CBSE X
SCIENCE EXAM PAPER 2008
(DELHI)

Time Allowed:3 Hours; Maximum Marks:80

General Instructions:

(i) The question paper comprises of two sections A and B. You are to attempt both the sections.

(ii) All questions are compulsory.

(iii) There is no overall choice. However, internal choice has been provided in all the three questions of five marks category. Only one option in such questions is to be attempted.

(iv) All questions of section A and all questions of section B are to be attempted separately.

(v) Questions 1 to 6 in section A and 17 to 19 in section B are short answer type questions. These carry one mark each.

(vi) Questions 7 to 10 in section A and 20 to 24 in section B are short answer type questions and carry two marks each.

(vii) Questions 11 to 14 in section A and 25 to 26 in section B are also short answer type questions and carry three marks each.

(viii) Questions 15 and 16 in section A and question 27 in section B are long answer type questions and carry five marks each.

SET-1
SECTION - A

Question 1

What happens chemically when quick lime is added to water?

Question 2

How will you test for the gas which is liberated when hydrochloric acid reacts with an active metal?

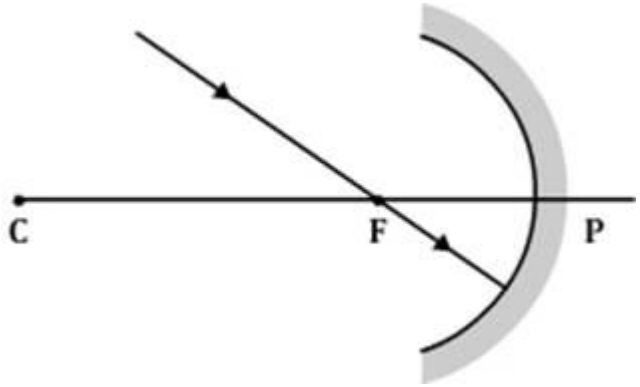
Question 3

From amongst the metals sodium, calcium, aluminium, copper and magnesium, name the metal

(i) which reacts with water only on boiling, and
(ii) another which does not react even with steam.

Question 4

Copy this figure in your answer-book and show the direction of the lightray after reflection.



Question 5

The refractive index of diamond is 2.42.What is the meaning of this statement in relation to speed of light?

Question 6

To an astronaut why does the sky appear dark instead of blue?

Question 7

What is an oxidation reaction? Identify in the following reactions:

$ZnO + C \rightarrow Zn + CO$

(i)thesubstance oxidised and (ii)the substance reduced.

Question 8

What is Baking' Powder'? How does it make the cake soft and spongy?

Question 9

Explain with the help of diagram, why a pencil partly immersed in water appears to be bent at the water surface.

Question 10

Describe an activity to draw magnetic field lines outside a bar magnet from one pole to another pole.

Question 11

What physical and chemical properties of elements were used by Mendeleev in creating his periodic table? List two observations which posed a challenge to Mendeleev’s Periodic Law.

Question 12

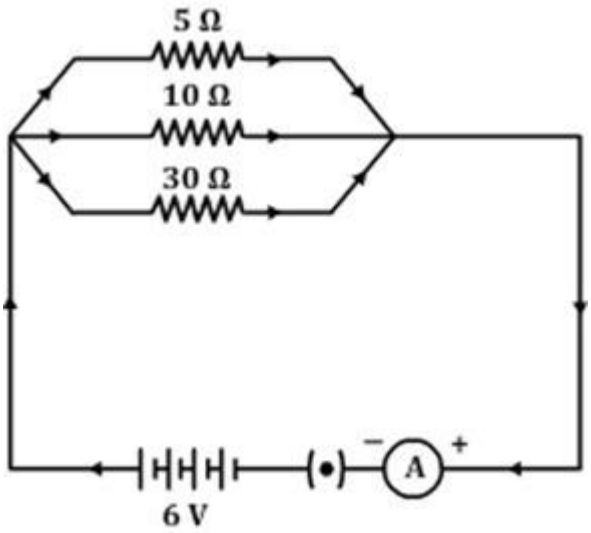
(a)Show the formation of NaCl from sodium and chlorine atoms by the transfer of electron(s).
(b)Why has sodium chloride a high melting point?
(c)Name the anode and the cathode used in electrolytic refining of impure copper metal.

Question 13

For the circuit shown in the diagram given below:

Calculate:

(a)the value of current through each resistor
(b)the total current in the circuit
(c)the total effective resistance of the circuit.



Question 14

(a)Draw a diagram to show the formation of image of a distant object by a myopic eye. How can such an eye defect be remedied?

(b) State two reasons due to which this eye defect may be caused.

(c)A person with a myopic eye cannot see objects beyond a distance of 1.5m.What would be the power of the corrective lens used to restore proper vision?

Question 15

(a)Why does carbon form compounds mainly by covalent bonding?
(b)List any two reasons for carbon forming a very large number of compounds.
(c)An organic acid 'X' is a liquid which often freezes during winter time in cold countries,has the molecular formula, $C_2H_4O_2$. On warming it with ethanol in the presence of a few drops of cncentrated sulphuric acid, a compound 'Y' with a sweet smell is formed.

(I) identify 'X' and 'Y'.

(ii)Write a chemical equation for the reaction involved.

Or

(a)What is a homologous series of compounds? List any two characteristics of a homologous series.

(b)(i) What would be observed on adding a 5% solution of alkaline potassium permanganate solution drop by drop to some warm ethanol taken in a test tube?
(ii)Write the name of the compound formed during the chemical reaction.

(c)How would you distinguish experimentally between an alcohol and a carboxylic acid on the basis of a chemical property?

Question 16

(a)What is meant by saying that the potential difference between two points is 1 volt? Name a device that helps to measure the potential difference across a conductor.

(b)Why does the connecting cord of an electric heater not glow hot while the heating element does?

(c)Electrical resistivities of some subtances at 20°C are given below:<

Silver	$1.60 \times 10^{-8} \Omega m$
copper	$1.62 \times 10^{-8} \Omega m$
tungsten	$5.20 \times 10^{-8} \Omega m$
iron	$10.0 \times 10^{-8} \Omega m$
mercury	$94.0 \times 10^{-8} \Omega m$
nichrome	$100 \times 10^{-8} \Omega m$

Answer the following questions in relation to them:
1. among silver and copper, which is the better conductor? Why?

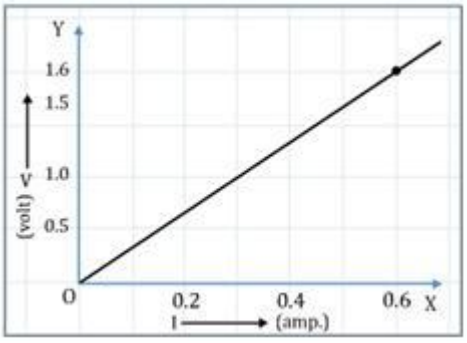
2. which material would you advice to be used in electrical heating devices? why?

Or

(a)Name an instrument that measures electric current in a circuit. Define the unit of electric current.

(b)What do the following symbols mean in circuit diagrams?
(c)An electric circuit consisting of a 0.5 m long nichorme wire XY, an ammeter, a voltmeter, four cells of 1.5 V each and a plug key was set up.
(i)Draw a diagram of the electric circuit to study the relation between the potential difference maintained between the points 'X' and 'Y' and the electric current flowing through XY.

(ii) Following graph was plotted between V and I values:



What would be the values of V/I ratios when the potential difference is 0.8 V,1.2 V and 1.6 V respectively?

What conclusion do you draw from these values?

Question 17

How is the increase in demand for energy affecting our environment adversely?

Question 18

Name the largest cell present in the human body.

Question 19

What process in plants is known as transpiration?

Question 20

Write two advantages of classifying energy sources as renewable and non-renewable.

Question 21

What is the importance in India of hydropower plants? Describe how electric energy is generated in such plants.

Question 22

What is 'reproduction'? Mention the importance of DNA copying in reproduction.

Question 23

List any two differences between pollination and fertilisation.

Question 24

A man with blood group A marries a woman with blood group O and their daughter has blood group O. Is this information enough to tell you which of the traits-blood group A or O is dominant? Why?

Question 25

"Damage to the ozone layer is a cause for concern." Justify this statement. Suggest any two steps to limit this damage.

Question 26

Define 'hormones'. Name the hormone secreted by thyroid. Write its function. Why is the use of iodised salt advised to us?

Question 27

(a) Draw a diagram depicting Human Alimentary Canal and label on it, Gall bladder, Liver and Pancreas.

(b)State the roles of Liver and Pancreas.

(c)Name the organ which performs the following functions in humans:

(i)Absorption of digested food

(ii)Absorption of water.

Or

(a)Draw a sectional view of the human heart and label on it, Aorta, Right ventricle and Pulmonary veins