CBSE Board
Class X Science
Board Paper - 2007

Time : 2½ hrs Total Marks : 60

General Instructions :

1. The question paper comprises of **two Sections, A** and **B**. You are to attempt both the Sections.
2. The candidates are advised to attempt all the questions of **Section A** and **Section B** separately.
3. **All** questions are **compulsory**.
4. There is no overall choice. However, internal choice has been provided in some questions. You are to attempt only one option in such questions.
5. Question numbers **1 – 4** in **Section A** and **17, 18** in **Section B** are very short answer questions. These questions carry **one mark each**.
6. Question numbers **5 – 8** in **Section A** and **19, 20** in **Section B** are short answer questions and carry **two marks each.**
7. Question numbers **9 – 14** in **Section A** and **21 – 23** in **Section B** are also short answer questions and carry **three marks each**.
8. Question numbers **15, 16** in **Section A** and **24** in **Section B** are long answer questions and carry **five marks each.**

SECTION-A

Q1. Write the type of reactions in the following:

i) Reaction between an acid and a base

ii) Rusting of iron

Q2. Give the names of the functional groups.

i. –CHO
ii. C = O

Q3. Write the function of iris in the human eye?

Q4. What is the S.I. unit of electrical potential?

Q5.

a) Give Arrhenius definition of an acid and a base.
b) Choose strong acid and strong base from the following:
CH_3COOH, NH_4OH, KOH, HCl

Q6. What are esters? Write an equation to show the formation of an ester.

Q7. What is geothermal energy? What are its advantages?

Q8. An electric iron has a rating of 750W, 220V. Calculate

i) Current passing through it, and
ii) Its resistance, when in use.

Q9. Name the raw materials that are required for the manufacture of washing soda by

Solvay process. Describe the chemical reactions involved in the process.

Q10. Write about different chemical processes used for obtaining a metal from its oxides, for metals low in the activity series, metals in the middle of activity series and metals towards the top of the activity series.

Q11. Explain the mechanism of the cleaning action of soaps.

Q12. A concave lens has focal length of 20 cm. At what distance from the lens a 5 cm tall object be placed so that it forms an image at 15 cm from the lens? Also calculate the size of the image formed.

Q13.

a) Why is the Solar Cooker box covered with a plane glass plate?
b) Why is energy of water flowing in a river considered to be an indirect form of solar energy?
c) Write one advantage of nuclear fission reaction.

Q14. a) What is meant by 'Electric Resistance' of a conductor?

b) A wire of length L and resistance R is stretched so that its length is doubled and the area of cross-section is halved. How will its:

i) Resistance change? ii) Resistivity change?

Q15.

a) Name one main ore of zinc metal. Write its formula. How is this metal ore changed into its oxide compound?
b) Explain in brief about electrolytic refining method.

OR

a) Why is sulphuric acid called 'King of Chemicals'?
b) State two ways to prevent the rusting of iron.
c) Why should water be never added dropwise to concentrated sulphuric acid?

Q16. Define the term, 'Critical Angle'. What is meant by 'total internal reflection'?

State two essential conditions for total internal reflection to take place. With the help of a ray diagram, illustrate an application of total internal reflection.

OR

a) What is meant by a 'magnetic field'?
b) How is the direction of magnetic field at a point determined?
c) Describe an activity to demonstrate the direction of the magnetic field generated around a current carrying conductor.
d) What is the direction of magnetic field at the centre of a current carrying circular loop?

SECTION-B

Q17. Name the term for transport of food from leaves to other parts of the plant.

Q18. What is a neuron?

Q19. What is lymph? Write its important functions.

OR

State the two vital functions of the human kidney. Name the procedure used in the working of artificial kidney.

Q20. Name the two hormones secreted by pancreas. Write one function of each hormone named.

Q21.

a) What is fertilization? Distinguish between external fertilization and internal fertilization.
b) What is the site of fertilization in human beings?

Q22. Define the terms:

i) Analogous
ii) Vestigial
iii) Sex chromosome

Q23. Give any two ways in which biodegradable substances would affect the environment.

OR

Suggest three ways to maintain a balance between environment and development to survive.

Q24.

a) Draw the diagram of cross-section of a leaf and label the following in it:
i) Chloroplast
ii) Guard cell
iii) Lower epidermis
iv) Upper epidermis

b) Name the two stages in photosynthesis.