

10TH CBSE SCIENCE
10TH CBSE SCIENCE UNIT 1 TEST

10th Standard
Science

Date : 28-Feb-23

Exam Time : 03:00:00 Hrs

Total Marks : 80
16 x 1 = 16

- 1) Which of the statements about the reaction below are incorrect?
 $2\text{PbO(s)} + \text{C(s)} \rightarrow 2\text{Pb(s)} + \text{CO}_2\text{(s)}$
(a) Lead is getting reduced
(b) Carbon dioxide is getting oxidized
(c) Carbon is getting oxidized
(d) Lead oxide is getting reduced.
(a) (a) and (b) (b) (a) and (c) (c) (a), (b) and (c) (d) All of these
- 2) $\text{Fe}_2\text{O}_3 + 2\text{Al} \rightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}$.
The reaction is an example of a
(a) Combination of reaction (b) Double displacement reaction
(c) Decomposition reaction (d) Displacement reaction.
- 3) What happens when dilute hydrochloric acid is added to iron fillings? Tick the correct answer
(a) Hydrogen gas and Iron chloride are produced.
(b) Chloride gas and Iron hydroxide are produced. (c) No reaction takes place
(d) Iron salt and water are produced
- 4) A solution turns red litmus blue; its pH is likely to be?
(a) 1 (b) 4 (c) 5 (d) 10
- 5) A solution reacts with crushed egg-shells to give a gas that turns lime-water milky.
The solution contains.
(a) NaCl (b) HCl (c) LiCl (d) KCl
- 6) 10 ml of a solution of NaOH is found to be completely neutralised by 8 ml of a given solution of HCl. If we take 20 ml of the same solution of NaOH, the amount HCl solution (the same solution as before) required to neutralise it will be
(a) 4 ml (b) 8 ml (c) 12 ml (d) 16 ml
- 7) Which one of the following types of medicines is used for treating indigestion?
(a) Antibiotic (b) Analgesic (c) Antacid (d) Antiseptic
- 8) Which of the following pairs will give displacement reactions?
(a) NaCl solution and copper metal (b) MgCl_2 solution and aluminium metal
(c) FeSO_4 solution and silver metal (d) AgNO_3 solution and copper metal
- 9) Which of the following methods is suitable for preventing an iron frying pan from rusting?
(a) Applying grease (b) Applying paint (c) Applying a coating of zinc
(d) All of the above
- 10) An element reacts with oxygen to give a compound with a high melting point. This compound is also suitable in water. The element is likely to be
(a) Calcium (b) Carbon (c) Silicon (d) Iron

- 11) Food cans are coated with tin and not with zinc because
(a) Zinc is costlier than tin (b) Zinc has a higher melting point than tin
(c) Zinc is more reactive than tin (d) Zinc is less reactive than tin
- 12) Ethane, with the molecular formula C_2H_6 has
(a) 6 covalent bonds (b) 7 covalent bonds (c) 8 covalent bonds (d) 9 covalent bonds
- 13) Butanone is a four-carbon compound with the functional group
(a) carboxylic acid (b) aldehyde (c) ketone (d) alcohol
- 14) While cooking, if the bottom of the vessel is getting blackened on the outside, it means that
(a) the food is not cooked completely. (b) the fuel is not burning completely.
(c) the fuel is wet. (d) the fuel is burning completely.
- 15) Ethanol reacts with sodium and forms two products. These are
(a) sodium ethanoate and hydrogen (b) sodium ethanoate and oxygen
(c) sodium ethoxide and hydrogen (d) UnAvailable Option
- 16) Which of the following is not a physical change?
(a) Boiling of water to give water vapour. (b) Melting of ice to give water.
(c) Dissolution of salt in water. (d) Combustion of Liquefied Petroleum Gas(LPG).

$$4 \times 1 = 4$$

17) **Assertion:** Ferrous sulphate crystals ($FeSO_4 \cdot 7H_2O$) lose water when heated.

Reason: The colour of the crystals changes and it is a decomposition reaction.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
(b) If both assertion and reason are true but reason is not a correct explanation of assertion.
(c) If assertion is true and reason is false.
(d) If both assertion and reason are false.

18) **Assertion:** The colour of litmus solution is purple.

Reason: The litmus solution is neutral.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
(b) If both assertion and reason are true but reason is not a correct explanation of assertion.
(c) If assertion is true and reason is false.
(d) If both assertion and reason are false

19) **Assertion:** A wire of about 2 km length can be drawn from one gram of gold.

Reason: The ability of metals to be drawn into thin wires is called ductility.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
(b) If both assertion and reason are true but reason is not a correct explanation of assertion.
(c) If assertion is true and reason is false.
(d) If both assertion and reason are false.

20) **Assertion:** The earth's crust has only 0.02% carbon in the form of minerals.

Reason: The atmosphere has 0.03% of carbon dioxide.

Codes

(a) If both assertion and reason are true and the reason is correct explanation of assertion.

(b) If both assertion and reason are true but reason is not a correct explanation of assertion.

(c) If assertion is true and reason is false.

(d) If both assertion and reason are false

8 x 2 = 16

21) A solution of a substance 'X' is used for white washing.

(i) Name the substance 'X' and write its formula.

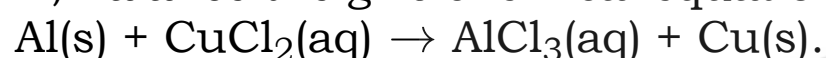
(ii) Write the reaction of the substance 'X' named in (i) above with water.

22) Why should curd and sour substances not be kept in brass and copper vessels?

23) Explain the meanings of malleable and ductile.

24) A mixture of oxygen and ethyne is burnt for welding. Can you tell why a mixture of ethyne and air is not used?

25) Balance the give chemical equation:



26) "Sulphuric acid is a dibasic acid." Write two reaction equations to justify this statement and name the reaction products in the two cases.

27) Metal sulphides occur mainly in rocks and the metal halides occur mostly in seas and lakes. What could be the reason for this difference in behaviour?

28) Write the name and molecular formula of an organic compound having its name suffixed with '-ol' and having two carbon atoms in the molecule. Write the help of a balanced chemical equation indicate what happens when it is heated with excess of conc. H_2SO_4

8 x 3 = 24

29) While diluting an acid, why is it recommended that the acid should be added to water and not water to the acid?

30) Differentiate between metal and non-metal on the basis of their chemical properties.

31) What are oxidising agents?

32) Define the term decomposition reaction. Give one example each of thermal decomposition and electrolytic decomposition.

33) (a) Write the chemical name and formula of bleaching powder.

(b) Why does bleaching powder smell of chlorine when exposed to air?

(c) Write chemical equation to represent the action of dilute hydrochloric acid on bleaching powder

34) Describe with a labelled diagram, the froth Floatation Process used to separate the gangue from a Sulphide ore.

35) Name a major ore from which iron is extracted. Write chemical equations for the reactions that take place in the blast furnace for the extraction of iron from this ore.

36) (a) Name the compound CH_3COOH and identify its functional group.

(b) Give a chemical test to identify this compound.

(c) Name the gas evolved when this compound acts on solid sodium carbonate. How would you identify this gas?

4 x 4 = 16

37) Which gas is usually liberated when an acid reacts with a metal? Illustrate with an example, How will you test for the presence of the gas?

38) Samples of four metals A, B, C, D were taken and added to the following solution one by one. The result obtained have been tabulated as follows :

Metals	Iron (II) Sulphate	Copper (II) Sulphate	Zinc Sulphate	Silver Nitrate
A	No reaction	Displacement		
B	Displacement		No reaction	
C	No reaction	No reaction	No reaction	Displacement
D	No reaction	No reaction	No reaction	No reaction

Use the table above to answer the following questions about metals A, B, C and D

- (i) Which is the most reactive metal?
- (ii) What would you observe if B is added to a solution of copper (II) sulphate?
- (iii) Arrange the metals A, B, C and D in the order of decreasing reactivity.

39) Draw the structures for the following compounds.

- (i) Ethanoic acid
- (ii) Bromopentane*
- (iii) Butanone
- (iv) Hexanal

Are structural isomers possible for brom opentane?

40) On heating blue coloured powder of copper (II) nitrate in a boiling tube, copper oxide (black), oxygen gas and a brown gas X is formed.

- (a) Write a balanced chemical equation of the reaction.
- (b) Identify the brown gas X evolved.
- (c) Identify the type of reaction.
- (d) What could be the pH range of aqueous solution of the gas X?

