

Sec-A/1.7 Fallopian tube.

2.7.1. 100-120 days

3.7.1) Carbon oxidised to CO_2
 PbO is reduced to Pb

(ii) Mg is oxidised to MgO
 O_2 is reduced to MgO .

4.7 Power = 4 D

$$F = \frac{1}{4} \text{ m} = \frac{1}{4} \times 100^{\frac{25}{100}} = 25 \text{ cm}$$

~~convex~~ lens.

5.7 * By measuring the level of salt present in it.

* Coliform is a group of bacteria, whose presence indicates contamination of water.

6.7 The nature of graph is straight. It indicates that ratio of current and potential difference is constant.

7.7 Millions of years back, petroleum was formed under rock beds with dead decaying sea animals and plants under high pressure and high temperature.

8.7.1) Citric acid is used to preserve food items. It prevents the growth of microorganism.

(ii) $10 \text{ Kg} \text{ --- } 30 \text{ days}$
 $9 \text{m } 1 \text{ day} \text{ --- } \frac{10 \text{ Kg}}{30}$
 $= \left(\frac{1}{3} \times 1000 \right) \text{ g}$
 $= \frac{98^{15} \times 1000}{3} \text{ KJ}$
 $= 15000 \text{ KJ.}$

9.) Atom is of Neon which is inert gas. Its atomic no. is 10.

10.) The main principal behind dialysis is removal of nitrogenous substance and keep the victim's body out of toxic substance by osmosis

11.) Adenine, Cytosine, guanine, thymine and Uracil.

12.) Convex lens

Focal length = 15cm

$u = -10 \text{ cm}$

$$\frac{1}{v} - \frac{1}{u} = \frac{1}{f}$$

$$\Rightarrow \frac{1}{v} = \frac{1}{f} + \frac{1}{u}$$

$$\Rightarrow \frac{1}{v} = \frac{1}{15} - \frac{1}{10} = \frac{2-3}{30} = -\frac{1}{30}$$

$$\Rightarrow v = -30.$$

$$\therefore m = \frac{h_i}{h_o} = \frac{v}{u} = \frac{-30}{-10} = 3$$

Hence, image is 30cm from the lens on same side as object is.

Nature - Virtual and erect

Magnification - Enlarged (3 times the size of object).

Or

Convex lens?

Height of object = 2cm

Focal length, $f = 10\text{cm}$

Object-distance, $u = -15\text{cm}$

$v = ?$

$h_i = ?$

Since, $\frac{1}{v} - \frac{1}{u} = \frac{1}{f}$

$\therefore \frac{1}{v} = \frac{1}{f} + \frac{1}{u}$

$\Rightarrow \frac{1}{v} = \frac{1}{10} - \frac{1}{15} = \frac{3-2}{30} = \frac{1}{30}$

$\Rightarrow v = +30$

Thus, image is formed at a distance of 30cm on the other side of the optical centre.

Nature :- Real and inverted

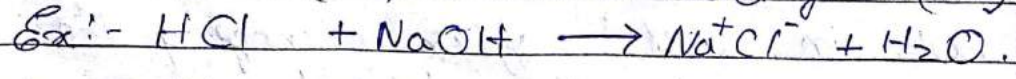
Now, $m = \frac{h_i}{h_o} = \frac{v}{u}$

$\Rightarrow h_i = h_o \times \frac{v}{u} = 2 \times \frac{30}{-15} = -4\text{cm}$

$\therefore m = \frac{-4}{2} = -2$

(-ve) sign shows that image is inverted and real. Image is 2 times the size of object.

13) Base form (+ve) ion and acid gives (-ve) ion



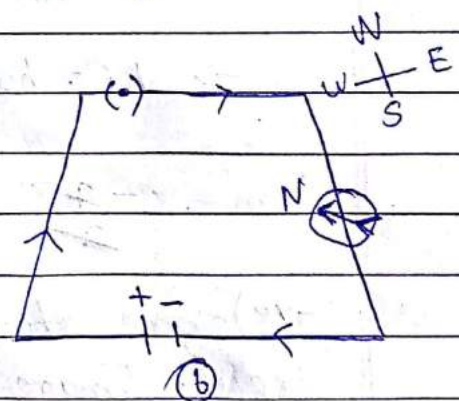
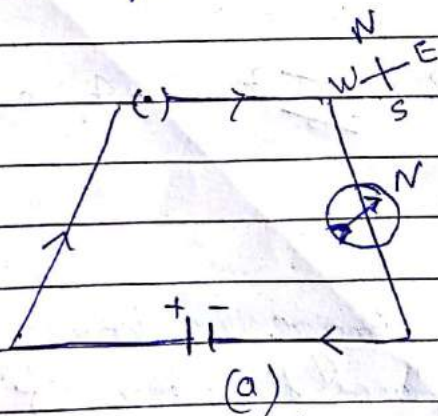
14) Vestigial organs are those organs which

are present in our body but not needed by the body. They have no use in our body. Ex:- appendix, pineal gland, etc.

15.) (a) The developing baby inside the womb of any mother will receive rich amount of proteins, vitamins and other important nutrients. The baby also need proper care and regular check-up for best growth. Infact, all our basic structure, health, mental and physical fitness depends on what our mother had eaten during cell differentiation and foetus formation. Thus, healthy diet will lead to healthy baby and ultimately to a health society and nation.

(b) The unborn child gets nutrient from the mother's blood with the help of a special tissue called placenta.

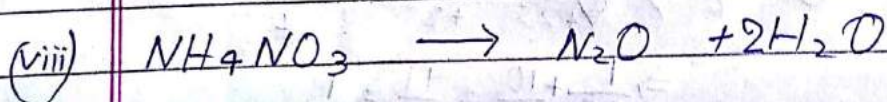
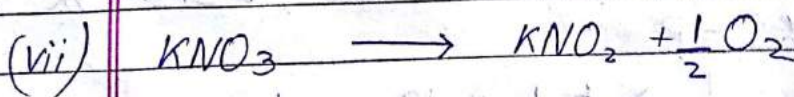
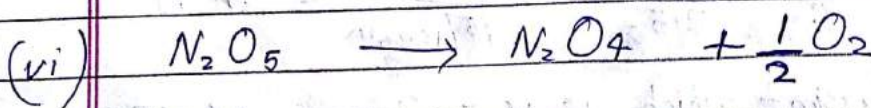
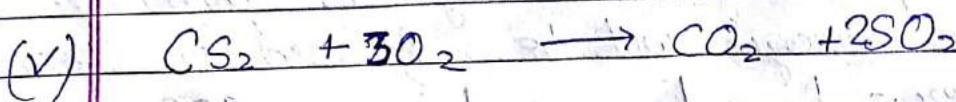
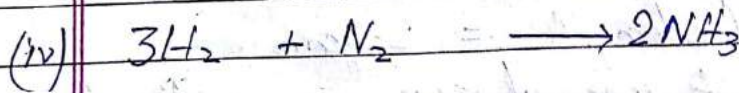
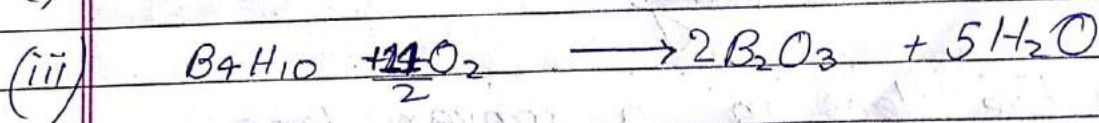
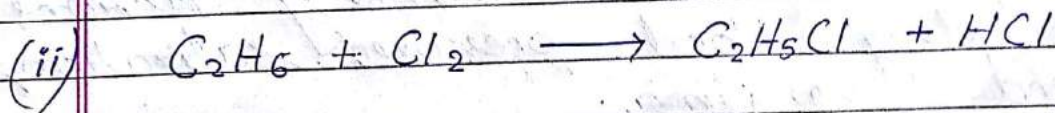
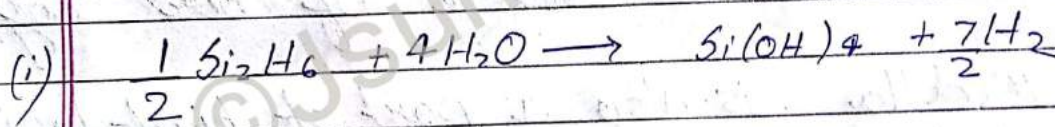
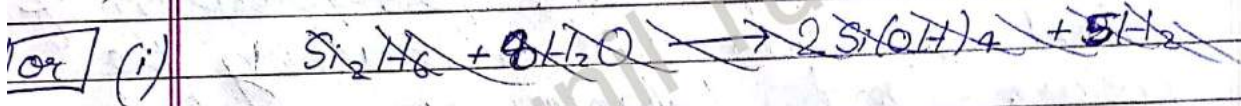
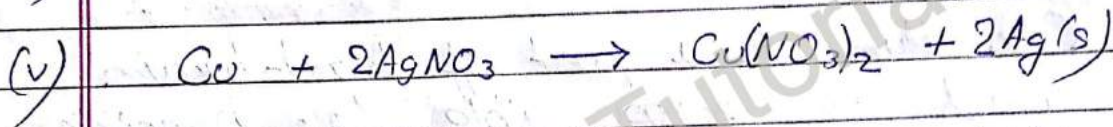
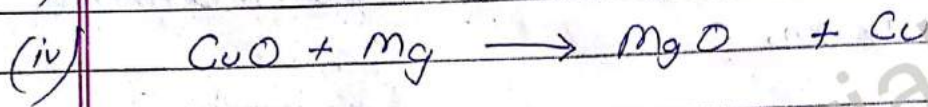
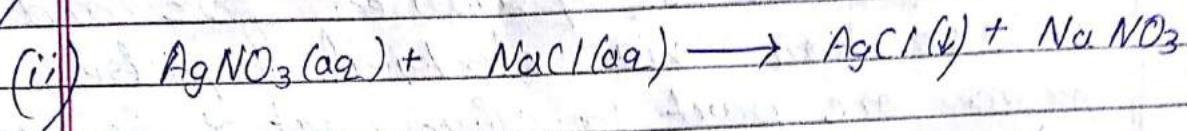
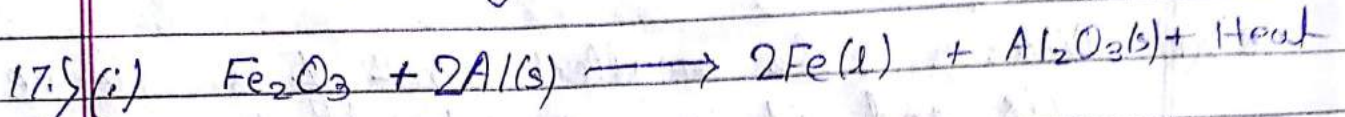
16.)

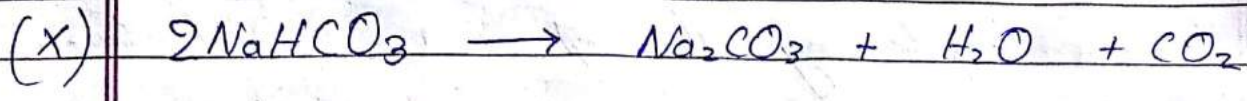
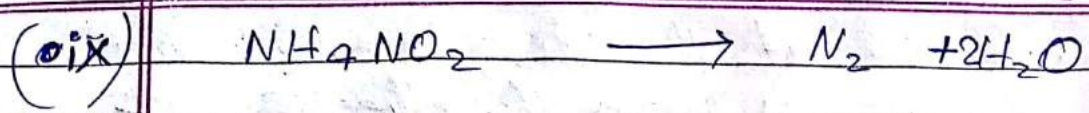


In case (a), the north pole of compass needle moves toward east

But, in case (b), after changing the direction of current, it deflects from east to west.

which shows that the direction of magnetic field changes as per the direction of current passing through a conductor.





18. (i) Neuron is the smallest unit of a nerve cells and it is specialised for conducting information via electrical impulses from one part to other part of the body. A neuron consists of a nucleus, dendrite, and a tail like structure called axon.

(ii) Cerebellum is a part of hind-brain which is responsible for precision of voluntary actions and maintaining the posture and balance of our body.

(iii) Medulla is also a part of hind-brain which controls involuntary actions including blood pressure, salivation, and vomiting.

19. (a) Eye lens is a convex lens so, its focal length = 2.5cm

(i) Far point of normal eye is infinity. Thus, image will be focused on focus

$$\therefore \text{Power} = \frac{1}{f} = \frac{1}{2.5\text{cm}} = \frac{1}{2.5 \times \frac{100}{100}} = \frac{1}{2.5 \times \frac{100}{100}} = 40\text{D}$$

(ii) Near point which is $v = -25\text{cm}$, $u = +2.5\text{cm}$
focal length = ?

$$\frac{1}{v} - \frac{1}{u} = \frac{1}{f} \Rightarrow \frac{1}{-25} - \frac{1}{+2.5} = \frac{1}{f}$$

$$\Rightarrow \frac{1}{-25} + \frac{10}{25} = \frac{11}{25} = \frac{1}{f}$$

$$f = \frac{25 \text{ cm}}{11} = \frac{28}{11 \times 1000} \text{ m}$$

$$\therefore \text{Power} = \frac{1}{f} = \frac{1}{1/44} = +44 \text{ D.}$$

(b) Near point, $u = -150 \text{ cm} = -1.5 \text{ m}$

$$\text{Power} = -\frac{10}{1.5} = -0.67 \text{ D.}$$

$$\begin{array}{r} .6\bar{6} \\ 15 \overline{)100} \\ \underline{90} \\ 100 \\ \underline{90} \\ 10 \end{array}$$

So, a concave lens of power -0.67 D is required to see distant object clearly.

20.) An alloy is a homogeneous mixture of two or more metals, or a metal or a non-metal.

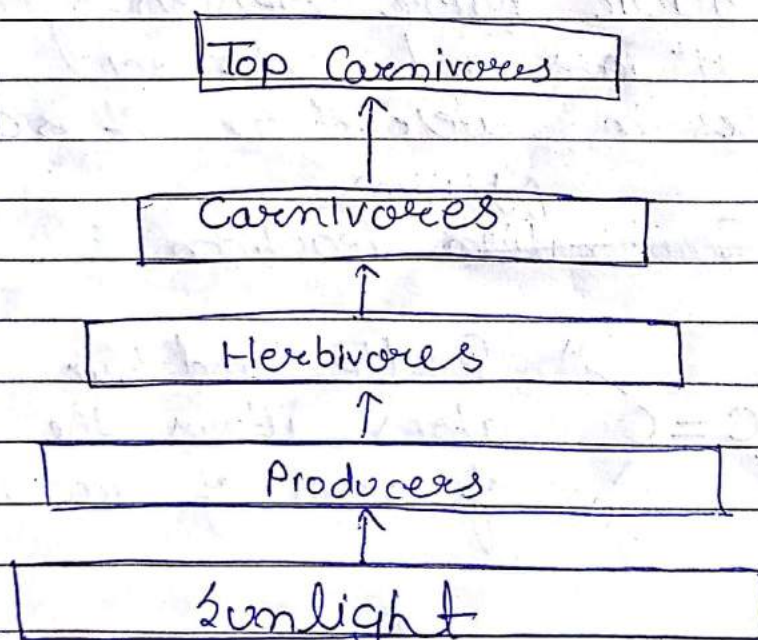
Ex:- Brass, alloy of copper and zinc.

Bronze, alloy of copper and tin (Sn)

Solder, alloy of lead (Pb) and tin (Sn)

Solder has low melting point so, it is used for welding electrical wires together.

21.)



Flow of energy in ecosystem

The flow of energy is unidirectional, it means that energy consumed will not revert back to previous energy source. As it moves progressively through the various levels it is no longer available to the previous level.

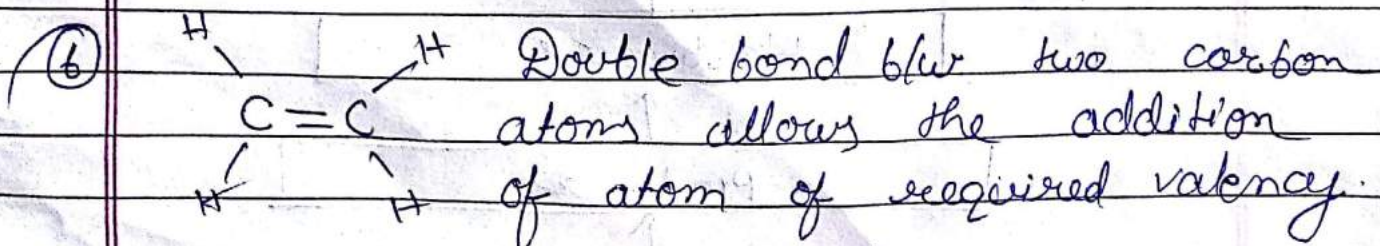
[or] Activities such as planting trees, using biodegradable products, following 3Rs (Recycle, Reuse, Reduce), treating waste products properly are good for biosphere. Activities that harm the biosphere includes:

- * Deforestation
- * Disposal of non-biodegradable wastes
- * Polluting our society
- * Waste of resources such as water, wood, etc.

[Sec-B]

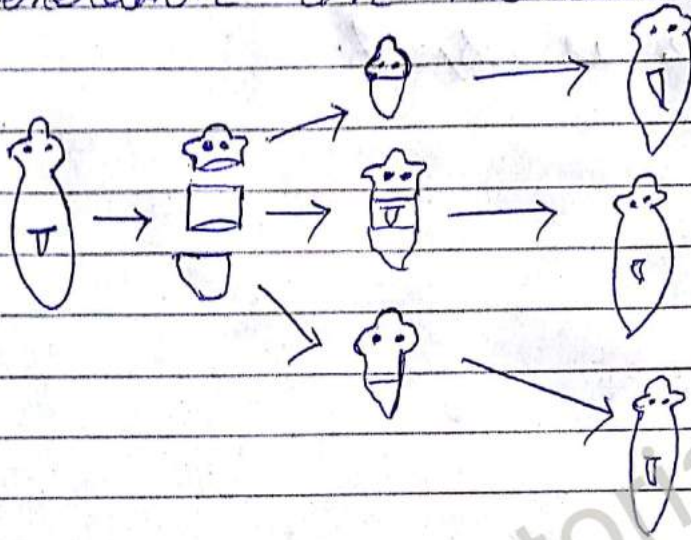
22.) Acetic acid is a weak acid no matter its concentration in water is high or low. As, acidic nature depends on ionisation of H^+ ions and acetic acid partially ionises in water, thus, it is a weak acid.

23.) (a) ^{Addition} ~~Combination~~ reaction



24. → Because, all the modes of reproduction allow reproduction of new organism from a single individual. There is no need of both parents (male & female). That's why it is asexual.

Regeneration in Planaria:-



25. → Step 1: Take a clean test tube and add 2ml of acetic acid to it

Step 2: Add a pinch of sodium hydrogen carbonate to the test tube and shake it properly.

Step 3: Put a cork carrying a delivery tube, so that its other end dips in a test tube containing lime water. Allow the gas evolved to pass through lime water.

Observation

A colourless and odourless gas is evolved which turns lime water milky. Hence, it is carbon dioxide.

26.) He should have observed that nucleus of amoeba splits into two parts and then cytoplasm surrounds both the nucleus and thus two daughter cells are formed.

27.) (i) At 2F
(ii) Same size as object.



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