

Q: 6

(A)

$$3:6:2:5$$

$$\text{Apple} = 3x$$

$$\text{Berry} = 6x$$

$$\text{Cherry} = 2x$$

$$\text{Date} = 5x$$

$$3x - 5x = 35$$

$$-2x = 35$$

$$x = \frac{35}{-2} = -17.5 \text{ Ans.}$$

$$\text{Berry } 6x = 17.5$$

$$6 \times 17.5 = 105 \text{ Ans.}$$

(B)

$$\text{OR} = 200$$

$$\text{Discount Rate} = 25\%$$

$$\text{Sales tax} = 6\%$$

$$\frac{25}{100} \times 200 = 50$$

$$\text{Price after discount } 200 - 50 = 150$$

Apply 6% sales tax on discounted

$$\frac{6}{100} \times 150 = 9$$

$$150 + 9 = 159 \text{ Ans}$$

Give data

Distance = 36 km

Speed = 18 km/h

Starting time = 1:00pm

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$

$$\text{Time} = \frac{36}{18} = 2 \text{ hours}$$

$$2 + 1:00\text{pm} = \boxed{3\text{pm}} \text{ Ans.}$$

(D)

1. STATISTICS

2. ALGEBRA

(A)

Formula

$$V = \frac{4}{3} \pi r^3$$

Diameter = 14 cm

$$\text{So radius } r = \frac{14}{2} = 7 \text{ cm}$$

$$\pi = \frac{22}{7}$$

$$V = \frac{4}{3} \times \frac{22}{7} \times 7^3$$

$$7^3 = 7 \times 7 \times 7 = 343$$

$$V = \frac{4}{3} \times \frac{22}{7} \times 343$$

$$343 \div 7 = 49$$

$$V = \frac{4}{3} \times 22 \times 49$$

$$\frac{4}{3} \times 1078$$

$$V \frac{4312}{3} = 1437.33 \text{ Ans.}$$

(B)

$$1: 2: 3: 4: 5$$

$$\frac{25000}{18} = 1666.66$$

$$1 \times 1666.66 = \boxed{1666.66} \text{ Ans.}$$

(C)

i $2 \times 3 = 6$

$$6 \times 3 = 18$$

$$18 \times 3 = 54$$

$$54 \times 3 = 162$$

$$162 \times 3 = \boxed{486} \text{ Ans.}$$

(No error $\Rightarrow$ all numbers fit.)

ii)

3 5 7 11 13 $\boxed{17} \text{ Ans}$

All divide by 1 and themselves.

(D)

Plz Pythagoras theorem

$$a^2 + b^2 = c^2$$

$$5^2 + 12^2 = 13^2$$

$$25 + 144 = 169$$

Q:8 (A)

$$\sqrt{7^2 + 24^2}$$

$$\sqrt{49 + 576}$$

$$\sqrt{625} = 25 \text{ km}$$

$$7 + 24 + 25 = 56 \text{ km}$$

He then walk 10km straight, then turn 90°
and walk 5k so extra distance = $10 + 5 = 15$

$$56 + 15 = \boxed{71} \text{ Ans.}$$

Distance from the star

$$\sqrt{10^2 + 5^2} = \sqrt{100 + 25} = \sqrt{125} \text{ Ans.}$$

(B)

1. A gets half of B
2. B gets 3 times C
3. C gets 4 times D
4. D gets 2 times E
5. $E = F$

$$\text{Then } E = F = 1$$

$$D = 2 \times E = 2 \times 1 = 2 \text{ units}$$

$$C = 4 \times D = 4 \times 2 = 8 \text{ units}$$

$$B = 3 \times C = 3 \times 8 = 24 \text{ units}$$

$$A = \frac{1}{2} \times B = \frac{1}{2} \times 24 = 12 \text{ units}$$

$$A = 12, B = 24, C = 8, D = 2, E = 1$$

$$F = 1$$

Total units

$$12 + 24 + 8 + 2 + 1 + 1 = 48 \text{ units}$$

$$9000 \div 48 = 187.5$$

$$A = 12 \times 187.5 = 2250$$

$$B = 24 \times 187.5 = 4500$$

$$C = 8 \times 187.5 = 1500$$

$$D = 2 \times 187.5 = 375$$

$$E = 1 \times 187.5 = 187.5$$

$$F = 1 \times 187.5 = 187.5$$

(C)

$$\text{Length } l = 8\text{m}$$

$$\text{Width } w = 6\text{m}$$

$$\text{Height } h = 4\text{m}$$

$$\text{from Formula } TSA = 2(lw + lh + wh)$$

$$2(8 \times 6 + 8 \times 4 + 6 \times 4)$$

$$2(48 + 32 + 24) = 104$$

$$2(104) = \boxed{208\text{m}^2}$$

Total surface area is 208m^2

$$\text{Volume} = l \times w \times h$$

$$8 \times 6 \times 4$$

$$8 \times 6 = 48$$

$$48 \times 4 = \boxed{192} \text{ Ans.}$$

Total Volume 192 Ans.

(D) (Part)

Data

Total family member = 8

Men 4 = Women 4

Average food consumption

Men = 72kg

Women = 50kg

Amna eat 67kg

$4 \times 72 = 288\text{kg}$ Men's total consumption

$4 \times 50 = 200\text{kg}$ Women total consumption

Total food $288 + 200 = 488\text{kg}$

Total members = $8 + 1 = 9$

New average = 67kg

$67 \times 9 = 603\text{kg}$

Amna food = Total with Amna - Org

Amna's food $603 - 488 = 115\text{kg}$

Answer 115kg

(Q:3) (PART A)

Pakistan is the fifth most populous country of the world. Currently Pakistan population has reached on 24 million. It is highly ~~an~~ alarming situation. The population explosion is caused by several factors:

Causes:

- Early marriages: Many ~~girls~~ girls are married at young age, which increases the number of childbearing years.
- Lack of education: Uneducated people are often unaware of family planning methods.
- Limited use of Contraceptives: Religious misconceptions and social taboos prevents the proper use of birth control.
- Traditional norms and values: Having many children, especially sons, is often considered a social honor.
- Preference for male children - Families continue to have children in the hope of having a boy, leading higher birth rates.

Control Measures:

1. Awareness Campaigns: Educate people about family planning and the benefits of smaller families.
2. Religious Consultation → work with religious scholars to clarify misconceptions about contraceptives.
3. Education - Promote female education and empower people to make informed family planning decisions.
4. Government policies: Implement incentives and policies that encourage families to limit the number of children.

(B)

Remote Sensing is a technique used to collect information about the Earth surface without direct contact. It uses satellites, drones, or aircraft to monitor environmental conditions such as land use, deforestation, temperature, and pollution levels. It helps scientists observe environmental changes over time.

Role of GIS

Role of GIS in Environmental Science

1. Mapping and Monitoring: GIS (Geographic Information System) helps in mapping land, forests, and water bodies to track environmental changes.
2. Disaster Management: It assists in predicting and managing natural disasters like floods, drought, and earthquakes.

3. Climate Change Analysis: GIS help track Climate patterns and temperature Variations across different regions.

• Resource Management: It supports Sustainable management of natural resources like soil, water, and forests.

Urban Planning: GIS helps in planning eco-friendly Urban development and reducing pollution.

Conclusion:

Both remote Sensing and GIS play a vital role in environment Science by providing accurate data and visual tools to monitor, manage, and protect the Earth's environment.

1. The atmosphere acts as a protective blanket around the Earth.
2. It regulates temperature and keeps the planet warm enough to support life.
3. The ozone layer shields ~~and~~ living organisms from harmful solar radiation.
4. It controls weather and climate patterns, ~~maintaining~~ maintaining ecological balance.
5. Pollution from industries, vehicles, plastics, and pesticides harms the atmosphere.
6. Climate change caused by pollution leads to floods, drought, and irregular rainfall.
7. A clean atmosphere ensures food security, health, and a stable environment.
8. Damage to the atmosphere threatens all forms of life on Earth.

Opinion:

In my opinion, the atmosphere truly functions as Earth's protective blanket because it maintains life-supporting conditions and safeguards the planet from ~~extreme~~ extreme climatic and

environmental changes. Preserving it is essential for human survival and sustainable development.

(D) (PART)

Hydrometer:

A hydrometer is an instrument used to measure the relative density or specific gravity of liquids. It helps determine how heavy or light a liquid is compared to water.

Epicenter:

The Epicenter is the point on the Earth's surface that lies directly above the focus (origin) of an earthquake. It is the location where the strongest ~~shat~~ ~~sk~~ shaking is usually felt.

(iii) Eye wall of Cyclone:

The eye wall is the dense ring of clouds surrounding the calm center (eye) of a cyclone. It contains the most intense winds, heavy rainfall and ~~severe~~ severe weather conditions.

(iv) Light year:

A light year is the distance that light travels in one year in a vacuum. It equals about 9.46 trillion kilometers (5.88 trillion miles) and is used to measure astronomical distances.

v) Deep focus:

A deep focus refers to the point inside the Earth where ~~can~~ an ~~eq~~ earthquake originates at a depth of more than 300 kilometers below the surface. Such earthquakes are usually less damaging on the surface.