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DATE: 9/12/2025

DAY: Tuesday

"GSA TEST"

RUBA MAHEEN

BATCH: 216

(2)

DATE: ___/___/___

DAY: ___/___/___

PART-II

SECTION-I

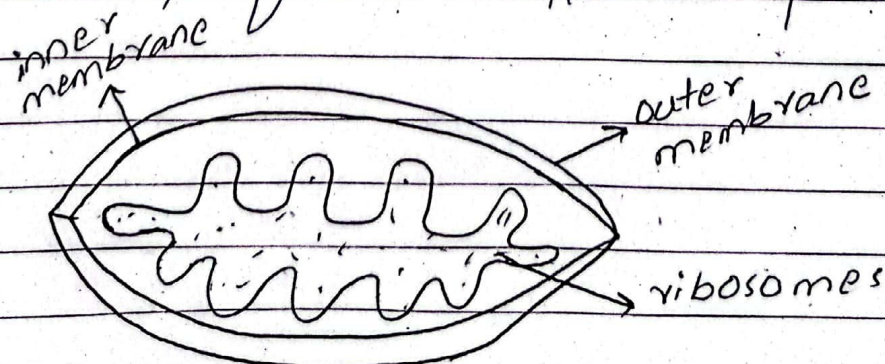
⇒ QUESTION: 3

"PART (A)"

• MITOCHONDRIA:

STRUCTURE:

Mitochondria is the power house of the cell. It play important role in animal cell. Their structure consist of outer and inner membrane which provide protection to them. It also contain ribosomes on the inside surface that help in attachment of things. Also contain other different structures which perform different functions.



FUNCTION:

Mitochondria perform very important function within the cell. Due to their great function, it is called power house of the cell. The energy production and storage occur within Mitochondria. And this energy is then provide / distributed all over the body.

RIBOSOMES:

STRUCTURE:

Ribosomes is also the important organelle of animal cell. It perform several important function within the cell.

It is small granules like structure which helps in protein synthesis. If this small granules attached to something it appear rough because they are rough in structure and appearance.

FUNCTION:

Ribosomes helps in protein synthesis. Protein is important

for formation of different body organs. When mRNA convert into protein, this happens in the presence/help of ribosomes. So ribosomes is also called protein synthesis machinery.

• MITOCHONDRIA AS POWER

HOUSE OF CELL:

Mitochondria is called power house of the cell because it helps in energy production. And this energy is then required for several body function. The energy synthesized, stored and released from here.

So due to this it is called power house of the cell. Also ATPs conversion occur here.

"PART (B)"

• ENZYMES:

Enzymes are catalyst which are used to speed up a reaction. They may be naturally or synthetic prepared in the laboratory.

• LOCK & KEY MODEL:

This is a model of enzyme activity presented in 1960. This model is all about how the enzyme work. It is most commonly used model. In this model, one end of enzyme is like key and other end is like lock. When a substrate come, the lock side open and if requirement of this substrate so engulf it. Their opening and closing depend on their interest or requirements. It is named so, because their method is like lock and key.

• FACTORS AFFECTING ENZYMES ACTIVITY:

TEMPERATURE:

The factor that effect the enzyme activity is temperature. If temperature is not normal so it denatures the enzyme because enzymes are very sensitive to temperature. If

a reaction is performing and temperature is very high so it will denature enzymes and no reaction will occur because enzymes are necessary for a reaction.

PH:

The pH is also important for best enzymes working. The normal pH is 7, if the pH increase from normal value so it also cause denaturing of enzymes and at low pH, enzymes also does not perform good work. So pH also effect the activity of enzymes.

"PART (C)"

RENEWABLE ENERGY

- The energy that occur naturally and can be replenished naturally.
- Energy from wind

NON-RENEWABLE ENERGY

- The energy that is not replenished naturally.
- Energy from coal,

solar, thermal etc occur in this category | petroleum, Diesel occur in this.

- | | |
|------------------------------------|--------------------------------------|
| • It is environmental friendly. | • It cause pollution to environment. |
| • It is not harmful. | • It is harmful. |
| • It is cheap, sometime expensive. | • It is expensive. |
| • No need of much labour. | • Required high numbers of labour. |

RESOURCES OF RENEWABLE & NON-RENEWABLE ENERGY:

The resources of renewable energy is solar, wind, thermal etc which can be used to produce renewable energy and then it can easily be replenished. Similarly, the sources of non-renewable energy is coal, petroleum, Diesel, bio gas etc. which is used to produce non-renewable energy.

WIND ENERGY AS SUSTAINABLE

SOURCE:

The energy produce by using wind called wind energy.

This is the cheap source of energy and also produce high amount of energy as compared to other resources.

Wind energy is sustainable for future use because it is easily available and also reduce the cost of electricity.

And in future it also be beneficial.

"PART (D)"

DENGUE FEVER:

It is a type of infection caused by a mosquito named anopheles through bite of infected person.

TRANSMISSION VECTOR:

The virus responsible for carrying is a mosquito called female anopheles. If she bite the infected person, & then the healthy one so through this

it is caused to the healthy person.

SYMPTOMS:

The symptoms include;

- 1) High Fever
- 2) Fatigue
- 3) Nausea
- 4) Vomiting
- 5) Loss of appetite
- 6) Constipation
- 7) Loss of body weight
- 8) Body pain
- 9) Joint pain
- 10) Stomach pain

PREVENTION:

The treatment or prevention of dengue fever is the isolation of infected person in separate room. Antibiotic and Antiviral drugs are given. Complete bed rest is suggested. Avoid garbage accumulation which lead toward mosquito production.

⇒ QUESTION: 2

"PART (A)"

DIFFERENCE B/W STAR & PLANET:

STAR

- It contain Light in their self.
- It is million and billion in numbers.
- The temperature is high in star.
- They contain life-cycle.
- They fixed sometimes at position.
- They are sometime visible from earth.

PLANET

- It does not contain Light & take light from outer source.
- They are just 8 in numbers.
- The temperature is low in planet.
- They have no life-cycle.
- They revolve around the sun.
- They cannot visible except the venus.

LIFE CYCLE OF STAR:

The life cycle of star start from its nebula stage. And end at black hole level when destruction of old stars started. As according to Big Bang theory, all thing came

into being from singularity. So after singularity of star, they expand and as their expansion occur so many small things combine (atoms) which form stars.

And when these stars complete their life after many years so their death occur which lead toward black hole. The black hole is actually the dead bodies of the star which is too old to survive so they die and then new stars form after expansion.

"PART (C)"

GLOBAL WARMING:

Global warming is defined as "when the temperature of earth increase from its normal temperature it is called global warming."

MECHANISM OF GREEN

HOUSE EFFECT:

Greenhouse play important role in maintaining the temperature.

of the earth. When gases goes up, so greenhouse absorb these gases and maintain the temperature normal. But if these gases exceed their normal level, so Greenhouse then cannot absorb much gases and they come back again to earth and cause global warming. The gases like CO_2 , Methane, Nitrogen all these are absorbed but there high level is cannot be absorbed and cause global warming.

GREENHOUSE GASES:

The major Greenhouse gases include CO_2 , Methane, CFCs. All these are important and play significant role in Greenhouse effect. The level if increases, so it lead toward high temperature of earth and then Greenhouse is unable to absorb this huge amount. CO_2 which is a greenhouse gas, emitted from vehicles etc & pollute the environment. Similarly, Methane which is caused by combustion & CFCs, the main component released by industries in air.

"PART (D)"

TSUNAMI:

Tsunami is a natural disaster occur due to increase or rise of sea level. The rise / flood of sea level is called Tsunami.

PROCESS OF TSUNAMI:

The tsunami occur at sea level when sea level arise due to some factors. Normally, the sea level is very smoothly flowing but when the level of different gases increase in atmosphere and also the increase of temperature lead toward the rise of sea level. So if temperature is arise, the water of sea arise from their base and flow like flooding and tornadoes which cause great destruction at coastal areas.

IMPACTS OF TSUNAMI:

Tsunami brings high destruction with itself. The population near

or on coastal area are badly effected. Their houses are damaged, also people lose their life. Damaged to the land because it effect the agricultural land also. The aquatic life is also badly effected. The fishes, tortoise loss their life and a great threat to the world also.

"PART (B)"

SEMI-CONDUCTOR:

Semiconductor are electrical resistance material have both ~~met~~ metallic resistance and electrical resistance. It is named so because it act both type.

APPLICATIONS OF SEMI-CONDUCTOR:

CELL PHONE:

Semi-conductor is also used in cell phone for better working. The phone works better when it have both metallic & electrical

characters. It also increases their lifetime. And show high resistance to electrical & metallic things.

RADIO:

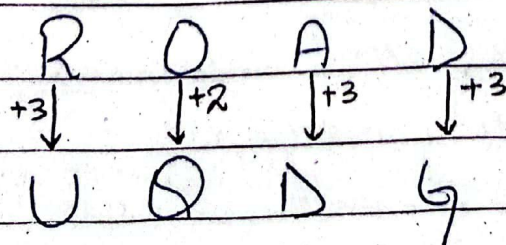
Semiconductor is also used in radio. In radio, for better signal transmission it is used. The electrical signal coming from satellite to radio required this good semiconductor function because it act both as metallic & electrical resistance.

SECTION-II

⇒ QUESTION: 8

"PART(A)"

• ROAD is coded as UQDG
LAKE = ?



Now, in the same way, we will write the LAKE;

L	A	K	E
+3↓	+2↓	+3↓	+3↓
O	C	N	H

So, if ROAD is loaded as UQDG,
So, LAKE is loaded as OCNH.

"PART (B)"

A man tells a woman, "The son of my sister's husband is the father of your son." How is the woman related to man?

Answer:

The son of sister's husband = Nephew
Father of son = Nephew is father
and son is of Nephew.

So the woman is the wife of Nephew of man and we called it Neice-in-law.

So,

The woman is the Neice-in-law of the man.

"PART (C)"Missing Numbers:

- (i) 4, 12, 6, 18, 9, 27, —
- (ii) 1, 2, 6, 24, 120, —

(i) 4, 12, 6, 18, 9, 27, 12, 36

$$\begin{array}{cccc} \underbrace{\quad\quad\quad} & \underbrace{\quad\quad\quad} & \underbrace{\quad\quad\quad} & \underbrace{\quad\quad\quad} \\ 4 \times 3 & 6 \times 3 & 9 \times 3 & 12 \times 3 \end{array}$$

(ii) 1, 2, 6, 24, 120, 720

$$\begin{array}{ccccc} \underbrace{\quad\quad\quad} & \underbrace{\quad\quad\quad} & \underbrace{\quad\quad\quad} & \underbrace{\quad\quad\quad} & \underbrace{\quad\quad\quad} \\ 1 \times 2 & 2 \times 3 & 6 \times 4 & 24 \times 5 & 120 \times 6 \end{array}$$

"PART (D)"

Five Friends (P, Q, R, S, T).

T → S → Q → P → R

The third tallest is Q.

The ranges of their Height is:

Here,

$$= \frac{150 + 180}{5}$$

$$= \frac{220}{5}$$

$$= 44 \text{ cm.}$$

So the ranges of their maximum
Height is 44 cm.

⇒ QUESTION: 7

"PART (D)"

SOLUTION:

Sum of

Present age of Father & Son = 75 years

Ten years ago,

$$\text{Son's age} = x - 10 \rightarrow (i)$$

$$\text{Father's age} = 4(x - 10) \rightarrow (ii)$$

Current ages = ?

So,

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

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

$$5x + 50 = 75$$

$$5x = 75 - 50$$

$$5x = 25$$

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

$$x = 5 \rightarrow (*)$$

Now put in eq (i)

$$\begin{aligned} \text{Son's age} &= x - 10 \\ &= 5 - 10 = -5 \end{aligned}$$

$$\text{Son's age} = 5 \text{ years.}$$

put eq (*) in eq (ii)

$$\begin{aligned} \text{Father's age} &= 4(10 - x) \\ &= 4(10 - 5) \\ &= 4(5) \end{aligned}$$

Father's age = 20 years.

"PART (C)"

SOLUTION:

$$\text{Speed} = S_1 = 60 \text{ km/hr}$$

$$\text{Speed} = S_2 = 40 \text{ km/hr}$$

$$\text{Distance} = D = 400 \text{ km}$$

$$\text{Time} = t = ?$$

Formula:

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

put the values

$$\begin{aligned} T &= \frac{400 \text{ km}}{60 + 40 \text{ km/hr}} \\ &= \frac{400 \text{ km}}{100 \text{ km/hr}} \end{aligned}$$

$$\text{Time} = 4 \text{ hr}$$

Result:

$$\text{Time} = 4 \text{ hr}$$

"PART (A)"

SOLUTION:

$$\text{Total people} = 100$$

$$\text{Watch Cricket} = 65$$

$$\text{Watch Hockey} = 40$$

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Watch nothing = 20

How many watch both = ?

So,

$$65 + 40 = 105$$

Now 105 minus from 20

$$105 - 20 = 85$$

85 people watch both Hockey
& cricket.
