

Question NO #03

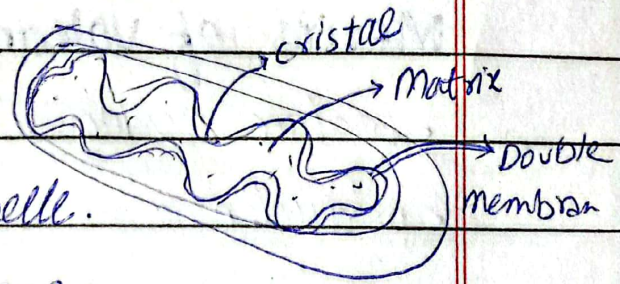
(i)

Cells form organelles to divide their functions into specialized compartments.

This helps them in working with greater efficiency and controlling over biochemical processes. Each organelle performs a specialized function that contribute to the overall survival of a cell.

Mitochondria is also called the "power house" of cell. It produces Adenosine Triphosphate (ATP) through cellular respiration.

It is a double-membrane banded organelle.



Its main functions are:

- Energy metabolism
- Cellular function.

(ii)

Doping is the process of intentionally adding small amount of impurities to a pure semiconductor. It is of

two types:

1) n-type

• It is formed by the addition of pentavalent impurities such as phosphorus or arsenic.

• It has extra number of free electrons.

2) p-type

• It is formed by the addition of trivalent impurities such as boron or gallium.

• These creates holes by accepting electrons.

(iii)

Merits of volcanic eruption

- produce fertile soil rich in minerals
- production of geothermal energy.
- expose valuable mineral resources

Demerits of Volcanic eruption

- loss of life and property
- Air and water pollution
- Disturbed weather patterns

(iv)

Dengue is a viral infection transmitted

of *Aedes aegypti* mosquitoes.

- Its symptoms are high fever, headache, pain behind the eyes, muscle and joint pain, and nausea.

- Its causative agent is dengue virus.

• Remedies:

- Take rest and prevent dehydration
- Use repellents on nets
- Use medicines.

Question NO # 07

(i)

Diameter = 14cm

Radius = $\frac{d}{2} = 7\text{cm}$

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

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

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

$$V = \frac{4 \times 7 \times 22 \times 343}{3} = \frac{4312}{3}$$

$$V = 1437.3 \text{ cm}^3$$

(ii)

Friend's total saving = 25,000 Rs

Ratio = 1:2:3:4:5

Sum of ratios = 1+2+3+4+5 = 15

DATE: _____

DATE: _____

$$1 \text{ part} = \frac{25000}{153} = 1666.6$$

$$\text{Smallest share} = 1 \times 1666.6 = \boxed{1666.6 \text{ Rs}}$$

Answer

(iii)

a. Each number is multiple of 3, so it is correct series.

b. 3, 5, 7, 11, 13, 17

(iv)