SHAH CLASSES®

CULTIVATING SUCCESS SINCE 1998

Subject : Science - I **Marks : 40**

Class : X **Time : 2 Hr.**

Prelim Question Paper - 1

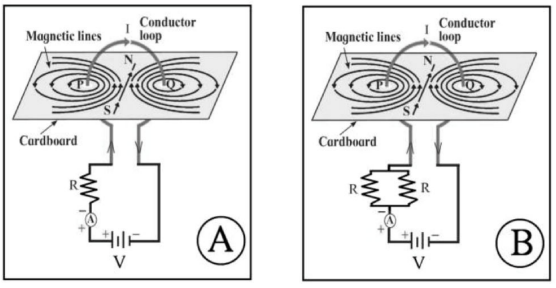
Q.1 : Multiple Choice Questions **5**

1. What will happen when two pieces of ice are pressed against each other for some time:
   a) Both pieces will melt
   b) They will stick to each other
   c) One piece will melt
   d) There will be no change

2. ..... are used in domestic appliances like mixers, washing machines and refrigerators.
   a) AC motors b) DC motors
   c) AC generators
   d) DC generators

3. If the focal length of a concave lens is 10 cm. then its power is:
   a) – 10 D b) 10 D
   c) 0.1 D d) – 0.01 D

4. Write the correct option by observing the figures.



   a) Magnetic field in A is stronger.
   b) Magnetic field in B is stronger.
   c) Magnetic fields in A and B are same.
   d) Magnetic fields in A and B are weaker.

5. Common name for ethanoic acid is
   a) carboxylic acid
   b) methanoic acid
   c) vinegar d) acetic acid

B) Answer the following question **5**

1. Find the odd one out.
   Constantan, Ebonite, Nichrome, Manganin

2. Find co-related terms
   Rusting of iron : Fe_2O_3 : : Corrosion of copper : _____

3. Match the pair.

Column A	Column B
1) Near Sightedness	a) Image behind retina
2) Farsightedness	b) Ciliary muscles become weak
	c) Image in front of retina

4. State true or false.
   Periodic table has 18 periods and 7 groups.

5. Name the following
   Name the two isomeric forms of C_4H_{10}.

Q.2 : A) Give scientific reason. (Any two) **4**

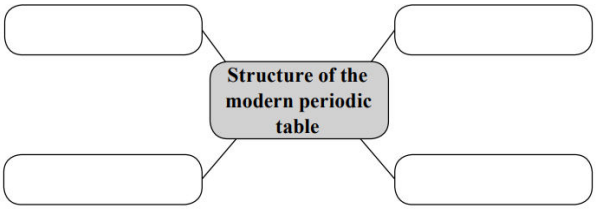
1. Silver articles turn blackish, while copper vessels turn greenish when kept in air for a long time.

2. The current produced in an AC generator is of alternating nature.

3. The unsaturated compounds are more reactive than the saturated compounds.

B **Answer the following questions. (Any three)** **6**

1. What is absolute Refractive index ?
2. Complete the following chart.



3. Write Short Notes

   Gravitational potential energy

4. How do we feel about air in each of the following conditions?

   a) Relative humidity is more than 60%.

   b) relative humidity is less than 60%.

5) Light travels with a velocity 1.5×10^8 m/s in a medium. On entering second medium its velocity becomes 0.75×10^8 m/s. What is the refractive index of the second medium with respect to the first medium?

Q.3 : Answer the following questions. (Any five) **15**

1. **Complete the table :**

   This is balanced equation is given

   $$NaOH + H_2SO_4 \rightarrow Na_2SO_4 + H_2O$$

Element	Reactants	Products
	Number of atoms	Number of atoms
Na		2
O		5
H		
S		

2. An element X from group 2 of the periodic table reacts with an element Y from group 17 to form a compound

   i) What is the nature of the compound formed?

   ii)Write the molecular formula of the compound formed.

   iii) State whether the compound formed will conduct electricity or not?

3. Match the table and explain in short its defect and correction:

Column 1	Column 2	Column 3
Farsightdness	Nearby object can be seen clearly	Bifocal lens
Presbyopia	Far away object can be seen clearly	Concave lens
Nearsightness	Problem of old age	Convex lens

4. Complete the process of iron rusting by filling the blanks.

   The iron rust is formed due to [ ] reaction. Different regions on iron surface become anode and cathode.

   Reaction on anode region :

   $Fe_{(s)} \rightarrow Fe^{2+}_{(aq)} + 2e^-$

   Reaction on cathode region :

   $O_{2(g)} + 4H^+_{(aq)} +$ [ ] $\rightarrow 2H_2O_{(l)}$

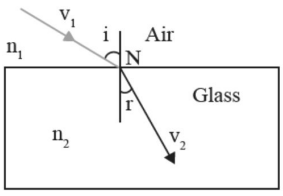
   When Fe ions migrate from anode region they react with [ ] to form Fe^{3+} ions.

   A reddish coloured hydrated oxide is formed from [ ] ions. It is called rust.

   $2Fe^{3+}_{(aq)} + 4H_2O_{(l)} \rightarrow$ [ ] $+ 6H^+_{(aq)}$

   A way to prevent rusting .....

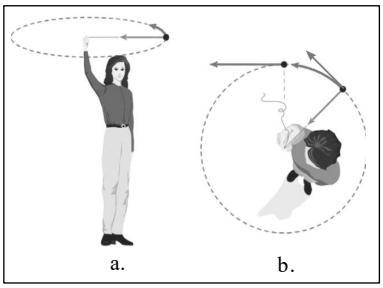
5. Answer the questions based on the given diagrams.



   a) Name the process represented in the figure.

   b) State the two laws related to this process.

6. Explain the given diagram.

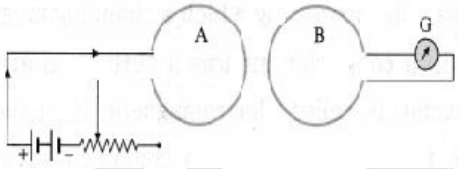


7. How can you relate the formation of water droplets on the outer surface of a bottle taken out of refrigerator with the formation of dew ?

8. Explain the following reactions of carbon compounds giving suitable reactions. Combustion

Q.4 : Answer the following questions. (Any one) 5

1. Observe the following figureand answer the following questions.



a) If the current in the coil A is changed, will some current be induced in the coil B? 1

b)Which phenomenon is used in this experiment? 1

c)What is elctromagnetic induction? 2

2. **Complete the following table:**

IRNSS		
	Weather study & predict	
		Earth's observation

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