



CHEMISTRY

BOOKS - S CHAND CHEMISTRY (HINGLISH)

TEST PAPER 3

Section A

1. Alloys are used in electrical heating devices rather than pure metals. Give one reason.



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2. A student has been collecting silver coins and copper coins. One day she observed a black coating on silver coins and a green coating on copper coins. Which chemical phenomenon is responsible for these coatings ? Write the chemical names of black and green coatings ?



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3. Distinguish between the arrangement of elements in Mendeleev's periodic table and Modern periodic table. Which of the two arrangements of elements is better and why ?



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4. A compound X which is prepared from gypsum has the property of hardening when mixed with a proper quantity of water.

(a) Identify the compound X

(b) Write the chemical equation for its

preparation

(c) For what purpose is it used in hospitals?



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5. (a) What is meant by a chemical reaction ?

Explain with the help of an example

(b) Given one example each of a chemical reaction characterised by:

(i) evolution of a gas

(ii) change in colour

(iii) formation of a precipitate

(iv) change in temperature

(v) change in state.



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6. pH has a great importance in our daily life.

Explain by giving three examples.



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7. Give reason for the following

(i) Iron grills are frequently painted.

(ii) Gold ornaments retain their lustre even after several years of use.



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8. An element X is in group 13 of the periodic table.

(a) what will be the formula of its chloride ?

(b) What will be the formula of its oxide ?



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9. The electronic configurations of four elements A, B, C and D are as follows.

A. 2,8,1

B. 2,8,7

C. 2,8,8

D. 2,4

(a) which of these elements is a metal ?

(b) Which of these elements are non-metals?

© Which two elements will combine to form an ionic bond?

(d) Which two elements will combine to form a covalent bond ?

(e) which element will form an anion of valency 1?

(f) Which element is a noble gas ?



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10. Which gas is liberated when dilute hydrochloric acid reacts with zinc metal ?

Write a balanced chemical equation for the reaction which takes place. How will you test this gas ? Name a metal which produces the same gas just by reacting with cold water.



11. The following diagram shows a part of the periodic table in which the elements are arranged according to their atomic numbers. (The letters given here are not the chemical symbols of the elements):

(i) Which element has a bigger atom, a or f ?

(ii) Which element has a higher valency, K or o ?

(iii) Which element is more metallic, i or K ?

(iv) Which element is more non-metallic, d or g ?

(v) Select a letter which represents a non-metal of valency 2.

(vi) Select a letter which represents a noble gas.

<i>a</i>	<i>b</i>		<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>
3	4		5	6	7	8	9	10
<i>i</i>	<i>j</i>		<i>k</i>	<i>l</i>	<i>m</i>	<i>n</i>	<i>o</i>	<i>p</i>
11	12		13	14	15	16	17	18



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12. You have been provided with three test tubes. One of them contains distilled water and the other two contain an acidic solution and a basic solution, respectively. If you are

given only red litmus paper, how will you identify the contents of each test tube?



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13. The position of hand shown in figure corresponds to one of the Fleming's rules.

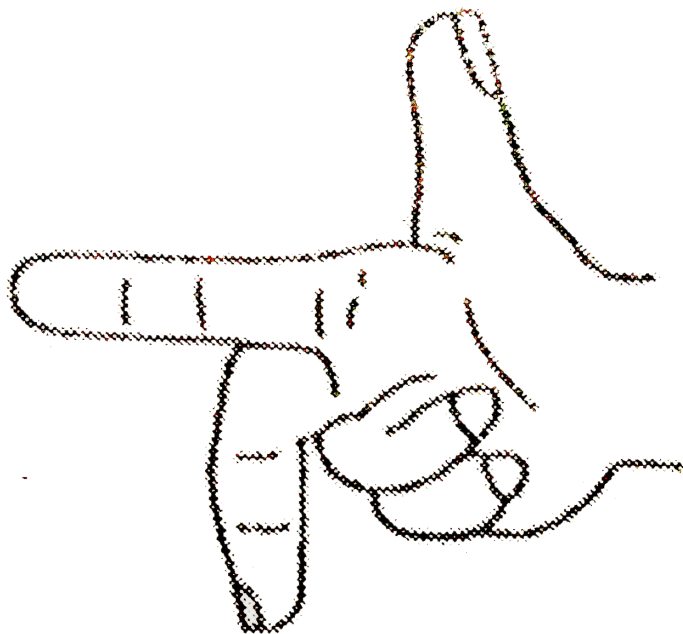
(a) which Fleming's rule is illustrated by this hand ?

(b) In this figure of hand, what is indicated:

(i) by the direction of forefinger?

(ii) by the direction of thumb ?

(iii) by the direction of centre finger ?



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14. (a) When sodium is burnt in chlorine, sodium chloride is formed, and when molten

sodium chloride is electrolysed, then sodium and chlorine are formed. What type of reaction takes place:

(i) in the first case ?

(ii) in the second case ?

(b) When hydrogen is passed over heated copper oxide, copper and steam are formed.

write a balanced chemical equation for this reaction. state which of the chemicals is oxidised and which is reduced ?

(c) what would you observe when zinc is added to a solution of iron sulphate ? write the

chemical equation of the reaction which takes place. why does this reaction occur?



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15. (a) Write the functional groups present in an aldehyde and a carboxylic acid.

(b) How would you distinguish between an alcohol and a carboxylic acid ?

© what happens when ethanoic acid is warmed with ethanol in the presence of a few drops of concentrated sulphuric acid ? write

equation of the reaction involved.

(d) What happens when a piece of sodium metal is added to ethanol ? write equation of the reaction involved.

(e) Describe how ethene can be prepared from ethanol ? Give an equation of the reaction and state the conditions.



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Section B

1. A student is performing displacement reactions of metals with salt solutions.

(a) In first case, the student keeps a strip of copper metal in iron (II) sulphate for a considerable time

(b) In second case, the student keeps a strip of zinc metal in copper (II) sulphate solution for a considerable time

(i) In which case the displacement reaction will take place? why?

(ii) In which case the displacement reaction will not take place? Why not?



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2. An organic compound $C_2H_4O_2$ is taken in a test-tube and a pinch of baking soda is added to it. A gas is evolved which turns lime water milky.

(a) Name the gas evolved.

(b) Name the functional group present in the organic compound.

(c) Write the name and formula of the organic compound.



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3. While performing an experiment by using a given voltmeter, a student observes that the needle indicates 12 divisions on the voltmeter scale. If the voltmeter scale has 5 divisions between 0 and 1.V, then what is the value corresponding to 12 divisions ?



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4. A Student carries out the decomposition reaction of lead nitrate to form three simpler substances. One of the substances formed during this reaction is a brown coloured gas whereas another substance formed is a yellow coloured solid.

(a) what is the colour of lead nitrate ?

(b) How is the decomposition reaction of lead nitrate carried out ?

(c) name the brown coloured gas produced in this reaction.

(d) name the yellow solid formed in the reaction.



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5. While working in a chemistry laboratory, a student took some zinc granules in a test-tube and added a liquid X to it. A gas Y was produced. When a burning matchstick was brought near the mouth of the test-tube, the gas Y burns with a 'pop' sound, making a little explosion.

(a) What could the liquid X be ?

(b) Name the gas Y.

(c) State two properties of gas Y.



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6. A student visits a Hill station in North India during the summer vacations. He observes that some of the people in that area have swollen necks.

(a) Name the disease from which the people with swollen necks are suffering.

What is the cause of this disease ?

(C) why is this disease more prevalent in hilly areas ?

(d) What should be done to prevent this disease ?



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