CHEMISTRY

Answer Key.

1. Calamine
2. $\frac{V}{T}$ = constant
3. quick lime (CaO)
4. 10
5. Zinc
6. Isoprene
7. C_nH_{2n}
8. leaching
9. Ammonium chloride, Calcium hydroxide.
10. a) 180g
    b) 100g
11. Fe, Cr, Ni, C
12. a) Tetrafluroethene
    b) $+CF_2 - CF_2+_n$
13. Write any two difference.
14. Pressure. Number of reactant molecules are equal to number of product molecules.
15. a) 10
    b) 10 x NA
16. Copper is deposited on Zinc rod.
    Displacement reaction happens. Zn>Cu
17. i) froth floatation
    ii) leaching
    iii) hydraulic washing
18. a) same molecular formula
    b) difference in functional group.
    c) functional isomerism.
19. a) Haematite
    b) Haematite ore, limestone, Coke
    c) gangue $\rightarrow$ silica (sio_2), flux $\rightarrow$ Cao

20. a) $1s^2\ 2s^2\ 2p^6\ \ 3s^2\ 3p^6\ 3d^{10}\ 4s^1$

b) Write any two points.

21. a) $BaSO_4$

b) no change

c) identify Sulphate Salts

22. a) Anode $\longrightarrow$ Chlorine gas

Cathode $\longrightarrow$ Sodium metal

b) $Na^+ + 1e^- \longrightarrow Na$

23. a) a $\longrightarrow$ 300, b $\longrightarrow$ 900

b) Charles law

24. a) Impure Copper

b) Pure Copper

c) $CuSO_4$ + dil.H_2SO_4 Solution.

25. a) 2 - methyl Butane

b) 2, 2 - Dimethyl propane

c) 2 - pent-2-ene

d) Heptane

26. a) $1s^2\ 2s^2\ 2p^3$

b) 15

c) i) high electronegativity

ii) high ionisation energy.

27. a) Draw the picture.

b) Anode rxn : $Mg \longrightarrow Mg^{2+} + 2e^-$

Cathode rxn : $2Ag^+ + 2e^- \longrightarrow 2Ag$

28. a) forward rxn decreases because this is exothermic rxn.

b) 450^o c

c) spongy Iron

29. a) $CH_2 = CH_2$

b) CH_3Cl

c) $+CH_2 - CH_2+_n$

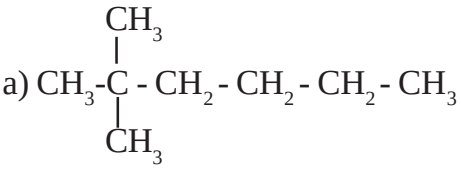
d) O_2

30. a) B & D

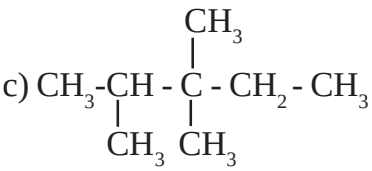
b) A & D

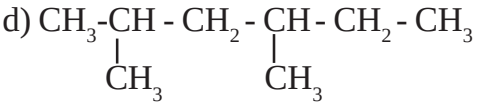
c) B

d) C

31. a) 

b) $CH_3 - CH = CH - CH_3$

c) 

d) 

32. a) a $\rightarrow$ 50

b $\rightarrow$ 4

b) Boyles law. state the law.

CHEMISTRY **SET III**

Answer Key.

1. +4
2. flux
3. Vineger
4. Drying agent
5. S
6. 2
7. Magnetic Seperation
8. Mg
9. Highly Concentrated aqueous solution of ammonia is liquor ammonia
   Ammonia gas liquified by applying pressure is liquid ammonia.
10. a) 6L
    b) Cylinder A
11. any two points
12. $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^5\ 4s^1$
    (explanation)
13. Any two statements
14. According to Boyle's law, when air bubbles come up pressure decreases, volume of the air bubble increases.
15. Zinc blende
    froth floatation
16. Correct labelled diagram
17. a) 17g
    b) 5
    c) $5 \times N_A$
18. a) $CH \equiv CH + H_2 \longrightarrow CH_2 = CH_2 \longrightarrow$ Addition reaction
    b) $C_6H_6 + O_2 \longrightarrow CO_2 + H_2O \longrightarrow$ Combustion
    c) $CH_3\text{-}CH_3 + Cl_2 \longrightarrow CH_3\text{-}CH_2Cl + HCl \longrightarrow$ Substitution
19. a) Haber process
    b) Explanation based on Le-chatlier's principle.
20. a) Anode $\longrightarrow$ Cl_2 gas
    Cathode $\longrightarrow$ Na metal

b) A+ Cathode :

$Na^+ + 1e^- \longrightarrow Na$

21. Magnetic Seperation

leaching

froth floatation

22. a) A $\longrightarrow$ invertase

B $\longrightarrow$ Zymase

b) 95.6% strong ethanol solution known as rectified spirit.

c) A mixture of absolute alchol and petrol.

23. explanation with examples.

24. A $\longrightarrow$ Sodium aluminate

B $\longrightarrow$ Aluminium hydroxide

C $\longrightarrow$ Alumina

25. i) a and c

b and d

ii) a and c $\longrightarrow$ structural isomerism

b and d $\longrightarrow$ functional isomerism.

26. a) Atomic number - 16

b) 3

c) 3p

d) block - p

group - 16

27. a) Ions have no freedom of movement

b) Anode $\longrightarrow Cl_2$

Cathode $\longrightarrow H_2$ gas

c) $2Cl^- \longrightarrow Cl_2 + 2e^-$

28. a) But - 1 - ene

b) 2 - methyl.pentane

c) But - 2 - yne

d) 2 - methyl propane

29. a) 2

b) $2 \times N_A$

c) 44.8 L

d) 2 mol

30. a) any two factors.

b) V_2O_5

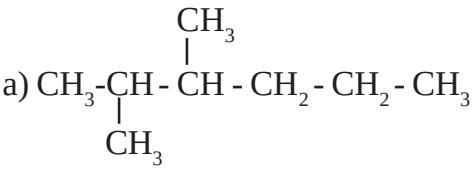
c) Contact process

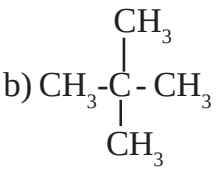
31. a) Mn +3

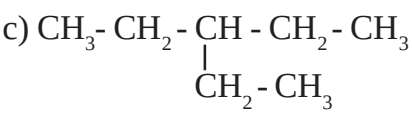
b) $Mn^{3+} \longrightarrow 1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^4$

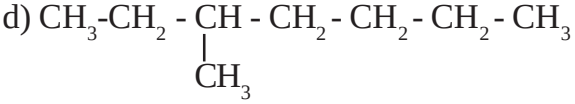
c) Explanation

32.

a) 

b) 

c) 

d) 

CHEMISTRY **SET III**

Answer Key.

1. Aluminium
2. 6th period
3. Tetrafluoroethene
4. Alnico
5. Chlorine gas
6. Hydroxyl (OH)
7. V_2O_5
8. Avogadro's law
9. i) $CH_3 - CH_2 - CH_2Cl$

   ii) $CH_3 - CH_2 - CH_2Cl$
10. a) black residue is formed.

    b) dehydrating agent.
11. 10 x 22.4 L
12. a) liquation

    b) distillation
13. Anode → Copper rod

    Cathode → Iron bangle
14. Write any two points.
15. a) 10

    b) 2
16. Anode → chlorine gas

    Cathode → potassium metal
17. a) to reduce its melting point of alumina and increase electrical conductivity.

    b) $Al^{3+} + 3e^- \rightarrow Al$
18. Fe = +3

    $Fe^{3+} = 1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^5$

19. a) 5

b) methyl

c) 2, 3 - dimethyl pentane

20. a) 10

b) 10 x NA

c) 10 x 22.4 L

21. a) Silica, (SiO_2)

b) CO

c) $CaO + SiO_2 \rightarrow CaSiO_3$

22. a) rate of forward and backward reaction are equal.

b) $2SO_3 + \text{heat} \rightarrow 2SO_2 + O_2$

c) forward reaction increases.

23. a) Cathode

b) Intensity of Blue colour of $CuSO_4$ Solution decreases. The number of Copper ions decreases in this solution.

24. a) distillation

b) liquation

c) electrolytic refining

25. i) a and c

b and d

ii) a,c → functional isomer

b,d → chain isomer

26. a) a → 4 atm

b → 10 L

b) Boyles law. state the law.

27. a) Mn + 2

b) $Mn^{2+} = 1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^5$

c) Write any two points

28. a) Correct labelled diagram

b) Anode → Zn → $Zn^{2+} + 2e^-$

Cathode → $2Ag^+ + 2e^-$ → 2Ag

29. i) Addition reaction

ii) Thermal cracking

iii) Substitution reaction

iv) polymerisation

30. explanation with example

31. a) 2

b) $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^6\ 4s^2$

c) Any two characteristics

32. a) alkoxy

b) ether

c) $CH_3 - CH_2 - CH_2 - OH$ / $CH_3 - \underset{\underset{OH}{|}}{CH} - CH_3$

Propan - 1-ol Propan-2-ol