Section – B

19. In which part of the alimentary canal food is finally digested?
20. What will happen if intake of iodine in our diet is low?
21. Write the common food chain of a pond ecosystem.
22. Name various plant hormones. Also give their physiological effects on plant growth and development.
23. What are homologous structures? Give an example. Is it necessary that homologous structures always have a common ancestor?
24. What are the different ways in which glucose is oxidised to provide energy in various organisms?
25. What are vestigial organs? Name any two vestigial organs in human beings and name the organ which is vestigial for us but not in birds.
26. A
27. **(i)** Distinguish between a gamete and zygote. Explain their roles in sexual reproduction.
    (ii) What are various ways to avoid pregnancy? Elaborate any one method.

Or

(i) What are fossils? What do they tell us about the process of evolution?
(ii) Give one term caption for the two pictures given here. Define the term and give its significance in evolution.


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Er Manish Bhadoria's Interactions Study Circle 10th CBSE Science

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Strong Foundation for a Bright Future

Address: Nimbalkar's Goth – 2, Near Balaji Travels Office, Kampoo, Lashkar, Gwalior

Ph: 6450282, 2424758 Mob: 92294 97622

Science

(Sample Paper - I)

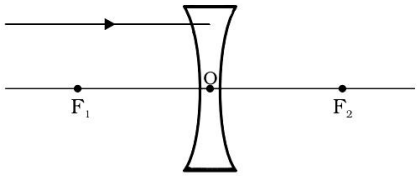
Time: 2½ hours **Max Marks: 60**

Marking Scheme

Q. Nos.	1-6, 19-21	7-12, 22-24	13-16, 25, 26	17-18, 27
Marks	1	2	3	5

Section - A

1. Draw the adjoining diagram in your answer book and complete it for the path of ray of light beyond the lens.



2. Which is the suitable method of reduction for metals high up in the reactivity series?
3. Why does dry HCl gas not change the colour of the dry litmus paper?
4. Find the focal length of a lens of power – 2.0 D. What type of lens is this?
5. Write a balanced chemical equation for the following chemical reaction:
   Sodium hydroxide reacts with sulphuric acid to form sodium sulphate and water.
6. What is meant by saying that the potential difference between two points is 1 V?
7. With the help of a chemical equation explain how a soda-acid fire extinguisher helps in putting out a fire.
8. Why ionic compounds have high melting and boiling points?

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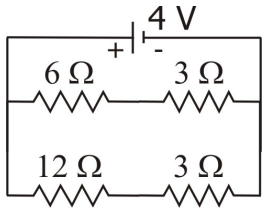
9. For the circuit shown in the adjoining diagram, find the value of:
   (i) Current through 6 Ω resistor.
   (ii) Potential difference across 12 Ω resistor.



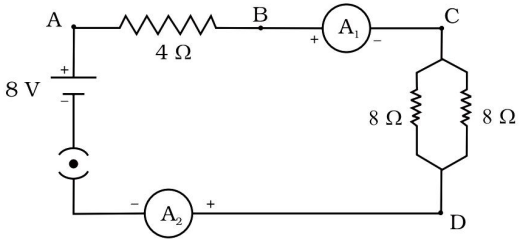
10. Explain the phenomenon of electromagnetic induction giving some suitable example.
11. What are the qualities of an ideal source of energy?
12. What are the environmental consequences of the increasing demand for energy? What steps would you suggest to reduce energy consumption?
13. What is myopia? State the two causes of myopia. With the help of labelled ray diagram show:
    (a) the eye defect myopia.
    (b) correction of myopia using a lens.
14. **(i)** Explain what corrosion of iron means.
    (ii) Why is it that aluminium which is more reactive than iron does not corrode like iron?
    (iii) How is corrosion of iron prevented by coating it with a layer of oil?
15. When an object is placed at a distance of 60 cm from a convex spherical mirror, the magnification produced is $\frac{1}{2}$. Where the object should be placed to get a magnification of $\frac{1}{3}$?
16. **(i)** What were the limitations of Mendeléev's Classification of elements?
    (ii) How could the Modern Periodic Table remove various anomalies of Mendeléev's Periodic Table?
17. **(i)** What do you understand by isomerism?
    (ii) Draw all the structural isomers of hexane.
    (iii) Draw the electron dot structure of a chlorine molecule.
    (iv) What is a functional group? Give examples of four different functional groups.
    (v) Write a chemical equation to represent what happens when

hydrogen gas is passed through an unsaturated hydrocarbon in the presence of nickel acting as a catalyst.

Or

(i) How would you bring about the following conversions? Name the process and write the reaction involved.
   (a) Ethanol to Ethene.
   (b) Propanol to Propanoic acid.
(ii) Explain the mechanism of the cleaning action of soaps.
(iii) How would you distinguish experimentally between an alcohol and a carboxylic acid?

18. Find out the following in the electric circuit given in figure.
    (a) Effective resistance of two 8 Ω resistors in the combination
    (b) Current flowing through 4 Ω resistor
    (c) Potential difference across 4 Ω resistance
    (d) Power dissipated in 4 Ω resistor
    (e) Difference in ammeter readings, if any.



Or

(i) Describe the activity that shows that a current-carrying conductor experiences a force perpendicular to its length and the external magnetic field. How does Fleming's left-hand rule help us to find the direction of the force acting on the current carrying conductor?
(ii) AB is a current carrying conductor in the plane of the paper as shown in adjoining figure. What are the directions of magnetic fields produced by it at points P and Q? State the rule which governs your answer.