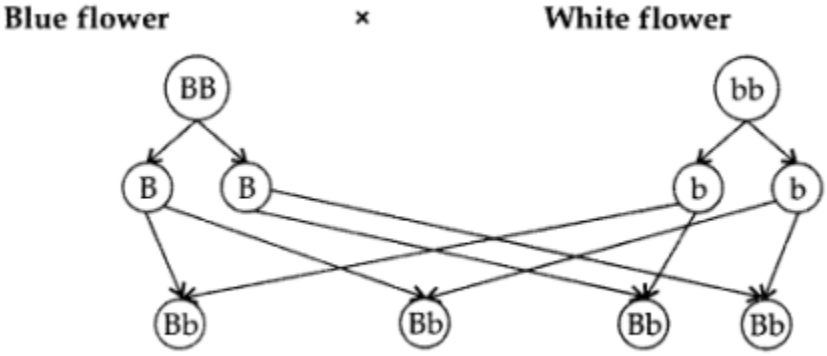
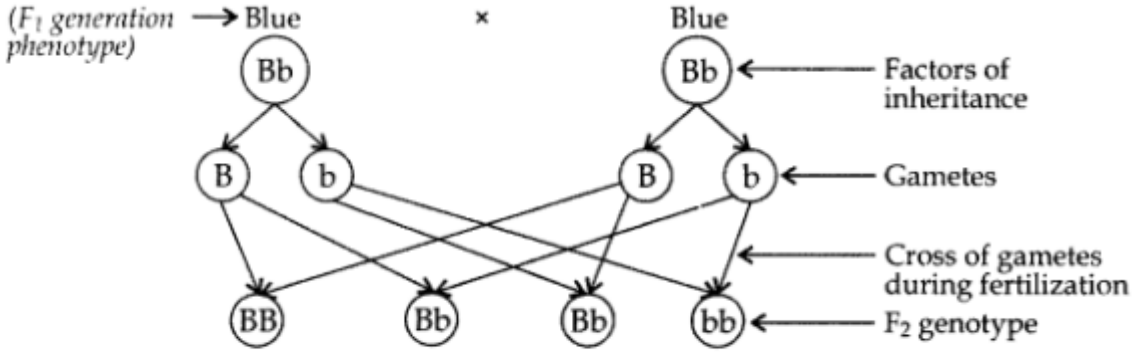
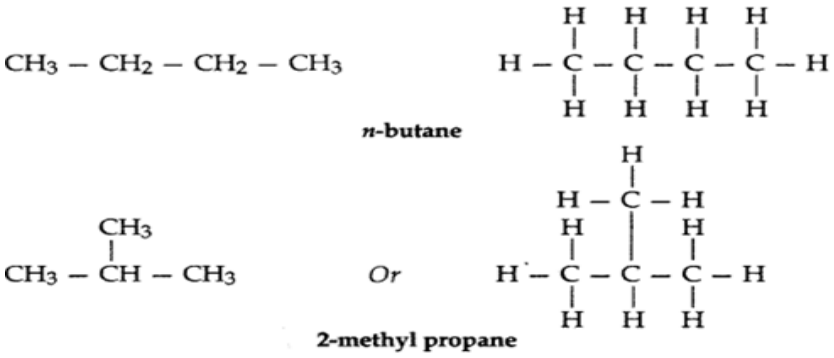
Marking Scheme of Practice
Term -2, 2021-22
Class – X
Science (Code: 086)

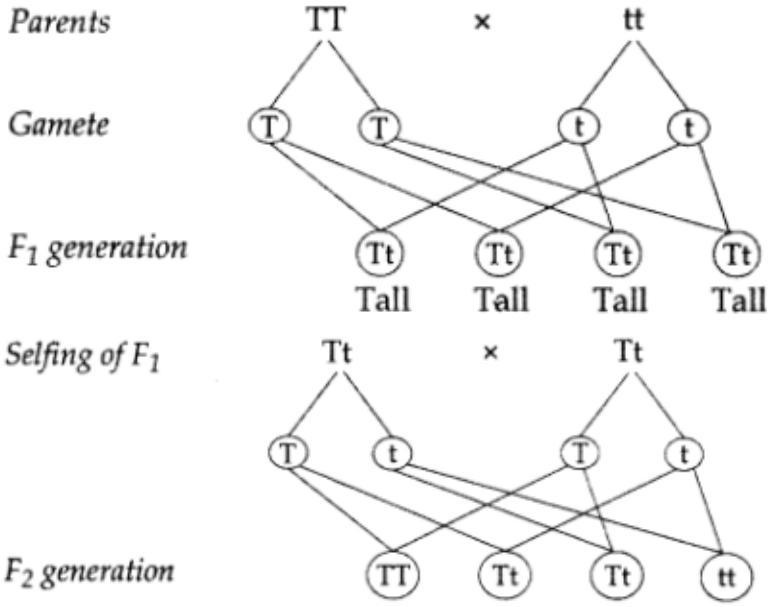
Q. No.	SECTION – A	Marks
1	a.17 b. Size of C is much smaller as compared to Pb and from a nucleus having 6 protons, it is very difficult to remove 4 electrons as a large amount of energy is required for this purpose.	1 1
2	A- Na, B- Ca, C- B, D-Ge **OR** a. $A^+ < A < A^-$ b. Periods= 7, Groups = 18	1/2x4
3	P, Q –gametes- Male, Female, R –Zygote, S- Embryo	1/2x4
4	B, The seed usually germinates in the soil where light is not needed. However, suitable temperature and water both are needed providing favourable conditions for seed to germinate by activating the enzymes.	1 1
5	a.  *F_1 generation:* **Blue Blue Blue Blue** All the flowers in the F_1 generation are blue b .If flowers of F_1 plants are self-pollinated  *F_2 generation:* **Blue Blue Blue White** ← **F_2 phenotype** **Ratio of (blue flower plant) to (white flower plant) = 3 : 1** $\text{Percentage of white flower plant} = \frac{\text{White flower plant}}{\text{Total plants of } F_2 \text{ generation}} \times 100 = \frac{1}{4} \times 100 = 25\%$	1 1

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6	As per Fleming's left hand rule – Two possibilities for the direction of the force- upward& downward **Or** 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.	**1** **1**
7	B ,C 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. **Or** a.CFC b.Because temperatures changing faster.	**1** **1**
	SECTION – B	
8	a. i. Non-metal ,ii. 5 b. N	**1,1,1**
9	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 ,C_2H_4 **Or** a.The organic compounds having the same molecular formula but different structures are known as isomers. Isomers of butane, C_4H_{10} :  *n*-butane 2-methyl propane 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.	**1** **1** **1**
10	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 (F_1) was of only tall plants. In the F_1 progeny, no short plants were obtained. However, in the F_2 generation, both tall and short plants were obtained in the ratio 3 :1 respectively. In the F_2 generation, both traits – tallness and shortness were inherited where the tall character was the dominant trait and short character was the recessive trait.	**3**

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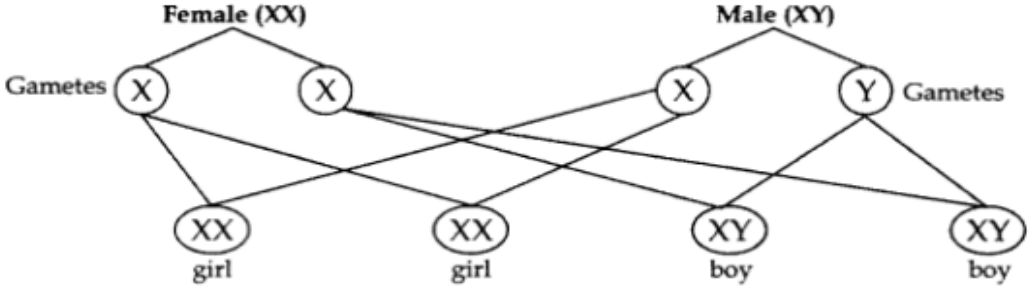
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Conclusion. Reappearance of dwarf character in F_2 generation proves that the dwarf trait was inherited but not expressed in the F_1 generation.

Or

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



Sex determination in human beings

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.

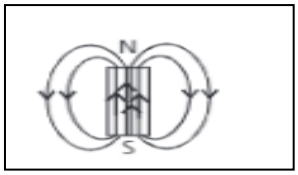
11	A-ii,iv B-i, C-iii	**1,1,1**
12	W=10x2=20J **OR** a.R= ⨍ . L/A b. Potential difference is same across the both. c. wire B	**3**
13.	a. Energy captured by autotrophs does not revert back to the solar input and it passes to the herbivores. b. paper cups are biodegradable and eco – friendly. c. Man is at the apex of the food chain.Harmful chemicals accumulate progressively at each trophic level.	**1** **1** **1**

SECTION – C

14	a.Plants with round and yellow coloured seeds b.YYRR and yyrr c.Gametes are an organism's reproductive cell/sex cell ,one	**1** **1** **1,1**

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	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**

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