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LMS: 38411

BATCH No. : 393

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PAPER : GENERAL SCIENCE
AND ABILITY.

QUESTION No 2

A.

STAR	PLANET.
i- Large Mass	Relatively smaller Mass.
ii- Emits its own Light.	Has no light of its own.
iii- Revolves around center of a galaxy	Revolves around the star of its solar system.
iv- Part of a galaxy	Part of a solar system.
v- No star can sustain any kind of life	Some planets can sustain life.

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→ Life Cycle of a Star.

A typical star has billions of years life. At the end of its life it becomes a "Nebula" where it starts shrinking and increasing its density. A star's death creates a black hole which is the densest material/entity in the universe.

B.

SEMICONDUCTORS.

A semi-conductor is a material that can conduct electricity under special conditions only.

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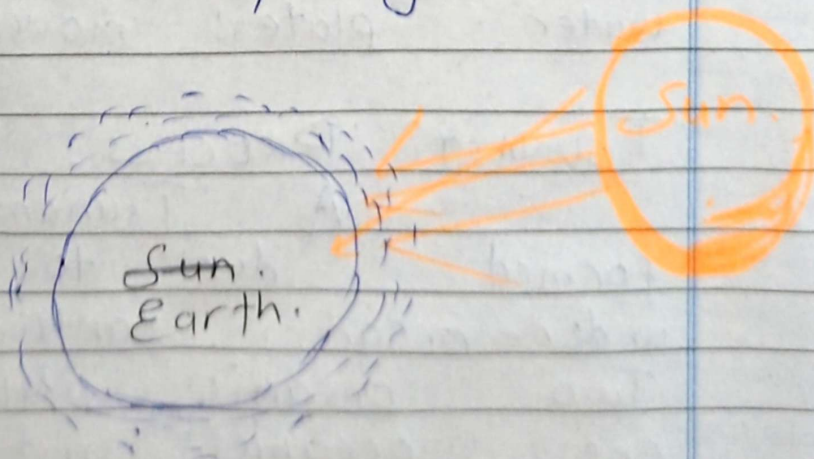
C.

GLOBAL WARMING.

Global warming is a phenomenon in which the average temperature of Earth increases during a set time period either naturally or by human hand.

GREENHOUSE EFFECT.

Most of Sun's heat rays are reflected back by Earth's atmosphere. About 10% of such rays enter Earth's internal atmosphere. Of this amount some rays are still reflected back and most is trapped by greenhouse gases.



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These Greenhouse gases can be emitted naturally. e.g. Volcanoes or by manmade tools such as cars, factories, etc.

Three Major Greenhouse Gases.

- i- Carbon Dioxide (CO_2)
- ii- Methane (CH_4)
- iii- Chlorofluro Carbons (CFC).

α — α

D.

Tsunami.

A Tsunami is a natural disaster where huge waves form in the sea ~~which~~ due to under water plates' movements.

Tsunami Process.

A Tsunami formed due to an under-ocean earthquake. Two oceanic plates or one oceanic and one tectonic continental plate

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collide with each other. The massive energy is released to the sea forming huge waves (upto hundreds of metres long).

This poses a great danger to the coastal regions. massive floods can hit these regions. Some might even get completely submerged in water. Many Indonesian and Filipino islands have disappeared due to such Tsunami.

QUESTION NO. 4.

A.

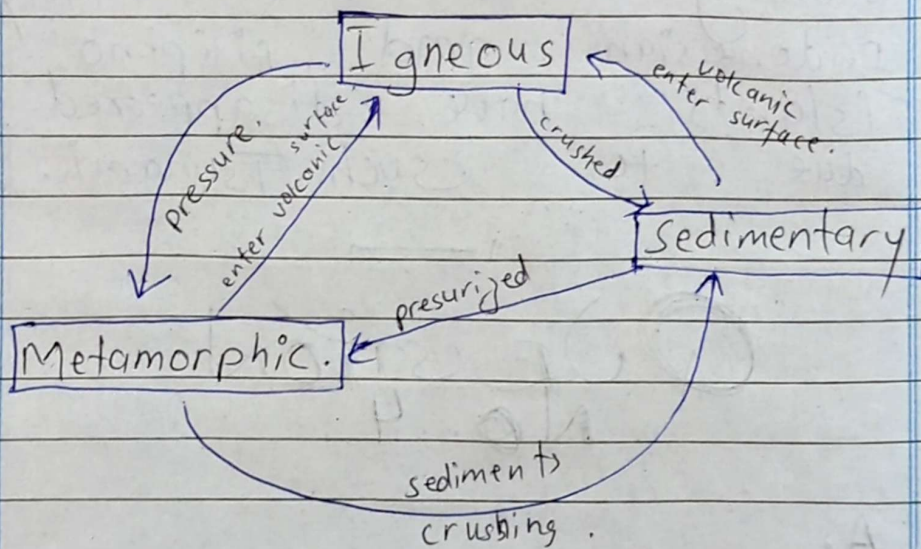
ROCK CYCLE.

Rock cycle refers to the interchanging rock types under or on the surface of earth. Igneous rocks are formed after molten lava or magma cools down.

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Some of these rocks go under deep pressure to form metamorphic rocks. Both these types of rocks can be crushed melted or become sediments to make sedimentary rocks. The following figure shows this cycle.



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TYPES of Rocks.

1- Igneous.

These rocks are formed due to melting occurred due to volcanoes.

Lava or magma ~~can~~ cool down to create these.

They can be of two types

i- Extrinsic.

ii- Intrinsic.

2 - Metamorphic.

When rocks go under immense pressure they change form. This changed form of rocks is called metamorphic rock.

3. Sedimentary.

When rocks fall from high mountains or because of river carriage they break into sediments.

These sediments, after a long time and pressure form a different type of rock called sedimentary rock.

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B.

Acid Rain.

Acid rain is a phenomenon where the rain - drops have a lower pH (acidic). It is formed due to high air pollution. Dilute Sulphuric Acid is mostly constitute such rain.

Smog particles which contain acidic material merge with raindrops to create dilute acids (nitric and sulphuric).

This type of rain causes high damage to buildings and can cause severe skin diseases in humans and animals.

Effects of Acid Rain on Aquatic Life and Vegetation.

i - On Aquatic Life.

↳ Acid rain lowers the pH of water which may make it unlivable for aquatic life.

↳ Direct exposure to acid rain will

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cause skin damage to aquatic animals.

ii - On Vegetation.

↳ Soil gets malnourished.

↳ Acidic soil kills most vegetations.

↳ Direct exposure will cause the vegetation to become unusable.

q ———→

D.

SOLID WASTE MANAGEMENT.

Management refers to adequate care of solid waste.

Solid waste can be mainly categorized into two.

i - Toxic waste

- includes nuclear waste, medical waste

ii - Non-Toxic waste.

- includes plastic and household wastes.

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⇒ ENVIRONMENTAL HAZARDS OF
IMPROPER SOLID WASTE MANAGEMENT.

↳ Damaged Soil.

untreated solid waste will damage the soil rendering it unusable for farming and vegetation.

↳ Release of Unhealthy Gases.

untreated solid waste, when accumulated at one place, will release very dangerous gases such as Methane.

↳ Toxicity.

Toxic solid waste can get mixed in water or air polluting these beyond usability.

α ——— α

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SECTION - II

QUESTION NO
7.

A.

Data,

(TP)

Total people = 100.

People who watch cricket (C) = 65

people who watch Hockey (H) = 40

People who watch Neither (N) = 20

People who watch Both (B) = ?

$$C + H + N = 65 + 40 + 20$$

$$= 125$$

$$\text{Common } B = \cancel{TP} C + H + N - TP$$

$$= 125 - 100$$

$$= 25$$

$$\boxed{B = 25} \quad \text{Answer.}$$

x → 1

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C.

Data.

Train A speed = 60 km/h

Train B speed = 40 km/h

Both are going in opposite direction.

Time of departure = 8:00 AM.

(TA)

Time of Arrival for train A = ?

"

B = ?

(TB)

$$TA = \frac{400 \text{ km}}{60 \text{ km/h}}$$

$$TA = 6.7 \text{ hours.}$$

$$TB = \frac{400 \text{ km}}{40 \text{ km/h}}$$

$$TB = 10 \text{ hours.}$$

Time of Arrival for train A.
= 2:45 PM.

Time of Arrival for train B
= 6:00 PM.

Traveled distance in 6 hours.

$$\text{Train A} = 60 \times 4 = 240$$

$$\text{Train B} = 40 \times 4 = 160$$

Train A will travel 240 kilometres in 6 hours. whereas, Train B will

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travel 160 kilometres in same time. In ~~six~~ ~~the~~ 240 + 160 makes 400. Hence they will meet after 6 hours of departure.

Time of Meeting = 8:00 + 6 hours.

Time of Meeting = 2:00 PM

Ans

D.

Data.

Combined Age = 75 years.

Combined Age ten year ago = 65 years.

Age of father 10 years ago = 4x son's present Age of son = ?

present Age of father = ?

Sol

Age of father 10 years ago = 4x son's age

combined age 65 = 4x son's

$$\frac{65}{4} = \text{son}$$

16.25 = son 10 years ago.

father 10 years ago = 65 - 16.25
= 48.75 years

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current age of son

$$= 16.25 + 10$$

$$= 26.25 \text{ years.} \quad \text{Ans}$$

current age of father

$$= 43.75 + 10$$

$$= 53.75 \text{ years.} \quad \text{Ans.}$$

Hence, Ages of Son
will be 26.25 years today
and 53.75 years of
father.

x ———→

QUESTION NO B

A.

If

ROAD = UQDG.

Then

LAKE = DCNH

Each Letter converts into
the letter that is 2
steps ahead of it apart
from the second letter
which is only 1 step
forward.

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B.

The ~~woman~~ man is
the waman's uncle - in-law.
As the woman is married
to his nephew.

C.

i- 4, 12, 6, 18, 9, 27, 13.5

ii- 1, 2, 6, 24, 120, 2160

D.

Data.

P is shorter than Q but
taller than R

S is shorter than T but
taller than Q

shortest person = 150 cm

Tallest " = 180 cm.

✓ third tallest = ?

max range = ?

~~P > Q~~

T > S > Q > P > R

shortest Person = R.

Tallest Person = T

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Third tallest person = Q.

Answer:

THE END.