensitive tissue lining the back of the eye. It contains rods and cones that convert the focused light image into electrical nerve impulses, which are then sent to the brain via the optic nerve.

8.

4

Date: _____

Day: _____

d. Causes of Water Pollution

1. Water Pollution

It is primarily caused by human activities introducing contaminants into water bodies.

2. Causes of Water Pollution

2.1. Industrial Waste Causes Water Pollution

Discharge of wastewater containing toxic chemicals, heavy metals, oil and heat (thermal pollution) directly or indirectly into water bodies, often from manufacturing plants, mines, or energy facilities, cause water pollution.

2.2. Sewage and Waste Water - a cause of Water Pollution

Improper disposal or inadequate treatment of

Date: _____

Day: _____

Sewage from households and institutions, introducing harmful bacteria that consume oxygen in the water cause water pollution.

2.3. Agriculture Run off - Another Cause of Water Pollution

Water from rainfall or irrigation that carries pesticides, herbicides, fertilizers, and animal waste from farms into rivers, lakes, and groundwater. Excess nutrients can lead to harmful algal blooms.

2.4. Marine Dumping and Plastic Pollution

The direct disposal of solid waste (especially plastics and other non-biodegradable garbage) into oceans and other water bodies, harming marine life and ecosystems.

3

Date: _____

Day: _____

① No 4.

a.

(i) Cyclone and Tornadoes

A cyclone is a large scale weather system originating from warm ocean water that can last for weeks, while a Tornado is a violent, smaller, and short lived vortex of air that forms over land, often during severe thunderstorms.

(ii) Hypocenter and Epicenter

The Hypocenter is the exact point within the Earth where an earthquake rupture originates, and Epicenter is the point on the Earth's surface directly above the hypocenter.

Day: _____

Date: _____

iii) GPS and GIS

Global Positioning System is a satellite-based system used to determine the precise location of a device on earth, while Geographic Information System is a computer system designed to capture, store, analyze, and display complex geographically reference data.

iv) RAM and ROM

Random Access Memory is volatile memory used for temporary storage of data actively being worked on read and write, while Read Only Memory is non-volatile memory that permanently stores essential system instructions.

v) Pesticides and Insecticides

Pesticides is a term for any substance used to kill or control pests, like

Date: _____

Day: _____

insects, insects, fungi, while
insecticides are specific
type of pesticide solely
to kill or control insects.

b.

Volcanic Eruption Mechanism

A volcanic eruption occurs when buoyant magma, which is less dense than the surrounding solid rock, accumulates in a magma chamber beneath the surface.

As the magma rises and dissolved gases like water vapor and CO_2 encounter lower pressure near the surface.

They rapidly exsolve and expand, generating immense pressure that forces the magma and associated rock

Date: _____

Day: _____

fragments out through a vent or fissure onto the Earth's surface.

c. Solid Waste Management: Pyrolysis, Incineration and Composting.

Solid Waste Management utilizes various techniques to treat waste, reduce volume, and recover resources:

(i) Pyrolysis

This is a thermal decomposition process where organic materials are heated to high temperatures (300°C to 600°C) in the absence of oxygen.

It breaks down the waste into valuable end products like pyrolysis oil, syngas and solid residue called biochar.

Date: _____

Day: _____

(ii) Incineration

This is controlled, high-temperature combustion process ($> 850^{\circ}\text{C}$) that occurs in the presence of excess oxygen to completely burn combustible waste materials.

The main goals are volume reduction and energy recovery, producing heat, and residue ash.

(iii) Compositing

This is a biological decomposition process where biodegradable organic waste is broken down by microorganisms under oxygen rich conditions.

It transforms the waste into a stable, nutrient-rich soil amendment called compost.

2.5

Day: _____

Date: _____

d.

Balanced Diet

A balanced diet is an eating plan that provides the body with the right proportions of all essential nutrients like, carbohydrates, proteins, fats, vitamins, minerals, and water to support proper growth, maintenance and functioning of the body without consuming excess calories.

Foods Included in Balanced Diet

It involves fruits, grains, vegetables, protein foods, and dairy in appropriate amounts to meet daily energy and nutrient requirements.

Day: _____

Date: _____

Importance of Balanced Diet

Consuming a balanced diet is crucial for maintaining a healthy weight, reducing the risk of chronic diseases like diabetes, heart attack, and ensuring overall physical and mental well-being.

(2)

Ability Portion

Q NO 7

a.

(i) 11, 13, 17, 19, 23

ii) 10, 28, 91, 370, _____

b. Given:

35 Shirts in Rs. 280

Selling price 308

To Find:

Percentage of profit?

Solution:

$$\text{Profit} = \text{Selling Price} - \text{Cost Price}$$

$$308 - 280 = 28$$

$$\text{Profit} = 28 \text{ Rs.}$$

Date: _____

Day: _____

$$\text{Profit percentage} = \frac{\text{Profit}}{\text{Cost Price}} \times 100$$

$$= \frac{28}{280} \times 100 = 10\%$$

The profit %age is 10%

Ans

C. Given: To Find:

Find IQ of child

Actual age = 10 years

Chronological age is 12 years.

Solution

$$IQ = \frac{\text{Actual Age}}{\text{Chronological Age}} \times 100$$

$$= \frac{10}{12} \times 100$$

$$= \frac{5}{6} \times 100$$

$$= 0.833 \times 100$$

$$IQ = 83.3 \text{ years}$$

Date: _____

Day: _____

d. Given:

Avg height of 30 boys
was 150 cm. 135 cm replaced
by 165 cm. F

To Find:

Correct mean?

$$\text{Initially} = \frac{\boxed{\text{No. of Boys}}}{\boxed{\text{Avg Height}}} \times$$

$$\text{Initially} = \frac{\boxed{30}}{\boxed{150}} \times = 4500 \text{ cm}$$

$$\text{Correct Sum} = \text{Initial Sum} -$$

$$\text{wrong value} + \text{correct value}$$

$$= 4500 - 135 + 165$$

$$= 4500 + 30$$

$$\Rightarrow \boxed{4530 \text{ cm correct value}}$$

$$\text{Correct Mean} = \frac{\text{Correct Sum}}{\text{No. of Boys}}$$

$$= \frac{4530}{30} = 151$$

$$\boxed{\text{Correct Mean} = 151 \text{ cm}}$$

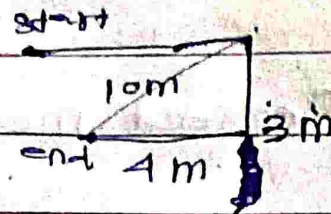
Ans

Date: _____

Day: _____

Q No 8

a.



Using Pythagoras theorem;

$$(\text{hyp})^2 = (\text{base})^2 + (\text{perp})^2$$

$$x^2 = (4)^2 + (3)^2$$

$$x^2 = 16 + 9$$

$$x^2 = 25$$

$$\sqrt{x^2} = \sqrt{25}$$

$$x = 5$$

~~5m away from~~
 Sara is 5m far from
 initial point.

Date: _____

Day: _____

b.

Given:

Octagon with 5 cm side

To Find:

Perimeter = ?

Interior angle?

Sol:

$$\text{Perimeter} = n (\text{octagon sides}) \times \text{one side of octagon (5)}$$

$$P = 8 \times 5 \text{ cm}$$

$$P = 40 \text{ cm}$$

Ans

$$I = \frac{(n-2) \times 180^\circ}{n}$$

$$I = \frac{(8-2) \times 180^\circ}{8}$$

$$I = \frac{6 \times 180^\circ}{8}$$

$$I = \frac{1080^\circ}{8} = 135^\circ$$

Each interior angle is 135°

c.

Given

box contains 6 green and 10 yellow balls.

To Find

Probability that the ball is yellow?

Sol:

$$\text{Total Balls} = 6 + 10 = 16$$

$$P(\text{yellow}) = \frac{10}{16} = \frac{5}{8}$$

The probability that the ball is yellow is $\frac{5}{8}$

Date: _____

Day: _____

4.

¹³ M	¹ A	⁴ D	¹⁰ R	¹ A	¹⁹ S
¹⁴ N	² B	⁵ E	¹⁹ S	² B	²⁰ T

B	O	M	B	A	X
C	P	N	C	B	Z