



CHEMISTRY

BOOKS - S CHAND CHEMISTRY (HINGLISH)

TEST PAPER 1

Section A

1. Name two inorganic substance which are used by autotrophs to make food.



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2. (a) Dry hydrogen chloride gas does not turn blue litmus red whereas hydrochloric acid does. Give one reason.

(b) An organic compound burns with a sooty flame. Is it a saturated or an unsaturated compound? Give reason.



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3. (a) A metal M forms an oxide having the formula M_2O_3 . It belongs to 3rd period in the modern periodic table. Write the atomic number and valency of the metal.

(b) Write the formula of chloride of metal M.

(c) What could metal M be?



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4. Two carbon compounds A and B have the molecular formulae C_3H_8 and C_3H_6 ,

respectively. Which one of the two is most likely to show addition reaction? Justify your answer. Explain with the help of a chemical equation, how an addition reaction is useful in vegetable ghee industry.



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5. Write the electron-dot structure for sodium and chlorine atoms. How do these form a chemical bond? Name the type of bond so

formed. Why does a compound so formed have high melting point?



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6. An organic compound 'A' is widely used as a preservative in pickles and has a molecular formula $C_2H_4O_2$. This compound reacts with ethanol to form a sweet smelling compound 'B'.

(i) Identify the compound 'A'

(ii) Write the chemical equation for its

reaction with ethanol to form compound 'B'

(iii) How can we get compound 'A' back from B'?

(iv) Name the process and write corresponding chemical equation.

(v) Which gas is produced when compound 'A' reacts with washing soda? Write the chemical equation.



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7. You are given the following materials:

(i) Iron nails (ii) Copper sulphate solution

(iii) Barium chloride solution (iv) Copper powder

(v) Ferrous sulphate crystals (vi) Quicklime

Identify the type of chemical reaction taking place when:

(a) Barium chloride solution is mixed with copper sulphate solution and a white precipitate is observed.

(b) On heating copper powder in air in a china dish, the surface of copper powder turns black.

(c) On heating green coloured ferrous sulphate crystals, reddish brown solid is left and smell of a gas having odour of burning

sulphur is experienced.

(d) Iron nails when left dipped in blue copper sulphate solution become brownish in colour and the blue colour of copper sulphate fades away.

(e) Quick lime reacts vigorously with water releasing a large amount of heat.

Write chemical equations for each one of the above reactions



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8. Out of 60 W and 40 W lamps, which one has a higher electrical resistance when in use ?



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9. What is meant by water of crystallisation in a substance ? How would you show that blue copper sulphate crystals contain water of crystallisation ?



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10. What is the chemical formula for plaster of Paris ? How is it prepared ? State the common and the chemical names of the compound formed when plaster of Paris is mixed with water.



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11. Give reasons for the following observations:

(a) The element carbon forms a very large number of compounds.

(b) Air holes of a gas burner have to be

adjusted when the heated vessels get blackened by the flame.

(c) Use of synthetic detergents causes pollution of water.



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12. What is meant by 'rusting' ? With labelled diagrams, describe an activity to find out the conditions under which iron rusts.



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13. (a) What is the colour of ferrous sulphate crystals ? How does this colour change after heating ?

(b) Name the products formed on strongly heating ferrous sulphate crystals. What type of chemical reaction occurs in this change ?

Write chemical equation of the reaction.



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14. What is rainwater harvesting? What is the need of rainwater harvesting ?



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15. (a) Give the electron configuration of magnesium and chlorine.

(b) Write the electron-dot structures of magnesium and chlorine atoms.

(c) Describe the formation of magnesium chloride from magnesium and chloride formed ?

(e) Why do such compounds have high melting points ?



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16. In the following diagram for the first three periods of the periodic table, five elements have been represented by the letters *a*, *b*, *c*, *d* and *e* (which are not their chemical symbols):

1								18
	2	13	14	15	16	17		
			<i>a</i>			<i>b</i>		
	<i>c</i>				<i>d</i>		<i>e</i>	

(i) Select the letter which represents a halogen.

(ii) Select the letter which represents a noble gas.

(iii) What type of bond is formed between a and b ?

(iv) What type of bond is formed between c and b ?

(v) Which element will form a divalent anion?



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Section B

1. (a) A student dropped a few pieces of marble in dilute hydrochloric acid contained in

a test tube. The evolved gas was passed through lime water. What change would be observed in lime water ? Write balanced chemical equations for both the changes observed.

(b) State the chemical property in each case on which the following uses of baking soda are based:

(i) as an antacid (ii) as a constituent of baking powder.



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2. A house wife wanted her house to be white washed. She bought 10 kg of quick lime from the market and dissolved in 30 litres of water. She noticed that water started boiling even when it was not being heated. Give reason for her observation. Write the corresponding equation and name the product formed.



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3. An organic compound A of molecular formula C_2H_6O is a constituent of wine and

beer.

This compound on heating with alkaline potassium permanganate forms another organic compound B which turns blue litmus to red. Identify the compounds A and B.



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4. When dilute hydrochloric acid is added to a sodium compound A, then brisk effervescence of a gas B is produced. On passing this gas through lime-water, the lime-water turns milky

dissolves forming a soluble compound D.

(a) What could be compound A ?

(b) Name the gas B.

(c) Name the insoluble compound C.

(d) Name the soluble compound D.



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