

SUMMER VACATION (2019-20)

CLASS-X

ENGLISH XB

1. YOU ARE ARUN PANDEY RESIDING AT 294 MADHUJ APPARTMENT CHENNAI.WRITE A LETTER TO THE EDITOR COMPLAINING ABOUT THE LUCENT (TROUBLE) CREATED BY THE LOUDSPEAKER.
2. YOU ARE ARUN PANDEY RESIDING AT 294 MADHUJ APPARTMENT CHENNAI.WRITE A LETTER TO THE MANAGER OF EVERGREEN NURSERY CHENNAI, ORDERING SOME PLANTS FOR THE NEWLY CONSTRUCTED SCHOOL BUILDING.
3. READ THE NEWSPAPER EVERYDAY AND TO THE ENGLISH NEWS.
4. WRITE THE FOLLOWING INFORMATION ABOUT(WITH PHOTO):-
 - a) RUSKIN BOND
 - b) ROBERT FROST
(DATE OF BIRTH & DEATH, CHARACTERISTICS OF HIS WRITING STYLE OR SKILLS, STORIES WHICH YOU HAVE READ)
5. WRITE A STORY BY USING THE FOLLOWING OUTLINES:-

FANTOOSH, THE MONKEY, LIVED IN THE FOREST WITH HIS PARENTS. HE WAR A VERY NAUGHTY MONKEY AND TROUBLED HIS PARENTS. ONE DAY

English XA

- 1.Prepare a biodata of atleast one favourite leader or scientist & your own.
- 2.Write a letter to the editor of the times of India expressing your views "Mission for new India"
- 3.Read chapter 3 of literature and supplementary reader and write summary and words meaning.
- 4.Prepare a chart of determiners.
- 5.Prepare a bio-sketch of one foreign poet or author and one Indian English poet or author.

Mathematics XA

1. Write the history of any one Indian mathematician.
2. Write any 10 rules of Vedic Mathematics.
3. Solve all the examples of chapter 1 and 2.

MATHS XB

1. COLLECT THE INFORMATIONS TO PREPARE A MODEL ON THE FOLLOWING TOPICS:-
 - a. TRIGNOMETRY IN DAILY LIFE(ROLL NO. 27-31)
 - b. MATHEMATICS IN MEDICAL SCIENCE(ROLL NO.32-36)
 - c. HIGHT AND DISTANCE(ROLL NO.37-41)
 - d. PROBABLILTY(42-46)
 - e. GEOMETRY IN DAILY LIFE (47-51)

OR

- HISTORY OF π (PIE)
2. SOLVE ALL THE EXAMPLES OF CHAPTER 2 AND 3.
3. WRITE AN ESSAY ON THE TOPIC **“LIFE WITHOUT MATHS.”**

BIOLOGY:-

1. REVISE CHAPTER 6 (LIFE PROCESS), DIGESTION AND RESPIRATION(QUESTIONS ANSWER AND DIAGRAMS)

PHYSICS:-

1. MAKE A SIMPLE MODAL BASE ON THE TOPIC OF YOUR PHYSICS SYLLABUS AND PREPARE A REPORT ON THE PRINCIPLE BEHIND THE MODEL DIAGRAM, CONSTRUCTION AND WORKING.

Social Science-

1. Make a medical kit(First Aid Box) and write the uses of the components which are kept inside the kit in a piece of paper.
2. News collection (in a file) weekly
3. Write questions and answers (Minimum 50) from
 - (a) History Chapter-1
 - (b) Geo Chapter -1
 - (c) Democratic politics chapter – political party
 - (d) Eco – Chapter –Money and Credit.

4. Prepare a report file of exploitation of the consumers in market and measures for their awareness.
 5. Prepare a model of India by using Clay, pulp, sand, cotton or any innovative way and represent rivers of India and multipurpose river valley projects.
- Also observe the wastage of water at your home and neighborhood.
What initiative step has been taken by you to conserve water and how much it was fruitful? (For any queries contact- 8965962030)

SANSKRIT:-

1. पठितांश पाठों के अनुच्छेद से अतिरिक्त प्रश्नोत्तर कार्यम्। (कोई पाँच)
2. पठितांश पाठों से संधि, समास, विशेषण विशेष्य आदि शब्दों को लिखना।
3. मित्रम् प्रति एवं पित्रम् प्रति पत्रम् लिखना।
4. पच्चीस सरल संस्कृत वाक्यों में अनुवाद।
5. सूक्ति लेखनम् अर्थ सहित।
6. आत्म परिचयः।
7. चित्रकथा लेखनम्
8. शब्दकोश निर्माण (तीस से पैंतीस शब्दाः)
प्रोजेक्ट वर्क
9. समास एवं उपसर्ग का अथवा वाच्य परिवर्तनम् कोई दो स्मरणकार्यम्
10. श्लोक का सस्वर वाचन।

HINDI:-

- 1। निबंध लेखन (शब्द सीमा 250 शब्द)
- 1 मेरे जीवन के लक्ष्य भूमिका
असंख्य मार्ग
मेरा उद्देश्य

कठिन परिश्रम की आवश्यकता

उपसंहार

2। खेल और स्वास्थ्य प्रस्तावना

खेल स्वास्थ्य और भौतिक सुख

खेल के साधन

खेलों से लाभ

उपसंहार

2। (1) पत्र लेखन औपचारिक पत्र □ पुस्तकालय में हिन्दी पुस्तकें और पत्रिकाएँ मँगवाने के लिए अपने विद्यालय के प्रधानाचार्य को प्रार्थना पत्र लिखिए □

(2) अनौपचारिक पत्र □ अपने जन्मदिन पर मित्रा द्वारा भेजे गए उफार के लिए धन्यवाद पत्र लिखिए □

3। विज्ञापन लेखन (1) आइसलैंड एयर कंडीशनर बनाने वाली कंपनी के उत्पाद की बिक्री बढ़ाने हेतु विज्ञापन तैयार कीजिये

(2) अपने पापा की पुरानी कार बेचने के लिए एक विज्ञापन तयार कीजिये

Chemistry

Chapter - 1

Chemical reactions and equations

1. Which one is a chemical change – rusting of iron or melting of iron? (1)
2. Name and state the law which is kept in mind while we balance a chemical equation. (1)
3. State one basic difference between a physical change and a chemical change. (1)
4. What happens when quick lime is added to water? (1)
5. What happens when $ZnCO_3$ is heated in the absence of air? Give the relevant equation. (1)

6. Is burning of a candle, a physical change or a chemical change? (1)
7. Write a balanced chemical equation:

$$\text{FeSO}_4(\text{s}) \xrightarrow{\Delta} \text{Fe}_2\text{O}_3(\text{s}) + \text{SO}_2(\text{g}) + \text{SO}_3(\text{g})$$
 (1)
8. Write the chemical equation for reactions that takes place when lead nitrate and potassium iodide solutions are mixed. (1)
9. Write a balanced chemical equation for the following reaction.
 Ethanol is warmed with ethanoic acid to form ethyl acetate in the presence of concentrated H_2SO_4 . (1)
10. Why decomposing reactions are called the opposite of combination reactions? (1)
11. Why is photosynthesis considered an endothermic reaction? (1)
12. State the type of chemical reaction used for the extraction of metals from their naturally occurring chlorides or oxides. (1)
13. Why is hydrogen peroxide kept in coloured bottles? (1)
14. $\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$, name the type of reaction. (1)
15. Why do silver articles become black after sometime when exposed to air? (1)
16. Give reasons why do chips manufactures usually flush bags of chips with gas such as nitrogen? (1)
17. Identify the substance that is oxidized and substance that is reduced in the reaction.

$$\text{CuO}(\text{s}) + \text{H}_2(\text{g}) \rightarrow \text{Cu}(\text{s}) + \text{H}_2\text{O}(\text{l})$$
 (1)
18. Write a balanced chemical equation for a chemical combination reaction. (1)
19. Give an example of a double displacement reaction. (1)
20. Identify the reducing agent in the following reaction:

$$\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2$$
 (1)
21. List four observations that help us to determine whether a chemical reaction has taken place. (2)
22. (i) State the law which is followed in balancing a chemical equation.
 (ii) Balance the following chemical equation:

$$\text{Fe} + \text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + \text{H}_2$$
 (2)
23. What is observed when carbon dioxide gas is passed through lime water?
 (i) For a short duration.
 (ii) For a long duration? Also write the chemical equations for the reaction involved. (2)
24. A copper plate was dipped into a solution of silver nitrate. After sometime, a black layer was observed on the surface of copper plate. State the reason for it and write chemical equation of the reaction involved. (2)
25. When iron rod is kept dipped in copper sulphate solution for some time, a brown coating is formed on the iron rod. What change will be observed in the colour of the solution? Also write chemical equation for the reaction involved. (2)
26. When hydrogen gas is passed over heated copper (II) oxide, copper and steam are formed. Write the balanced chemical equation with physical states for this reaction. State what kind of chemical reaction is this? (2)
27. Write the skeletal equation for the following reactions:
 (i) Hydrogen sulphide reacts with sulphur dioxide to form sulphur and water.
 (ii) Methane on burning combines with oxygen to produce carbon dioxide and water.
 What is the need of balance equations? (2)

28. Translate the following statement into chemical equation and then balance it:
 “A metal in the form of ribbon burns with a dazzling white flame and changes into a white powder.” (2)
29. State what happens when zinc granules are heated with sodium hydroxide solution. Write the balanced chemical equation for the reaction. Name the main product formed in this reaction. (2)
30. Balance the following chemical equations:
 (i) $\text{NaOH} + \text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O}$
 (ii) $\text{BaCl}_2 + \text{Na}_2\text{SO}_4 \rightarrow \text{BaSO}_4 + \text{NaCl}$ (2)
31. Give reactions of calcium and magnesium with dilute nitric acid. (2)
32. Write balanced chemical equations for the following reactions:
 (i) Silver bromide on exposure to sunlight decomposes into silver and bromine.
 (ii) Sodium metal reacts with water to form sodium hydroxide and hydrogen gas. (2)
33. In a test-tube, hydrochloric acid is poured over a few zinc granules. List two observations that suggest that a chemical reaction has occurred.

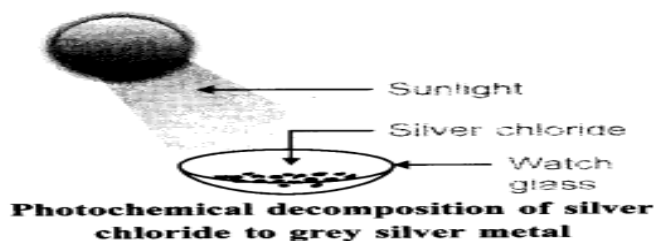
$$2\text{HCl} + \text{Zn} \rightarrow \text{ZnCl}_2 + \text{H}_2$$
 (2)
34. What is a combination reaction? State one example giving balanced chemical equation for the reaction. (2)
35. (i) $2\text{PbO} + \text{C} \rightarrow 2\text{Pb} + \text{CO}_2$
 (ii) $\text{MnO}_2 + 4\text{HCl} \rightarrow \text{MnCl}_2 + 2\text{H}_2\text{O} + \text{Cl}_2$
 What is redox reaction? Identify the substance oxidized and the substance reduced in the above reactions. (2)
36. Identify the type of reaction from the following equation and define it.

$$\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O} + \text{heat}$$
 (2)
37. Why does the colour of copper sulphate solution change when an iron nail is dipped in it? Write chemical equation for the reaction involved. (2)
38. State reason for the following:
 (i) Potato chips manufacturers fill the packet of chips with nitrogen gas.
 (ii) Iron articles shining when new, but get coated with a reddish brown powder, when left for some time. (2)
39. (i) List any two changes which take place when oily food gets oxidized.
 (ii) Mention a measure which prevents or slows down its oxidation. (2)
40. A student prepares aqueous solutions of the following salts:
 Copper sulphate, ferrous sulphate, sodium sulphate, barium chloride.
 Write the colour of each solution thus formed. (2)
41. Mention the colour of $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ crystals. How does this colour change upon heating? Give balanced chemical equation for the change. (2)
42. Write balanced equation for the reaction between magnesium and hydrochloric acid. Name the product obtained, identify the type of reaction. (2)
43. Identify the type of reaction from the following equations:
 (i) $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$
 (ii) $\text{Pb}(\text{NO}_3)_2 + 2\text{KI} \rightarrow \text{PbI}_2 + 2\text{KNO}_3$
 (iii) $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2$
 (iv) $\text{CuSO}_4 + \text{Zn} \rightarrow \text{ZnSO}_4 + \text{Cu}$ (2)
44. Barium chloride reacts with aluminium sulphate to give aluminium chloride and barium sulphate.

- (i) State the two types in which the above reactions can be classified
- (ii) Translate the above statement into a chemical equation. (2)
45. When hydrogen gas is passed over heated copper (II) oxide, copper and steam are formed. Write the balanced chemical equation for this reaction and state
- (i) the substance oxidized and
- (ii) the substance reduced in the reaction. (2)
46. Write the balanced chemical equation for the following reaction and identify the type of reaction and define it. Iron III oxide reacts with aluminium and gives molten iron and aluminium oxide. (2)
47. Identify the oxidizing agents (oxidants) in the following reactions:
- (i) $\text{Pb}_3\text{O}_4 + 8\text{HCl} \rightarrow 3\text{PbCl}_2 + \text{Cl}_2 + 4\text{H}_2\text{O}$
- (ii) $\text{CuSO}_4 + \text{Zn} \rightarrow \text{Cu} + \text{ZnSO}_4$ (2)
48. A silver article generally turns black when kept in the open for a few days. The articles when rubbed with toothpaste again start shining.
- (i) Why do they turn black?
- (ii) Name the black substance formed and write its formula. (2)
49. Convert the following statements into balanced chemical equations:
- (i) Zinc reacts with sulphuric acid to form zinc sulphate and hydrogen gas.
- (ii) Magnesium burns in oxygen to form magnesium oxide. (3)
50. Define a chemical reaction. Which observation helps you to determine whether a chemical reaction has taken place? (3)
51. Define the term decomposition reaction. Give one example each of thermal decomposition and electrolytic decomposition. (3)
52. Write the steps for balancing the chemical equation for the formation of ammonia by the combination of nitrogen and hydrogen. (3)
53. (a) Mention the four informations given by an equation.
- (b) State the law of conservation of mass as applicable in a chemical reaction. (3)
54. When a copper wire was left in silver nitrate solution for sometime, it was observed that the solution turned bluish green.
- (i) Explain the observation.
- (ii) Write the balanced chemical equation to represent the change taking place. (3)
55. 2 g ferrous sulphate crystals are heated in a dry boiling tube.
- (i) List any two observations
- (ii) Name the type of chemical reaction taking place.
- (iii) Write the chemical equation of the reaction. (3)
56. (a) In the following reactions, name the reactants, which undergo oxidation and reduction:
- (i) $\text{CuO(s)} + \text{H}_2\text{(g)} \rightarrow \text{Cu(s)} + \text{H}_2\text{O(g)}$
- (ii) $\text{CuO(s)} + \text{Zn(s)} \rightarrow \text{ZnO(s)} + \text{Cu(s)}$
- (b) State one industrial application of reduction. (3)
57. (a) Write chemical equations.
- (i) When carbon dioxide gas is passed through lime water.
- (ii) When excess of carbon dioxide gas is passed through lime water.
- (b) List two natural forms of calcium carbonate. (3)

58. Identify the type of each of the following reactions. Also write balanced chemical equation for each.
- The reaction mixture becomes warm.
 - An insoluble substance is formed. (3)
59. (i) Solution of a substance 'X' is used for testing carbon dioxide. Write the equation of the reaction of 'X' with carbon dioxide.
- How is 'X' obtained? Write chemical equation. (3)
60. What happens when:
- Dilute hydrochloric acid is added to solid sodium carbonate.
 - Quick lime is treated with water.
 - Sodium chloride is added to lead nitrate solution.
- Also write the chemical equation in each case. (3)
61. Write the chemical equation of the reaction with an example each in which the following change has taken place:
- Change in colour.
 - Change in temperature.
 - Formation of precipitate. (3)
62. Complete and balance the following chemical equations:
- $\text{CaCO}_3 + \text{HCl} \rightarrow$
 - $\text{Al} + \text{HCl} \rightarrow$
 - $\text{MnO}_2 + \text{HCl} \rightarrow$ (3)
63. Write balanced chemical equations for the following reactions:
- Dilute sulphuric acid reacts with aluminium powder.
 - Dilute hydrochloric acid reacts with sodium carbonate.
 - Carbon-dioxide is passed through lime water. (3)
64. Balance the following chemical equations and state whether they are exothermic or endothermic:
- $\text{Na} + \text{H}_2\text{O} \rightarrow \text{NaOH} + \text{H}_2$
 - $\text{FeSO}_4 \rightarrow \text{Fe}_2\text{O}_3 + \text{SO}_2 + \text{SO}_3$ (3)
65. Write the chemical equations involved in the following chemical reactions:
- White washing.
 - Black and white photography. (3)
66. 2 g of ferrous sulphate crystals are heated in a boiling tube.
- State the colour of ferrous sulphate crystals both before heating and after heating.
 - Name the gases produced during heating.
 - Write the chemical equation for the reaction. (3)
67. What is rancidity? Mention any two ways by which rancidity can be prevented. (3)
68. What is meant by a precipitation reaction? Explain by giving an example. Also give a balanced chemical equation for the reaction stating the states of the reactants and the products formed. (3)
69. Name the term used to indicate the development of unpleasant smell and taste in fat and oil containing food due to oxidation. What are antioxidants? Why are they added to fat and oil containing food? (3)
70. A solution of copper sulphate was kept in an iron pot. After few days, the iron pot was found to have a number of holes in it. Explain the reaction with the help of a chemical equation. (3)

71. Some articles made of silver, copper and iron get coloured coating over them when they are exposed to air. Identify the colour and chemical name of the substance of coating in each case. (3)
72. Write one equation each for decomposition reactions where energy is supplied in the form of heat, light and electricity. (3)
73. Write balanced equation for the following reactions and also name the type of chemical reactions in each case:
- Magnesium ribbon is burnt in air.
 - Lime stone is heated. (3)
74. Select (i) combination reaction (ii) decomposition reaction and (iii) displacement reaction from the following chemical equations:
- $\text{ZnCO}_3(\text{s}) \rightarrow \text{ZnO}(\text{s}) + \text{CO}_2(\text{g})$
 - $\text{Pb}(\text{s}) + \text{CuCl}_2(\text{aq}) \rightarrow \text{PbCl}_2(\text{aq}) + \text{Cu}(\text{s})$
 - $\text{NaBr}(\text{aq}) + \text{AgNO}_3(\text{aq}) \rightarrow \text{AgBr}(\text{s}) + \text{NaNO}_3(\text{aq})$
 - $\text{H}_2(\text{g}) + \text{Cl}_2(\text{g}) \rightarrow 2\text{HCl}(\text{g})$
 - $\text{Fe}_2\text{O}_3(\text{g}) + 2\text{Al} \rightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}(\text{s})$
 - $3\text{H}_2(\text{g}) + \text{N}_2(\text{g}) \rightarrow 2\text{NH}_3(\text{g})$ (3)
75. State the kind of chemical reactions in the following examples:
- Digestion of food in stomach
 - Combustion of coal in air
 - Heating of limestone. (3)
76. Name two metals which do not corrode easily. Give an example in each of the following case to support that:
- Corrosion of some metals is an advantage.
 - Corrosion of a metal is a serious problem. (3)
77. When a chemical reaction is considered a double displacement reaction? Explain giving example. State a difference between displacement and double displacement reaction. (3)
78. Differentiate between a combination reaction and a decomposition reaction. write one chemical equation each for these reactions. (3)
79. The following diagram displays chemical a reaction. Observe carefully and answer the following questions:



- Identify the type of chemical reaction that will take place and define it.
 - How will the colour of the salt change?
 - Write the chemical equation of the reaction that takes place.
 - Mention one commercial use of this salt. (3)
80. In the electrolysis of water:
- Name the gas collected at the cathode and anode respectively.
 - Why is the volume of one gas collected at one electrode is double than that at the other? Name this gas.

- (iii) How will you test the evolved gases? (3)
81. A small amount of calcium oxide is taken in a beaker and water is added slowly to it.
- Will there be any change in temperature of the contents? Explain.
 - Name and define the type of reaction taking place.
 - Write chemical equation for the above reaction. (3)
82. 2 g of lead nitrate powder is taken in a boiling tube. The boiling tube is heated over a flame. Now answer the following:
- State the colour of the fumes evolved and the residue left.
 - Name the type of chemical reaction that has taken place, stating its balanced equation. (3)
83. When food containing fat or oil is not used and left for a long time, their smell and taste changes. Name the process which is responsible for this change. List two methods to prevent or slow down the above change. (3)
84. Differentiate between an exothermic reaction and an endothermic reaction. Write one example of these reactions in the form of balanced chemical equation. (3)
85. In the following chemical reaction “zinc oxide reacts with carbon to produce zinc metal and carbon monoxide.”
- $$\text{ZnO} + \text{C} \rightarrow \text{Zn} + \text{CO}$$
- Identify the substance getting oxidized and the one getting oxidized and the one getting reduced.
 - State the reason for choosing the substance in (i).
 - Name the type of reaction and give another example of similar type of reaction. (3)
86. (i) Give an example for a combination reaction which is exothermic.
 (ii) Identify the oxidizing agent, reducing agent in the following reaction:
- $$\text{H}_2\text{S} + \text{Cl}_2 \rightarrow 2\text{HCl} + \text{S}$$
- (iii) Name the phenomenon due to which the taste and smell of oily food changes when kept for a long time in open. Suggest one method to prevent it. (3)
87. Write balanced chemical equation for the reactions that take place during respiration. Identify the type of combination reaction that takes place during this process and justify the name. Give one more example of this type of reaction. (3)
88. Define a chemical reaction. State four observations which help us to determine that a chemical reaction has taken place. Write one example of each observation with a balanced chemical equation. (5)
89. Write balanced chemical equations for the following statements:
- Bleaching powder is kept open in air.
 - Blue crystals of copper sulphate are heated.
 - Chlorine gas is passed through dry slaked lime.
 - Carbon dioxide gas is passed through lime water.
 - NaOH solution is heated with zinc granules. (5)
90. Identify the type of chemical reaction in the following statements and define each of them:
- Digestion of food in our body.
 - Rusting of iron.
 - Heating of manganese dioxide with aluminium powder.
 - Blue colour of copper sulphate solution disappears when iron filings are added to it.

- (v) Dilute hydrochloric acid is added to sodium hydroxide solution to form sodium chloride and water. (5)
91. Write balanced chemical equations for the following statements:
- NaOH solution is heated with zinc granules.
 - Excess of carbon dioxide gas is passed through lime water.
 - Dilute sulphuric acid reacts with sodium carbonate.
 - Eggs shells are dropped in hydrochloric acid.
 - Copper (II) oxide reacts with dilute hydrochloric acid. (5)
92. (a) List any three observations which determine that a chemical reaction has taken place. Also list three informations that cannot be obtained about a chemical reaction, merely by its chemical equation.
- (b) Balance the following chemical equations.
- $\text{Fe} + \text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + \text{H}_2$
 - $\text{CO}_2 + \text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + \text{O}_2$ (5)
93. What happens when zinc granules are treated with dilute solutions of H_2SO_4 , HCl , HNO_3 , NaCl and NaOH ? Also write the chemical equation. (5)
94. A brown substance 'X' on heating in air forms a substance 'Y'. When hydrogen gas is passed over heated 'Y', it again changes back into X.
- Name the substances 'X' and 'Y'
 - Name the chemical process occurring during both the changes.
 - Write the chemical equations involved in both the changes. (5)
95. (a) You want to study a decomposition reaction by taking ferrous sulphate crystals in a boiling tube. List two precautions you would follow while doing the experiments.
- (b) On keeping iron nails in blue coloured copper sulphate solution, it is observed that the colour of the solution turns light green after some time. Give reason for this colour change. Name the type of this reaction. (5)
96. A compound 'X' is a constituent of baking powder. It is used as an antacid. When 'X' is heated it gives out a gas 'Y' which when passed through lime water turns it milky and a salt 'Z' is formed which is the main constituent of washing powder. Identify X, Y and Z. Write balanced chemical equations for the reaction involved. (5)
97. (i) What happens chemically when quick lime is added to water?
- (ii) Balance the following chemical equation
- $$\text{MnO}_2 + \text{HCl} \rightarrow \text{MnCl}_2 + \text{Cl}_2 + \text{H}_2\text{O}$$
- (iii) What is decomposition reaction? explain it with suitable examples. (5)
98. (i) Solid calcium oxide was taken in a container and water was added slowly to it:
- Write the observation.
 - Write the chemical formula of the product formed.
 - What happens when carbon dioxide gas is bubbled through lime water:
 - In small amount,
 - In excess?
 - Why do you apply paint on iron articles? (5)
99. (i) Account for the following:
- White silver chloride turns grey in sunlight.
 - Brown coloured copper powder on heating in air turns into black coloured substance.

(ii) What do you mean by:

(a) Displacement reaction

(b) Reduction reaction

(c) Combination reaction?

Write balanced chemical equation. (5)

100. (a) Most of the metals acquire a dull surface when exposed to air. Name the chemical phenomenon responsible for this process.

(b) State the conditions under which the iron articles get rusted. Design an activity to investigate the conditions necessary for rusting. Suggest any two methods to prevent rusting of iron. (5)

101. (a) Explain the term "rancidity".

Name the type of chemical reaction responsible for causing rancidity and define it.

(b) Write three methods for preventing rancidity of food. (5)

102. (i) Define corrosion.

(ii) What is corrosion of iron called?

(iii) How will you recognize the corrosion of silver?

(iv) Why is corrosion of iron a serious problem?

(v) How can we prevent corrosion of iron? (5)

103. (a) Write one equation each for decomposition reaction when energy is supplied in the form of:

(i) heat, (ii) light.

(b) Account for the following:

(i) Paint is applied on iron articles.

(ii) Oil and fat containing food items are flushed with nitrogen.

(iii) When iron nails are kept in copper sulphate solution, the blue colour of the solution fades and the iron nails become brownish. (5)