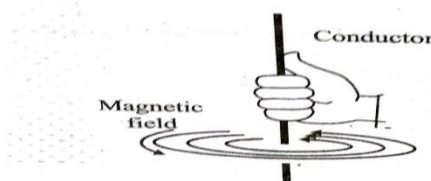


Q.1 A) Solve the following questions.

1) In which direction the current is flowing in the conductor?



- 2) What happens when potassium chromate is added to a solution of barium sulphate?
- 3) The ___ in our eyes consists of many light sensitive cells.
- 4) According to Mendeleev's periodic table eka – silicon was later discovered and named as germanium(Ge) Write true or false. If false, correct the statement.
- 5) What is escape velocity?

B) Choose the correct alternative and rewrite the statement.

- 1) The main constituents of cooking gas are _____.
 - a) Propane and butane
 - b) Butane and benzene
 - c) Propane and benzene
 - d) Methane and acetylene
- 2) The moisture in the atmosphere is called _____.
 - a) humidity
 - b) pressure
 - c) radiation of heat
 - d) anomalous behavior of water.
- 3) When an iron nail is kept dipped in freshly prepared ferrous sulphate solution taken in a test tube, _____.
 - a) the blue colour of the solution changed to green
 - b) the green colour of the solution changed to blue
 - c) the solution becomes colorless
 - d) the colour of the solution did not changes
- 4) The hot liquid cool quickly, it should be _____.
 - a) Placed inside the house in summer
 - b) Placed inside the house in the winter
 - c) placed in the open the summer
 - d) placed in the open the winter
- 5) When aqueous NaOH is added to copper sulphate solution. The products formed are _____.
 - a) Copper hydroxide and sodium
 - b) copper hydroxide and sodium sulphate
 - c) copper hydroxide, sodium and water
 - d) copper, sodium sulphate and water.

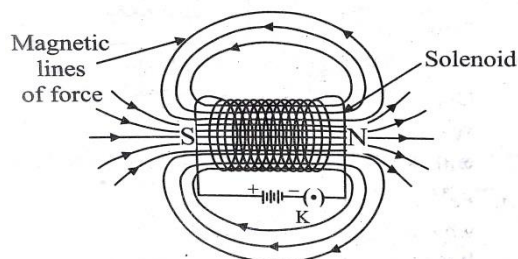
Q.2 Answer the following questions.(Any Five)

- 1) If a T.V. set of rating 100 W operates for 2 hrs per day, find the number of units consumed in any leap year.
- 2) How will you prepare ethane from ethanol?
- 3) Write a short note on working of satellite launch vehicle.
- 4) Give four examples of methods to prevent corrosion.
- 5) What are the difference between reflection of light and refraction of light?
- 6) Write a note on demerits of Mendeleev's periodic table.
- 7) Burns caused from steam are more serious than those caused from boiling water at same temperature – Give reasons.

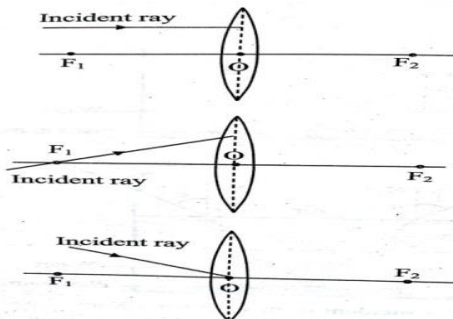
Q.3 Answer the following questions.(Any Five)

Method to concentrate ore	Principle	Example of ore
(a)	(c).....	Cassiterite
Froth floatation	(d).....	(e)
(b)	It is based on chemical reaction	(f).....

- 2) i) What do the parallel magnetic lines of force inside the solenoid indicate? ii) Studying the magnetic field produced by solenoid draw the magnetic field produced by a bar magnet. iii) What will happen to the end of solenoid acting as south pole if direction of current is reversed?



- 3) Explain the term with example: Covalent bond. eg. Formation of H₂ molecule
 4) Complete the diagram and state how an incident ray would pass through the lens.



- 5) Consider the elements of period 2 in the modern periodic table. Answer the following questions with explanation.
 i) Name the element in which both the shells are completely filled with electrons.
 ii) Name the elements which has same number of electrons in the first and second shell.
 iii) Which is the most electropositive element in this period?
 6) A thermally insulated pot has 150 g ice at temperature 0° C. How much steam of 100° C has to be mixed to it, so that water of temperature 50° C will be obtained?(Given: Latent heat of melting of ice = 80° cal/g, latent heat of vaporization of water = 540cal/g, specific heat of water = 1 cal/g° C)
 7) Write the reactions for the following conversion using the symbol

	Conversion	Reaction
i	Formation of Fe ²⁺ from Fe ³⁺	
ii	Formation of Zn from Zn ²⁺	
iii	Formation of Fe ²⁺ from Fe	

Q.4 Answer the following questions.(Any One)

- 1) According to theory of universal gravity, every object in the universe attracts every other object with a definite force. This force is directly proportional to the product of the masses of the two objects and is inversely proportional to the square of the distance between them. Mathematically, the gravitational force of attraction between two is given

$$F = G \frac{m_1 m_2}{d^2}$$
 Where, G is the constant of the proportionality and is called the universal gravitational constant. If the two objects are spherical, the direction of the force is always along the line joining the centers of the two objects and the distance between the centers is taken to be d. When the objects are not spherical or have irregular shape, then, direction of force is along the line joining their centers of mass and d is taken to be the distance between the two centers of mass.
 i) Is gravitational force a vector ? Justify.
 ii) Why is G called universal gravitational constant ?
 iii) Under what cases gravitational force between two objects can be half of its original value ?
 iv) Gravitational force between two masses when placed on the ground is F_g. If the same two masses are placed at the bottom of a swimming pool without changing distance between them then, how much will be the gravitational force between them? Why?
 v) State CGS unit of G.
 2) What are esters? Explain the preparation of ethyl ethanoate with the help of neat labeled diagram.