

MARKING SCHEME

SET-1(2019-2020)

SEC-1

1: salt formed and hydrogen gas is liberated. OR Malleability

2: 50 Hz and 220 V

3. a.  $10^{-3}$  b. basic. less than 6.6

4. converts solar energy into electrical energy

5. a) thyroid and endocrine gland

b) thyroxin hormone (c) goiter disease

6. ohm-metre

7. b) A and R both are correct but R is not correct explanation of A

8. b)  $\text{CO}_2$

9. d) a and c

10. b) self pollination or uterus

11. b) A and R correct but R is not explanation of A

12. A. c)  $H = VI t$

12 B.  $I = V / R$

$$I = 6 \text{ V} / 2 + 2 = 6/4 = 1.5 \text{ amp.}$$

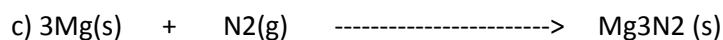
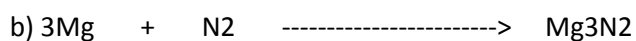
13. atmospheric refraction or convex lens

14. A. atomic radi increases to move top to bottom in a group

14. B. a) Be Mg Ca

SEC-B

15. a) formulae of nitrogen gas and magnesium nitride is not correct.



16. a) MAXIMUM ENERGY – T1 { Trophic level -1 } Minimum Energy – T4 { Trophic level-4 }

b) 1% c) towards Trophic level -1 { unidirectional flow of energy }

17. a) Valency of first group element is 1 and valency of oxygen is 2. So formula for its oxide is  $\text{M}_2\text{O}$  ( M is a metal )

b) Valency of 13 group is 3 and valency of halogens is 1. So the formulae of the halides of this group is  $\text{MX}_3$  ( where M is a metal and X is a halogen )

c) 15 and valency of elements is 3 and valency of hydrogen is 1. So the formulae of hydride of this group is  $\text{MH}_3$  ( where M is a metal )

OR

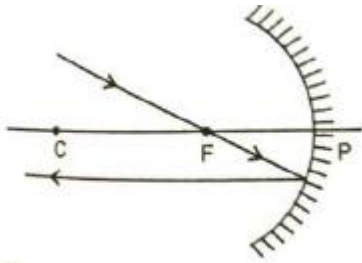
a) element B ( elements of second group form positive ion )

b)  $A_2D$  (valency of A is 1, valency of D is 2. So formula is  $A_2D$ )

c) triple bond; type of bond is covalent bond

18 A. Concave mirror focal length = - 15 सेमी°

B. ray diagram



3

19 . increase in length of stem by Auxin

20 A. a). corrosion

b) deposited layer of  $CuCO_3 \cdot Cu(OH)_2$ .

Black colour of  $Ag_2S$ . | B )  $MnO_2$  loses oxygen and reduced into  $MnCl_2$  through  $HCl$ , loses hydrogen and reduced into  $Cl_2$ .

21. 1. The alveoli are found in the lungs while the nephron is found in the kidneys.

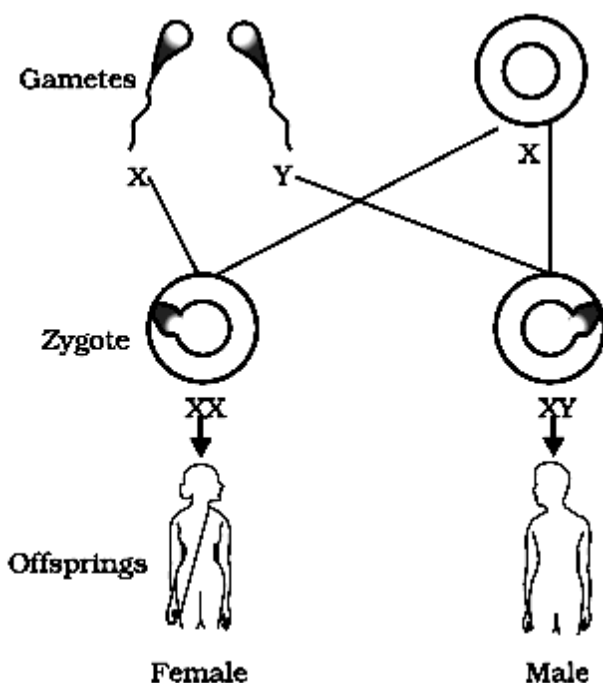
2. The alveoli aids in the respiratory system while the nephron acts as the functional unit for the endocrine system.

3. The alveoli have one very essential part called the surfactant while the nephron has three important sections to aid its function.

4. The alveoli support the filtering of the air while the nephron supports the filtering process of the blood.

22 . The **wing** structure of **bats** and **birds** differs. **Birds** have feathers projecting back from lightweight, fused arm and hand bones. **Bats** have flexible, relatively short **wings** with membranes stretched between elongated fingers.

B. sex determination of a child depends upon the chromosomes received by male gamete because the ratio between the X and Y chromosome is 50:50. So, possibility for being male or female is 50:50.



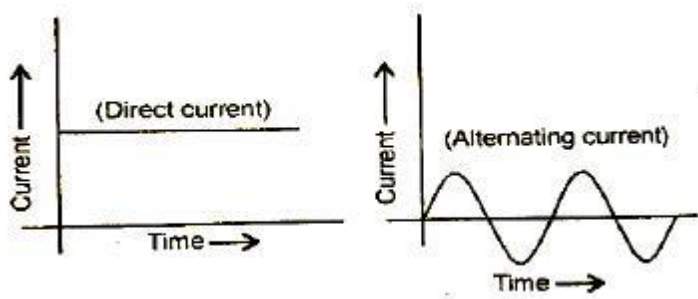
OR

A. Any cell which is differ by reproductive cell is not able to create change in the DNA of that cell. because of this aquire traits are not inherited.

B. Reasons of difference are -1. DNA copy 2. Fusion of gamete during sexual reproduction

23. a) pupil b) retina c) ciliary muscles

24. A

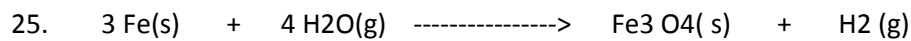


B. D C current- battery      A C current- supply in houses

OR

- i. by using iron rod in solenoid
- ii. amount of current is maximum in solenoid
- iii. number of coils should be more in number

**Section-C**

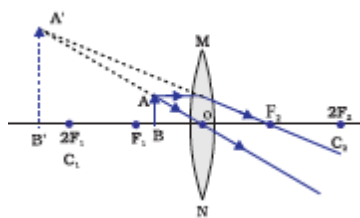


B. Reason :

a) by pouring water in calcium metal reaction will be slow and released energy is not enough to liberate hydrogen.

b) metals do not liberate hydrogen gas by reacting  $\text{HNO}_3$  and  $\text{HNO}_3$  is highly oxidising and oxidises hydrogen into water. metals which react with  $\text{HNO}_3$  and liberate  $\text{H}_2$  gas are- Mg and Mn  
 c. Ore - cinnabar ( $\text{HgS}$ )       $\text{HgS} + \text{O}_2 \longrightarrow \text{Hg} + \text{SO}_2$  ( Calcination )

26. Ray diagram :



a. between the focus and optical centre.

b. between f and 2f

6

c. between f and 2f

d. At infinity :

e. at focus

OR

A. i Concave mirror: enlarged    ii Plane mirror : same size of the object

iii Convex mirror: diminished

B. a) Concave mirror

b) Convex mirror

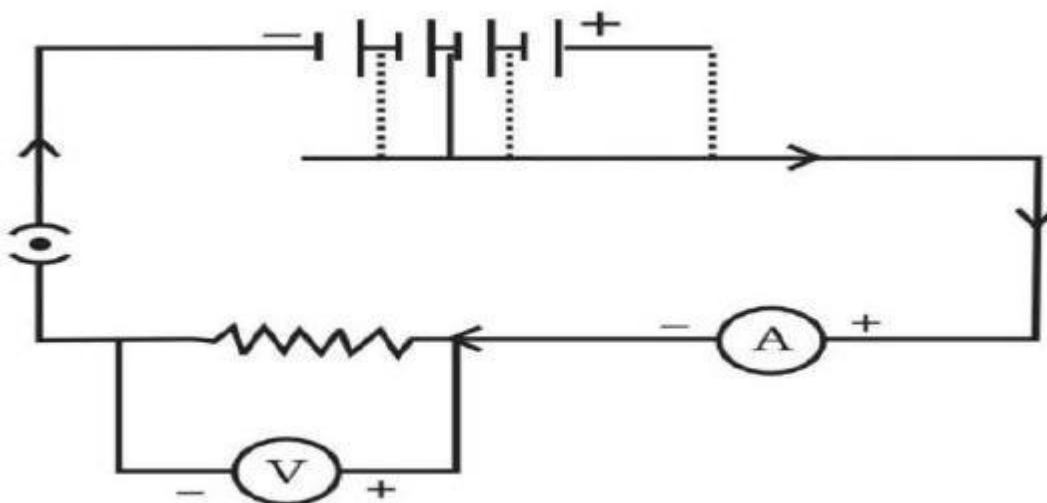
27 A. Commercial unit of electrical energy = kWh

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$$1 \text{ kWh} = 3.6 \times 10^6 \text{ Joule}$$

B. a)  $P = 100 \text{ W}$ ,  $V = 220\text{V}$ ,  $t = 5 \text{ hours}$      $R = V/I$      $= V^2 / P$      $= 220 \times 220 / 100 = 484 \text{ ohm}$   
b)  $E = (P) \times (t)$      $E = 100/1000 \times 5$      $= 0.5 \text{ kWh}$

C. Circuit diagram



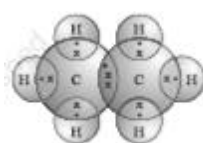
28. a)  $6\text{CO}_2 + 12 \text{H}_2\text{O} \xrightarrow{\text{sun light and chlorophyll}} \text{C}_6\text{H}_{12}\text{O}_6 + 6 \text{O}_2 + 6 \text{H}_2\text{O}$     b) I.  
Chlorophyll absorbs light energy

II. Conversion of light energy into chemical energy and

III. conversion of carbon di oxide into carbohydrate

29. A. Single bond is formed by sharing of one pair of electrons ,so by sharing of six electrons triple bond is formed.

B. formula of ethene =  $\text{C}_2\text{H}_4$



Structure of ethene

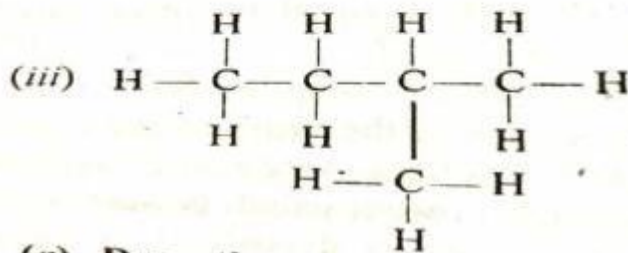
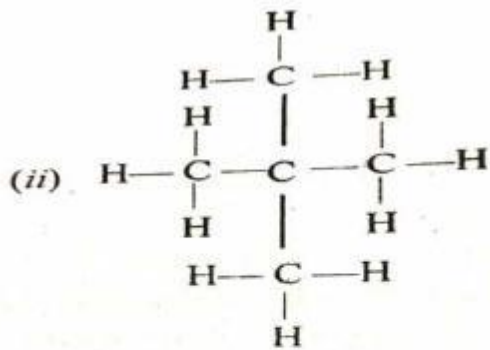
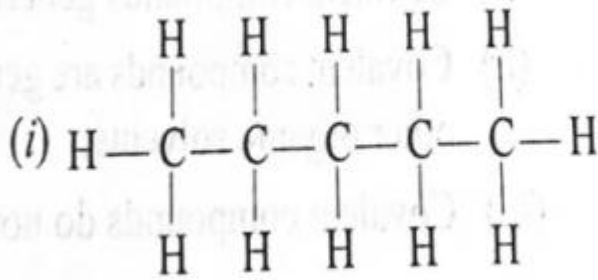
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C. Carbon tetra chloride is a covalent compound and not produces ions. So it will not conduct electricity.

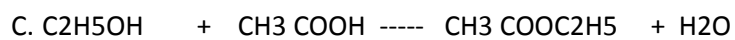
D. Ketone  $>\text{C}=\text{O}$

OR

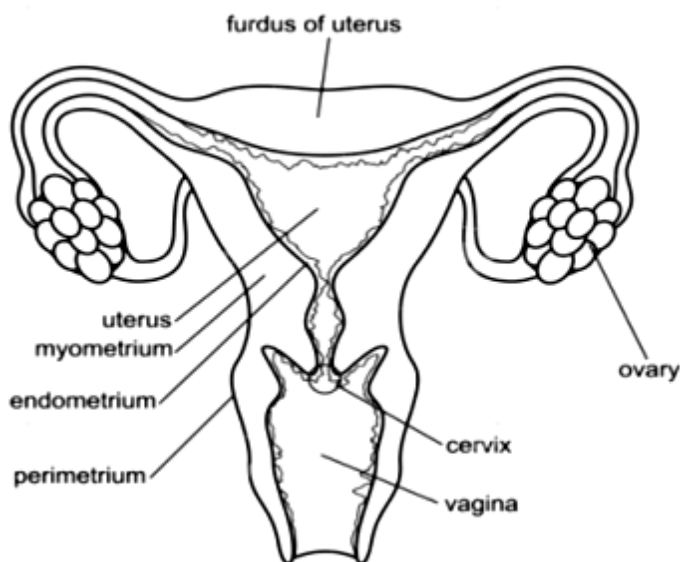
A. There are three isomers of pentane



B. To differentiate between ethanol and ethanoic acid both get reacted with sodium bicarbonate. Ethanol does not react with sodium bicarbonate but ethanoic acid reacts and produces CO<sub>2</sub> with brisk effervescence.



30. A. Number of chromosomes in female gamete = 24 Number of chromosomes in zygote = 48



A. Moisture is important for development of hupha. In bread moisture and nutrients both are available. Because of that it grows faster.

B. Lesmania

Binary fission in Lesmania

C. Complete portion of D and E: In Planaria whole organism is formed by regeneration.(Asexual reproduction )