Sample Paper - 2008
Class – X
Subject – Science

Time 1 ½ hrs MM-60

1. A lens has a power 4D. What is its focal length and nature of the lens.
2. Make a diagram to show how hypermetropia is corrected?
3. Why does sky appears blue?
4. Two wires A and B of same masses and of the same metal are taken. The diameter of the wire A is half of the diameter of wire B. If the resistance of wire A is 32Ω,calculate the resistance of wire B.
5. A wire of resistance 20Ω is drawn out so that its length is increased to twice its original length. Determine the new resistance.
6. A potential difference of 200V is maintained across the ends of a wire having resistance 100 ohm. Calculate the number of electrons passing through it in one second. Charge on one electron is $1.6x10^{-19}$ C .
7. Metal M is found in nature as its carbonate MCO_3 .It is used in the galvanization of iron articles. Identify the metal M and name its ore MCO_3.How will you convert this ore into free metal? Explain with equations.
8. A concave mirror produces a magnification of ½ when an object is placed at 60cm from it. Where should the object be placed so that a virtual image of double of the size is formed?
9. A 25W and 100W bulbs are joined in series and connected to the mains. Which bulb will glow brighter and why?
10. An organic compound A has molecular formula $C_2H_4O_2$ and acidic in nature. On heating with ethanol and con.sulphuric acid, vapours with pleasant smell are given out. What are compound A and the chemical equation involved in this reaction?
11. An organic compound X that is sometimes used as antifreeze has the molecular formula C_2H_6O.X on oxidation gives a compound Y, which gives brisk effervescence with baking soda solution. What can X and Y may be .Write their structural formulae.
12. A zinc plate was dipped in copper sulphate solution .On examining it was found that the blue colour of solution is getting fader and fader. After a few days when zinc plate is taken out of the solution, a number of small holes were noticed in it State the reason and the reaction involved .
13. What type of reaction occur give reactions also:
    (i)Lime stone is heated.
    (ii)A magnesium wire is heated in air.
    (iii)ammonia and hydrogen chloride are mixed
    (iv)steam is passed over red hot iron.
14. Explain the nature of aq solution of ammonium chloride.
15. Element B belongs to group 16 and located at fourth position from top and elements A and C belong to group 17 and located at 2^{nd} and 4^{th} positions from top
    (i)State whether A is metal or non metal
    (ii) Which is more reactive C or A.
    (iii)Which is smaller C or B.
    (iv)Which type of ion will be formed by A.
16. How the position of isotopes and wrong order of atomic masses corrected in modern periodic table?
17. A concave mirror of focal length 10cm is placed at a distance of 35cm from the wall. How far from the wall an object be placed so that the mirror at the wall forms the image?

18. Explain the working of fuse wire in a circuit
19. Hydrogen has been used as a rocket fuel. Would you consider it a cleaner fuel than CNG?
20. A convex lens of focal length 10cm is placed at a distance of 12cm from the wall. How far from the lens an object be placed so as to form its real image on the wall