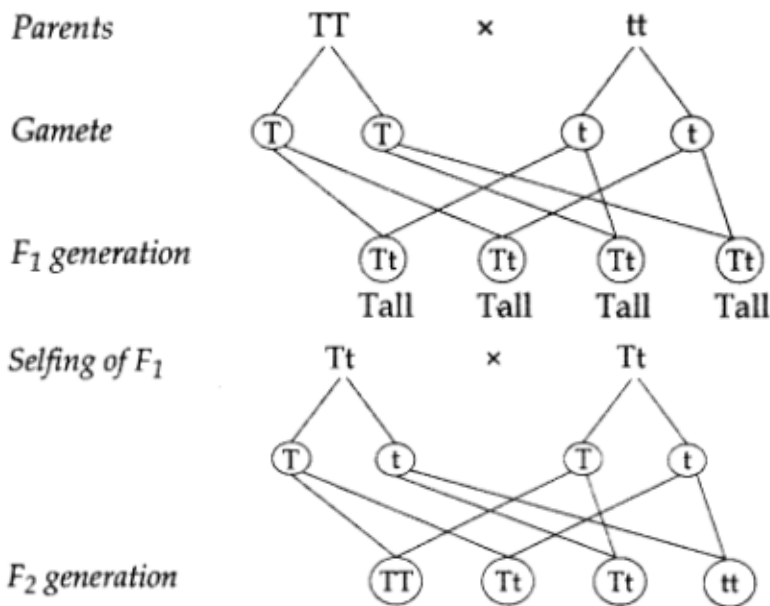


6	<p>As per Fleming's left hand rule - Two possibilities for the direction of the force- upward & downward</p> <p style="text-align: center;">Or</p> <p>One can find the direction by using right hand thumb rule which state that if thumb of the right hand points along direction of current, then the remaining curled , fingers of same hand gives the direction of the magnetic field due to the current.</p>	1 1
7	<p>B,C</p> <p>About 90% of the chemical energy received by the rabbit is utilized for the metabolic activities and lost as heat and undigested matter. Only 10% is used for the growth and formation of new tissues.</p> <p style="text-align: center;">Or</p> <p>a.CFC b.Because temperatures changing faster.</p>	1 1

SECTION - B

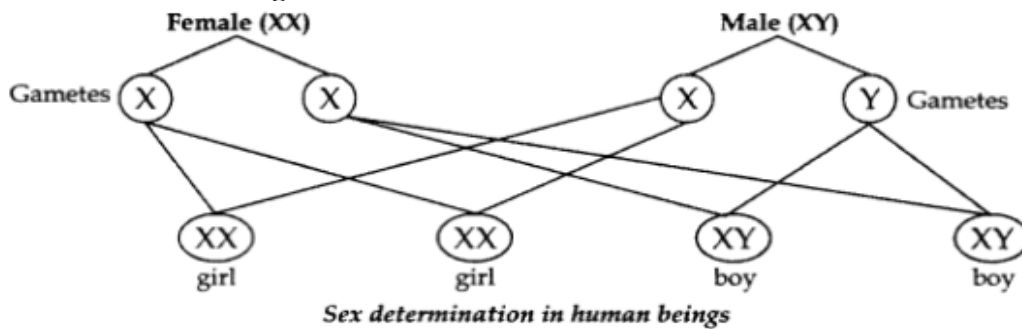
8	<p>a. i. Non-metal ,ii. 5 b. N</p>	1,1,1
9	<p>A series of hydrocarbons which have similar chemical properties and they share the same general formula. They have similar structure and functional groups, show gradation in physical properties. Ethene ,C₂H₄</p> <p style="text-align: center;">Or</p> <p>a.The organic compounds having the same molecular formula but different structures are known as isomers. Isomers of butane, C₄H₁₀ :</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_3$ <p><i>n</i>-butane</p> </div> <div style="text-align: center;"> $\begin{array}{cccc} \text{H} & \text{H} & \text{H} & \text{H} \\ & & & \\ \text{H} - \text{C} & - & \text{C} & - & \text{C} & - & \text{C} & - & \text{H} \\ & & & \\ \text{H} & \text{H} & \text{H} & \text{H} \end{array}$ </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 20px;"> <div style="text-align: center;"> $\begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_3 - \text{CH} - \text{CH}_3 \end{array}$ <p>2-methyl propane</p> </div> <div style="text-align: center;"> <p><i>Or</i></p> $\begin{array}{c} \text{H} \\ \\ \text{H} - \text{C} - \text{H} \\ \\ \text{H} - \text{C} - \text{C} - \text{C} - \text{H} \\ \quad \quad \\ \text{H} \quad \text{H} \quad \text{H} \end{array}$ </div> </div> <p>b.Isomerism is not possible in first three members of alkane series (i.e., methane, ethane, propane) because they contain only one, two or three carbon atoms respectively and with only 1, 2 or 3 carbon atoms, it is not possible to have different arrangements of carbon atoms.</p>	1 1 1
10	<p>In Mendel's experiment with pea plants, when he cross-bed a tall pea plant with a short plea plant, he found that the first generation (F₁) was of only tall plants. In the F₁ progeny, no short plants were obtained. However, in the F₂ generation, both tall and short plants were obtained in the ratio 3 :1 respectively. In the F₂ generation, both traits - tallness and shortness were inherited where the tall character was the dominant trait and short character was the recessive trait.</p>	3



Conclusion. Reappearance of dwarf character in F₂ generation proves that the dwarf trait was inherited but not expressed in the F₁ generation.

Or

If a sperm carrying X-chromosome fertilizes an ovum carrying X-chromosome, then the child born will be a girl.



Therefore it is the sperm from the father which determines the sex of the child. Thus in human beings, the sex of the baby is determined by the type of sperm that fuses with ovum. As human male produces two types of sperms in equal proportion, so there are 50% chances of a male baby and 50% chances of a female baby.

11 A-ii,iv B-i, C-iii

1,1,1

12 W=10x2=20J

3

OR

a.R= $\frac{1}{2}$. L/A b. Potential difference is same across the both. c. wire B

13. a. Energy captured by autotrophs does not revert back to the solar input and it passes to the herbivores. 1
 b. paper cups are biodegradable and eco - friendly. 1
 c. Man is at the apex of the food chain.Harmful chemicals accumulate progressively at each trophic level. 1

SECTION - C

14 a.Plants with round and yellow coloured seeds

1

b.YYRR and yyrr

1

c.Gametes are an organism's reproductive cell/sex cell ,one

1,1

Or

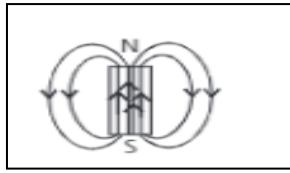
50% plants with wrinkled and yellow coloured seeds and 50% plants with wrinkled and green coloured seeds.

15

a.They determine both the direction and the relative strength of the magnetic field.

b.They would be on the all the planes around the magnet.

c.



Or

If two field lines crossed each other, it would mean that at the point of intersection, the compass needle would point in two directions at the same time, which is not possible.

1

1

2