

- E.O.T II 2019 K .V.S.S CHEM PAPER 1 BY NWK 1 | Page

D. Decaying of organic matter.

8. Which one of the following acids when treated with zinc will not produce hydrogen gas?
- A. Dilute nitric acid
B. Dilute hydrochloric acid
C. Dilute sulphuric acid
D. Dilute carbonic acid
9. The compound which does not form an electrolyte when dissolved in water is
- A. potassium chloride
B. hydrogen chloride
C. Ethanol
D. Ethanoic acid
10. An oxide of metal M, contains 86.6% M. The empirical formula of the oxide is (O = 16, M = 207)
- A. MO
B. M₂O
C. MO₂
D. M₂O₃
11. The number of protons, neutrons and electrons in some particles are shown in the table below:

Particles	Protons	Neutrons	Electrons
P	1	1	2
Q	2	2	2
R	3	4	2
T	4	5	4

Which one of the following particles represents a cation?

- A. T B. R C. Q D. P
12. Metal P displaces hydrogen from a dilute acid but metal Q does not. Metal R ; displaces P from its chloride. The order of reactivity of the metals beginning with the most reactive is
- A. P, Q, R B. Q, P, R C. R, Q, P D. R, P, Q
13. Which one of the following factors does not affect the selection of an ion that is discharged at the electrodes during electrolysis?
- A. Reactivity of the metal B. Nature of electrode
C. Surface area of electrode D. Concentration of electrolyse.
14. Element X belongs to group II in the Periodic Table. The formula of the oxide of X is
- A. XO B. X₂O C. X₂O₃ D. XO₂
15. The break down of starch into glucose when heated with dilute hydrochloric acid is known as
- A. dehydration B. fermentation C. hydrolysis D. hydrogenation
16. A salt P reacted with concentrated sulphuric acid to give a colourless gas which fumes in moist air. The anion in P is likely to be a

- A. nitrate B. chloride C. sulphite D. carbonate
17. Which of the following salts is normally prepared by precipitations?
 A. Calcium carbonate B. Sodium sulphate
 C. Zinc chloride D. Ammonium chloride
18. Ionic compounds have high melting points because
 A. ions strongly attract each other B. ions strongly repel each other
 C. they combine by transfer of electrons D. ions are arranged in a crystal lattice
19. A compound contains 92.3% carbon and 7.7% hydrogen by mass. What is the empirical formula of the compound? (C = 12, H = 1)
 A. C₂H B. CH₂ C. C₂H₂ D. CH
20. What is the percentage of nitrogen in calcium nitrate, (Ca(NO₃)₂)?
 (Ca = 40, N = 14, O = 16)
 A. $\frac{14 \times 100}{164}$ B. $\frac{62 \times 100}{164}$ C. $\frac{28 \times 100}{164}$ D. $\frac{124 \times 100}{164}$
21. A solution of Y contained a white precipitate when dilute nitric acid was added followed by silver nitrate solution. Y contained
 A. CO₃²⁻ B. SO₄²⁻ C. Cl⁻ D. NO₃⁻
22. The atomic number of element Y is 19. The formula of its chloride is
 A. YCl₂ B. Y₂Cl C. YCl D. Y₂Cl₂
23. Propane gas, C₃H₈ burns in oxygen according to the following equation.

$$\text{C}_3\text{H}_{8(g)} + 5\text{O}_{2(g)} \longrightarrow 4\text{H}_2\text{O}_{(g)} + 3\text{CO}_{2(g)}$$
 The volume of oxygen required for complete combustion of 10 dm³ of propane is
 A. 75 dm³ B. 50 dm³ C. 25 dm³ D. 15 dm³
24. Which one of the following is an amphoteric oxide?
 A. SO₂ B. ZnO C. P₂O₅ D. CaO
25. The number of moles of nitrogen molecules in 42 g of nitrogen is (N = 14)
 A. 0.33 B. 0.67 C. 1.50 D. 3.00
26. The atomic number of an element is
 A. the number of electrons and protons B. the number of protons and neutrons
 C. the number of neutrons D. the number of protons
27. Which one of the following substances does not conduct electricity?
 A. Graphite B. Diamond C. Lead D. Zinc
28. Compound R contains 15.8% of X and 84.2% of Y. The empirical formula of R is?
 (X = 12, Y = 32)

- A. XY_3 B. X_2Y C. XY_2 D. X_3Y

29. The number of moles of sodium hydroxide in 100 cm^3 of a 2 M solution of sodium hydroxide is

- A. 0.2 B. 0.4 C. 2.0 D. 4.0

30. Which one of the following is not a large scale use of chlorine?

- A. Manufacture of bleaching powder B. Purification of drinking water
C. Electrolysis of sodium chloride D. Manufacture of plastics.

31. Element X reacts with chlorine to form a compound of formula XCl_4 . The formula of the oxide of X is;

- A. X_2O B. X_2O_4 C. XO_4 D. XO_2

32. The equation that represents an oxidation-reduction reaction is;

- A. $NH_4Cl_{(s)} \xrightarrow{\text{heat}} NH_{3(g)} + HCl_{(g)}$
B. $2KClO_{3(s)} \xrightarrow{\text{heat}} 2KCl_{(s)} + 3O_{2(g)}$
C. $NaOH_{(aq)} + HCl_{(g)} \longrightarrow NaCl_{(aq)} + H_2O_{(l)}$
D. $2FeCl_{2(aq)} + Cl_{2(g)} \longrightarrow 2FeCl_{3(aq)}$

33. Which of the following substances increases in mass when heated?

- a. Iodine B. Calcium C. Zinc Nitrate
D. Potassium Carbonate

34. A dilute solution of sodium chloride was electrolyzed using carbon electrodes. Which of the following substances was formed at the anode?

- A. Chlorine B. Oxygen C. Carbon dioxide D. Hydrogen

35. Which of the following is not true about an element of electronic arrangement 2:8:3?

- A. It conducts heat and electricity B. It is a metal
C. It dissolves in dilute acids giving hydrogen gas
D. It has valencies 1, 2 and 3

36. The components of liquid air can be separated by

- A. factorial distillation B. simple distillation
C. evaporation D. centrifuging
37. Which one will not decompose when heated?
- A. Lead(ii) carbonate B. Sodium carbonate
C. Sodium nitrate D. Lead nitrate
38. Which of the following pairs of elements will form an ionic bond?
- A. Hydrogen and oxygen B. Potassium and iodine
C. copper and Zinc D. Hydrogen and chlorine
39. The formula of the compound formed between L, atomic number 12 and Q atomic number 15 is
- A. Q_2L_3 B. Q_2L_5 C. Q_3L_2 D. Q_5L_2
40. Which of the following salts will be prepared by precipitation?
- A. Ammonium chloride B. Silver chloride
C. Sodium carbonate D. Zinc sulphate
41. Each of the questions 41 to 45 consists of an assertion (statement) on the left hand side and a reason on the right hand side.
- Select:**
- A. If both assertion and reason are true statements and the reason is a correct explanation of the assertion.
B. If both assertion and reason are true statements but the reason is not correct explanation of the assertion.
C. If the assertion is true but the reason is an incorrect statement.
D. If the assertion is incorrect but the reason is a true statement.

Instructions summarized:

	Assertion	Reason
A.	True	True (reason is a correct explanation)
B.	True	True (reason is not a correct explanation)
C.	True	In correct
D.	Incorrect	True statement

41. Nitric acid can be produced by reacting any nitrate with concentrated sulphuric acid because Sulphuric acid is less volatile than nitric acid.

- | | | |
|---|---------|--|
| 42. Concentrated sulphuric acid changes sugar from white to black | because | Concentrated sulphuric acid is an oxidizing agent. |
| 43. Alkali metals are highly electro positive | because | They have one electron in their outer most shell. |
| 44. Chlorine bleaches moist litmuns paper | because | Chlorine is a reducing agent. |
| 45. Sodium and potassium belong to group I in the periodic table | because | Sodium and potassium are both reactive metals. |

In each of the questions 46 to 50, one or more of the answers given may be correct. Read each question carefully and then indicate the correct answer according to the following:

- | | |
|------------------------------------|--------------------------------|
| A. If 1, 2, and 3 only are correct | B. If 1 and 3 only are correct |
| C. If 2 and 4 only are correct | D. If 4 only is correct. |
46. Carbon is similar to sulphur in that both
- | | |
|----------------------------|------------------------------|
| 1. are non-metallic solids | 2. exist in allotropic forms |
| 3. form covalent compound | 4. form neutral oxides. |
47. Which of the following gas is/are used as coolant(s) in refrigerators?
- | | | | |
|-------------|-------------------|--------------------|------------|
| 1. Chlorine | 2. carbon dioxide | 3. sulphur dioxide | 4. ammonia |
|-------------|-------------------|--------------------|------------|
48. Which of the following properties of metals is/are a result of its/their having free delocalised electrons?
- | | | | |
|--------------------------|--------------|--------------------|-----------------|
| 1. Electrical conduction | 2. Ductility | 3. Heat conduction | 4. Malleability |
|--------------------------|--------------|--------------------|-----------------|
49. The electronic configurations of elements B, D, E and F are 2, 4, 2, 6 2:8:3 and 2, 8, 7 respectively. Which elements when reacted together will form covalent compounds?
- | | | | |
|------------|------------|------------|------------|
| 1. B and D | 2. D and E | 3. B and F | 4. E and F |
|------------|------------|------------|------------|
50. Which of the following are mixtures?
- | | | | |
|------------|----------|--------------|----------|
| 1. Diamond | 2. Brass | 3. Aluminium | 4. Steel |
|------------|----------|--------------|----------|