



CHEMISTRY

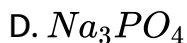
BOOKS - UNIVERSAL BOOK DEPOT 1960 CHEMISTRY (HINGLISH)

S AND P BLOCK ELEMENTS

Ordinary thinking (Objective question)

1. Which one of the following substances is used in the laboratory for a fast drying of neutral gases

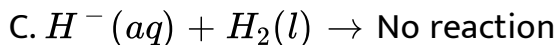
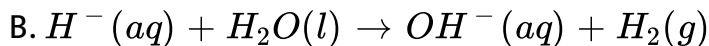
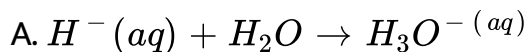
- A. Phosphorus pentoxide
- B. Active charcoal
- C. Anhydrous calcium chloride



Answer: C

 Watch Video Solution

2. The hydride ion H^- is a stronger base than its hydroxide ion OH^- . Which of the following reactions will occur if sodium hydride (NaH) is dissolved in water?



D. None of these

Answer: B

 Watch Video Solution

3. Which of the following statements about hydrogen is incorrect ?

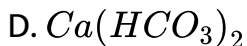
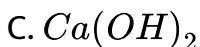
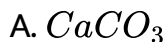
- A. Hydrogen has three isotopes of which tritium is the most common
- B. hydrogen never acts as cation in ionic salts
- C. Hydronium ion, H_3O^+ exists freely in solution
- D. dihydrogen does not act as a reducing agent

Answer: A::D



Watch Video Solution

4. Chemical A is used for water softening to remove temporary hardness. A reacts with sodium carbonate to generate caustic soda. When CO_2 is bubbled through a solution of A, it turns cloudy. What is the chemical formula of A ?

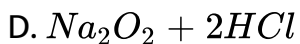
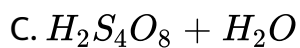
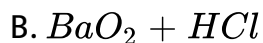
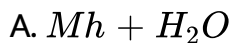


Answer: C



Watch Video Solution

5. Which of the following reaction produces hydrogen ?



Answer: A

 [Watch Video Solution](#)

6. Hydrogen can be prepared by the action of dil. H_2SO_4 on

A. Copper

B. Iron

C. Lead

D. Mercury

Answer: B

 [Watch Video Solution](#)

7. Spin isomerism is shown by

A. Dichloro benzene

B. Hydrogen

C. Diabasic acid

D. n-butane

Answer: B

 [Watch Video Solution](#)

8. When the same amount of zinc is treated separately with excess of sulphuric acid and excess of sodium hydroxide, the ratio of volume of hydrogen evolved is

A. 1 : 1

B. 1 : 2

C. 2 : 1

D. 9 : 4

Answer: A



[Watch Video Solution](#)

9. Which is used as hydrogen generators

A. NaH

B. HI

C. S_6H_3

D. None of these

Answer: A



Watch Video Solution

10. On reaction with Mg, very dilute nitric acid produces

A. NH_3

B. Nitrous oxide

C. Nitric oxide

D. hydrogen

Answer: D

 Watch Video Solution

11. Hydrogen can be fused to form helium at

- A. High temperature and high pressure
- B. High temperature and low pressure
- C. Low temperature and high pressure
- D. Low temperature and low pressure

Answer: A

 Watch Video Solution

12. Hydrogen from HCl can be prepared by

- A. Mg

B. Cu

C. P

D. Pt

Answer: A



Watch Video Solution

13. Which of the following gas is insoluble in water?

A. SO_2

B. NH_3

C. H_2

D. CO_2

Answer: C

 [Watch Video Solution](#)

14. Which element forms maximum compound in chemistry ?

A. O

B. H

C. Si

D. C

Answer: B

 [Watch Video Solution](#)

15. Action of water or dilute mineral acids on metals can give

A. monohydrogen

B. tritium

C. dihydrogen

D. trihydrogen

Answer: C



Watch Video Solution

16. Syngas is a mixture of

A. $CO_2 + H_2$

B. $CO + H_2O$

C. $CO + CO_2$

D. $CO + N_2$

Answer: B

 [Watch Video Solution](#)

17. The adsorption of hydrogen by metals is called :

- A. Dehydrogen
- B. Hydrogenation
- C. Occulusion
- D. Absorption

Answer: C

 [Watch Video Solution](#)

18. Among the following , identify the compound which cannot act as both oxidising and reducing agents.

- A. H_2O_2

B. H_2

C. SO_2

D. HNO_2

Answer: B



[View Text Solution](#)

19. The property of hydrogen which distinguishes it from alkali metals is

A. Its electropositive character

B. Its affinity for non metal

C. Its reducing character

D. Its non-metallic character

Answer: D



Watch Video Solution

20. The colour of hydrogen is

A. Black

B. Yellow

C. Orange

D. Colourless

Answer: D



Watch Video Solution

21. The difference between number of neutrons and protons is positive for

- A. Hydrogen atom
- B. Deuterium atom
- C. tritium atom
- D. None of these

Answer: C

 [Watch Video Solution](#)

22. Metal hydride on treatment with water gives :

- A. H_2O_2
- B. H_2O

C. Acid

D. Hydrogen

Answer: D

 [Watch Video Solution](#)

23. Ortho and para hydrogen differ in

A. Proton spin

B. Electron spin

C. Nuclear charge

D. Nuclear reaction

Answer: A

 [Watch Video Solution](#)

24. Hydrogen burns in air with a

- A. light bluish flame
- B. yellow flame
- C. green flame
- D. none of these

Answer: A



Watch Video Solution

25. In context with the industrial preparation of hydrogen from water gas ($CO + H_2$), which of the following is the correct statement ?

- A. CO is removed by absorption in aqueous Cu_2Cl_2 solution

B. H_2 is removed through occlusion with Pd

C. CO is oxidised to CO_2 with steam in the presence of a catalyst followed by absorption of CO_2 in alkali

D. CO and H_2 are fractionally separated using difference in their densities

Answer: C

 [Watch Video Solution](#)

26. Which of the following will not displace hydrogen

A. Ba

B. Pb

C. Hg

D. Sn

Answer: C

 [Watch Video Solution](#)

27. Which is distilled first ?

A. Liquid CO_2

B. Liquid N_2

C. Liquid O_2

D. Liquid H_2

Answer: D

 [Watch Video Solution](#)

28. Hydrogen resembles in many of its properties :

- A. Halogen
- B. Alkali metals
- C. Both (a) and (b)
- D. None of these

Answer: C

 [Watch Video Solution](#)

29. Hydrogen is not obtained when zinc reacts with

- A. Cold water
- B. Hot NaOH solution
- C. Conc. Sulphuric acid
- D. Dilute HCl

Answer: C

 [Watch Video Solution](#)

30. Ortho-hydrogen and para-hydrogen resembles in which of the following property ?

- A. Thermal conductivity
- B. Magnetic properties
- C. Chemical properties
- D. Heat capacity

Answer: C

 [Watch Video Solution](#)

31. Which pair does not show hydrogen isotopes?

- A. Ortho hydrogen and para hydrogen
- B. protium and deuterium
- C. Deuterium and tritium
- D. Tritium and protium

Answer: A



[Watch Video Solution](#)

32. Deuterium resembles hydrogen in chemical properties but reacts

- A. More vigorously than hydrogen
- B. Faster than hydrogen

C. Slower than hydrogen

D. Just as hydrogen

Answer: C

 [Watch Video Solution](#)

33. Which of the following can adsorb large volume of hydrogen gas?

A. Finely divided platinum

B. Finely divided nickel

C. Colloidal palladium

D. Colloidal platinum

Answer: C

 [Watch Video Solution](#)

34. Ordinary hydrogen at high temperature is a mixture of :

- A. 75% of o-hydrogen + 25% of p-hydrogen
- B. 25% of o-hydrogen + 75 % of p-hydrogen
- C. 50% of o-hydrogen + 50 % of p-hydrogen
- D. 1% of o-hydrogen + 99 % of p-hydrogen

Answer: A

 Watch Video Solution

35. The metal which displaces hydrogen from a boiling caustic soda solution is :

- A. As

B. Zn

C. Mg

D. Fe

Answer: B



Watch Video Solution

36. Which of the following explanation is best for not placing hydrogen with alkali metals or halogen

A. The ionization energy of hydrogen is high for group of alkali metals or halogen

B. Hydrogen can form compounds

C. Hydrogen is much lighter element than the alkali metals or halogens

D. Hydrogen atom does not contain any neutron

Answer: C

 [Watch Video Solution](#)

37. Hydrogen has three isotopes, the number of possible diatomic molecules will be

A. 2

B. 6

C. 9

D. 12

Answer: B

 [Watch Video Solution](#)

38. The name hydrogen was given by

A. Cavendish

B. lavoisier

C. urey

D. None of these

Answer: B



[Watch Video Solution](#)

Ordinary thinking (Water or hydride of oxygen)

1. Pure water can be obtained from sea water by

A. Centrifugation

B. Plasmolysis

C. Reverse osmosis

D. Sedimentation

Answer: C



Watch Video Solution

2. Some statements about heavy water are given below :

(i) Heavy water is used as a moderator in nuclear reactors

(ii) Heavy water is more associated than ordinary water.

(iii) Heavy water is more effective solvent than ordinary water

Which of the above statements are correct ?

A. 1 and 2

B. 1,2 and 3

C. 2 and 3

D. 1 and 3

Answer: A

 [Watch Video Solution](#)

3. D_2O is used more in

A. Chemical industry

B. nuclear reactor

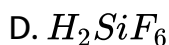
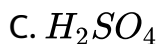
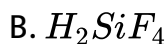
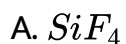
C. pharmaceutical preparation

D. insecticide preparation

Answer: B

 [Watch Video Solution](#)

4. Which of the following acid is formed when SiF_4 reacts with water ?



Answer: B



[Watch Video Solution](#)

5. Maximum number of hydrogen bonding in H_2O is

A. 1

B. 2

C. 3

D. 4

Answer: D

 [Watch Video Solution](#)

6. Which of the following metal will not reduce H_2O ?

A. Ca

B. Fe

C. Cu

D. Li

Answer: C

 [Watch Video Solution](#)

7. The $H - O - H$ angle in water molecule is about

- A. 90°
- B. 180°
- C. 102°
- D. 105°

Answer: D

 [Watch Video Solution](#)

8. When two ice cubes are pressed over each other, they unite to form one cube. Which of the following forces is responsible to hold them together ?

- A. Hydrogen bond formation

B. vander waals forces

C. Covalent attraction

D. Ionic interaction

Answer: A



Watch Video Solution

9. Triple point of water is

A. 273K

B. 373 K

C. 203 K

D. 193 K

Answer: A

 [Watch Video Solution](#)

10. By adding which of the following process, permanent hardness of water can be removed.

- A. Sodalime
- B. sodium bicarbonate
- C. Washing soda
- D. Sodium chloride

Answer: C

 [Watch Video Solution](#)

11. What is formed when calcium carbide reacts with heavy water?

- A. C_2D_2

B. CaD_2

C. CaD_2O

D. CD_2

Answer: A



Watch Video Solution

12. The high density of water compared to ice is due to

A. induced dipole-induced dipole interactions

B. dipole -induced dipole interaction

C. hydrogen bonding interaction

D. Dipol-dipole interactions

Answer: C

 [Watch Video Solution](#)

13. The maximum prescribed concentration of cadmium in drinking water in ppm is

A. 0.05

B. 3

C. 2

D. 5

Answer: C

 [Watch Video Solution](#)

14. Heavy water (D_2O) is

A. A product of oxygen and isotope of hydrogen

B. water of mineral springs

C. heavier isotope of hydrogen and heavier isotope of oxygen

D. ordinary water containing dissolved salts of heavy metals

Answer: A



Watch Video Solution

15. The alum used for purifying water is

A. Ferric alum

B. chrome alum

C. potash alum

D. Ammonium alum

Answer: C

 [Watch Video Solution](#)

16. Synthetic detergents are more effective in hard water than soaps because

- A. They are highly soluble in water
- B. Their Ca^{++} and Mg^{++} salts are water soluble
- C. Their Ca^{++} and Mg^{++} salts are insoluble in water
- D. None of these

Answer: B

 [Watch Video Solution](#)

17. H_2O is hard if it contains

- A. $NaHCO_3$

B. $MgSO_4$

C. KCl

D. NaCl

Answer: B

 [Watch Video Solution](#)

18. Sodium sulphate is soluble in water but barium sulphate is insoluble because

A. The hydration energy of Na_2SO_4 is more than its lattice energy

B. The lattice energy of $BaSO_4$ is more than its hydrogen than its hydration energy

C. The lattice energy has no role to play in solubility

D. Both (a) and (b)

Answer: D

 [Watch Video Solution](#)

19. Temporary hardness of water can be removed by

A. Addition of potassium permanganate

B. Boiling

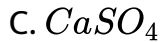
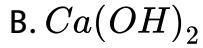
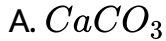
C. Filtration

D. Addition of chlorine

Answer: B

 [Watch Video Solution](#)

20. Temporary hardness may be removed from water adding.



Answer: B



[Watch Video Solution](#)

21. Explain why calcium ion makes water hard, but sodium ion does not.

A. Calcium forms insoluble compounds with stearate ions present in soap

B. Sodium forms insoluble compounds with stearate ions present in soap

C. Calcium forms soluble compounds with stearate ion present in soap

D. Both calcium and sodium forms insoluble compound with stearate ions present in soap

Answer: A

 [Watch Video Solution](#)

22. Whichh of the following is correct about heavy water ?

A. Water at $4^{\circ}C$ having maximum density is known as heavy water

B. its is heavier than water (H_2O)

C. It is formed by the combination of heavier isotope of hydrogen and oxygen

D. None of these

Answer: C

 [Watch Video Solution](#)

23. Metal which does not react with cold water but evolves H_2 with steam is :

A. Na

B. K

C. Pt

D. Fe

Answer: D

 [Watch Video Solution](#)

24. The boiling point of water is exceptionally high because

- A. There is covalent bond between H and O
- B. Water molecule is linear
- C. water molecules associate due to hydrogen bonding
- D. water molecule is not linear

Answer: C

 [Watch Video Solution](#)

25. Ozone is used for purifying water because

- A. It dissociates and release oxygen
- B. do not leave any foul smell like chlorine
- C. kills bacteria 'cyst' fungi and acts as a biocide
- D. all of the above

Answer: D

 [Watch Video Solution](#)

26. Match list I with list II and select the correct answer using the codes gives below the lists



- A. 1-c,2-d,3-b,4-a
- B. 1-b,2-a,3-c,4-d
- C. 1-b,2-d,3-c,4-a

D. 1-c,2-a,3-b,4-d

Answer: D



[View Text Solution](#)

Ordinary thinking (Hydrogen peroxide)

1. Hydrogen peroxide is reduced by

A. ozone

B. barium peroxide

C. acidic solution of ($KMnO_4$)

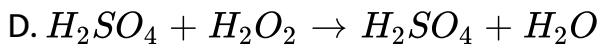
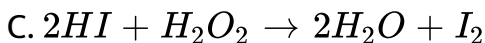
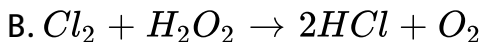
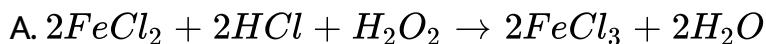
D. lead sulphide suspension

Answer: D



[Watch Video Solution](#)

2. In which of the following reaction hydrogen peroxide is a reducing agent



Answer: B



Watch Video Solution

3. The volume strength of 1 · 5 N H_2O_2 solution is

A. 8.4 l

B. 4.2 l

C. 16.8 l

D. 5.2 l

Answer: A



Watch Video Solution

4. In lab H_2O_2 is prepared by

A. Cold $H_2SO_4 + BaO_2$

B. $HCl + BaO_2$

C. conc. $H_2SO_4 + Na_2O_2$

D. $H_2 + O_2$

Answer: A

 Watch Video Solution

5. H_2O_2 acts as an oxidising agent in

- A. Neutral medium
- B. Acidic medium
- C. Alkaline medium
- D. Acidic and alkaline medium

Answer: D

 Watch Video Solution

6. The H - O - O bond angle in H_2O_2 (g) is

- A. 107.28°

B. 109.28°

C. 104.5°

D. 97°

Answer: D



[Watch Video Solution](#)

7. The strength of H_2O_2 (in g/l) in 11.2 volume solution of H_2O_2

is

A. 17

B. 51

C. 24

D. 85

Answer: C



View Text Solution

8. Which of the following undergoes reduction with H_2O_2 in an alkaline medium ?

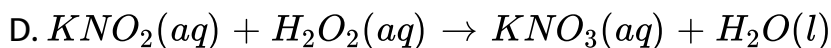
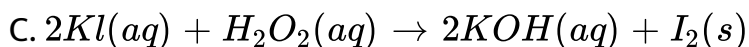
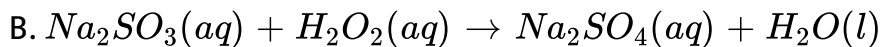
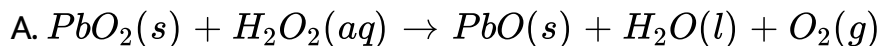


Answer: B



Watch Video Solution

9. In which of the following reactions H_2O_2 acts as a reducing agent ?



Answer: A

 [Watch Video Solution](#)

10. There is a sample of 10 volume of hydrogen peroxide solution .
Calculate its strength.

A. 0.03

B. 0.04045

C. 0.02509

D. 0.03035

Answer: D



[Watch Video Solution](#)

11. The structure of H_2O_2 is

A. 

B. 

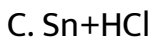
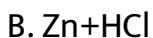
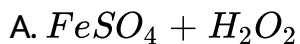
C. H-O-O-H

D. 

Answer: B

 Watch Video Solution

12. Fenton's reagent is

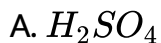


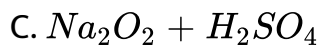
D. None of these

Answer: A

 Watch Video Solution

13. The laboratory method for the preparation of H_2O_2 is by



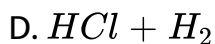
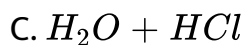
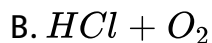
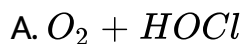


D. All the above

Answer: C

 [Watch Video Solution](#)

14. What is the product of the reaction of H_2O_2 with Cl_2 ?



Answer: B

 [Watch Video Solution](#)

15. The volume of oxygen liberated from $0.68g$ of H_2O_2 is

A. 112 ml

B. 224 ml

C. 56 ml

D. 336 ml

Answer: B

 [Watch Video Solution](#)

16. The volume of oxygen liberated from $15ml$ of 20 volume H_2O_2 is

A. 250 ml

B. 300 ml

C. 150 ml

D. 200 ml

Answer: B



[Watch Video Solution](#)

17. H_2O_2 is manufactured these days

A. By the action of H_2O_4 on BaO_2

B. By the action of H_2SO_4 on Na_2O_2

C. By electrolysis of 50% H_2SO_4

D. By burning hydrogen in excess of oxygen

Answer: C

 [Watch Video Solution](#)

18. Which is false about H_2O_2 ?

- A. Act as both oxidising and reducing agent
- B. Two OH bonds lies in the same plane
- C. pale blue liquid
- D. can be oxidised by ozone

Answer: B

 [Watch Video Solution](#)

19. Blackened oil painting can be restored into original form by the action of

- A. Chlorine

B. BaO_2

C. H_2O_2

D. MnO_2

Answer: C



Watch Video Solution

20. In transforming 0.01 mole of PbS to $PbSO_4$, the volume of '10 volume H_2O_2 required will be :

A. 11.2 ml

B. 22.4 ml

C. 33.6 ml

D. 44.8 ml

Answer: D

 [Watch Video Solution](#)

21. In O_2 and H_2O_2 the O-O bond lengths are 1.21 and 1.48\AA respectively. In ozone, the average O-O bond length is

A. 1.28\AA

B. 1.18\AA

C. 1.44\AA

D. 1.52\AA

Answer: A

 [Watch Video Solution](#)

22. Na_2O_2 is produced in reaction between H_2O_2 and NaOH.

Here the role of H_2O_2 is

- A. As an oxidising agent
- B. As an acid
- C. As a base
- D. As a reducing agent

Answer: B

 [Watch Video Solution](#)

23. The reaction of $H_2S + H_2O_2 \rightarrow S + 2H_2O$ manifests

- A. Acidic nature of H_2O_2
- B. Alkaline nature of H_2O_2

C. Oxidizing nature of H_2O_2

D. Reducing action of H_2O_2

Answer: C

 [Watch Video Solution](#)

24. The strength in volumes of a solution containing 30.36 g/L of H_2O_2 is (Given volume of 1 mole of gas STP = 22.4 litre)

A. 10 volume

B. 20 volume

C. 5 volume

D. none of these

Answer: A

 [Watch Video Solution](#)

 Watch Video Solution

25. Equivalent weight of H_2O_2 is

A. 17

B. 34

C. 68

D. 18

Answer: A



Watch Video Solution

26. Which of the following cannot be oxidised by H_2O_2 ?

A. O_3

B. KI/HCl

C. Pbs

D. Na_2SO_3

Answer: A

 [Watch Video Solution](#)

27. H_2O_2 used in rockets has the concentration

A. 0.5

B. 0.7

C. 0.3

D. 0.9

Answer: D

 [Watch Video Solution](#)

28. Decomposition of H_2O_2 is prevented by

- A. NaOH
- B. MnO_2
- C. Acetanilide
- D. Oxalic acid

Answer: C

 [Watch Video Solution](#)

29. $H_2O_2 \rightarrow 2H^+ + O_2 + 2e^-, E^\circ = -0.68V$.

This equation represents which of the following behaviour of H_2O_2

- A. Reducing

B. Oxidizing

C. Acidic

D. Catalytic

Answer: A



Watch Video Solution

Ordinary thinking (Alkali metals)

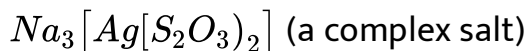
1. Sodium thiosulphate is used in photography

A. To convert metallic silver into silver salt

B. AgBr grain is reduced to non-metallic silver

C. To remove reduced silver

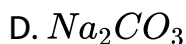
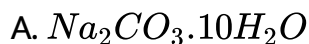
D. To remove undercomposed AgBr in the form of



Answer: D

 [Watch Video Solution](#)

2. Washing sodal is



Answer: A

 [Watch Video Solution](#)

3. Alkali metals lose electrons in _____.

A. s-orbitals

B. p-orbitals

C. d-orbitals

D. f-orbitals

Answer: A



[Watch Video Solution](#)

4. When potassium ferrocyanide crystals are heated with concentrated sulphuric acid, the gas evolved is

A. Ammonia

B. Sulphurdioxide

C. Carbon dioxide

D. Carbon monoxide

Answer: D

 [Watch Video Solution](#)

5. In which of the following processes, fused sodium hydroxide is electrolysed at a $333^{\circ}C$ temperature for extraction of sodium

A. Castner's process

B. Down's process

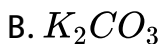
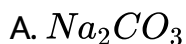
C. Cyanide process

D. Carbon monoxide

Answer: A

 [Watch Video Solution](#)

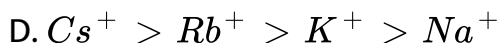
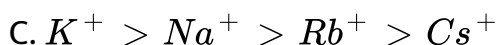
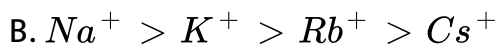
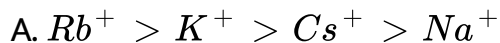
6. A solid compound 'X' on heating gives CO_2 gas and a residue. The residue mixed with water forms 'Y'. On passing an excess of CO_2 through 'Y' in water, a clear solution, 'Z' is obtained. On boiling 'Z', compound 'X' is reformed. The compound 'X' is



Answer: D

[Watch Video Solution](#)

7. The sequence of ionic mobility in the aqueous solution is



Answer: D



Watch Video Solution

8. The alkali metals form salt like hydrides by the direct synthesis at elevated temperature. The thermal stability of these hydrides decreases in which of the following orders ?



C. CsHgtRbHgtKHgtNaHgtLiH

D. KHgtNaHgtLiH gtCsHgtRbH

Answer: B

 [Watch Video Solution](#)

9. In the case of alkali metals, the covalent character decreases in the order.

A. MClgtMlgtMBrgtMF

B. MFgtMClgtMBrgtMI

C. MFgtMClgtMlgtMBr

D. MlgtMBrgtMClgtMF

Answer: D

 [Watch Video Solution](#)

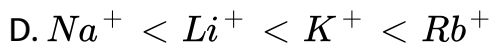
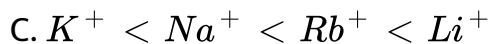
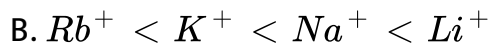
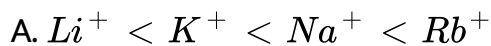
10. Which one of the alkali metals forms only the normal oxide, M_2O , on heating in air ?

- A. Rb
- B. K
- C. Li
- D. Na

Answer: C

 Watch Video Solution

11. The ease of adsorption of the hydrated alkali metal ions on ion-exchange resins follows the order:



Answer: B

 [Watch Video Solution](#)

12. In the replacement reaction



the reaction will be most favourable if M happens to be

A. Na

B. K

C. Rb

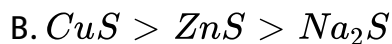
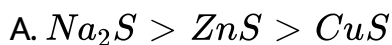
D. Li

Answer: C



[View Text Solution](#)

13. Identify the correct order of solubility in aqueous medium



Answer: A



[Watch Video Solution](#)

14. In Castner-Kellner cell for production of sodium hydroxide :

- A. Brine is electrolyzed using graphite electrodes
- B. Molten sodium chloride is electrolysed
- C. Sodium amalgam is formed at mercury cathode
- D. Brine is electrolyzed with Pt electrodes

Answer: C



[Watch Video Solution](#)

15. On heating which of the following release CO_2 most easily ?

- A. K_2CO_3
- B. Na_2CO_3
- C. $MgCO_3$

D. CaCO_3

Answer: C

 [Watch Video Solution](#)

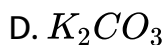
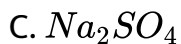
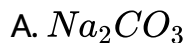
16. Solvay's process is used for the preparation of

- A. Ammonia
- B. Sodium bicarbonate
- C. Sodium carbonate
- D. Calcium carbonate

Answer: C

 [Watch Video Solution](#)

17. Baking soda is



Answer: B



Watch Video Solution

18. The elements of group IA provide a colour to the flame of Bunsen burner due to

A. Low ionization potential

B. Low melting point

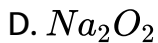
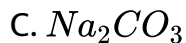
C. Softness

D. Presence of one electron in the outermost orbit

Answer: A

 [Watch Video Solution](#)

19. When sodium is heated with moist air, then the product obtained is



Answer: A

 [Watch Video Solution](#)

20. Alkaline earth metals are denser than alkali metals, because metallic bonding in alkaline earth metals is

- A. Stronger
- B. Weaker
- C. Volatile
- D. Not present

Answer: A

 [Watch Video Solution](#)

21. On dissolving moderate amount of sodium metal in liquid ammonia at low temperature, which of the following does not occur ?

- A. Blue coloured solution is obtained
- B. Na^+ ions are formed in the solution
- C. Liquid NH_3 becomes good conductor of electricity
- D. Liquid ammonia remains diamagnetic

Answer: D

 [Watch Video Solution](#)

22. The reagent commonly used to determine hardness of water titrimetrically is :

- A. Oxalic acid
- B. Disodium salt of EDTA
- C. Sodium citrate
- D. Sodium thiosulphate

Answer: B

 [Watch Video Solution](#)

23. Which is more basic in character?

A. RbOH

B. KOH

C. NaOH

D. LiOH

Answer: A

 [Watch Video Solution](#)

24. Sodium metal can be stored under :

A. Benzene

B. Kerosene

C. Alcohol

D. Toluene

Answer: B



Watch Video Solution

25. Causticisation process is used for the preparation of

A. Caustic soda

B. Caustic potash

C. Baryta

D. Slaked lime

Answer: A

 [Watch Video Solution](#)

26. What is lye

- A. 10% solution of NaCl
- B. 10% solution of KOH
- C. 10% solution of $Ca(OH)_2$
- D. 10% solution of Na_2CO_3

Answer: B

 [Watch Video Solution](#)

27. The reaction of water sodium and potassium is

- A. Exothermic
- B. Endothermic
- C. Reversible
- D. Irreversible and endothermic

Answer: A

 [Watch Video Solution](#)

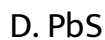
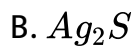
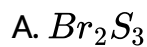
28. Which one of the following on heating will not give CO_2

- A. $CaCO_3$
- B. Na_2CO_3
- C. $PbCO_3$
- D. Li_2CO_3

Answer: B

 [Watch Video Solution](#)

29. Which has minimum solubility



Answer: A

 [Watch Video Solution](#)

30. Potassium is kept in

- A. Alcohol
- B. Water
- C. Kerosene
- D. Liquid ammonia

Answer: C

 [Watch Video Solution](#)

31. Which of the following is correct

- A. All carbonates are soluble in water
- B. Carbonates of Na, K, and NH_4 are soluble in water
- C. Carbonates of Ca , Sr , Ba are soluble in water
- D. All carbonates are insoluble

Answer: B

 [Watch Video Solution](#)

32. All carbonates in alkali metals are

A. 1

B. 7

C. 4

D. 2

Answer: A

 [Watch Video Solution](#)

33. When $NaOH$ crystals are left in open air, they acquire a fluid layer around each crystal as

- A. They start melting
- B. They absorb moisture from air
- C. They react with air to form a liquid compound
- D. They absorb CO_2 from air

Answer: B

 [Watch Video Solution](#)

34. K_2CS_3 can be called potassium

- A. Thiocyanate
- B. Thiocarbonate

C. Thiocarbide

D. Sulphocyanide

Answer: B

 [Watch Video Solution](#)

35. On heating anhydrous Na_2CO_3 , is evolved

A. CO_2

B. Water vapour

C. CO

D. No gas

Answer: D

 [Watch Video Solution](#)

36. The colour given to the flame by sodium salt is

- A. Light red
- B. Golden yellow
- C. Green
- D. pink

Answer: B

 [Watch Video Solution](#)

37. The commercial production of sodium carbonate is done by

_____.

- A. Lead-chamber process
- B. Haber's process

C. Solvay's process

D. Castner's process

Answer: C

 [Watch Video Solution](#)

38. Nelson cell is used for the preparation of

A. Slaked lime

B. Baryta

C. Sodium

D. Caustic soda

Answer: D

 [Watch Video Solution](#)

39. A substance X is a compound of an element of group 1A the substance X gives a violet colour in flame test, X is

- A. LiCl
- B. NaCl
- C. KCl
- D. None

Answer: C

 [Watch Video Solution](#)

40. The metal which reacts with water at room temperature is

- A. Copper
- B. Iron

C. Magnesium

D. Sodium

Answer: D

 [Watch Video Solution](#)

41. Nitre is

A. $AgNO_3$

B. KNO_3

C. NH_4NO_3

D. $NaNO_3$

Answer: B

 [Watch Video Solution](#)

42. The process of industrial manufacturing of sodium carbonate is known as :

A. Castner's process

B. Haber's process

C. Le-blanc process

D. Chamber process

Answer: C

 [Watch Video Solution](#)

43. Which is an ore of potassium ?

A.)

B. Cryolite

C. Bauxite

D. Dolomite

Answer: A



[Watch Video Solution](#)

44. Chile salpeter is

A. $NaNO_3$

B. Na_2SO_4

C. KNO_3

D. Na_2SO_3

Answer: A



[Watch Video Solution](#)

45. When $NaCl$ is dissolved in water the sodium ion becomes

- A. Oxidised
- B. reduced
- C. hydrolysed
- D. hydrated

Answer: D



Watch Video Solution

46. K , Ca and Li metals may be arranged in the decreasing order of their standard electrode potentials as

- A. K, Ca, Li
- B. Li, K, Ca

C. Li,Ca,K

D. Ca,Li,K

Answer: B

 [Watch Video Solution](#)

47. Which metals forms amide with NH_3 at $300^\circ C$

A. Mg

B. Pb

C. Al

D. Na

Answer: D

 [Watch Video Solution](#)

48. NaOH is manufactured by the electrolysis of brine solution. The products of reaction are

A. Cl_2 and H_2

B. Cl_2 and Na-Hg

C. Cl_2 and Na

D. Cl_2 and O_2

Answer: A



Watch Video Solution

49. Identify the correct statement

A. Elemental sodium can be prepared and isolated by electrolyzing an aqueous solution of sodium chloride

B. Element sodium is a strong oxidizing agent

C. Element sodium is insoluble in ammonia

D. Element sodium is easily oxidized

Answer: A



Watch Video Solution

50. Which is the strongest reducing agent among alkali metals?

A. Li

B. Na

C. K

D. Cs

Answer: A

 [Watch Video Solution](#)

51. When sodium bicarbonate is heated strongly for calcined in a kiln, it forms,

A. Na

B. Na_2CO_3

C. $NaCO_3$

D. $NaHCO_3$

Answer: B

 [Watch Video Solution](#)

52. Which of the following is a use of alum

A. Making explosives

B. Bleaching clothes

C. Water softening

D. all of the above

Answer: C



Watch Video Solution

53. which of the following salt does not get hydrolysed in water?

A. $KClO_4$

B. NH_4Cl

C. CH_3COONa

D. None of these

Answer: A

 [Watch Video Solution](#)

54. Which of the following is a false statement

- A. Fluorine is more electronegative than chlorine
- B. nitrogen has greater IE_1 than oxygen
- C. Lithium is amphoteric
- D. Chlorine is an oxidizing agent

Answer: C

 [Watch Video Solution](#)

55. Squashes are stored by adding

- A. Citric acid

B. KCl

C. Na_2SO_3

D. Sodium metabisulphide

Answer: D



Watch Video Solution

56. In the preparation of sodium carbonate (By solvay ammonia soda process) , which of the following is used

A. Slaked lime

B. Quick lime

C. Lime stone

D. NaOH

Answer: C

 [Watch Video Solution](#)

57. Which of the following reacts with water with high rate ?

A. Li

B. K

C. Na

D. Rb

Answer: D

 [Watch Video Solution](#)

58. The cell used for the electrolysis of fused $NaCl$ is

A. Down's cells

B. Castner cell

C. Solvay cells

D. Nelson cell

Answer: A



Watch Video Solution

59. Which of the following metal has stable carbonates ?

A. Na

B. Mg

C. Al

D. Si

Answer: A

 [Watch Video Solution](#)

60. Photoelectric effect is the maximum in

A. Cs

B. Na

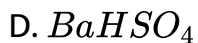
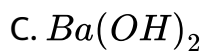
C. K

D. Li

Answer: A

 [Watch Video Solution](#)

61. The product obtained on fusion of $BaSO_4$ and Na_2CO_3 is



Answer: A



Watch Video Solution

62. The most stable compound is



Answer: A



Watch Video Solution

63. In the Castner's process for the extraction of sodium, the anode is made of metal

A. Copper

B. Iron

C. Sodium

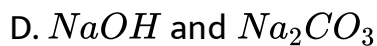
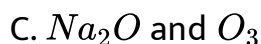
D. Nickel

Answer: C



Watch Video Solution

64. Sodium peroxide which is a yellow solid, when exposed to air becomes white due to the formation of:



Answer: D

 [Watch Video Solution](#)

65. The metal that produces red violet colour in the non - luminous flame is



B. Ag

C. Rb

D. Pb

Answer: C



Watch Video Solution

66. Which one of the following on hydrolysis, gives the corresponding metallic hydroxide, H_2O_2 and O_2 ?

A. Li_2O

B. Na_2O_2

C. NaO_2

D. Na_2O

Answer: C

 [Watch Video Solution](#)

67. In the graph below, the one which present an alkali metal with the higher atomic number is



A. X

B. Y

C. Z

D. M

Answer: D

 [View Text Solution](#)

68. The alkali metal halide that is soluble in pyridine is

A. NaCl

B. LiCl

C. KCl

D. CsI

Answer: b



Watch Video Solution

69. For alkali metals, which one of the following trends is incorrect ?

A. Hydration energy : $\text{Li} > \text{Na} > \text{K} > \text{Rb}$

B. Ionization energy: $\text{Li} > \text{Na} > \text{K} > \text{Rb}$

C. Density:Li<Na<K<Rb

D. Atomic size : Li<Na<K<Rb

Answer: C

 [Watch Video Solution](#)

70. Choose the incorrect statement in the following

A. BeO is almost insoluble but $BeSO_4$ is soluble in water

B. BaO is soluble but $BaSO_4$ is insoluble in water

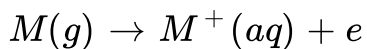
C. LiI is more soluble than KI in ethanol

D. Both Li and Mg form solid hydrogen carbonates

Answer: D

 [Watch Video Solution](#)

71. Which of the following alkali metals has the biggest tendency of the half reaction



- A. Lithium
- B. Sodium
- C. Cesium
- D. Potassium

Answer: C



Watch Video Solution

72. Pyrolusite is

- A. Carbonate ore

B. Sulphur ore

C. silicon ore

D. None of these

Answer: D



Watch Video Solution

73. An inorganic compound first melts then resolidifies and then liberates a gas. It may be

A. MnO_2

B. Al_2O_3

C. $KMnO_4$

D. $KClO_3$

Answer: D

 [Watch Video Solution](#)

74. Which of the following does not participate in the solvay's process for the manufacture of Na_2CO_3 ?

A. NH_3

B. NaCl solution

C. CO_2

D. H_2SO_4

Answer: D

 [Watch Video Solution](#)

75. Sodium metal is extracted by

- A. Electrolysis of aqueous solution of sodium chloride
- B. Electrolysis of fused sodium chloride
- C. Heating sodium oxide with carbon
- D. Heating sodium oxide with hydrogen

Answer: B



[Watch Video Solution](#)

76. Which physical property in the alkali metal group increases with atomic number ?

- A. Mp
- B. Electronegativity

C. Hydration enthalpy

D. Density

Answer: D

 [Watch Video Solution](#)

77. Sodium carbonate reacts with SO_2 in aqueous medium to give

A. $NaHSO_3$

B. Na_2SO_3

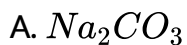
C. $NaHSO_4$

D. Na_2SO_4

Answer: A

 [Watch Video Solution](#)

78. When CO is passed over solid NaOH heated to $200^{\circ}C$, it forms



D. None

Answer: C

 Watch Video Solution

79. As compared to potassium ,sodium has _____.

A. Lower electronegativity

B. Higher ionization potential

C. Greater atomic radius

D. Lower mp

Answer: B



[Watch Video Solution](#)

80. Na_2CO_3 can be manufactured by Solva's process but K_2CO_3 cannot be prepared because

A. K_2CO_3 is more soluble

B. K_2CO_3 is less soluble

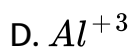
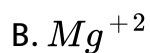
C. $KHCO_3$ is more soluble than $NaHCO_3$

D. $KHCO_3$ is less soluble than $NaHCO_3$

Answer: C

 [Watch Video Solution](#)

81. Which of the following is the smallest cation?



Answer: D

 [Watch Video Solution](#)

82. In the manufacture of metallic sodium by the fused salt electrolysis (Down's process) a small amount of $CaCl_2$ is added to :

- A. Improve the electrical conduction
- B. Increases the temperature of electrolysis
- C. Bring down the melting temperature
- D. Stabilize the metallic sodium

Answer: C

 [Watch Video Solution](#)

83. The reactivity of the alkali metal sodium with water, is made use of

- A. In drying of alcohols
- B. In drying of benzene
- C. In drying of ammonia solution
- D. As a general drying agent

Answer: A

 [Watch Video Solution](#)

84. With the increase in atomic weights, melting points of the alkali metals

- A. Increases
- B. Decreases
- C. Remain constant
- D. Do not show definite trend

Answer: B

 [Watch Video Solution](#)

85. Alkali metals are

A. Li,Na,Be,Mg,Cs

B. Li,Na,K,Rb,Cs

C. Na,K,Mg,Ca,Rb

D. K,Rb,Cs,Ba,Sr

Answer: B

 [Watch Video Solution](#)

86. Certain characteristics lithium differ from those of other alkali metals, the main reason for this is

- A. Small size of Li atom and Li^+ ion
- B. Extremely high electropositiviy of Li
- C. Greater hardness of Li
- D. Hydration of Li^+ ion

Answer: A

 [Watch Video Solution](#)

87. Characterstic feature of alkali metals is

- A. good conductor of heat and electricity
- B. High melting point

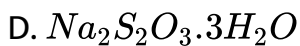
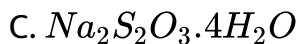
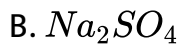
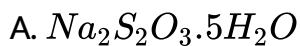
C. Low oxidation potentials

D. High ionization potentials

Answer: A

 [Watch Video Solution](#)

88. The correct formula of hypo is



Answer: A

 [Watch Video Solution](#)

89. Which of the following gases turns the acidified potassium dichromate paper green

A. HCl

B. H_2S

C. CO_2

D. SO_2

Answer: D

 [Watch Video Solution](#)

90. Which of the following does not illustrate the anomalous properties of lithium?

- A. The melting point and boiling point of Li are comparatively high
- B. Li is much softer than the other group 1 metals
- C. Li forms a nitride Li_3N unlike group 1 metals
- D. The ion of Li and its compound are more heavily hydrated than those of the rest of the group

Answer: B

 [Watch Video Solution](#)

91. Which of the following has density greater than water?

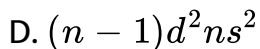
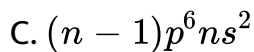
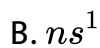
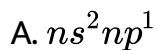
- A. Li
- B. Na
- C. K

D. Rb

Answer: D

 [Watch Video Solution](#)

92. The valence shell electronic configuration of alkali metals is



Answer: B

 [Watch Video Solution](#)

93. The strongest reducing agent is

- A. K
- B. Al
- C. Mg
- D. Br

Answer: A



[Watch Video Solution](#)

94. One of the following salts will give an alkaline solution on dissolving in water. This is:

- A. NH_4Cl
- B. Na_2CO_3
- C. $NaNO_3$

D. Na_2SO_4

Answer: B

 [Watch Video Solution](#)

95. The most electropositive element in alkali metals is _____.

A. Na

B. K

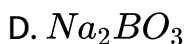
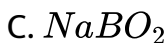
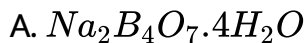
C. Rb

D. Cs

Answer: D

 [Watch Video Solution](#)

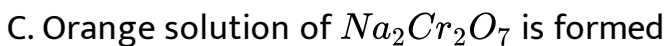
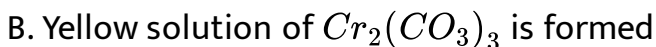
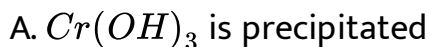
96. Composition of borax (Tincal) is



Answer: B

 [Watch Video Solution](#)

97. Which of the following is formed when CO_2 gas is passed through an aqueous solution of sodium chromate ?



D. No reaction

Answer: C

 [Watch Video Solution](#)

98. Sodium hydride (NaH) when dissolved in water, produces

A. Acidic solution

B. basic solution

C. neutral solution

D. can not say

Answer: B

 [Watch Video Solution](#)

99. Which one of the following salts gives aqueous solution which is weakly basic ?

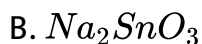
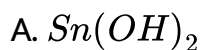


Answer: A



Watch Video Solution

100. Sn is dissolved in excess of NaOH solution, the compound obtained is



C. Na_2SnO_2

D. SnO_2

Answer: B

 [Watch Video Solution](#)

101. The word 'alkali' is used for alkali metals indicates

A. Ash of the plants

B. Metallic nature

C. Silvery lusture

D. Active metal

Answer: A

 [Watch Video Solution](#)

102. Potassium nitrate is called

- A. Mohr's salt
- B. Gypsum
- C. Indian salt petre
- D. Chile salt petre

Answer: C



[Watch Video Solution](#)

103. Which of the following is most reducing agent

- A. HNO_3
- B. Na

C. Cl_2

D. Cr

Answer: B

 [Watch Video Solution](#)

104. Which of the following has smaller size

A. H

B. He^+

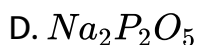
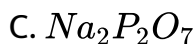
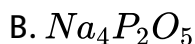
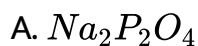
C. H^{-2}

D. Li^{2+}

Answer: D

 [Watch Video Solution](#)

105. Sodium pyrophosphate is represented by which of the following formula



Answer: C

 [Watch Video Solution](#)

106. Based on lattice energy and other considerations which one of the following alkali metal chlorides is expected to have the highest melting point

A. LiCl

B. NaCl

C. KCl

D. RbCl

Answer: B



Watch Video Solution

107. Which of the following is the most electropositivite element?

A. Calcium

B. Chlorine

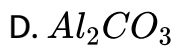
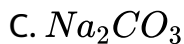
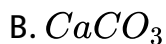
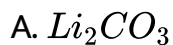
C. Potassium

D. Carbon

Answer: C

 [Watch Video Solution](#)

108. Which of the following carbonate decompose on heating to evolve CO_2 ?



Answer: A

 [Watch Video Solution](#)

109. When sodium chloride solution is electrolysed , the gas that is liberated at the cathode is _____.

- A. Oxygen
- B. Hydrogen
- C. Chlorine
- D. Air

Answer: B

 [Watch Video Solution](#)

110. Which of the following statements about *LiCl* and *NaCl* is correct ?

- A. LiCl has higher melting point than NaCl

- B. LiCl dissolves in water whereas NaCl does not
- C. LiCl would ionize in water more than NaCl
- D. Fused LiCl would be less conducting than fused NaCl

Answer: D

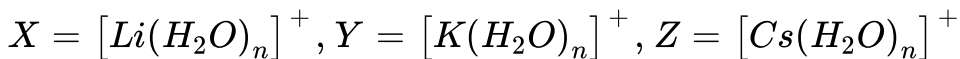
 [Watch Video Solution](#)

111. Which alkali metal is most metallic in character?

- A. K
- B. Cs
- C. Na
- D. Li

Answer: B

112. Consider the following abbreviations for hydrated alkali ions



Which is the correct order of size of these hydrated alkali ions

A. $X > Y > Z$

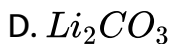
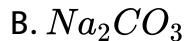
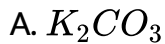
B. $Z > Y > X$

C. $X = Y = Z$

D. $Z > X > Y$

Answer: A

113. Which of the following is least thermally stable ?

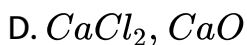
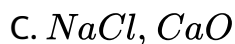
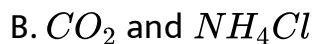
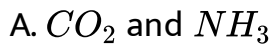


Answer: C



Watch Video Solution

114. Sodium carbonate is manufactured by Solvay process, the products that are recycled are



Answer: A

 [Watch Video Solution](#)

115. When potassium dichromate crystal are heated with conc. *HCl*

- A. O_2 is evolved
- B. Chromyl chloride vapours are evolved
- C. Cl_2 is evolved
- D. No reaction takes place

Answer: C

 [Watch Video Solution](#)

116. A fire of lithium, sodium and potassium can be extinguished by

A. H_2O

B. Nitrogen

C. CO_2

D. Asbestos blanket

Answer: C

 Watch Video Solution

117. A metal M reacts with N_2 to give a compound ' A ' (M_3N). ' A ' on heating at high temperature gives back ' M ' and ' A ' on reacting with H_2O gives a gas ' B '. ' B ' turns $CuSO_4$ solution blue on passing through it A and B can be

A. Al and NH_3

B. Li and NH_3

C. Na and NH_3

D. Mg and NH_3

Answer: B

 [Watch Video Solution](#)

118. Aluminium reacts with caustic soda to form

A. Aluminium hydroxide

B. Aluminium oxide

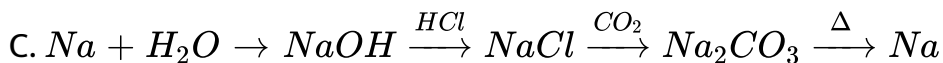
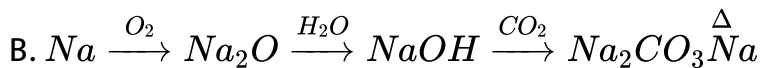
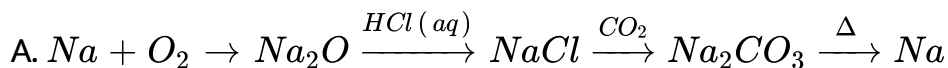
C. Sodium meta-aluminate

D. Sodium tetra aluminate

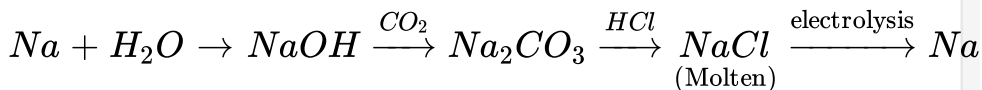
Answer: C

 Watch Video Solution

119. Which series of reactions correctly represents chemical reactions related to iron and its compounds ?



D.



Answer: D

 Watch Video Solution

120. The useful by-products, obtained in the solvay process of manufacturing sodium carbonate, are

- A. Quick lime and CO_2
- B. $NaHCO_3$ and NH_4Cl
- C. NH_4Cl solution and quick lime
- D. $NaHCO_3$ and CO_2

Answer: C

 [Watch Video Solution](#)

121. Molten sodium is used in nuclear reactors to

- A. Absorb neutrons in order to control the chain reaction
- B. Slow down the fast neutrons

C. Absorbs the heat generated by nuclear fission

D. Extract radio-isotopes produced in the reactor

Answer: C



[Watch Video Solution](#)

122. Electrolysis of molten sodium chloride leads to the formation of

A. Na and H_2

B. Na and O_2

C. H_2 and O_2

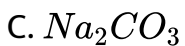
D. Na and Cl_2

Answer: D



[Watch Video Solution](#)

123. Soda ash is



Answer: C



Watch Video Solution

124. Soda lime is made from:



C. NaOH and CaO

D. Na_2CO_3

Answer: C

 [Watch Video Solution](#)

125. During the electrolysis of fused NaCl, which reaction occurs at anode ?

A. Reduction of sodium ions

B. Oxidation of sodium ions

C. Reduction of chloride ions

D. Oxidation of chloride ions

Answer: D

 [Watch Video Solution](#)

126. The colour of the precipitate produced by adding $NaOH$ solution to $HgCl$ is

- A. Yellow
- B. Black
- C. Brown
- D. White

Answer: A

 Watch Video Solution

127. On heating sodium metal in a current of dry ammonia, the compound formed is

- A. Sodium nitrate
- B. Sodium hydride
- C. Sodium amide
- D. Sodium azide

Answer: d

 [Watch Video Solution](#)

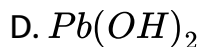
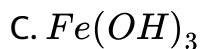
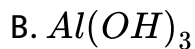
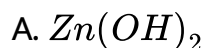
128. The alum used for purifying water is

- A. Ferric alum
- B. chrome alum
- C. potash alum
- D. Ammonium alum

Answer: C

 [Watch Video Solution](#)

129. Which of the following metal hydroxides does not dissolve in sodium hydroxide solution?



Answer: C

 [Watch Video Solution](#)

130. Excess of Na^+ ions in our system causes

- A. High B.P.
- B. Low B.P.
- C. Diabetes
- D. Anaemia

Answer: A



Watch Video Solution

131. Among the alkali metals caesium is the most reactive because

- A. Its incomplete shell is nearest to the nucleus
- B. It has a single electron in the valence shell
- C. It is the heaviest alkali metal

D. The outermost electron is more loosely bound than the outermost electron of the other alkali metals

Answer: D

 [Watch Video Solution](#)

132. The characteristic not related to alkali metal is

- A. Their ions are isoelectronic with noble gases
- B. Low melting point
- C. Low electronegativity
- D. High ionization energy

Answer: D

 [Watch Video Solution](#)

133. When KI is added to acidified solution of sodium nitrite,

- A. NO gas is liberated & I_2 is set free
- B. N_2 gas is liberated & HI is produced
- C. N_2O gas is liberated & I_2 is set free
- D. N_2 gas is liberated & HOI is produced

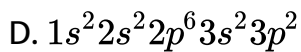
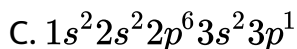
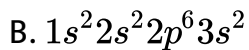
Answer: A



[Watch Video Solution](#)

134. A sudden large jump between the values of second and third ionisation energies of an element would be associated with the electronic configuration

- A. $1s^2 2s^2 2p^6 2s^1$

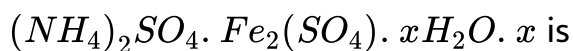


Answer: B



Watch Video Solution

135. Ferric alum has the composition



A. 7

B. 24

C. 6

D. 15

Answer: B

 [Watch Video Solution](#)

136. RbO_2 is a

- A. Peroxide and paramagnetic
- B. Peroxide and diamagnetic
- C. Superoxide and paramagnetic
- D. Superoxide and diamagnetic

Answer: C

 [Watch Video Solution](#)

137. Which one of the following is used as a disinfectant in water treatment

- A. Alum
- B. Charcoal
- C. Kieselguhr
- D. Potassium permanganate

Answer: D

 [Watch Video Solution](#)

138. Which of the following statements is correct regarding alkali metals

- A. cation is less stable than the atom

- B. Cation is smaller than the atom
- C. Size of cation and atom is the same
- D. Cation is greater in size than the atom

Answer: B



[View Text Solution](#)

139. As compared to lithium, sodium reacts quickly with water because

- A. Its molecular weight is less
- B. it is stronger electronegative
- C. It is stronger electropostive
- D. It is a metal

Answer: C

 [Watch Video Solution](#)

140. Correct order of increasing activity is

A. Cu,Mg,Na

B. Na,Mg,Cu

C. Mg,Na,Cu

D. Cu,Na,Mg

Answer: A

 [View Text Solution](#)

141. Salt cake is

- A. sodium sulphate
- B. sodium chloride
- C. Sodium bisulphide
- D. Sodium sulphate and sodium chloride

Answer: A

 [View Text Solution](#)

142. Assertion : Lithium forms lithium oxide (LiO_2)

Reason : N_2 molecule have unpaired electrons

- A. If both assertion and reason are true and the reason is the correct explanation of the assertion
- B. If both assertion and reason are true but reason is nto the correct exaplation of the assertion

C. If assertion is true but reason is false

D. If the assertion and reason both are false

Answer: D

 [View Text Solution](#)

143. Statement-1: Potassium and caesium are used in photo-electric cells.

Statement-2: Potassium and caesium emit electrons on exposure to light above certain minimum frequency.

A. If both assertion and reason are true and the reason is the correct explanation of the assertion

B. If both assertion and reason are true but reason is not the correct explanation of the assertion

C. If assertion is true but reason is false

D. If the assertion and reason both are false

Answer: A

 [Watch Video Solution](#)

144. Assertion : K,Rb and Cs form superoxides.

Reason : The stability of the superoxide increases from 'K' to Cs due to decrease in lattice energy

A. If both assertion and reason are true and the reason is the correct explanation of the assertion

B. If both assertion and reason are true but reason is not the correct explanation of the assertion

C. If assertion is true but reason is false

D. If the assertion and reason both are false

Answer: C



[View Text Solution](#)

145. Ionic mobility of which of the following alkali metal ions is lowest when aqueous solution of their salts are put under an electric field ?

A. K

B. Rb

C. Li

D. Na

Answer: C



[Watch Video Solution](#)

Ordinary thinking (Alkaline earth metals)

1. Which of the following is not a water absorber and dehydrating substance

A. Silica gel

B. P_2O_5

C. Conc. H_2SO_4

D. Aqueous $CaCl_2$

Answer: D



Watch Video Solution

2. The low solubility of $BaSO_4$ in water can be attributed to

- A. High lattice energy
- B. Dissociation energy
- C. Low lattice energy
- D. Ionic bond

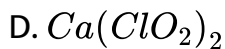
Answer: A



[Watch Video Solution](#)

3. The chemical formula for calcium chlorite is

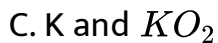
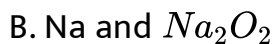
- A. $Ca(ClO_4)_2$
- B. $Ca(ClO_3)_2$
- C. $CaClO_2$



Answer: D

 [Watch Video Solution](#)

4. Which pair of substances gives same gaseous product, when these react with water



Answer: A

 [Watch Video Solution](#)

5. Identify the correct statement

- A. Gypsum contains a lower percentage of calcium than plaster of paris
- B. Gypsum is obtained by heating plaster of paris
- C. Plaster of paris can be obtained by hydration of gypsum
- D. Plaster of paris is obtained by partial oxidation of gypsum

Answer: A



[View Text Solution](#)

6. Among K , Ca , Fe and Zn the element which can form more than one binary compound with chlorine is

A. K

B. Ca

C. Fe

D. Zn

Answer: C



Watch Video Solution

7. In which of the following is the hydration energy higher than the lattice energy?

A. $BaSO_4$

B. $MgSO_4$

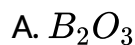
C. $RaSO_4$

D. $SrSO_4$

Answer: B

 [Watch Video Solution](#)

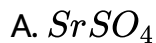
8. Which of the following oxides is not expected to react with sodium hydroxide ?



Answer: B

 [Watch Video Solution](#)

9. Which one of the following alkaline earth metal sulphates has its hydration enthalpy greater than its lattice enthalpy?



Answer: C

 [Watch Video Solution](#)

10. Match List I with list II for the compositions of substance and select the correct answer using the code given below the code given below the lists



A. A=(i),B=ii,C=iii,D=iv

B. A=iv,B=ii,C=iii,D=v

C. A=iii,B=iv,C=l,D=ii

D. A=ii,B=iii,C=iv,D=i

Answer: D



View Text Solution

11. Which of the following compounds has the lowest melting point ?

A. CaF_2

B. $CaCl_2$

C. $CaBr_2$

D. CaI_2

Answer: D

 [Watch Video Solution](#)

12. Solubility of the alkaline earth's metal sulphates in water decreases in the sequence

A. $\text{Ca} > \text{Sr} > \text{Ba} > \text{Mg}$

B. $\text{Sr} > \text{Ca} > \text{Mg} > \text{Ba}$

C. $\text{Ba} > \text{Mg} > \text{Sr} > \text{Ca}$

D. $\text{Mg} > \text{Ca} > \text{Sr} > \text{Ba}$

Answer: D

 [Watch Video Solution](#)

13. Suspension of slaked lime in water is known as

- A. Aqueous solution of slaked lime
- B. Lime water
- C. Quick lime
- D. Milk of lime

Answer: D



[Watch Video Solution](#)

14. In context with beryllium, which one of the following statements is incorrect ?

- A. Its hydride is electron-deficient is used in the laboratory for fast drying of neutral gases

B. It is rendered passive by nitric acid

C. It forms Be_2C

D. Its salts rarely hydrolyze

Answer: D



Watch Video Solution

15. Which of the following substances is used in the laboratory for fast drying for neutral gases

A. Sodium phosphate

B. Phosphorus pentoxide

C. sodium sulphate

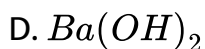
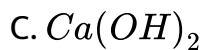
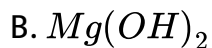
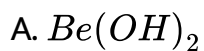
D. Anhydrous calcium chloride

Answer: D



View Text Solution

16. Which of the following hydroxide is insoluble in water ?



Answer: A



Watch Video Solution

17. Metallic magnesium is prepared by

- A. Reduction of MgO by coke
- B. Electrolysis of aqueous solution of $Mg(NO_3)$
- C. Displacement of Mg by iron from $MgSO_4$ solution
- D. Electrolysis of molten $MgCl_2$

Answer: D

 [Watch Video Solution](#)

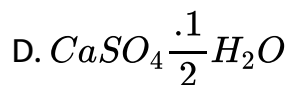
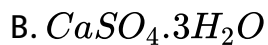
18. Lithopone is

- A. $BaO + ZnSO_4$
- B. $ZnO + BaSO_4$
- C. $BaS + ZnSO_4$
- D. $ZnS + BaSO_4$

Answer: D

 [View Text Solution](#)

19. Plaster of paris is



Answer: D

 [Watch Video Solution](#)

20. Among the alkaline earth metals, the element forming predominantly covalent compound is

A. Be

B. Mg

C. Sr

D. Ca

Answer: A

 [Watch Video Solution](#)

21. A certain metal M is used to prepare an antacid, which is used as a medicine in acidity. This metal accidentally catches fire and it was found that the fire cannot be put out by using CO_2 based extinguishers. The metal M is

A. Ca

B. C

C. Mg

D. All of these

Answer: C



Watch Video Solution

22. Iron pipes lying under acidic soil are often attached to blocks of magnesium for protection from rusting. Magnesium offers protection to iron against corrosion because it

A. Prevents air from reaching the surface of iron

B. Is more readily converted into positive ions

C. Is higher electropositive than iron

D. Forms a corrosion-resistance alloy with iron

Answer: B

 [Watch Video Solution](#)

23. Bleaching powder is a compound having a formula

A. $CaOCl_3$

B. $CaOCl_2$

C. $CaClO$

D. $CaClO_3$

Answer: B

 [Watch Video Solution](#)

24. Which of the following statements is false

A. $CaOCl_2$ gives OH^- , Cl^- and Ocl^- in aqueous solution

B. Diamond and graphite are allotrops of carbon

C. Bleaching action of Cl_2 in moist condition is not permanent

D. Calomel is Hg_2Cl_2

Answer: C



[Watch Video Solution](#)

25. In india at the occasion of marriages, the fire works used give green flame. Which one of the following radicals may be present

A. Na

B. K

C. Ba

D. Ca

Answer: C

 [Watch Video Solution](#)

26. Gypsum $CaSO_4 \cdot 2H_2O$ on heating to about $120^\circ C$ forms a compound which has the chemical composition represented by

A. $CaSO_4$

B. $2CaSO_4 \cdot H_2O$

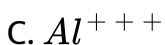
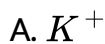
C. $CaSO_4 \cdot H_2O$

D. $2CaSO_4 \cdot 3H_2O$

Answer: B

 [Watch Video Solution](#)

27. Which of the following ion forms a hydroxide highly soluble in water ?

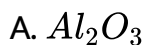


Answer: A



Watch Video Solution

28. Which one of the following is most basic



B. MgO

C. SiO_2

D. P_2O_5

Answer: B



Watch Video Solution

29. The outer electronic configuration of alkaline earth metals is

_____.

A. ns^2

B. ns^1

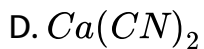
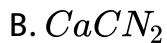
C. np^6

D. nd^{10}

Answer: A

 [Watch Video Solution](#)

30. The formula of calcium cyanamide is _____.



Answer: B

 [Watch Video Solution](#)

31. Pure anhydrous $MgCl_2$ can be prepared from the hydrated salt by

- A. Heating the hydrate with coke
- B. Heating the hydrate with Mg ribbon
- C. Melting the hydrate
- D. Heating the hydrate to red heat in an atmosphere of HCl gas

Answer: D

 [Watch Video Solution](#)

32. Portland cement is manufactured by using-

- A. Lime stone, clay and sand

B. Lime stone, gypsum and sand

C. Lime stone, gypsum and alumina

D. Lime stone, clay and gypsum

Answer: D



[Watch Video Solution](#)

33. The metal that is extracted from sea water is

A. Ba

B. Mg

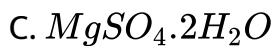
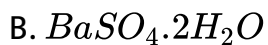
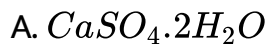
C. Ca

D. Sr

Answer: B

 Watch Video Solution

34. Epsom salt is



Answer: D

 Watch Video Solution

35. The wire of flash bulb is made of :

A. Mg

B. Cu

C. Ba

D. Ag

Answer: A

 [Watch Video Solution](#)

36. Setting of plaster of paris is

A. Oxidation with atmosphere oxygen

B. Combination with atmospheric CO_2

C. Dehydration

D. Hydration to yield another hydrate

Answer: D

 [Watch Video Solution](#)

37. Bleaching powder is obtained by the action of chlorine gas and

- A. Conc. Solution of $Ca(OH)_2$
- B. Dilute solution of $Ca(OH)_2$
- C. Dry calcium oxide
- D. Dry slaked lime

Answer: D

 [Watch Video Solution](#)

38. The alkaline earth metals Ba, Sr, Ca and Mg may be arranged in the order of their decreasing first ionisation potential as

A. Mg,Ca,Sr,Ba

B. Ca,Sr,Ba,Mg

C. Sr,Ba,Mg,Ca

D. Ba,Mg,Ca,Sr

Answer: A



Watch Video Solution

39. Least ionic character is found in

A. Mg

B. Sr

C. Ca

D. Ra

Answer: A

 [Watch Video Solution](#)

40. Plaster of Paris hardens by

- A. Giving off CO_2
- B. Changing into $CaCO_3$
- C. Uniting with water
- D. Giving out water

Answer: C

 [Watch Video Solution](#)

41. Which compound is not soluble in water

A. $CaCO_3$

B. $BaCO_3$

C. $SrCO_3$

D. All of these

Answer: D

 [Watch Video Solution](#)

42. $MgCl_2 \cdot 6H_2O$ when heated gives

A. Magnesium oxychloride

B. Magnesium dichloride

C. Magnesium oxide

D. Magnesium chloride

Answer: C



Watch Video Solution

43. Plaster of Paris is used

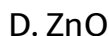
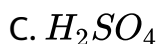
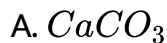
- A. In surgery and dentistry
- B. As a white wash
- C. As a constituent of tooth paste
- D. For the preparation of RCC

Answer: A



Watch Video Solution

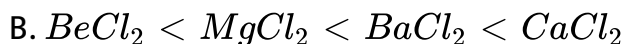
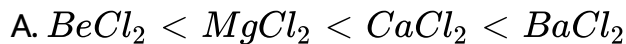
44. A substance absorbs CO_2 and violently reacts with water. The substance is

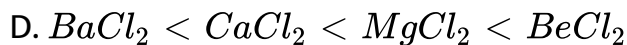
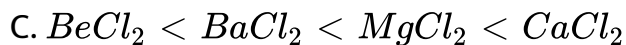


Answer: B

 [Watch Video Solution](#)

45. The correct order of the increasing ionic character is





Answer: A

 [Watch Video Solution](#)

46. The element having atomic number 56 belongs to

A. Actinides

B. Alkaline earth metals

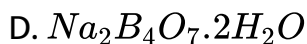
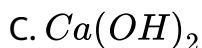
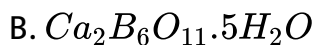
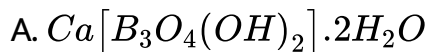
C. Transition series

D. Lanthanides

Answer: B

 [Watch Video Solution](#)

47. Colemanite is



Answer: B



Watch Video Solution

48. $CaCO_3 \rightleftharpoons CaO + CO_2$ reaction in a lime kiln goes to completion because

A. CaO does not react to CO_2 to give $CaCO_3$

B. Backward reaction is very slow

C. CO_2 formed escapes out

D. None of these

Answer: C

 [Watch Video Solution](#)

49. BaO_2 and ozone reacts to produce

A. Ba

B. Ba_2O_3

C. BaO

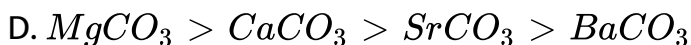
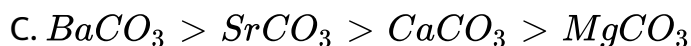
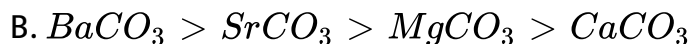
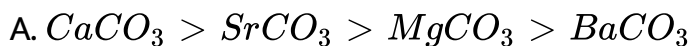
D. $Ba(OH)_2$

Answer: C

 [Watch Video Solution](#)

50. The thermal stability of alkaline earth metal carbonates

$MgCO_3$, $CaCO_3$, $BaCO_3$ and $SrCO_3$ decreases as:



Answer: C

 [Watch Video Solution](#)

51. The correct order of solubility of the sulphates of alkaline

earth metals in water is



B. MggtBegtBagtCagtSr

C. BegtMggtCagtSrgtBa

D. MggtCagtBagtBegtSr

Answer: C



[Watch Video Solution](#)

52. Sorel's cement is

A. Portland cement +MgO

B. $MgCl_2 \cdot CaSiO_3 \cdot 2H_2O$

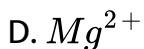
C. $CaSiO_3 \cdot MgCO_3$

D. $MgCl_2 \cdot 5MgO \cdot xH_2O$

Answer: D

 Watch Video Solution

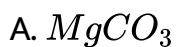
53. Which of the following ions, will have maximum hydration energy

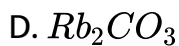
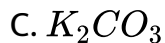
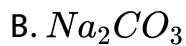


Answer: D

 Watch Video Solution

54. Which of the following carbonates decomposes on heating ?



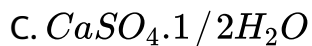
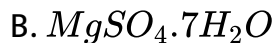
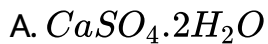


Answer: A



Watch Video Solution

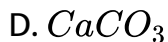
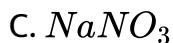
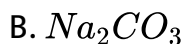
55. Dead burnt plaster is



Answer: D

 [Watch Video Solution](#)

56. Which of the following on thermal decomposition yields a basic as well as an acidic oxide?



Answer: D

 [Watch Video Solution](#)

57. Which pair of the following chlorides does not impart color to the flame ?

A. $BeCl_2$ and $SrCl_2$

B. $BeCl_2$ and $MgCl_2$

C. $CaCl_2$ and $BaCl_2$

D. $BaCl_2$ and $SrCl_2$

Answer: B



Watch Video Solution

58. The alkaline earth metal with least density is

A. Mg

B. Be

C. Sr

D. Ca

Answer: D



Watch Video Solution

59. Setting of cement is an

- A. Exothermic reaction
- B. Endothermic nore endothermic
- C. Neither exothermic nor endothermic
- D. None of these

Answer: A



Watch Video Solution

60. Which chemical compound is used to reduce the acidity of the soil ?

- A. Calcium hydroxide
- B. Ammonium sulphate
- C. Ammonium nitrate
- D. Ammonium chloride

Answer: A

 [Watch Video Solution](#)

61. Alloy of Metal are light and strong and so are used in the manufacture of aeroplane parts

- A. Cr

B. Sn

C. Fe

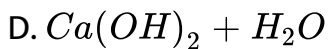
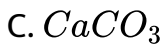
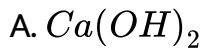
D. Mg

Answer: D



[Watch Video Solution](#)

62. Which is quick lime ?



Answer: B

 [Watch Video Solution](#)

63. Which of the following oxides is most acidic in nature ?

A. BeO

B. MgO

C. CaO

D. BaO

Answer: A

 [Watch Video Solution](#)

64. The highest lattice energy corresponds to

A. MgO

B. CaO

C. SrO

D. BaO

Answer: A



[Watch Video Solution](#)

65. The compound exhibiting maximum conductance in a fused state is

A. $SrCl_2$

B. $CaCl_2$

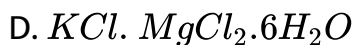
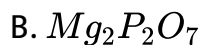
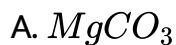
C. $MgCl_2$

D. $BeCl_2$

Answer: A

 [Watch Video Solution](#)

66. Which of the following is the major source of magnesium and is also a double salt



Answer: D

 [View Text Solution](#)

67. The chief component of cement that has property of setting quickly and acquiring considerable strength within a few days is

- A. Tricalcium silicate, $3CaO \cdot SiO_2$
- B. Dicalcium silicate, $2CaO \cdot SiO_2$
- C. Tricalcium aluminate, $3CaO \cdot Al_2O_3$
- D. All the above

Answer: A



[View Text Solution](#)

68. Which of the following salts is insoluble in water at room temperature but soluble in boiling water

- A. $CaCl_2$

B. $BaCl_2$

C. $SrCl_2$

D. $PbCl_2$

Answer: D



Watch Video Solution

69. Electronegativity of beryllium is approximately equal to that of

A. aluminium

B. Boron

C. Magnesium

D. Sodium

Answer: A

 [Watch Video Solution](#)

70. Which of the following alkaline earth metals is the strongest reducing agent?

A. Ca

B. sr

C. Ba

D. Mg

Answer: C

 [Watch Video Solution](#)

71. Which of the following can be represented by the configuration $[Kr]5s^2$?

A. Ca

B. Sr

C. Ba

D. Ra

Answer: B

 [Watch Video Solution](#)

72. Point out the incorrect statement regarding Be (Group IIA)

A. It forms an ionic carbide

B. Its carbonate decomposes on heating

- C. Its halides are covalent
- D. It is easily attacked by water

Answer: D

 [Watch Video Solution](#)

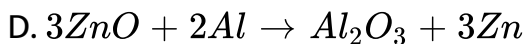
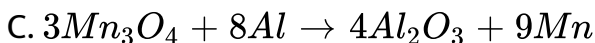
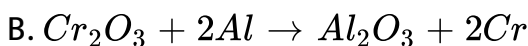
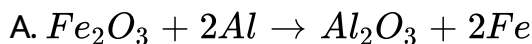
73. Beryllium differs from rest of the members of its family (Group IIA) in many ways. The reason for this is its

- A. Small size of higher electronegativity
- B. Small size and lower electronegativity
- C. Large size and lower ionisation energy
- D. Large size and largest ionic radius

Answer: A

 [Watch Video Solution](#)

74. Which of the following reaction is not a part of the Godschmidt aluminothermic process



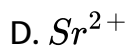
Answer: D



Watch Video Solution

75. Which gives (s) yellow precipitate with K_2CrO_4 ?





Answer: A



Watch Video Solution

76. Which of the following metal is present in green colouring pigment chlorophyll of plants ?

A. Fe

B. Mg

C. Na

D. Al

Answer: B

 [Watch Video Solution](#)

77. Which of the following contain both calcium and magnesium:-

A. Magnesite

B. Dolomite

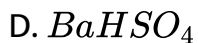
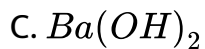
C. Carnellite

D. Phosphorite

Answer: B

 [Watch Video Solution](#)

78. The product obtained on fusion of $BaSO_4$ and Na_2CO_3 is



Answer: A



Watch Video Solution

79. The salts of which alkaline earth metal are used in the form of manure



Answer: B

 [Watch Video Solution](#)

80. A mixture of lime paste is sand, water and

- A. Gypsum
- B. Slacked lime
- C. Quick lime
- D. Lime stone

Answer: C

 [Watch Video Solution](#)

81. Peroxide ion is present in :

A. MgO

B. CaO

C. Li_2O

D. BaO_2

Answer: D



Watch Video Solution

82. Which gas is evolved by the treatment of magnesium with very dilute solution of HNO_3

A. N_2

B. NO_2

C. H_2

D. H_2O

Answer: B

 [Watch Video Solution](#)

83. A metal M readily forms its sulphate MSO_4 which is water soluble. It forms its oxide MO which becomes inert on heating. It forms its insoluble hydroxide $M(OH)_2$ which is soluble in $NaOH$ solution. Then M is

A. Mg

B. Ba

C. Ca

D. Be

Answer: D

 [Watch Video Solution](#)

84. Which one of the following is the correct statement

- A. Beryllium exhibits coordination number of six
- B. Chlorides of both beryllium and aluminium have bridged chloride structures in solid phase
- C. $B_2H_6 \cdot 2NH_3$ is known as 'inorganic benzene'
- D. Boric acid is a protonic acid

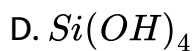
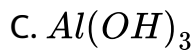
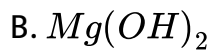
Answer: B



[Watch Video Solution](#)

85. Which of the following is the strongest base

- A. $Be(OH)_2$

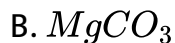
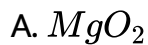


Answer: B



Watch Video Solution

86. Mg burns in CO to produce



Answer: D

 Watch Video Solution

87. Which of the following is formed when calcium combines with oxygen

A. Ca

B. CaO

C. CaO_2

D. Ca_2O_2

Answer: B

 Watch Video Solution

88. Slow acting nitrogenous fertilizer among the following is

A. NH_2CONH_2

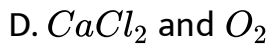
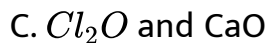
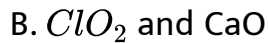
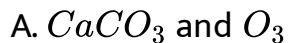


Answer: C



Watch Video Solution

89. In the presence of cobalt chloride ($CoCl_2$), bleaching powder decomposes to form



Answer: D

 [Watch Video Solution](#)

90. Bone ash contains

A. CaO

B. CaSO_4

C. $\text{Ca}_3(\text{PO}_4)_2$

D. $\text{Ca}(\text{H}_2\text{PO}_4)_2$

Answer: C

 [Watch Video Solution](#)

91. A metal is burnt in air and the ash on moistening smells of ammonia. The metal is

A. Na

B. Fe

C. Mg

D. Al

Answer: C

 [Watch Video Solution](#)

92. Alkaline earth metals belong to the

A. s-block in periodic table

B. p-block in periodic table

C. d-block in periodic table

D. f-block in periodic table

Answer: A

 [Watch Video Solution](#)

93. Phosphine, acetylene and ammonia can be formed by treating water with

A. Mg_3P_2 , Al_4C_3 , Li_3N

B. Ca_3P_2 , CaC_2 , Mg_3N_2

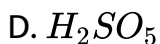
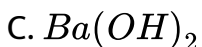
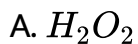
C. Ca_3P_2 , CaC_2 , $CaCN_2$

D. Ca_3P_2 , Mg_2C , NH_4NO_3 .

Answer: C

 [Watch Video Solution](#)

94. H_2SO_4 is added to 20 % cold aqueous solution of BaO_2 . The product formed is



Answer: A



Watch Video Solution

95. The fluorspar is



B. CaO

C. H_2F_2

D. CaCO_3

Answer: A



Watch Video Solution

96. deep pink colour is given to flame by the salts of

A. Strontium

B. Potassium

C. Zinc

D. Barium

Answer: A



[Watch Video Solution](#)

97. Assertion: Magnesium continues to burn in nitric oxide.

Reason : During burning heat evolved is not enough to decompose NO

- A. If both assertion and reason are true and the reason is the correct explanation of the assertion
- B. If both assertion and reason are true but reason is not the correct explanation of the assertion
- C. If assertion is true but reason is false
- D. If the assertion and reason both are false

Answer: C



[Watch Video Solution](#)

98. Assertion: Anhydrous BaO_2 is used for preparing H_2O_2 .

Reason : Hydrated BaO_2 is not available.

- A. If both assertion and reason are true and the reason is the correct explanation of the assertion
- B. If both assertion and reason are true but reason is not the correct explanation of the assertion
- C. If assertion is true but reason is false
- D. If the assertion and reason both are false

Answer: D



Watch Video Solution

99. Assertion: Barium is not required for normal biological function in human.

Reason: Barium does not show variable oxidation state.

- A. If both assertion and reason are true and the reason is the correct explanation of the assertion
- B. If both assertion and reason are true but reason is not the correct explanation of the assertion
- C. If assertion is true but reason is false
- D. If the assertion and reason both are false

Answer: B



Watch Video Solution

100. Assertion (A): magnesium is not present in enamel of human teeth.

Reason (R): Magnesium is an essential elements for biological functions of human beings.

- A. If both assertion and reason are true and the reason is the correct explanation of the assertion
- B. If both assertion and reason are true but reason is nto the correct exaplantion of the assertion
- C. If assertion is true but reason is false
- D. If the assertion and reason both are false

Answer: B



Watch Video Solution

Ordinary thinking (Boron family)

1. In the extraction of aluminium the electrolyte is

- A. Fused cryolite with feldspar
- B. Fused cryolite with fluorspar
- C. Pure alumina in molten cryolite
- D. Pure alumina with bauxite and molten cryolite

Answer: C



[Watch Video Solution](#)

2. Which of the following statements about H_3BO_3 is not correct

?

- A. It is strong tribasic acid

- B. It is prepared by acidifying an aqueous solution of borax
- C. It has a layer structure in which planar BO_3^{3-} units are joined by hydrogen bonds
- D. It does not act as proton donor but acts as a lewis acid by accepting hydroxyl ion

Answer: A

 [Watch Video Solution](#)

3. Aluminium (III) chloride forms a dimer because

- A. Higher coordination number can be achieved by aluminium
- B. Aluminium has high ionization energy
- C. Aluminium belongs to III group
- D. It cannot form a trimer

Answer: A



View Text Solution

4. Purification of aluminium done by electrolytic refining is known as

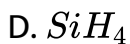
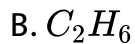
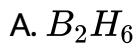
- A. Serpeck's process
- B. Hall's process
- C. Baeyer's process
- D. Hoop's process

Answer: D



Watch Video Solution

5. Which of the following is the electron-deficient molecule?

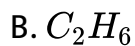
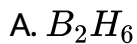


Answer: A



[Watch Video Solution](#)

6. Which one of the following molecules hydrides acts as a Lewis acid ?



C. PH_3

D. SiH_4

Answer: A

 [Watch Video Solution](#)

7. Al_2O_3 can be converted to anhydrous $AlCl_3$ by heating :

A. A mixture of Al_2O_3 and carbon in dry Cl_2 gas

B. Al_2O_3 with Cl_2 gas

C. Al_2O_3 with HCl gas

D. Al_2O_3 with NaCl in solid state

Answer: A

 [Watch Video Solution](#)

8. The stability of + 1 oxidation state increases in the sequence :

A. $\text{Al} < \text{Ga} < \text{In} < \text{Tl}$

B. $\text{Tl} < \text{In} < \text{Ga} < \text{Al}$

C. $\text{In} < \text{Tl} < \text{Ga} < \text{Al}$

D. $\text{Ga} < \text{In} < \text{Al} < \text{Tl}$

Answer: A



[Watch Video Solution](#)

9. Which of the following statements is incorrect

A. Aluminium reacts with excess NaOH to give $\text{Al}(\text{OH})_3$

B. NaHCO_3 on heating gives Na_2CO_3

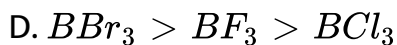
C. Pure sodium metal dissolves in liquid ammonia to give blue solution

D. NaOH reacts with glass to give sodium silicate

Answer: A

 [Watch Video Solution](#)

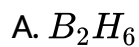
10. The tendency of BF_3 , BCl_3 and BBr_3 behave as Lewis acid decreases in the sequence



Answer: C

 [Watch Video Solution](#)

11. Which of the following structure is similar to graphite e?



Answer: A

 [Watch Video Solution](#)

12. The stability of +1 oxidation state among Al, Ga, In and Tl increases in the sequence :

- A. Ga < In < Al < Tl
- B. Al < Ga < In < Tl
- C. Tl < In < Ga < Al
- D. In < Tl < Ga < Al

Answer: B

 [Watch Video Solution](#)

13. Boric acid is an acid because its molecule

- A. Combines with proton from water molecule
- B. Contains replaceable H^+ ion

C. Gives up a proton

D. Accepts OH^- from water releasing proton

Answer: D

 [Watch Video Solution](#)

14. The purification of alumina is called

A. Bosch process

B. Castner process

C. Baeyer's process

D. Hoop's process

Answer: C

 [Watch Video Solution](#)

15. Bauxite containing impurities of iron oxide is purified by

- A. Hoop's process
- B. Serpeck's process
- C. Baeyer's process
- D. Electrolytic process

Answer: C



[Watch Video Solution](#)

16. Number of water molecules in Mohr's salt is

- A. 7
- B. 6

C. 5

D. 8

Answer: B



Watch Video Solution

17. The liquified metal expanding on solidification is :

A. Ga

B. Al

C. Zn

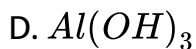
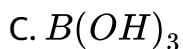
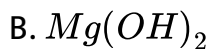
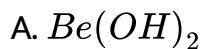
D. Cu

Answer: A



Watch Video Solution

18. Which of the following is only acidic in nature?

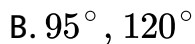
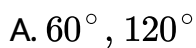


Answer: C



Watch Video Solution

19. In diborane, the two $H - B - H$ angles are nearly



C. 95° , 150°

D. 120° , 80°

Answer: B

 [Watch Video Solution](#)

20. Borax is used as a cleaning agent because on dissolving in water, it gives

A. Alkaline solution

B. Acidic solution

C. Bleaching solution

D. Colloidal solution

Answer: A

 [Watch Video Solution](#)

21. Which of the following is an amphoteric oxide

- A. MgO
- B. Al_2O_3
- C. Cl_2O_7
- D. Ti_2O_2

Answer: B

 Watch Video Solution

22. When Al is added to KOH solution

- A. No reaction takes place
- B. Oxygen is evolved

C. Water is produced

D. Hydrogen is evolved

Answer: D

 [Watch Video Solution](#)

23. Anhydrous $AlCl_3$ cannot be obtained from which of the following reactions?

A. Heating $AlCl_3 \cdot 6H_2O$

B. By passing dry HCl over hot aluminium powder

C. By passing dry Cl_2 over hot aluminium powder

D. By passing dry Cl_2 over a hot mixture of alumina and coke

Answer: A

 [Watch Video Solution](#)

24. The type of hybridisation of boron in diborane is

(a) sp , (b) sp^2 , (c) sp^3 , (d) dsp^2

A. sp -hybridisation

B. sp^2 -hybridisation

C. sp^3 -hybridisation

D. sp^3d^2 -hybridisation

Answer: C



Watch Video Solution

25. $AlCl_3$ is

A. Anhydrous and covalent

- B. Anhydrous and ionic
- C. Covalent and basic
- D. Coordinate and acidic

Answer: A

 [Watch Video Solution](#)

26. In Hall's process, the main reagent is mixed with

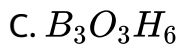
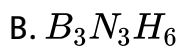
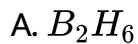
- A. NaF
- B. Na_3AlF_6
- C. AlF_3
- D. None of these

Answer: B



Watch Video Solution

27. Inorganic benzene is

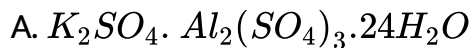


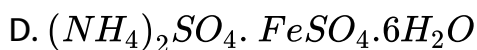
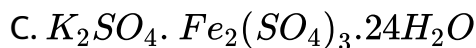
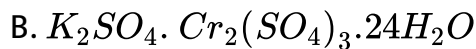
Answer: B



Watch Video Solution

28. Common alum is





Answer: A



Watch Video Solution

29. The hardest substance amongst the following is



B. Graphite

C. Titanium



Answer: D

 Watch Video Solution

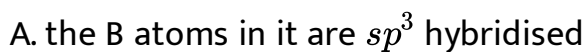
30. Which of the following does not exist in free form?



Answer: D

 Watch Video Solution

31. Which one of the following statements about diborane is NOT true



B. It contains two 3-centre-2-electron bonds

C. All B-H bonds lengths in it are equal due to resonance

D. The molecule is non-planar

Answer: D



Watch Video Solution

32. The number of isomers possible for disubstituted borazine,

$B_3N_3H_4X_2$ is

A. 3

B. 4

C. 6

D. 2

Answer: B

 [Watch Video Solution](#)

33. The product/s formed when diborane is hydrolysed is/are

A. B_2O_3 and H_3BO_3

B. B_2O_3 only

C. H_3BO_3 and H_2

D. H_3BO_3 only

Answer: C

 [Watch Video Solution](#)

34. Aluminium is not used

- A. In silvery paints
- B. For making utensils
- C. As a reducing involves
- D. As oxidizer in metallurgy

Answer: D



[Watch Video Solution](#)

35. Al_2O_3 foemation involes evolution of a large quantity of heat ,so we use "Al"

- A. Deoxidiser
- B. Indoor photography
- C. Confectionary
- D. Thermite welding

Answer: D

 [Watch Video Solution](#)

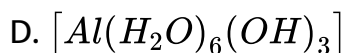
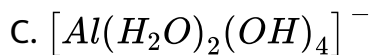
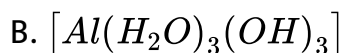
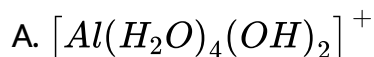
36. Which is true for an element R present in III A group of the periodic table

- A. It is gas at room temperature
- B. It has oxidation state of +4
- C. It forms R_2O_3
- D. it forms RX_2

Answer: C

 [Watch Video Solution](#)

37. Aluminium reacts with NaOH and forms compound 'X'. If the coordination number of aluminium in 'X' is 6, the correct formula of X is

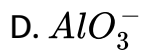
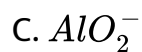


Answer: C



Watch Video Solution

38. Aluminium hydroxide is soluble in excess of sodium hydroxide forming the ion



Answer: C

 [Watch Video Solution](#)

39. Boron shows single oxidation state due to absence of

A. inert pair effect

B. Screening effect

C. Isotope effect q

D. None of these

Answer: A

 [Watch Video Solution](#)

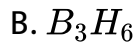
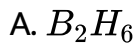
40. An aqueous solution of borax is

- A. Neutral
- B. Acidic
- C. Basic
- D. Amphoteric

Answer: C

 [Watch Video Solution](#)

41. Which among the following is not a borane



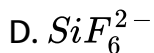
D. None of these

Answer: B



Watch Video Solution

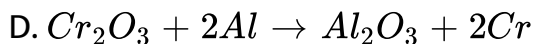
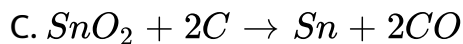
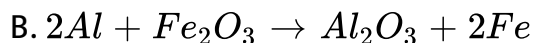
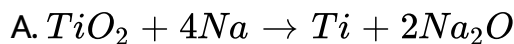
42. Which of the following is non-existent



Answer: C

 [Watch Video Solution](#)

43. Which of the following is used in thermite welding ?



Answer: B

 [Watch Video Solution](#)

44. Which of the following element is nonmetal

A. Gallium

B. Indium

C. Thallium

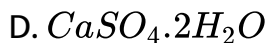
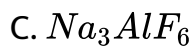
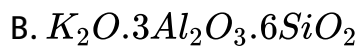
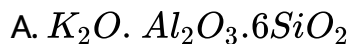
D. Boron

Answer: D



Watch Video Solution

45. The molecular formula of feldspar is



Answer: A

 [Watch Video Solution](#)

46. The compound which exist as a dimer is

A. LiCl has higher melting point than NaCl

B. $MgCl_2$

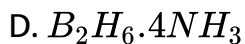
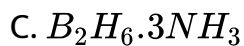
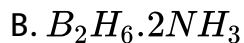
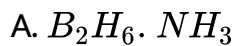
C. $AlCl_3$

D. $SiCl_4$

Answer: C

 [View Text Solution](#)

47. Diborane combines with ammonia at $120^\circ C$ to give

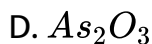
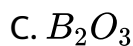
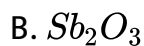
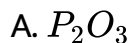


Answer: B



Watch Video Solution

48. The most acidic of the following compounds is



Answer: C

 [Watch Video Solution](#)

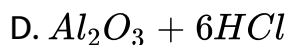
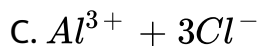
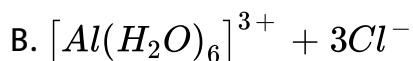
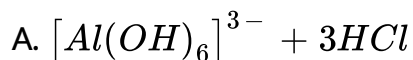
49. Soft heavy metal melts at $30^{\circ}C$ and is used in making heat sensitive thermometers the metal is

- A. Gallium
- B. Sodium
- C. Potassium
- D. Caesium

Answer: A

 [Watch Video Solution](#)

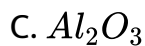
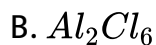
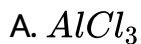
50. Aluminium chloride exists as a dimer, Al_2Cl_6 in solid state as well as in solution of non-polar solvents such as benzene. When dissolved in water, it gives :



Answer: B

 [Watch Video Solution](#)

51. Heating an aqueous solution of aluminium chloride to dryness will give



Answer: C

 [Watch Video Solution](#)

52. The structure of diborane (B_2H_6) contains :

A. Four 2c-2e bonds and two 3c-2e bonds

B. two 2c-2e bonds and four 3c-2e bonds

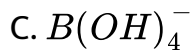
C. Two 2c-2e bonds and two 3c-3e bonds

D. Four 2c-3e bonds and four 3c-2e bonds

Answer: A

 [Watch Video Solution](#)

53. Boron cannot form which one of the following anions?



Answer: A

 [Watch Video Solution](#)

54. Which of the following is not true about potash alum

A. its empirical formula is $KAl(SO_4)_2 \cdot 12H_2O$

B. IT aqueous solution is basic

C. It is used in dyeing industries

D. On heating it melts in its water of crystallization

Answer: A

 [Watch Video Solution](#)

55. Boron form covalent compound due to

A. higher ionization energy

B. lower ionization energy

C. Small size

D. Both (a) and (c)

Answer: D

 [Watch Video Solution](#)

56. In the reaction $B_2O_3 + C + CL_2 \rightarrow A + CO$. The A is

A. BCl_3

B. BCl_2

C. B_2Cl_2

D. CCl_2

Answer: A

 [Watch Video Solution](#)

57. When orthoboric acid (H_3BO_3) is heated, the residue is

A. Metaboric acid

B. Boron

C. boric anydride

D. Borax

Answer: C



Watch Video Solution

58. Boron is unable to form BF_6^{3-} because of

A. High electronegativity of boron

B. high electronegativity of fluorine

C. Lack of d-orbitals in boron

D. less difference in electronegativity between B and F

Answer: C

 [Watch Video Solution](#)

59. Alumina is

- A. Acidic
- B. basic solution
- C. Amphoteric
- D. None of these

Answer: C

 [Watch Video Solution](#)

60. Moissan boron is

- A. Morphous boron of ultra purity
- B. Crystalline boron of ultra purity
- C. Amorphous boron of low purity
- D. Crystalline boron of low purity

Answer: C



Watch Video Solution

61. Which one of the following exists in the oxidation state other than + 3?

- A. B
- B. Al
- C. Ce
- D. Ga

Answer: C

 [Watch Video Solution](#)

62. Aluminium is more reactive than iron. But aluminium is less easily corroded than iron because.

- A. Aluminium is a noble metal
- B. oxygen forms a protective oxide layer
- C. Iron undergoes reaction easily with water
- D. Iron forms mono and divalent ions

Answer: B

 [Watch Video Solution](#)

63. Aluminium vessels should not be washed with materials containing washing soda because:

- A. Washing soda is expensive
- B. Washing soda is easily decomposed
- C. Washing soda reacts with aluminium to form soluble aluminate
- D. Washing soda reacts with aluminium to form insoluble aluminium oxide

Answer: C



Watch Video Solution

64. Aluminium oxide is not reduced by chemical reactions since

- A. Aluminium oxide is reactive
- B. Reducing agent cotaminate
- C. Aluminium oxide highly stable
- D. The process pollutes the environment

Answer: C

 [Watch Video Solution](#)

65. In Goldschmidt aluminothermic process, thermite mixture contains:

- A. 3 parts of Al_2O_3 and 4 parts of Al
- B. 3 parts of Fe_2O_3 and 2 parts of Al
- C. 3 parts of Fe_2O_3 and 1 part of Al
- D. 1 part of Fe_2O_3 and 1 part of Al

Answer: C

 [Watch Video Solution](#)

66. Which metal has a greater tendency to form metal oxide

A. Al

B. Ca

C. Cr

D. Fe

Answer: A

 [Watch Video Solution](#)

67. In which of the following molecules is hydrogen bridge bond present ?

A. Water

B. Inorganic benzene

C. Diborane

D. Methanol

Answer: C

 [Watch Video Solution](#)

68. In borax the number of B-O-B links and B-OH bond present are, respectively.

A. Five and four

- B. Four and five
- C. Three and four
- D. Five and five

Answer: A

 [Watch Video Solution](#)

69. Which statement is incorrect

- A. Borazine has a 3D-layer structure like that of graphite
- B. Boric acid has a hydrogen bonded layer structure in the solid state
- C. Borazine molecule is $(BN)_3$
- D. $[Al_6O_{18}]^{18-}$ contains a non-polar Al_6O_6 -ring

Answer: A::C::D

 [Watch Video Solution](#)

70. Correct formula of aluminium nitride is

A. AlN

B. AlN_2

C. AlN_3

D. Al_3N_2

Answer: A

 [Watch Video Solution](#)

71. Which metal burn in air at high temperature with the evolution of much heat

A. Cu

B. Hg

C. Pb

D. Al

Answer: D

 [Watch Video Solution](#)

72. Ga is below Al in the periodic table, but atomic radius of Ga is less than Al. It is because of

A. Lanthanoid contraction

B. Greater screening effect

C. Inert pair effect

D. None of these

Answer: B



[Watch Video Solution](#)

73. Crystalline metal can be transformed into metallic glass by

A. Alloying

B. Pressing into thin plates

C. Slow cooling of molten metal

D. Very rapid cooling of a spray of the molten metal

Answer: D

 [Watch Video Solution](#)

74. An element A dissolves both in acid and alkali. It is an example of

- A. Allotropic nature of A
- B. Dimorphic nature of A
- C. Amorphous nature of A
- D. Amphoteric nature of A

Answer: D

 [Watch Video Solution](#)

75. Which one of the following is correct statement ?

- A. The hydroxide of aluminium is more acidic than that of boron
- B. The hydroxide of boron is acidic, while that of aluminium is amphoteric
- C. The hydroxide of boron is acidic, while that of aluminium is amphoteric
- D. The hydroxide of boron and aluminium are amphoteric

Answer: C

 [Watch Video Solution](#)

76. In the purification of bauxite by Hall's process

- A. Bauxite ore is heated with NaOH solution at $50^{\circ}C$
- B. Bauxite ore is fused with Na_2CO_3

C. Bauxite ore is fused with coke and heated at $1800^{\circ}C$ in a current of nitrogen

D. Bauxite ore is heated with $NaHCO_3$

Answer: B

 [Watch Video Solution](#)

77. Assertion: Boron is metalloid.

Reason : Boron shows metallic nature.

A. If both assertion and reason are true and the reason is the correct explanation of the assertion

B. If both assertion and reason are true but reason is not the correct explanation of the assertion

C. If assertion is true but reason is false

D. If the assertion and reason both are false

Answer: C

 Watch Video Solution

78. These questions consist of two statements each, printed as Assertion and Reason. While answering these questions you are required to choose any one of the following four responses:

Assertion: $[Al(H_2O)_6]^{3+}$ is a stronger acid than $[Mg(H_2O)_6]^{2+}$.

Reason: Size of $[Al(H_2O)_6]^{3+}$ is smaller than $[Mg(H_2O)_6]^{2+}$ and possesses more effective nuclear charge.

A. If both assertion and reason are true and the reason is the correct explanation of the assertion

- B. If both assertion and reason are true but reason is not the correct explanation of the assertion
- C. If assertion is true but reason is false
- D. If the assertion and reason both are false

Answer: A

 [Watch Video Solution](#)

79. Which one of the following elements is unable to form MF_6^{3-} ion?

- A. Ga
- B. Al
- C. B
- D. In

Answer: C

 [Watch Video Solution](#)

Ordinary thinking (carbon family)

1. Carbon and silicon belong to group *IV*. The maximum coordination number of carbon in commonly occurring compounds is four whereas that of silicon is six. This is due to

- A. Large size of silicon
- B. More electropositive nature of silicon
- C. Availability of low lying d-orbitals in silicon
- D. Both (a) and (c)

Answer: C

2. Which one of the following statement is not correct

- A. Zinc dissolves in sodium hydroxide solution
- B. Carbon monoxide reduces iron (III) oxides to iron
- C. Mercury (II) iodine dissolves in excess of potassium iodine solution
- D. Tin (IV) chloride is made by dissolving tin solution in concentrated hydrochloric acid

Answer: D

3. Percentage of lead in lead pencil is

A. Zero

B. 20

C. 80

D. 70

Answer: A



Watch Video Solution

4. Glass reacts with HF to produces

A. SiF_4

B. H_2SiF_6

C. H_2SiO_3

D. Na_3AlF_6

Answer: B

 [Watch Video Solution](#)

5. Which of the following statements about the zeolites is false?

- A. Zeolites are aluminosilicates having three dimensional network
- B. Some of the SiO_4^{-4} units are replaced by AlO_4^{-5} and AlO_6^{9-} ions in zeolites
- C. They are used as cation exchanges
- D. They have open structure which enables them to take up small molecules

Answer: B

 [Watch Video Solution](#)

6. Which of the following is not isostructural with $SiCl_4$?

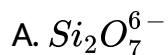


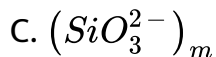
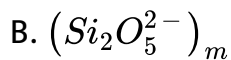
Answer: C



Watch Video Solution

7. Which of the following anions is present in the chain structure of silicates?





Answer: C



Watch Video Solution

8. Which of the following oxidation states are the most characteristics for lead and tin, respectively?

A. +4,+2

B. +2,+4

C. +4,+4

D. +2,+2

Answer: B

 [Watch Video Solution](#)

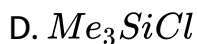
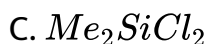
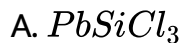
9. The basic structural unit of silicates is



Answer: C

 [Watch Video Solution](#)

10. Which of these is not a monomer for a high-molecular mass silicone polymer?



Answer: D

 [Watch Video Solution](#)

11. Which statement is wrong

A. Beryl is an example of cyclic silicate

B. Mg_2SiO_4 is orthosilicate

C. Basic structural unit in silicates is the SiO_2 tetrahedron

D. Feldspars are not aluminosilicates

Answer: D

 [Watch Video Solution](#)

12. Hydrolysis of which of the following does not occur?

A. VCl_4

B. $TiCl_4$

C. $SiCl_4$

D. CCl_4

Answer: D

 [Watch Video Solution](#)

13. Which of the following glass is used in making wind screen of automobiles

A. Crook's

B. Jena

C. Safety

D. Pyrex

Answer: C

 [Watch Video Solution](#)

14. Which of the following is the correct statement for red lead?

A. It is an active form of lead

B. Its molecular formula is Pb_2O_3

C. It decompose into Pb and CO_2

D. It decompose into PbO and O_2

Answer: D

 [Watch Video Solution](#)

15. Which of the following gives propyne on hydrolysis?

A. Al_4C_3

B. Mg_2C_3

C. B_4C

D. La_4C_3

Answer: B

 [Watch Video Solution](#)

16. Supercritical CO_2 is used as

A. Dry ice

B. Fire fighting

C. A solvent for extraction of organic compounds from natural sources

D. A highly inert medium for carrying out various reactions

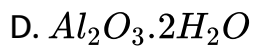
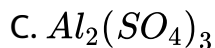
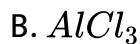
Answer: C



Watch Video Solution

17. Carborundum is

A. SiC

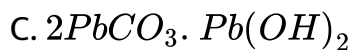
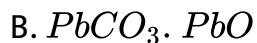


Answer: A



Watch Video Solution

18. White lead is



Answer: C

 Watch Video Solution

19. Which of the following has most density

A. Fe

B. Cu

C. B

D. Pb

Answer: D

 Watch Video Solution

20. Products formed on heating $Pb(NO_3)_2$ are

A. PbO , N_2 , O_2

B. $Pb(NO_2)_2, O_2$

C. PbO, NO_2, O_2

D. Pb, N_2, O_2

Answer: C



Watch Video Solution

21. Which of the following element is metalloid

A. Bi

B. Sn

C. Ge

D. C

Answer: C

 Watch Video Solution

22. Lead pipes are corroded quickly by

A. Dil. H_2SO_4

B. conc. H_2SO_4

C. Acetic acid

D. Water

Answer: C

 Watch Video Solution

23. Lead shows oxidation states of

A. +2,+4

B. +1,+2

C. +3,+4

D. +4

Answer: A



[Watch Video Solution](#)

24. In laboratory silicon can be prepared by the reaction

A. By heating carbon in electric furnace

B. By heating potassium with potassium dichromate

C. Silica with magnesium

D. None of these

Answer: C

 [Watch Video Solution](#)

25. Which of the following cuts ultraviolet rays?

- A. Soda glass
- B. Crook's glass
- C. Pyrex
- D. None of these

Answer: B

 [Watch Video Solution](#)

26. Which of the following is used to produce smoke screens?

- A. Calcium phosphide

B. Zinc sulphide

C. Sodium carbonate

D. Zinc phosphide

Answer: A



Watch Video Solution

27. Which gas is liberated when Al_4C_3 is hydrolysed?

A. CH_4

B. C_2H_2

C. C_2H_6

D. CO_2

Answer: A

 [Watch Video Solution](#)

28. Which of the following attacks glass?

A. HCl

B. HF

C. HI

D. HBr

Answer: B

 [Watch Video Solution](#)

29. When CO_2 is bubbled through a solution of barium peroxide in water

A. O_2 is released

B. Carbonic acid is formed

C. H_2O_2 is formed

D. No reaction occurs

Answer: C



[Watch Video Solution](#)

30. Pure silicon doped with phosphorus is :

A. Metallic conductor

B. Insulator

C. n-type semiconductor

D. p-type semiconductor

Answer: C

 Watch Video Solution

31. Dry ice is

A. Solid CO_2

B. Solid camphor

C. Solid SO_2

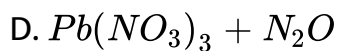
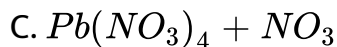
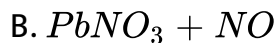
D. Solid NO_2

Answer: A

 Watch Video Solution

32. Phenol on treatment with conc. HNO_3 gives

A. $Pb(NO_3)_2 + NO_2$



Answer: A

 [Watch Video Solution](#)

33. Solid CO_2 is known as dry ice, because

A. It melts at $0^\circ C$

B. it evaporates at $40^\circ C$

C. It evaporates at $-78^\circ C$ without melting

D. Its boiling point is more than $199^\circ C$

Answer: C

 [Watch Video Solution](#)

34. Which of the following statement is correct with respect to the property of elements with an increase in atomic number in the carbon family (group 14)?

- A. Atomic size decreases
- B. Ionization energy increases
- C. Metallic character decreases
- D. Stability of +2 oxidation state increases

Answer: D

 [Watch Video Solution](#)

35. Solder is an alloy of

A. $Pb+Zn+Sn$

B. $Pb+Zn$

C. $Pb+Sn$

D. $Sn+Zn$

Answer: C



Watch Video Solution

36. Which of the following oxides are mixed oxide?

A. Fe_2O_3

B. PbO_2

C. Pb_3O_4

D. BaO_2

Answer: C

 [Watch Video Solution](#)

37. The element evolving two different gases on reaction with *conc.* H_2SO_4 .

A. P

B. C

C. Hg

D. S

Answer: B

 [Watch Video Solution](#)

38. The element that does not show catenation among the following p-block elements is

A. Carbon

B. Silicon

C. Germanium

D. lead

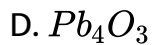
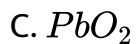
Answer: D

 [Watch Video Solution](#)

39. Red lead is

A. Pb_3O_4

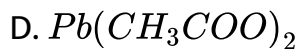
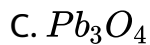
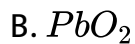
B. PbO



Answer: A

 [Watch Video Solution](#)

40. Litharge is



Answer: A

 [Watch Video Solution](#)

41. Nitrogen gas is absorbed by

A. Calcium hydroxide

B. Ferrous sulphate

C. Calcium carbide

D. Aluminium carbide

Answer: C

 [Watch Video Solution](#)

42. $SiCl_4$ on hydrolysis forms 'X' and HCl, compound 'X' loses water at $1000^\circ C$ and gives 'Y'. Compounds 'X' and 'Y' are respectively

A. H_2SiCl_6 , SiO_2

B. H_4SiO_4 , Si

C. SiO_2 , Si

D. H_4SiO_4 , SiO_2

Answer: D



Watch Video Solution

43. Extraction of lead by reduction methods is done by

A. Adding more galena into reverberatory furnace

B. Adding more lead sulphate into reverberatory furnace

C. Adding more galena and coke into the reverberatory furnace

D. Self reduction of oxide from sulphide present in the furnace

Answer: A

 [View Text Solution](#)

44. Diamond is harder than graphite because

- A. Graphite is planar
- B. Diamond has free electron
- C. Graphite is sp^3 hybridised
- D. None of these

Answer: D

 [Watch Video Solution](#)

45. Which of the following has least tendency to undergo catenation

A. C

B. Si

C. Ge

D. Sn

Answer: D



[Watch Video Solution](#)

46. Element showing the phenomenon of allotropy is

A. Aluminium

B. Zinc

C. Carbon

D. Copper

Answer: C

 [Watch Video Solution](#)

47. In which of the following the inert pair effect is most prominent?

A. C

B. Si

C. Ge

D. Pb

Answer: D

 [Watch Video Solution](#)

48. Softening of lead means

- A. Conversion of PbS into Pb
- B. Removal to tin from common solder
- C. Removal of impurities from Pb
- D. Addition of tin lead

Answer: C

 Watch Video Solution

49. Select the element which does not form double bond

- A. Nitrogen
- B. Sulphur

C. Silicon

D. Phosphorus

Answer: C



[Watch Video Solution](#)

50. Which of the following is soluble in yellow ammonium sulphide ?

A. HgS

B. PbS

C. CdS

D. SnS

Answer: D



[Watch Video Solution](#)

51. Which of the following substances consists of only one element?

A. Marble

B. Sand

C. Diamond

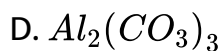
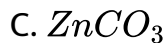
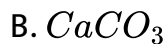
D. Glass

Answer: C

 Watch Video Solution

52. Which of the following is soluble in water

A. Na_2CO_3



Answer: D



Watch Video Solution

53. In the preparation of amorphous silicon, HF acid is used to remove



D. none of these

Answer: B

 [Watch Video Solution](#)

54. Quartz is a/an

A. Chain silicate

B. Sheet silicate

C. Cyclic silicate

D. Three dimensional network silicate

Answer: D

 [Watch Video Solution](#)

55. The number of unpaired electrons in carbon atom is -

- A. One
- B. Two
- C. Three
- D. Four

Answer: B

 [Watch Video Solution](#)

56. Lead nitrate on heating gives lead oxide, nitrogen dioxide and oxygen. This reaction is known as

- A. Combustion
- B. Combination
- C. Displacement
- D. Decomposition

Answer: D

 [Watch Video Solution](#)

57. Formation of in-numberable compounds of carbon is due to its:

- A. High reactivity
- B. Catenation tendency
- C. Covalent and ionic tendency
- D. Different valency

Answer: B

 [Watch Video Solution](#)

58. H_2O_2 on reaction with PbS gives

A. PbO

B. $PbSO_4$

C. PbO_2

D. $PbHSO_4$

Answer: B



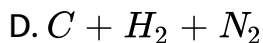
[Watch Video Solution](#)

59. Carbogen is a mixture of

A. $CO_2 + N_2$

B. $CO + O_2$

C. $CO_2 + O_2$



Answer: C

 [Watch Video Solution](#)

60. The soldiers of Napoleon army while at Alps during freezing winter suffered a serious problem with regard to the tin buttons of their uniform. White metallic tin buttons get converted to grey powder. This transformation is relate to

- A. A change in the partial pressure of oxygen in the air
- B. A change in the crystalline structure of tin
- C. An interaction with nitrogen of the air at very low to temperature

D. An interaction with water vapour contained in the humid
air

Answer: B

 [Watch Video Solution](#)

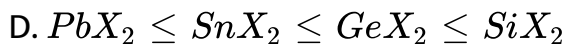
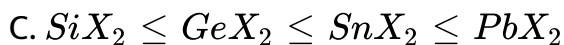
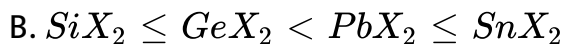
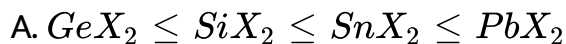
61. In silicon dioxide

- A. Each silicon atom is surrounded by four oxygen atoms and each oxygen atom is bonded two silicon atoms
- B. Each silicon atom is surrounded by two oxygen atoms and each oxygen atom is bounded to two silicon atoms
- C. Silicon atoms is bonded to two oxygen atoms
- D. There are double bonds between silicon and oxygen atoms

Answer: A

 [Watch Video Solution](#)

62. vii. The stability of dihalides of *Si*, *Ge*, *Sn* and *Pb* increases steadily in the sequence :



Answer: C

 [Watch Video Solution](#)

63. Suppose you have to determine the percentage of carbon dioxide in a sample of a gas available in a container. Which is the best absorbed material for the carbon dioxide :

- A. Heated copper oxide
- B. Cold, solid calcium chloride
- C. Cold, Solid calcium hydroxide
- D. Heated charcoal

Answer: C

 [Watch Video Solution](#)

64. Colour is imparted to glass by mixing

- A. Synthetic dyes

B. Metal oxide

C. Oxides of non-metal

D. Coloured salt

Answer: B



Watch Video Solution

65. Silicon is an important constituent of

A. Rocks

B. Amalgams

C. Chlorophyll

D. Haemoglobin

Answer: A

 Watch Video Solution

66. Plumbosolvency means the dissolution of lead in

A. Bases

B. Acids

C. Ordinary water

D. $CuSO_4$ sol

Answer: C

 Watch Video Solution

67. Carbon suboxide (C_3O_2)

A. Linear structure

- B. Bent structure
- C. Trigonal planar structure
- D. Distorted tetrahedral structure

Answer: A

 [Watch Video Solution](#)

68. When tin is treated with concentrated nitric acid

- A. It is converted into stannous nitrate
- B. It is converted into stannic nitrate
- C. It is converted into metastannic acid
- D. It becomes passive

Answer: C

 [Watch Video Solution](#)

69. Carborundum is obtained when silica is heated at high temperature with

- A. Carbon
- B. Carbon monoxide
- C. Carbon dioxide
- D. Calcium carbonate

Answer: A

 [Watch Video Solution](#)

70. iii. In SiF_6^{2-} and $SiCl_6^{2-}$, which one is known and why?

- A. SiF_6^{2-} because of small size of F

B. SiF_6^{2-} because of large size of F

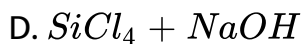
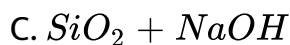
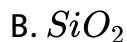
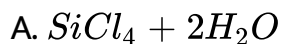
C. $SiCl_6^{2-}$ because of small size of Cl

D. $SiCl_6^{2-}$ because of large size of Cl

Answer: A

 [Watch Video Solution](#)

71. Silicon dioxide is formed by the reaction of



Answer: A

 [Watch Video Solution](#)

72. Which of the following statements is not correct

- A. Silicon is extensively used as a semiconductor
- B. Carborundum is SiC
- C. Silicon occurs in free states in nature
- D. Mica contains the element silicon

Answer: C

 [Watch Video Solution](#)

73. Silicone oil is obtained from the hydrolysis and polymerisation of

- A. Trimethylchlorosilane and dimethyldichlorosilane

- B. Trimethylchlorosilane and methyltrichlorosilane
- C. Methyltrichlorosilane and dimethyldichlorosilane
- D. Triethylchlorosilane and diethyldichlorosilane

Answer: A

 [Watch Video Solution](#)

74. SiF_4 gets hydrolysed giving

- A. SiO_2
- B. $Si(OH)_2F_2$
- C. H_2SiF_6
- D. $Si(OH)_4$

Answer: D

 [Watch Video Solution](#)

75. In group 13, Tl (thallium) shows +1 oxidation state while other members show +3 oxidation state, why ?

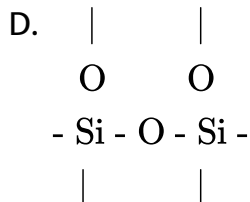
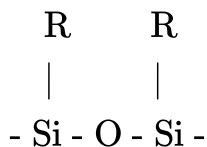
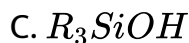
- A. Presence of lone pair of electron in Tl
- B. Inert pair effect
- C. Large ionic radius of Tl ion
- D. None of these

Answer: B

 [Watch Video Solution](#)

76. On controlled hydrolysis and condensation, R_3SiCl yields

- A. $R_3Si - O - SiR_3$



Answer: A

 [Watch Video Solution](#)

77. The products of the following reaction are $SiO_2 + C \xrightarrow{\Delta}$

A. SiC and CO_2

B. SiO and CO

C. SiC and CO

D. Si and CO_2

Answer: C



[Watch Video Solution](#)

78. For prevention of rusting of iron, which is used in paints

A. PbO

B. PbO_2

C. Pb_3O_4

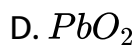
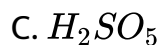
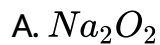
D. $PbSO_4$

Answer: C



[Watch Video Solution](#)

79. The compound which does not possess a peroxide linkage is

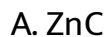


Answer: D



[View Text Solution](#)

80. The ionic carbide is



D. CaC_2

Answer: D

 [Watch Video Solution](#)

81. PbO_2 is:

A. Basic

B. Acidic

C. Neutral

D. Amphoteric

Answer: D

 [Watch Video Solution](#)

82. Noble gases are adsorbed by

- A. Anhydrous $CaCl_2$
- B. Activated coconut Charcoal
- C. Conc. H_2SO_4
- D. Coconut

Answer: B



[Watch Video Solution](#)

83. Which of the following compound of group-14 elements would you expect to be most ionic in character ?

- A. CCl_4
- B. $SiCl_4$
- C. $PbCl_2$

D. $PbCl_4$

Answer: C

 [Watch Video Solution](#)

84. Type metal is an alloy of Pb, Sb and Sn.it consists of

- A. Equal amounts of the three metals
- B. More amount of lead
- C. More amount of antimony
- D. More amount of tin

Answer: B

 [Watch Video Solution](#)

85. It is because of inability of ns^2 electrons of the valence shell to participate in bonding that:

- A. Sn^{2+} is oxidizing while Pb^{4+} is reducing
- B. Sn^{+2} and Pb^{2+} are both oxidizing and reducing
- C. Sn^{4+} is reducing while Pb^{4+} is oxidizing
- D. Sn^{2+} is reducing while Pb^{4+} is oxidizing

Answer: D

 [Watch Video Solution](#)

86. The element $Z = 114$ has been discovered recently. It will belong to which of the family/group and electronic configuration?

- A. Carbon family, $[Rn]5f^{14}6d^{10}7s^27p^2$

B. Oxygen family, $[Rn]5f^{14}6d^{10}7s^27p^4$

C. Nitrogen family, $[Rn]5f^{14}6d^{10}7s^27p^6$

D. Halogen family, $[Rn]5f^{14}6d^{10}7s^27p^5$

Answer: A



[Watch Video Solution](#)

Ordinary thinking (Nitrogen family)

1. Which has the lowest boiling point?

A. NH_3

B. PH_3

C. AsH_3

D. SbH_3

Answer: B

 [Watch Video Solution](#)

2. Which of the following elements does NOT form stable diatomic molecules ?

A. Iodine

B. Phosphorus

C. Nitrogen

D. Oxygen

Answer: B

 [Watch Video Solution](#)

3. Each of the following is true for white and red phosphorus except that they

- A. Are both soluble in CS_2
- B. Can be oxidized by heating in air
- C. Consists of same kind of atoms
- D. Can be converted into one another

Answer: A

 [Watch Video Solution](#)

4. Which of the following is not known?

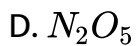
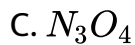
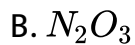
- A. MCl_5
- B. NI_3



Answer: A

 [Watch Video Solution](#)

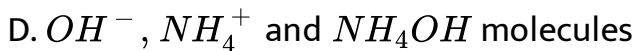
5. Which of the following oxides of nitrogen is the anhydride of HNO_3 ?



Answer: D

 [Watch Video Solution](#)

6. A solution of ammonia in water contains

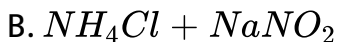
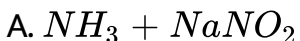


Answer: D



Watch Video Solution

7. Pure N_2 gas is obtained from



C. $Ba(N_3)_2$ On heating

D. $(NH_4)_2Cr_2O_7$

Answer: B

 [Watch Video Solution](#)

8. concentrated nitric acid oxidises cane sugar to

A. CO_2 and H_2O

B. CO and H_2O

C. CO, CO_2 and H_2O

D. Oxalic acid and water

Answer: D

 [Watch Video Solution](#)



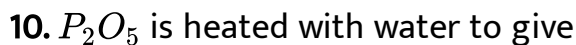
The product is

- A. PH_3
- B. NH_3
- C. P_4O_6
- D. P_4O_{10}

Answer: A



[Watch Video Solution](#)



- A. Hypophosphorus acid
- B. Orthophosphorus acid

C. Hypophosphoric acid

D. Orthophosphoric acid

Answer: D

 [Watch Video Solution](#)

11. PCl_3 reacts with water to form :

A. PH_3

B. H_3PO_3, HCl

C. $POCl_3$

D. H_3PO_4

Answer: B

 [Watch Video Solution](#)

12. Nitrogen is relatively inactive element because

- A. Its atom has a stable electronic configuration
- B. It has low atomic radius
- C. Its electronegativity is fairly high
- D. Dissociation energy of its molecule is fairly high

Answer: D



[Watch Video Solution](#)

13. Which one has the highest percentage of nitrogen?

- A. Urea
- B. Ammonium sulphate

C. Ammonium nitrate

D. Calcium nitrate

Answer: A

 [Watch Video Solution](#)

14. Which of the following oxide is least acidic

A. P_4O_6

B. P_4O_{10}

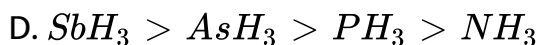
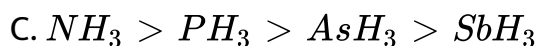
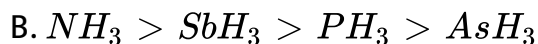
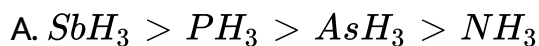
C. As_4O_6

D. As_4O_{19}

Answer: C

 [Watch Video Solution](#)

15. The basic character of hydrides of the V-group elements decreases in the order

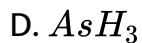
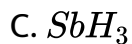


Answer: C

 [Watch Video Solution](#)

16. Which of the following has the highest dipole moment ?





Answer: A

 [Watch Video Solution](#)

17. The structural formula of hypophosphorus acid is



Answer: A

 [View Text Solution](#)

18. Repeated use of which of the following fertilizers would increase the acidity of the soil

- A. Potassium nitrate
- B. Urea
- C. Superphosphate of lime
- D. Ammonium sulphate

Answer: D

 [Watch Video Solution](#)

19. Of the different allotropes of phosphorus, the one which is most reactive is

- A. Violet phosphorus

B. Scarlet phosphorus

C. Red phosphorus

D. White phosphorus

Answer: D



[Watch Video Solution](#)

20. Which of the following is the most basic oxide?

A. Bi_2O_3

B. SeO_2

C. Al_2O_3

D. Sb_2O_3

Answer: A

 Watch Video Solution

21. How many bridging oxygen atoms are presents in P_4O_{10} ?

A. 6

B. 4

C. 2

D. 5

Answer: A

 Watch Video Solution

22. Which of the following statement is not valid for oxooids of phosphorus?

- A. Orthophosphoric acid is used in the manufacture of triple superphosphate
- B. Hypophosphorous acid is diprotic acid
- C. all oxoacids contain tetrahedral four coordinated phosphorus
- D. All oxoacids contain atleast one P=O unit and one P-OH group

Answer: B

 [Watch Video Solution](#)

23. Strong reducing behaviour of H_3PO_4 is due to :

- A. Presence of one -OH group and two P-H bonds
- B. High electron gain enthalpy of phosphorus

C. High oxidation state of phosphorus

D. Presence of two -OH group and one P-H bond

Answer: A

 [Watch Video Solution](#)

24. Maximum bond angle at nitrogen is present in which of the following ?

A. NO_2^-

B. NO_2^+

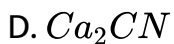
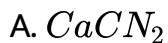
C. NO_3^-

D. NO_2

Answer: B

 [Watch Video Solution](#)

25. The product obtained as a result of a reaction of nitrogen with CaC_2 is



Answer: A

 Watch Video Solution

26. Which is the correct statement for the given acids ?

- A. Phosphinic acid is a diprotic acid while phosphonic acid is a monoprotic acid
- B. Phosphinic acid is a monoprotic acid while phosphonic acid is a diprotic acid
- C. Both are triprotic acid
- D. Both are diprotic acid

Answer: B

 [Watch Video Solution](#)

27. Which statement is not correct for nitrogen?

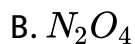
- A. It has a small size
- B. it does not readily react with O_2
- C. It is a typical non-metal

D. d-orbitals are available for bonding

Answer: D

 [Watch Video Solution](#)

28. In the catalytic oxidation of ammonia an oxide is formed which is used in the preparation of HNO_3 . This oxide is



Answer: D

 [Watch Video Solution](#)

29. Which oxide of nitrogen is obtained on heating ammonium nitrate at $250^{\circ}C$?

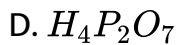
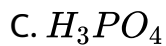
- A. nitric oxide
- B. Nitrous oxide
- C. Nitrogen dioxide
- D. Dinitrogen oxide

Answer: B

 [Watch Video Solution](#)

30. Which of the following compound is tribasic acid?

- A. H_3PO_2
- B. H_3PO_3



Answer: C

 [Watch Video Solution](#)

31. The element which forms oxides in all oxidation states + 1 to + 5 is.

A. N

B. P

C. As

D. Sb

Answer: A

 [Watch Video Solution](#)

32. The ONO angle is maximum in :



Answer: D

 Watch Video Solution

33. The number of $\text{P} - \text{O} - \text{P}$ bridge in the structure of phosphorous pentoxide and phosphorus trioxide are respectively



B. 5,5

C. 5,6

D. 6,5

Answer: A



Watch Video Solution

34. The compound which has molecular nature in gas phase but ionic in solid state is

A. PCl_5

B. CCl_4

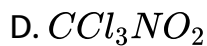
C. PCl_3

D. $POCl_3$

Answer: A

 [Watch Video Solution](#)

35. The chemical formula of 'tear gas' is



Answer: D

 [Watch Video Solution](#)

36. The molecular formula of Phosphorous is

A. P

B. P_4

C. P_2

D. P_5

Answer: B



Watch Video Solution

37. A hydride of nitrogen which is acidic in nature is :

A. NH_3

B. N_2H_4

C. N_2H_2

D. N_3H

Answer: D

 [Watch Video Solution](#)

38. Cyanamide process is used in the formation of



Answer: C

 [Watch Video Solution](#)

39. Sides of match box have coating of

- A. Potassium chlorate, red lead
- B. Potassium chlorate , antimony sulphide
- C. Antimony sulphide, red phosphorus
- D. Antimony sulphide, red lead

Answer: C

 [Watch Video Solution](#)

40. Which is true with regard to the properties of PH_3 ?

- A. PH_3 is not much stable
- B. PH_3 is neutral towards litmus
- C. PH_3 has fishy smell
- D. PH_3 is insoluble in water

Answer: D

 [Watch Video Solution](#)

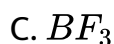
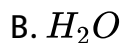
41. Action of concentrated nitric acid (HNO_3) on metallic tin produces

- A. Stannic nitrate
- B. Stannous nitrate
- C. Stannous nitrite
- D. Meta stannic acid

Answer: D

 [Watch Video Solution](#)

42. In which of the following molecules, the central atom has one lone pair and three bond pairs of electrons,



Answer: A

 [Watch Video Solution](#)

43. A certain element forms a solid oxide which dissolves in water to form an acidic solution. The element is



B. Potassium

C. Phosphorus

D. Sulphur

Answer: C



Watch Video Solution

44. On heating a mixture of NH_4Cl and KNO_2 , we get

A. NH_4NO_3

B. N_2

C. N_2O

D. NO

Answer: B

 [Watch Video Solution](#)

45. Which one of the following statements is true for HNO_2

- A. It is very stable in aqueous solution
- B. It cannot act both as an oxidant and as a reductant
- C. It cannot act as an oxidizing agent
- D. It cannot act as reducing agent

Answer: A

 [Watch Video Solution](#)

46. Which of the following elements of group VA does not show allotropy

- A. N

B. Bi

C. P

D. As

Answer: B



Watch Video Solution

47. The chemical used for cooling in refrigeration is

A. CO_2

B. NH_4OH

C. NH_4Cl

D. Liquid NH_3

Answer: D

 [Watch Video Solution](#)

48. In modern proces, white phosphorus is manufactured by :

- A. Heating a mixture of phosphorite mineral with sand and coke in electric furnace
- B. Heating calcium phosphate with coke
- C. Heating bone ash with coke
- D. Heating the phosphate mineral with sand

Answer: A

 [Watch Video Solution](#)

49. N_2 combines with metal to form

A. Nitride

B. Nitrate

C. Nitrite

D. Nitrosyle chloride

Answer: A



Watch Video Solution

50. In Birkeland-Eyde process, the raw material used is

A. Air

B. NH_3

C. NO_2

D. HNO_3

Answer: A

 [Watch Video Solution](#)

51. Among the members of VA group (N,P,As,Sb and Bi) which of the following properties shows an increase as we go down from nitrogen to bismuth.

- A. Stability of +3 oxidation state
- B. Reducing character of hydrides
- C. Electronegativity
- D. Acidic nature of the pentoxide

Answer: A::B

 [Watch Video Solution](#)

52. Phosphine is prepared in the laboratory by the reaction of

A. P and H_2SO_4

B. P and NaOH

C. P and H_2S

D. P and HNO_3

Answer: B



Watch Video Solution

53. Which one of the following elements is most metallic?

A. Phosphorus

B. Arsenic

C. Antimony

D. Bismuth

Answer: D

 [Watch Video Solution](#)

54. A neutral fertilizer among the following is

A. Urea

B. Ammonium nitrate

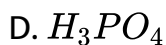
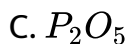
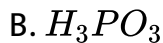
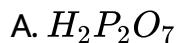
C. Ammonium sulphate

D. Calcium ammonium nitrate

Answer: A

 [Watch Video Solution](#)

55. Nitric acid oxidise phosphorous to



Answer: D



Watch Video Solution

56. Which of the following is not correct for N_2O ?

A. It is called laughing gas

B. It is nitrous oxide

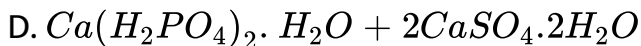
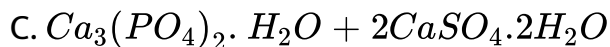
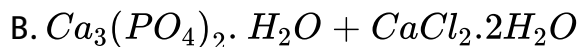
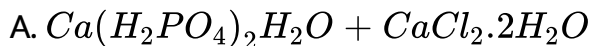
C. It is not a linear molecule

D. It is least reactive in all oxides of nitrogen

Answer: C

 [Watch Video Solution](#)

57. Superphosphate is a mixture of



Answer: D

 [Watch Video Solution](#)

58. An important method of fixation of atmospheric nitrogen is

A. Haber

B. Solvay

C. Deacon

D. Fischer method

Answer: A



Watch Video Solution

59. Which does not form complex?

A. N

B. P and NaOH

C. As

D. Bi

Answer: A

 [Watch Video Solution](#)

60. Which of the following represents laughing gas?

A. NO

B. N_2O

C. NO_2

D. N_2O_3

Answer: B

 [Watch Video Solution](#)

61. Phosphorus is manufactured by heating in an electric furnace a mixture of

- A. Bone ash and coke
- B. Bone ash and silica
- C. Bone ash, silica and coke
- D. None of these

Answer: C

 [Watch Video Solution](#)

62. Which one of the following contains three electron bond in its structure?

- A. Nitrous oxide
- B. Nitric oxide

C. Dinitrogen trioxide

D. Nitrogen pentoxide

Answer: B

 [Watch Video Solution](#)

63. Which oxide is colourless and neutral ?

A. N_2O

B. N_2O_3

C. N_2O_4

D. N_2O_4

Answer: A

 [Watch Video Solution](#)

64. calcium cyanamide on treatment with steam under pressure gives ammonia and

- A. Calcium carbonate
- B. Calcium hydroxide
- C. Calcium oxide
- D. Calcium bicarbonate

Answer: A

 [Watch Video Solution](#)

65. Which of the following is a tetrabasic acid?

- A. Orthophosphorus acid
- B. Orthophosphorus acid

C. Metaphosphoric acid

D. Pyrophosphoric acid

Answer: D

 [Watch Video Solution](#)

66. Ammonium nitrate decomposes on heating into

A. Ammonia and nitric acid

B. Nitrous oxide and water

C. Nitrogen , hydrogen and ozone

D. Nitric oxide, nitrogen dioxide and hydrogen

Answer: B

 [Watch Video Solution](#)

67. Which one of the following elements occur free in nature?

A. Nitrogen

B. Phosphorus

C. Arsenic

D. Antimony

Answer: A

 [Watch Video Solution](#)

68. Phosphide ion has the electronic structure similar to that of

A. Nitride ion

B. Fluoride ion

C. Sodium ion

D. Chloride ion

Answer: D

 [Watch Video Solution](#)

69. $BiCl_3$ on hydrolysis forms a white precipitate of _____.

A. Bismuthio acid

B. Bismuth oxychloride

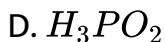
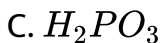
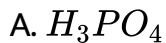
C. Bismuth pentachloride

D. Bismuth hydroxide

Answer: B

 [Watch Video Solution](#)

70. Metaphosphoric acid has the formula

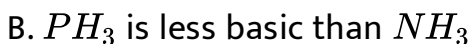
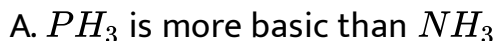


Answer: B



[Watch Video Solution](#)

71. With reference to protonic acids, which of the following statements is correct



C. PH_3 is equally basic as NH_3

D. PH_3 is amphoteric while NH_3 is basic

Answer: B

 [Watch Video Solution](#)

72. Which salt can be classified as an acid salt?

A. Na_2SO_4

B. $BiOCl$

C. $Pb(OH)Cl$

D. Na_2HPO_4

Answer: D

 [Watch Video Solution](#)

73. Orthophosphoric acid represents the molaysis condition due to

- A. Hydrogen bonding
- B. Phosphorus group
- C. Maximum oxygen group
- D. Tribasicity

Answer: B

 [Watch Video Solution](#)

74. H_3PO_3 is

- A. A Tribasic acid
- B. A diabasic acid

C. Neutral

D. A monobasic acid

Answer: B

 [Watch Video Solution](#)

75. Which gas is obtained when urea is heated with HNO_2 ?

A. N_2

B. H_2

C. O_2

D. NH_3

Answer: A

 [Watch Video Solution](#)

76. Atomic number of N is 7. the atomic number of IIIrd member of nitrogen family is

A. 23

B. 15

C. 33

D. 43

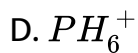
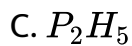
Answer: C

 [Watch Video Solution](#)

77. Which of the following has least covalent $P - H$ bond

A. PH_3

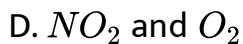
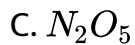
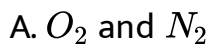
B. P_2H_6



Answer: D

 [Watch Video Solution](#)

78. When concentrated nitric acid is heated, it decomposes to give



Answer: D

 [Watch Video Solution](#)

79. When HNO_3 is dropped into the palm and washed with water, it turns into yellow. It shows the presence of

- A. NO_2
- B. N_2O
- C. NO
- D. N_2O_5

Answer: A

 Watch Video Solution

80. Which of the following is nitrogenous fertilizers

- A. Bone meal

B. Thomas meal

C. Nitro phosphate

D. Ammonium sulphate

Answer: D

 [Watch Video Solution](#)

81. Oxidation number of As in $H_2AsO_4^-$ is

A. 6

B. 7

C. 5

D. 9

Answer: C

 [Watch Video Solution](#)

82. Ammonia is dried over

- A. Quick lime
- B. Slaked lime
- C. Anhyd. $CaCl_2$
- D. None of these

Answer: A

 [Watch Video Solution](#)

83. Which show maximum valency

- A. Phosphorus

B. Tin

C. Antimony

D. Bismuth

Answer: A



Watch Video Solution

84. Which of the following is oxidised in air?

A. White phosphorus

B. CH_4

C. H_2O

D. NaCl

Answer: A

 [Watch Video Solution](#)

85. When lightning flash is produced, which gas is formed?

- A. Nitrous oxide
- B. Nitrogen dioxide
- C. Dinitrogen pentaoxide
- D. Nitric oxide

Answer: D

 [Watch Video Solution](#)

86. The reaction, which forms nitric oxide, is

- A. C and N_2O

B. Cu and N_2O

C. Na and NH_3

D. Cu and HNO_3

Answer: D



Watch Video Solution

87. Nitrogen dioxide is released by heating

A. $Pb(NO_3)_2$

B. KNO_3

C. $NaNO_2$

D. $NaNO_3$

Answer: A

 [Watch Video Solution](#)

88. Which of the following phosphorus is most stable?

- A. Red
- B. White
- C. Black
- D. All stable

Answer: A

 [Watch Video Solution](#)

89. In NH_3 and PH_3 , the common is

- A. odour

B. Combustibility

C. Basic nature

D. None of these

Answer: C



[Watch Video Solution](#)

90. Which of the following compound show sublimation?

A. NH_4Cl

B. $CaCO_3$

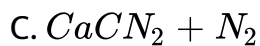
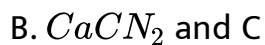
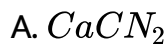
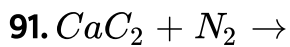
C. $BaSO_4$

D. $CaHPO_3$

Answer: A



Watch Video Solution



D. None of these

Answer: B



Watch Video Solution

92. Nitrogen can be obtained from air by removing

A. oxygen

B. hydrogen

C. carbon dioxide

D. both (1) and (2)

Answer: D



Watch Video Solution

93. When ammonia reacts with sodium hypochlorite, product containing nitrogen is

A. N_2

B. N_2O

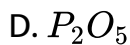
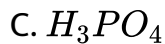
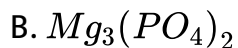
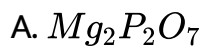
C. NH_2OH

D. $H_2N.NH_2$

Answer: D

 [Watch Video Solution](#)

94. In an organic compound phosphorus is estimated as



Answer: A

 [Watch Video Solution](#)

95. Ammonia reacts with excess of chlorine to form

A. NCl_3 and HCl

B. N_4 and NH_4Cl

C. H_3P_4

D. P_2O_5

Answer: A

 [Watch Video Solution](#)

96. A mixture of ammonia and air at about $800^\circ C$ in the presence of Pt gauze forms

A. N_2O

B. NO

C. NH_2OH

D. N_2O_3

Answer: B

 [Watch Video Solution](#)

97. Which of the following form a mixed anhydride?

A. NO

B. NO_2

C. N_2O_5

D. N_2O

Answer: B

 [Watch Video Solution](#)

98. The most acidic oxide is:

A. Na_2O

B. ZnO

C. MgO

D. P_2O_5

Answer: D

 [Watch Video Solution](#)

99. The most common minerals of phosphorus are

A. Hydroxy apatite and kernite

B. Colemanite and fluorapatite

C. Borax and fluorapatite

D. Hydroxy apatite and fluorapatite

Answer: D

 [Watch Video Solution](#)

100. The three important oxidation states of phosphorus are

A. $-3, +3$ and $+5$

B. $-3, +3$ and -5

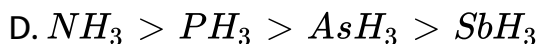
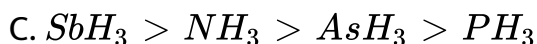
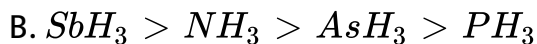
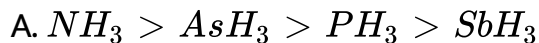
C. $-3, +4$ and -4

D. $-3, +3$ and $+4$

Answer: A

 [Watch Video Solution](#)

101. Boiling/melting points of the following hydrides follow in order.



Answer: C

 [Watch Video Solution](#)

102. Atoms in P_4 molecule of white phosphorus are arranged regularly in the following way :

A. At the corners of tetrahedron

B. At the corners of a cube

C. At the corners of a four membered ring

D. At the centre and corners of equivalent triangle

Answer: A



[Watch Video Solution](#)

103. Which one of the oxides of nitrogen dimerises into colourless solid/liquid on cooling?

A. N_2O

B. NO

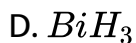
C. N_2O_3

D. NO_2

Answer: D

 [Watch Video Solution](#)

104. The least stable hydride of 15th group elements is _____.



Answer: D

 [Watch Video Solution](#)

105. Pick out the wrong statement

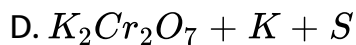
- A. Nitrogen has the ability to form $p\pi - p\pi$ bonds with it self
- B. Bismuth forms metallic bonds in elemental state
- C. Catenation tendency is higher is nitrogen when compared with other elements of the same group
- D. Nitrogen has higher first ionization enthalpy when compared with other element of the same group

Answer: C

 [Watch Video Solution](#)

106. Mixture used for the tips of match stick is

- A. S+K
- B. Sb_2S_3
- C. $K_2Cr_2O_7 + S + redP$



Answer: C

 [Watch Video Solution](#)

107. Producer gas is a mixture of

A. CO and N_2

B. CO_2 and H_2

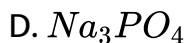
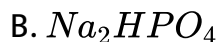
C. CO and H_2

D. CO_2 and N_2

Answer: A

 [Watch Video Solution](#)

108. If phosphoric acid is allowed to react with sufficient quantity of $NaOH$, the product obtained is



Answer: D



[Watch Video Solution](#)

109. The product obtained by heating $(NH_4)_2SO_4$ and $KCNO$ is

A. Hydrocyanic acid

B. Ammonia

C. Ammonium cyanide

D. Urea

Answer: D

 [Watch Video Solution](#)

110. Aqua regia is

A. 1:3 conc. HNO_3 and conc. HCl

B. 1:2 conc. HNO_3 and conc. HCl

C. 3:1 conc. HNO_3 and conc. HCl

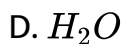
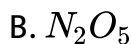
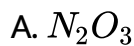
D. 2:1 conc. HNO_3 and conc. HCl

Answer: A

 [Watch Video Solution](#)

111. In the reaction $HNO_3 + P_4O_{10} \rightarrow 4HPO_3 + x$, the product

x is

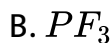
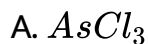


Answer: B



[Watch Video Solution](#)

112. Which of the following is not hydrolysed



D. NF_3

Answer: D

 [Watch Video Solution](#)

113. Which statement is wrong for NO

A. It is anhydride of nitrous acid

B. Its dipole moment is 0.22 D

C. it forms dimer

D. It is paramagnetic

Answer: A

 [Watch Video Solution](#)

114. Bones glow in the dark because

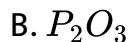
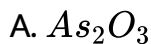
- A. They contains shining materials
- B. They contain red phosphorus
- C. White phosphorus undergoes slow combustion in contact with air
- D. White phosphorus changes into red form

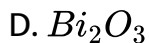
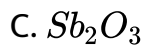
Answer: C



[Watch Video Solution](#)

115. Of the following, the most acidic is

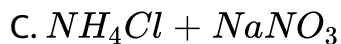
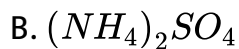




Answer: B

 [Watch Video Solution](#)

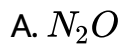
116. Laughing gas is prepared by heating



Answer: D

 [Watch Video Solution](#)

117. Which one of the following can be used as an anaesthetic?

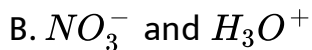
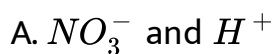


Answer: A



[Watch Video Solution](#)

118. HNO_3 in aqueous solution yields



C. NO_2^- and OH^-

D. N_2O_5 and H_2O

Answer: B

 [Watch Video Solution](#)

119. The maximum number of reducing hydrogens are contained in which of the following molecule/s ?

A. H_3PO_2

B. H_3PO_3

C. H_3PO_4

D. $\text{H}_4\text{P}_2\text{O}_7$

Answer: A

 [Watch Video Solution](#)

120. The hydrolysis of NCl_3 by water produces

A. NH_2OH and HOCl

B. NH_2NH_2 and HCl

C. NH_4OH and HOCl

D. NH_2Cl and HOCl

Answer: C



Watch Video Solution

121. What type of structure does $N_4P_4Cl_6$ have

A. Linear

B. Hexagonal

C. Cyclic

D. Polymeric

Answer: C

 [Watch Video Solution](#)

122. Phosphine is not obtained by the reaction

A. White P is heated with NaOH

B. Red P is heated with NaOH

C. Ca_3P_2 reacts with water

D. Phosphorus trioxide is boiled with water

Answer: B

 [Watch Video Solution](#)

123. In which pair of compounds, the oxidation state of nitrogen is -1?

A. NO

B. N_2O

C. NH_2OH

D. N_2H_4

Answer: C

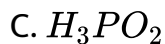


Watch Video Solution

124. Oxidation state of +1 for phosphorus is found in

A. H_3PO_3

B. H_3PO_4



Answer: C

 [Watch Video Solution](#)

125. Which of the following tendencies remains unchanged on going down in the nitrogen family (Group-VA)?

A. Highest oxidation state

B. Non-metallic character

C. Stability of hydrides

D. Physical state

Answer: A

 [Watch Video Solution](#)

126. In Nitrogen family the H-M-H angle in the hydrides MH_3 gradually becomes closer to 90° on going from N to Sb. This due to

- A. The basic strength of hydrides increases
- B. Almost pure p-orbitals are used for M-H bonding
- C. The bond energies of M-H bond increases
- D. The bond pairs of electrons becomes nearer to the central atom

Answer: D

127. Which of the following halides is most acidic ?

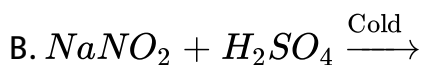
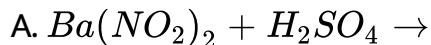


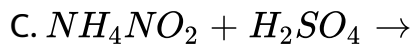
Answer: A



[Watch Video Solution](#)

128. An aqueous solution of nitrous acid (HNO_2), free of salts, can be obtained from the reaction

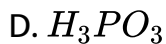
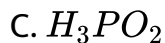
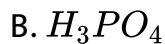




Answer: A

 [Watch Video Solution](#)

129. Dehydrated phosphorus trichloride in water gives



Answer: D

 [Watch Video Solution](#)

130. Which oxide does not act as a reducing agent?

A. NO

B. NO_2

C. N_2O

D. N_2O_5

Answer: D



Watch Video Solution

131. In NH_4NO_2 , the oxidation number of nitrogen will be

A. +3

B. +5

C. -3 and $+3$

D. $+3$ and $+5$

Answer: C

 [Watch Video Solution](#)

132. Electrolysis temperature is maximum for

A. AsH_3

B. NH_3

C. PH_3

D. SbH_3

Answer: B

 [Watch Video Solution](#)

133. White phosphorus is

- A. A monoatomic gas
- B. P_4 , a tetrahedral solid
- C. P_8 , a crown
- D. A linear diatomic molecule

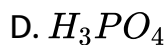
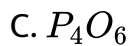
Answer: B



Watch Video Solution

134. In which compound, the oxidation state of phosphorus is +4

- A. P_4O_{11}
- B. P_4O_8



Answer: B

 [Watch Video Solution](#)

135. The $P - P - P$ bond angle in white phosphorous is _____ .

A. 120°

B. $109^\circ 28'$

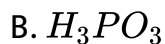
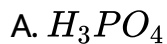
C. 90°

D. 60°

Answer: D

 [Watch Video Solution](#)

136. Which acid is formed by P_2O_3



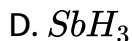
Answer: B



Watch Video Solution

137. Which of the following exhibits highest solubility in water?





Answer: A

 [Watch Video Solution](#)

138. An element (X) forms compounds of the formul XCl_3 , X_2O_5 and Ca_3X_2 , but does not form XCl_5 . Which of the following is the element X ?

A. B

B. Al

C. N

D. P

Answer: C



Watch Video Solution

139. Which of the following is manufactured from the molecular nitrogen by bacteria

- A. NO_3
- B. NO_2
- C. Amino acids
- D. Ammonia

Answer: A



Watch Video Solution

140. Inertness of N_2 gas is due to

- A. No vacant d-orbital
- B. High dissociation energy
- C. High electronegativity
- D. None

Answer: A

 [Watch Video Solution](#)

141. When ammonia is passed over heated copper oxide, the metallic copper is obtained. The reaction shows that ammonia is :

- A. A dehydrating agent
- B. An oxidizing agent
- C. A reducing agent
- D. A nitrating agent

Answer: C

 [Watch Video Solution](#)

142. Which of the element of nitrogen family produce maximum number of oxy-acids ?

A. N

B. P

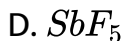
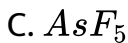
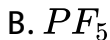
C. As

D. Sb

Answer: B

 [Watch Video Solution](#)

143. Which of the following flourides does not exist?

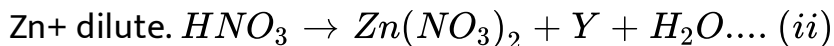
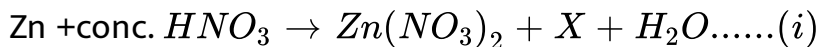


Answer: A



Watch Video Solution

144. The following two reactions of HNO_3 with Zn are given as
(equations are not balanced)



In reactions (i) and (ii), the compound X and Y respectively, are

A. NO_2 and NO

B. NO_2 and NO_2

C. NO and NO_2

D. NO_2 and NH_4NO_3

Answer: D



[Watch Video Solution](#)

145. The acid which forms two series of salts is

A. H_3PO_4

B. H_3PO_3

C. H_3BO_3

D. H_3PO_2

Answer: B

 [Watch Video Solution](#)

146. Which compound is related to Haber's process

A. CO_2

B. H_2

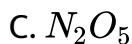
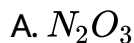
C. NO_2

D. NH_3

Answer: D

 [Watch Video Solution](#)

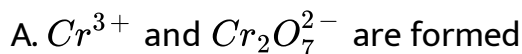
147. Which of the following oxides does not form acidic aqueous solution ?



Answer: D

 Watch Video Solution

148. What would happen when a solution of potassium chromate is treated with an excess of dilute nitric acid ?



B. $Cr_2O_7^{2-}$ and H_2O are formed

C. CrO_4^{2-} is reduced to +3 state of cr

D. CrO_4^{2-} is oxidized to +7 state of Cr

Answer: B



[Watch Video Solution](#)

149. What may be expected to happen when phosphine gas is mixed with chlorine gas ?

A. The mixture only cools down

B. PCl_3 and HCl are formed and the mixture warms up

C. PCl_5 and HCl are formed and the mixture cools down

D. PH_3 . Cl_2 is formed with warming up

Answer: B

 [Watch Video Solution](#)

150. The decreasing values of bond angles from $NH_3(106^\circ)$ to $SbH_3(101^\circ)$ down the group 15 of the periodic table is due to :

- A. Increasing bp-bp repulsion
- B. increasing p-orbitals character in sp^3
- C. decreasing lp -bp repulsion
- D. Decreasing electronegativity

Answer: D

 [Watch Video Solution](#)

151. Reaction of PCl_3 and PhMgBr would give

- A. Bromobenzene
- B. Chlorobenzene
- C. Triphenyl phosphine
- D. Dichlorobenzene

Answer: C



[Watch Video Solution](#)

152. On adding excess of ammonium hydroxide to a copper chloride solution

- A. A deep blue solution is obtained
- B. No change is observed

C. Blue precipitate of copper hydroxide is obtained

D. Black precipitate of copper oxide is obtained

Answer: A

 [Watch Video Solution](#)

153. Which is used in the Haper process for the manufacture of NH_3 ?

A. Pt

B. Fe + Mo

C. CuO

D. Al_2O_3

Answer: B

 [Watch Video Solution](#)

154. Conc. HNO_3 can be stored in a container made of

- A. Al
- B. Sn
- C. Cu
- D. Zn

Answer: A

 Watch Video Solution

155. Which of the following set of properties belong to PCl_5 ?

- A. sp^3 , tetrahedral, 4 valence shell pairs of electrons
- B. sp^3d , trigonal bipyramidal, 5 valence shell pairs of electrons

C. sp^3d^2 , octahedral, 6 valence shell pairs of electrons

D. sp^3d , square planar, 4 valence shell pairs of electron

Answer: B

 [Watch Video Solution](#)

156. Which of the following statements about liquid nitrogen is true

A. It is unreactive

B. It is used in cryosurgery

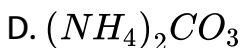
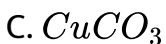
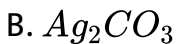
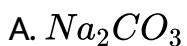
C. It does not decomposes organic compounds

D. It is very stable

Answer: B

 [Watch Video Solution](#)

157. The carbonate which does not leave a residue on heating is



Answer: D



Watch Video Solution

158. Bone black is a polymorphic form of

A. Phosphorus

B. Sulphur

C. Carbon

D. Nitrogen

Answer: A



[Watch Video Solution](#)

159. Which element exist as a solid at $25^{\circ}C$ and 1 atmospheric pressure among the following

A. Br

B. Cl

C. Hg

D. P

Answer: D



[Watch Video Solution](#)

160. Which one is correct statements

- A. Basicity of H_3PO_4 and H_3PO_3 is 3 and 3 respectively
- B. Acidity of H_3PO_4 and H_3PO_3 is 3 and 3 respectively
- C. Acidity of H_3PO_4 and H_3PO_3 is 3 and 2 respectively
- D. Basicity of H_3PO_4 and H_3PO_3 is 3 and 2 respectively

Answer: D

 Watch Video Solution

161. When equal weights of the two fertilizers, urea and ammonium sulphate are taken, urea contains

- A. Less nitrogen than ammonium sulphate

B. As much nitrogen as ammonium sulphate

C. Twice the amount of nitrogen present in ammonium sulphate

D. More than twice the amount of nitrogen present in ammonium sulphate

Answer: D



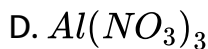
Watch Video Solution

162. Which of the nitrates on strong heating leaves the metal as the residue?

A. $AgNO_3$

B. $Pb(NO_3)_2$

C. $Cu(NO_3)_2$



Answer: A

 [Watch Video Solution](#)

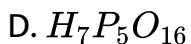
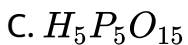
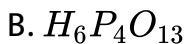
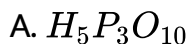
163. There is very little difference in acid strength in the series H_3PO_4 , H_3PO_3 and H_2PO_2 because

- A. Phosphorus in these acids exists in different oxidation state
- B. The hydrogen in these acids are not all bounded to the phosphorus
- C. Phosphorus is not a highly electronegative element
- D. Phosphorus oxides are less basic

Answer: B

 [Watch Video Solution](#)

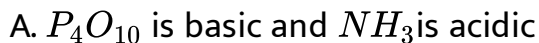
164. Which of the following is a cyclic phosphate?



Answer: C

 Watch Video Solution

165. P_4O_{10} is not used to dry NH_3 gas because



C. P_4O_{10} is not a drying agent

D. P_4O_{10} reacts with moisture in NH_3

Answer: B

 [Watch Video Solution](#)

166. The oxyacid of phosphorus in which phosphorus has the lowest oxidation state is

A. Hypophosphorus acid

B. Orthophosphorus acid

C. Pyrophosphoric acid

D. Metaphosphoric acid

Answer: A

 [Watch Video Solution](#)

167. Urea is preferred to ammonium sulphate as a nitrogenous fertilizer because

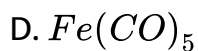
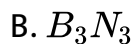
- A. It is more soluble in water
- B. It is cheaper than ammonium sulphate
- C. it is quite stable
- D. it does not cause acidity in the soil

Answer: D

 Watch Video Solution

168. Inorganic graphite is

- A. $B_3N_3H_6$



Answer: B



Watch Video Solution

169. In the electrothermal process, the compound displaced by silica from calcium phosphate is

A. Calcium

B. Phosphine

C. Phosphorus

D. phosphorus pentoxide

Answer: D

 [Watch Video Solution](#)

170. When plants and animals decay , the organic nitrogen is converted into inorganic nitrogen. The inorganic nitrogen is in the form of

- A. Ammonia
- B. Elements of nitrogen
- C. Nitrates
- D. Nitrides

Answer: A

 [Watch Video Solution](#)

171. Liquor ammonia bottles are opened only after cooling. This is because

- A. It is a mild explosive
- B. It is a corrosive liquid
- C. It is a lachrymatory
- D. It generates high vapour pressure

Answer: A::D

 [Watch Video Solution](#)

172. Which of the following contains P - O - P bond?

- A. Hypophosphorus acid
- B. phosphorus acid

C. Pyrophosphoric acid

D. Orthophosphoric acid

Answer: C

 [Watch Video Solution](#)

173. P_4O_{10} is the anhydride of the following

A. H_3PO_2

B. H_3PO_3

C. H_3PO_4

D. $H_4P_2O_7$

Answer: C

 [Watch Video Solution](#)

174. Nitric acid can be obtained from ammonia via the formation of intermediate compounds

- A. Nitric oxides and nitrogen dioxides
- B. Nitrogen and nitric oxides
- C. Nitric oxide and dinitrogen pentoxide
- D. Nitrogen and nitrous oxide

Answer: A

 [Watch Video Solution](#)

175. In the reaction, $P_2O_5 + 3CaO \rightarrow Ca_3(PO_4)_2$, P_2O_5 acts as....

- A. Acidic flux

B. Basic flux

C. Basic impurity

D. Acidic impurity

Answer: D



[Watch Video Solution](#)

176. How can you synthesize nitric oxide in the laboratory?

A. Zinc with cold and dilute HNO_3

B. Zinc with concentrated HNO_3

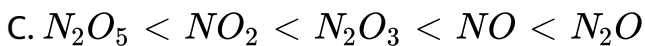
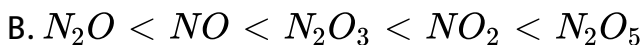
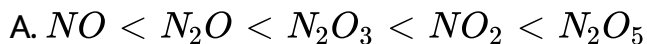
C. Copper with cold and dilute HNO_3

D. Heating NH_4NO_3

Answer: C

 Watch Video Solution

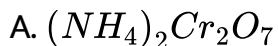
177. The correct order of the acidic nature of oxides is in the order

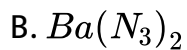


Answer: B

 Watch Video Solution

178. Which of the following(s) when heated give nitrogen gas





D. both (a) and (b)

Answer: D



[Watch Video Solution](#)

179. H_3PO_3 hasnon ionisable P-H bonds

A. None

B. 1

C. 2

D. 3

Answer: B

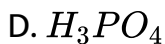
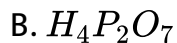
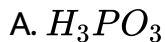
180. Match List I(Molecules) with List II(Boiling points) and select the correct answer



- A. A-iii,B-ii,C-v,D-iv,E-i
- B. A-v,B-iii,C-ii,D-iv,E-i
- C. A-I,B-iv,C-v,D-ii,E-iii
- D. A-I,B-ii,C-iii,D-iv,E-v

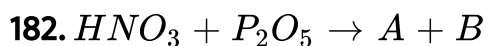
Answer: B

181. P_4O_6 reacts with water to give

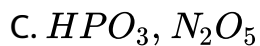
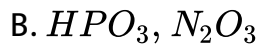


Answer: A

 [Watch Video Solution](#)



'A' is oxyacid of phosphorus and 'B' is an oxide of nitrogen. 'A' and 'B' are respectively.



D. H_3PO_3 , N_2O_5

Answer: C

 [Watch Video Solution](#)

183. Which of the following is kept in water

A. White phosphorus

B. sodium

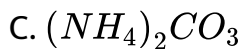
C. potassium

D. calcium

Answer: A

 [Watch Video Solution](#)

184. Nitrogen is obtained when $NaNO_2$ reacts with



Answer: A



Watch Video Solution

185. Which of the following compounds does not exist?



D. $AsCl_5$

Answer: B

 [Watch Video Solution](#)

186. Which of the following compounds is sparingly soluble in ammonia

A. AgI

B. AgBr

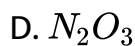
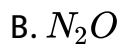
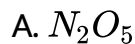
C. AgCl

D. $CuCl_2$

Answer: A

 [Watch Video Solution](#)

187. Which of the following oxides of nitrogen is thermally most stable



Answer: C

 [Watch Video Solution](#)

188. P_2O_5 is used extensively as a/an

A. Reducing agent

B. Oxidizing agent

C. Dehydrating agent

D. preservative

Answer: C

 [Watch Video Solution](#)

189. Which of the following is most basic

A. NF_3

B. NCl_3

C. NBr_3

D. NI_3

Answer: C

 [Watch Video Solution](#)

190. Which of the following has the highest proton affinity ?

A. Stibine (SbH_3)

B. Arsine (AsH_3)

C. Phosphine (PH_3)

D. Ammonia (NH_3)

Answer: D

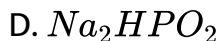
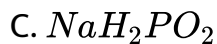


Watch Video Solution

191. The correct formula of salt formed by the neutraliation of hypophosphorous acid with NaOH is

A. Na_3PO_2

B. Na_3PO_3



Answer: C

 [Watch Video Solution](#)

192. The role of phosphate in detergent powder is to

A. Control pH level of the detergent water mixture

B. Remove Ca^{2+} and Mg^{2+} ions from the water the causes
the hardenss of water

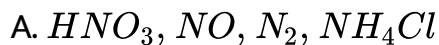
C. Provide whiteness to the fabrics

D. Form solid detergent as phosphate -less detergent are
liquid in nature

Answer: B

 [Watch Video Solution](#)

193. The correct order of N-compounds in its decreasing order of oxidation states is



Answer: A

 [Watch Video Solution](#)

Ordinary thinking (Oxygen family)

1. The ability of a substance to exist in two or more crystalline forms is known as:

- A. Isomerism
- B. polymorphism
- C. Isomorphism
- D. Amorphism

Answer: B

 [Watch Video Solution](#)

2. It is possible to obtain oxygen from air by fractional distillation because

- A. Oxygen is in a different group of the periodic table from nitrogen
- B. Oxygen is more reactive than nitrogen
- C. Oxygen has higher b.p. than nitrogen
- D. oxygen has a lower density than nitrogen

Answer: C



[Watch Video Solution](#)

3. Oxygen does not react with

- A. P
- B. Na
- C. S
- D. Cl

Answer: D

 [Watch Video Solution](#)

4. The gases respectively absorbed by alkaline pyrogallon and oil of cinnamon is.

A. O_3 , CH_4

B. O_2 , O_3

C. SO_2 , CH_4

D. N_2O , O_3

Answer: B

 [Watch Video Solution](#)

5. Oleum is

- A. Castor oil
- B. Oil of vitriol
- C. Fuming H_2SO_4
- D. None of them

Answer: C



[Watch Video Solution](#)

6. Which of the following bonds has the highest energy?

- A. Se-Se
- B. Te-Te
- C. S-S

D. O-O

Answer: C

 [Watch Video Solution](#)

7. Copper turnings when heated with concentrated sulphuric acid will give

A. SO_2

B. SO_3

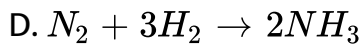
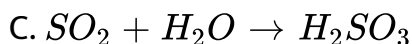
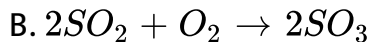
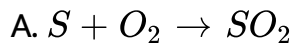
C. H_2S

D. O_2

Answer: A

 [Watch Video Solution](#)

8. In the preparation of sulphuric acid, V_2O_5 is used in the reaction, which is



Answer: B

 [Watch Video Solution](#)

9. Which of the following structures is the most preferred and hence of lowest energy for SO_3

A. 

B. 

C. 

D. 

Answer: B



[View Text Solution](#)

10. Roasting of sulphides gives the gas X as a by product. This is a colourless gas with choking smell of burnt sulphur and causes great damage to respiratory organs as a result of acid rain. Its aqueous solution is acidic, acts as reducing agent and its acid has never been isolated. The gas X is :-

A. SO_3

B. H_2S

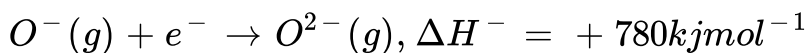
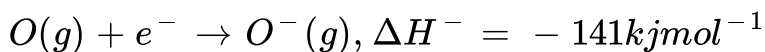
C. SO_2

D. CO_2

Answer: C

 [Watch Video Solution](#)

11. The formation of oxide ion $O^{2-}(g)$ from oxygen atom requires first an exothermic and then an endothermic step as shown below



Thus, process of formation of O^{2-} in gas phase is unfavourable even though O^{2-} is isoelectronic with neon. It is due to the fact that A) oxygen is more electronegative B) addition of electron in oxygen results in larger size of the ion C) electron repulsion outweighs the stability gained by achieving noble gas

configuration D) O^- ion has comparatively smaller size than oxygen atom

- A. Electron repulsion outweighs the stability gained by achieving noble gas configuration
- B. O^- ion has comparatively smaller size than oxygen atom
- C. Oxygen is more electronegative
- D. Addition of electron in oxygen results in larger size of the ion

Answer: A

 [Watch Video Solution](#)

12. Which of the following statement given below is incorrect?

- A. Cl_2O_7 is an anhydride of perchloric acid

B. O_3 molecule is bent

C. ONF is isoelectronic with O_2N^-

D. OF_2 is an oxide of fluorine

Answer: D

 [Watch Video Solution](#)

13. Nitrogen dioxide and sulphur dioxide have some properties in common, which property is shown by one of these compounds, but not by the other?

A. Is a reducing agent

B. Is soluble in water

C. Is used as a food-preservative

D. Form 'acid-rain'

Answer: C

 [Watch Video Solution](#)

14. Which one of the following statements is correct when SO_2 is passed through acidified $K_2Cr_2O_7$ solution?

- A. The solution turns blue
- B. The solution is decolourized
- C. SO_2 is reduced
- D. Green $Cr_2(SO_4)_3$ is formed

Answer: D

 [Watch Video Solution](#)

15. The highest catenation ability is shown by

- A. Oxygen
- B. Sulphur
- C. selenium
- D. tellurium

Answer: B



[Watch Video Solution](#)

16. Oxygen molecule exhibits

- A. paramagnetism
- B. diamagnetism
- C. ferromagnetism

D. ferrimagnetism

Answer: A

 [Watch Video Solution](#)

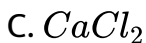
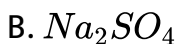
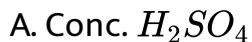
17. Identify the incorrect statement with respect to ozone.

- A. ozone is formed in the upper atmosphere by a photochemical reaction involving dioxygen
- B. Ozone is more reactive than oxygen
- C. Ozone is diamagnetic whereas dioxygen is paramagnetic
- D. ozone protects the earth's inhabitants by absorbing γ radiations

Answer: D

 [Watch Video Solution](#)

18. Which of the following is not suitable for use in a desiccator to dry substances



Answer: A

 [Watch Video Solution](#)

19. Which of the following is the best scientific method to test the presence of water in liquid ?

A. Taste

B. Smell

C. Use of litmus paper

D. Use of anhydrous copper sulphate

Answer: D



Watch Video Solution

20. Shape of O_2F_2 is similar to that of

A. C_2F_2

B. H_2O_2

C. H_2F_2

D. C_2H_2

Answer: B

 [Watch Video Solution](#)

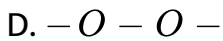
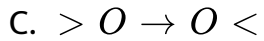
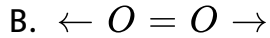
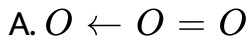
21. The incorrect statement among the following is

- A. C_{60} is an allotropic form of carbon
- B. O_3 is an allotropic form of oxygen
- C. S_8 is only allotropic form of sulphur
- D. Red phosphorus is more stable in air than white phosphorus

Answer: C

 [Watch Video Solution](#)

22. Peroxydisulphuric acid has which of the following bond ?

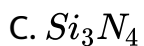


Answer: D



[Watch Video Solution](#)

23. Non-oxide ceramics can be



D. All of these

Answer: D



Watch Video Solution

24. Which of the following is most electronegative

A. O

B. S

C. Te

D. Se

Answer: A



Watch Video Solution

25. Which shows polymorphism?

A. O

B. S

C. Se

D. All the above

Answer: D



[Watch Video Solution](#)

26. Which of the following is oxidised by SO_2 ?

A. Mg

B. $K_2Cr_2O_7$

C. $KMnO_4$

D. All of these

Answer: A

 [Watch Video Solution](#)

27. When conc. H_2SO_4 comes in contact with sugar it becomes black due to

A. Hydrolysis

B. Hydration

C. Decolourisation

D. Dehydration

Answer: D

 [Watch Video Solution](#)

28. Oxygen was discovered by_____.

A. Priestley

B. Boyle

C. Scheele

D. Cavandish

Answer: A



Watch Video Solution

29. The most efficient agent for the absorption of SO_3 is

A. 80 % H_2SO_4

B. 98 % H_2SO_4

C. 50 % H_2SO_4

D. 20 % $H_2S_2O_7$

Answer: B

 [Watch Video Solution](#)

30. Which of the elements listed below occurs in allotropic forms?

A. Iodine

B. Copper

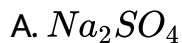
C. Sulphur

D. Silver

Answer: C

 [Watch Video Solution](#)

31. When oxygen is passed through a solution of Na_2SO_3 , we get



Answer: A



Watch Video Solution

32. In the reaction $HCOOH \xrightarrow{H_2SO_4} CO + H_2O$, H_2SO_4 acts as

A. Dehydrating agent

B. Oxidizing agent

C. Reducing agent

D. All of these

Answer: A

 [Watch Video Solution](#)

33. Oxygen is denser than air so it is collected over

A. H_2O

B. Ethanol

C. Mercury

D. Kerosene oil

Answer: A

 [Watch Video Solution](#)

34. Which element is found in free state

- A. Iodine
- B. Sulphur
- C. Phosphorus
- D. Magnesium

Answer: B



Watch Video Solution

35. One of the following burns in air giving a gaseous oxide (at room temp.)

- A. H
- B. Na
- C. S

D. He

Answer: C

 [Watch Video Solution](#)

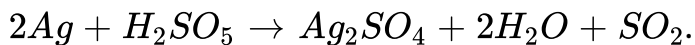
36. When SO_2 is passed through cupric chloride solution

- A. A white precipitate is obtained
- B. The solution becomes colourless
- C. The solution becomes colourless and a white precipitate of Cu_2Cl_2 is obtained
- D. No visible change takes place

Answer: C

 [Watch Video Solution](#)

37. In the following reaction, H_2SO_4 acts as



- A. Reducing agent
- B. Oxidizing agent
- C. Catalytic agent
- D. Dehydration agent

Answer: B

 [Watch Video Solution](#)

38. Ozone is obtained from oxygen

- A. By oxidation at high temperature
- B. By oxidation using a catalyst

- C. By silent electric discharge
- D. By conversion at high pressure

Answer: C

 [Watch Video Solution](#)

39. Which one of the following property is not correct for ozone?

- A. It oxidises lead sulphide
- B. It oxidises potassium iodide
- C. It oxidises mercury
- D. It cannot act as bleaching agent

Answer: D

 [Watch Video Solution](#)

40. About H_2SO_4 , which of the following statements is incorrect ?

- A. Reducing agent
- B. Dehydrating agent
- C. Sulphonating agent
- D. highly viscous

Answer: A

 [Watch Video Solution](#)

41. Bleaching action of SO_2 is due to

- A. Reduction
- B. Oxidation

C. Hydrolysis

D. Its acidic nature

Answer: A

 [Watch Video Solution](#)

42. Ozone with K solution produces

A. Cl_2

B. I_2

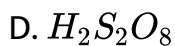
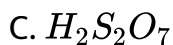
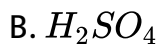
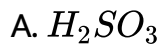
C. HI

D. IO_3

Answer: B

 [Watch Video Solution](#)

43. Which one is known as oil of vitriol ?

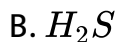
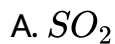


Answer: B



[Watch Video Solution](#)

44. Which one of the gas dissolves in H_2SO_4 to give oleum?



C. S_2O

D. SO_3

Answer: D

 [Watch Video Solution](#)

45. When SO_2 is passed through acidified $K_2Cr_2O_7$ solution

A. The solution turns blue

B. The solution is decolourised

C. SO_2 is reduced

D. Green $Cr_2(SO_4)_3$ is formed

Answer: D

 [Watch Video Solution](#)

46. The formula of ozone is O_3 , it is

- A. An allotrope of oxygen
- B. Compound of oxygen
- C. Isotope of oxygen
- D. None of these

Answer: A



[Watch Video Solution](#)

47. Ozone turns trimethyl paper

- A. Green
- B. violet

C. Red

D. Black

Answer: B



[View Text Solution](#)

48. When H_2S is passed through acidified $KMnO_4$, we get

A. K_2SO_3

B. MnO_2

C. $KHSO_3$

D. sulphur

Answer: D



[Watch Video Solution](#)

49. Superphosphate is the mixture of

- A. Calcium phosphate and dil. H_2SO_4
- B. sodium phosphate and dil. H_2SO_4
- C. Potassium phosphate and dil. H_2SO_4
- D. None of these

Answer: A

 [Watch Video Solution](#)

50. Which Compound is easily soluble in water

- A. H_2
- B. O_2

C. SO_2

D. CO_2

Answer: C



[View Text Solution](#)

51. $KO_2 + CO_2 \rightarrow$

A. H_2

B. N_2

C. O_2

D. CO

Answer: C



[Watch Video Solution](#)

52. Which of the following is not a chalcogen?

A. O

B. S

C. Se

D. Na

Answer: D

 [Watch Video Solution](#)

53. Which forms new compound in air

A. H_2O in air

B. O_2 in air

C. N_2 in air

D. phosphorus in air

Answer: B

 [Watch Video Solution](#)

54. Which of the following is acidic?

A. SO_3

B. N_2O

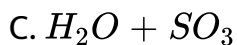
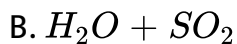
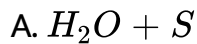
C. BeO

D. HgO

Answer: A

 [Watch Video Solution](#)

55. H_2S react with O_2 to form



Answer: A



[Watch Video Solution](#)

56. Conc. H_2SO_4 is diluted

A. By adding water in H_2SO_4

B. By adding H_2SO_4 in water

C. By adding glacial acid in H_2SO_4

D. None of the above

Answer: B

 [Watch Video Solution](#)

57. The triatomic species of elemental oxygen is known as

A. Azone

B. Polyzone

C. Triozone

D. Ozone

Answer: D

 [Watch Video Solution](#)

58. When H_2S gas is passed through nitric acid, the product is :

- A. Rhombic S
- B. Prismatic S
- C. Amorphous S
- D. None of these

Answer: D



[Watch Video Solution](#)

59. Sulphur molecule is converted into sulphur ion, when it

- A. Gains two electrons
- B. Loses two electrons

C. Gains two protons

D. Shares two electrons

Answer: A

 [Watch Video Solution](#)

60. Bond angle is minimum for

A. H_2O

B. H_2S

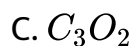
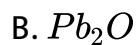
C. H_2Se

D. H_2Te

Answer: D

 [Watch Video Solution](#)

61. What is the formula of carbon suboxide ?



Answer: C



[Watch Video Solution](#)

62. Carbogen is a mixture of

A. Pure form of carbon



C. Mixture of CO and CO_2

D. Mixture of O_2 and CO_2

Answer: D

 [Watch Video Solution](#)

63. A solution of sulphur dioxide in water reacts with H_2S precipitating sulphur. Here sulphur dioxide acts as

A. An oxidizing agent

B. A reducing agent

C. An acid

D. A catalyst

Answer: A

 [Watch Video Solution](#)

64. The molecular formula of sulphur is

A. S

B. S_2

C. S_4

D. S_8

Answer: D



Watch Video Solution

65. Point out in which of the following properties oxygen differs from the rest of the members of its family (Group-VIA)

A. High value of ionization energies

B. Oxidation states (2,4,6)

C. Polymorphism

D. Formation of hydrides

Answer: B



Watch Video Solution

66. All the elements of oxygen family are

A. Non - metals

B. metalloids

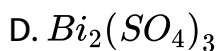
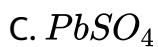
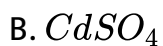
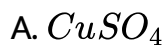
C. Radioactive

D. Polymorphic

Answer: D

 Watch Video Solution

67. Which of the following sulphate is insoluble in water ?



Answer: C

 Watch Video Solution

68. Electron affinity is positive when



B. O^{2-} is formed from O^-

C. O^+ is formed from O

D. O^{3-} is formed from O^-

Answer: B



Watch Video Solution

69. Which of the following dissociates to give H^+ most easily?

A. H_2O

B. H_2S

C. H_2Te

D. H_2Se

Answer: C

 Watch Video Solution

70. Which of the following hydrides has the lowest boiling point?

- A. H_2O
- B. H_2S
- C. H_2Se
- D. H_2Te

Answer: B

 Watch Video Solution

71. Number of unpaired electrons in sulphur is

- A. 2

B. 6

C. 8

D. 1

Answer: A



Watch Video Solution

72. Which of the element of oxygen family is most poisonous to human race

A. O

B. S

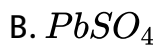
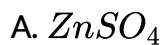
C. Se

D. None

Answer: C

 [Watch Video Solution](#)

73. A black sulphide when treated with ozone becomes white, the white compound is :-



Answer: B

 [Watch Video Solution](#)

74. Permono sulphuric acid is known as

- A. Marshall's acid
- B. Caro's acid
- C. Sulphuric acid
- D. None of these

Answer: B



[Watch Video Solution](#)

75. Industrial name for $H_2S_2O_7$ is

- A. Pyrosulphuric acid
- B. Marshall's acid
- C. Oleum

D. All of the above

Answer: C

 [Watch Video Solution](#)

76. The smog is essentially caused by the presence of :

A. Oxides of sulphur and nitrogen

B. O_2 and N_2

C. O_2 and O_3

D. O_3 and N_2

Answer: A

 [Watch Video Solution](#)

77. Which of the following statements regarding sulphur is incorrect?

- A. S_2 molecule is paramagnetic
- B. The vapour at $200^\circ C$ consists mostly of S_8 rings
- C. At $600^\circ C$ the gas mainly consist of S_2 molecules
- D. The oxidation state of sulphur is never less than +4 in its compounds

Answer: D

 [Watch Video Solution](#)

78. Which of the following is formed by the action of water on sodium peroxide ?

- A. H_2SO_4 (conc.)

B. H_2SO_4 (dil)

C. H_2SO_4

D. $H_2S_2O_7$

Answer: C



Watch Video Solution

79. Which of the following mixture is chromic acid?

A. $K_2Cr_2O_7$ and conc. H_2SO_4

B. $K_2Cr_2O_7$ and HCl

C. K_2SO_4 and conc. H_2SO_4

D. H_2SO_4 and HCl

Answer: A

 Watch Video Solution

80. Oxygen is not evolved on reaction of ozone with

A. H_2O_2

B. SO_2

C. Hg

D. KI

Answer: B

 Watch Video Solution

81. The number of unpaired electrons in the p-subshell of oxygen atom

A. 1

B. 2

C. 3

D. 4

Answer: B



Watch Video Solution

82. A gas that cannot be collected over water is.

A. N_2

B. O_2

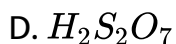
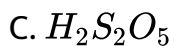
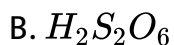
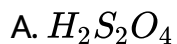
C. SO_2

D. PH_3

Answer: C

 Watch Video Solution

83. The molecular formula of dithionic acid is _____.



Answer: B

 Watch Video Solution

84. Which one of the following is non-reducing?



B. H_2Te

C. H_2Se

D. H_2O

Answer: D



Watch Video Solution

85. Which one statement about sulphur dioxide gas is INCORRECT

?

A. It has an angular shape

B. it decolourises acidified potassium permanganate solution

C. Two S-O bonds are equal

D. It is a dehydrating agent

Answer: D

 [Watch Video Solution](#)

86. Sulphur in +3 oxidation state is present in

- A. Sulphurous acid
- B. Pyrosulphuric acid
- C. Dithionous acid
- D. Thiosulphuric acid

Answer: C

 [Watch Video Solution](#)

87. Sulphuric acid reacts with PCl_5 to give

- A. Thionyl chloride
- B. Sulphur monochloride
- C. Sulphuryl chloride
- D. Sulphur tetrchloride

Answer: C

 [Watch Video Solution](#)

88. Aqueous solutions of hydrogen sulphide and sulphur dioxide when mixed together , yeild _____.

- A. Sulphur and water
- B. Sulphur trioxide and water
- C. Hydrogen peroxide and sulphur
- D. Hydrogen and sulphurous acid

Answer: A

 [Watch Video Solution](#)

89. An example of a natural oxide is

A. NO

B. CO_2

C. CaO

D. ZnO

Answer: A

 [Watch Video Solution](#)

90. In the manufacture of sulphuric acid by contact process,

Tyndall box is used to

- A. Filter dust particles
- B. Remove impurities
- C. Convert SO_2 to SO_3
- D. Test the presence of dust particles

Answer: D

 [Watch Video Solution](#)

91. Which of the following statements regarding ozone is not correct

- A. The ozone molecule is angular in shape

- B. The ozone is resonance hybrid of two structures
- C. The oxygen- oxygen bond length in ozone is identical with that of molecular oxygen
- D. Ozone is used as a germicides and disinfectant for the purification of air

Answer: C

 [Watch Video Solution](#)

92. Sulphan' is

- A. A mixture of SO_3 and H_2SO_5
- B. 100 % conc. H_2SO_4
- C. A mixture of gypsum and conc. H_2SO_4
- D. 100 % oleum (a mixture of 100 % SO_3 in 100 % H_2SO_4)

Answer: D

 [Watch Video Solution](#)

93. In $SOCl_2$, the Cl-S-Cl and Cl-S-O bond angles are

A. 130° and 115°

B. 106° and 96°

C. 107° and 108°

D. 96° and 106°

Answer: D

 [Watch Video Solution](#)

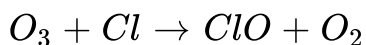
94. Which one of the following does not produce O_2 as the only gaseous product on heating

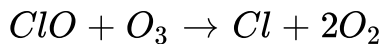
- A. Lead nitrate
- B. Potassium chlorate
- C. Mercuric oxide
- D. Potassium nitrate

Answer: A

 [Watch Video Solution](#)

95. Consider the proposed mechanism for the destruction of ozone in the stratosphere





Which of the statements about the mechanism is/are correct

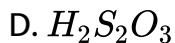
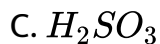
- A. Cl is catalyst
- B. O_2 is in intermediate
- C. Equal amounts of Cl and ClO are present at any time
- D. The number of moles of O_2 produced equals the number of moles of O_3 consumed

Answer: A::C

 [Watch Video Solution](#)

96. $\text{SO}_2 + \text{H}_2\text{S} \rightarrow$ Product. The final product is

- A. $\text{H}_2\text{O} + \text{S}$
- B. H_2SO_4



Answer: A

 [Watch Video Solution](#)

97. α and β forms of sulphur are at equilibrium at a temperature known as

A. Critical temperature

B. Transition temperature

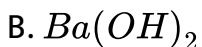
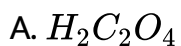
C. Boyle's temperature

D. Inversion temperature

Answer: B

 [Watch Video Solution](#)

98. H_2SO_4 acts as dehydrating agent in its reaction with

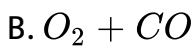
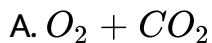


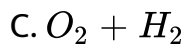
Answer: A



Watch Video Solution

99. Which of the following gas is used in artificial respiration



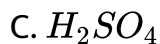


D. All of these

Answer: A

 [Watch Video Solution](#)

100. Which of the following acts as pickling agent ?



Answer: C

 [Watch Video Solution](#)

101. H_2S is not a/an

- A. Reducing agent
- B. Acidic
- C. Oxidising agent
- D. None of these

Answer: C

 [Watch Video Solution](#)

102. In presence of moisture, SO_2 can

- A. Acts as oxidant
- B. Lose electron

C. Gain electron

D. Not act as reductant

Answer: B

 [Watch Video Solution](#)

103. The final acid obtained during the manufacturing of H_2SO_4 by contact process is

A. H_2SO_4 (conc.)

B. H_2SO_4 (dil)

C. H_2SO_4

D. $H_2S_2O_7$

Answer: D

 [Watch Video Solution](#)

104. Ozone depleton due to the fomation of following compound in Antarctica

- A. Acrolein
- B. Peroxy acetyl nitrate
- C. SO_2 and SO_3
- D. Chlorine nitrate

Answer: D

 Watch Video Solution

105. Which of the following statement is tre about ozone layer?

- A. It is harmful because ozone is dangerous to living organism

B. It is beneficial because oxidation reaction can proceed faster in the presence of ozone

C. It is beneficial because ozone cuts out the ultraviolet radiations of the sun

D. It is harmful because ozone cuts out the important radiations of the sun which are vital for photosynthesis

Answer: C



Watch Video Solution

106. A salt of sulphures acid is called

A. Sulphate

B. Sulphurate

C. Sulphite

D. Sulphide

Answer: C

 [Watch Video Solution](#)

107. Among the hydrides formed by the group VI-A elements, only H_2O has an abnormally low volatility (high boiling point). This is so because

- A. H_2O molecules are associated due to intermolecular hydrogen bond
- B. H_2O is covalent in nature
- C. The O-H bond in H_2O is very strong
- D. The electronegativity difference of H and O is very large

Answer: A



Watch Video Solution

108. Name the gas that can readily decolourise acidified $KMnO_4$

solution:

A. SO_2

B. NO_2

C. P_2O_5

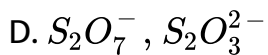
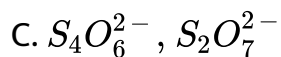
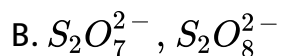
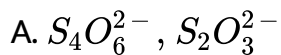
D. CO_2

Answer: A



Watch Video Solution

109. In which pair of ions both the species contains $S - S$ bond?



Answer: A

 [Watch Video Solution](#)

Ordinary thinking (Halogen family)

1. Chlorine is used in water for

A. Killing germs

B. Prevention of pollution

C. Cleansing

D. Removing dirt

Answer: A

 [Watch Video Solution](#)

2. Bromine is liberated when aqueous solution of potassium bromide is treated with

A. Cl

B. I_2

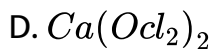
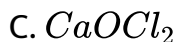
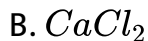
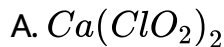
C. Dilute H_2SO_4

D. SO_2

Answer: A

 [Watch Video Solution](#)

3. When chlorine is passed over dry slaked lime at room temperature, the main reaction product is

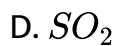
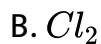


Answer: C

 [Watch Video Solution](#)

4. In the manufacture of bromine from sea water the mother liquor containing bromide is treated with



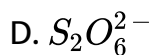


Answer: B



Watch Video Solution

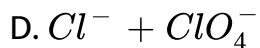
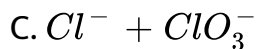
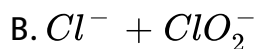
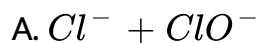
5. When thiosulphate ion is oxidised by iodine. which one of the following ion is produced ?



Answer: C

 [Watch Video Solution](#)

6. When chlorine reacts with cold and dilute solution of sodium hydroxide, the products obtained are



Answer: A

 [Watch Video Solution](#)

7. A one litre flask is full of brown bromine vapours. The intensity of brown colour of vapour will not decrease appreciably on adding to the flask some.

- A. Pieces of marble
- B. Carbon disulphate
- C. Carbon tetrachloride
- D. Animal charcoal powder

Answer: A

 [Watch Video Solution](#)

8. Which of the following is used in the preparation of chlorine?

- A. Only MnO_2

B. Only $KMnO_4$

C. Both MnO_2 and $KMnO_4$

D. Either MnO_2 or $KMnO_4$

Answer: C

 [Watch Video Solution](#)

9. Which of the following is prepared by electrolytic method

A. Ge

B. Sn

C. S

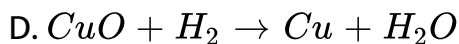
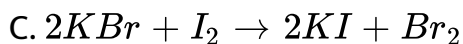
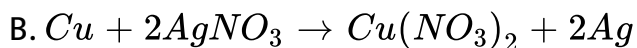
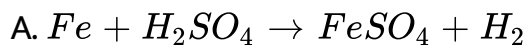
D. F_2

Answer: D



[View Text Solution](#)

10. Which of the following will not occur



Answer: C



[Watch Video Solution](#)

11. Which of the following statements is not true



B. Among halide ions, iodide is the most powerful reducing agent

C. Fluorine is the only halogen that does not show a variable oxidation state

D. HOCl is a stronger acid than HOBr

Answer: A

 [Watch Video Solution](#)

12. Which one of the following oxides is expected to exhibit paramagnetic behaviour?

A. CO_2

B. SO_2

C. ClO_2

D. SiO_2

Answer: C

 [Watch Video Solution](#)

13. Which one of the following orders is not in accordance with the property stated against it ?

A. $F_2 > Cl_2 > Br_2 > I_2$: Electronegativity

B. $F_2 > Cl_2 > Br_2 > I_2$: Bond dissociation energy

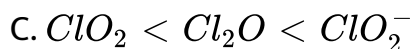
C. $F_2 > Cl_2 > Br_2 > I_2$: Oxidizing power

D. $HI > HBr > HCl > HF$: Acidic property in water

Answer: B

 [Watch Video Solution](#)

14. The correct order of increasing bond angle in the following species is

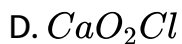
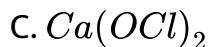
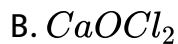


Answer: A

 [Watch Video Solution](#)

15. Which one of the following is present as an active ingredient in bleaching powder for bleaching action?



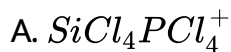


Answer: C

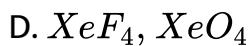
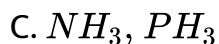


Watch Video Solution

16. In which of the following pairs, both the species are not isostructural?



B. Diamond, silicon carbide



Answer: D

 [Watch Video Solution](#)

17. In which of the following options the order arrangement does not agree with the variation of property indicated against it?

A. $Al^{3+} < Mg^{2+} < Na^+ < F^-$ (increasing ionic size)

B. $B < C < N < O$ (increasing first ionization enthalpy)

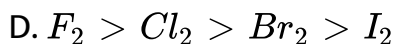
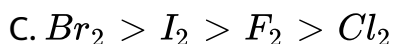
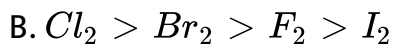
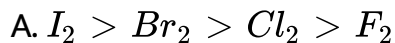
C. $I < Br < Cl < F$ (Increasing electron gain enthalpy)

D. $Li < Na < K < Rb$ (increasing metallic radius)

Answer: B::C

 [Watch Video Solution](#)

18. Which one of the following orders is correct for the bond dissociation enthalpy of halogen molecules?



Answer: B

 [Watch Video Solution](#)

19. Match the compounds given in column I with the hybridisation and shape given in column II and mark the correct option



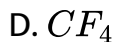
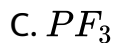
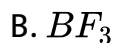
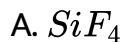
- A. (A) (B) (C) (D)
(i) (iii) (iv) (ii)
- B. (A) (B) (C) (D)
(i) (ii) (iv) (iii)
- C. (A) (B) (C) (D)
(iv) (iii) (i) (ii)
- D. (A) (B) (C) (D)
(iv) (i) (ii) (iii)

Answer: A



[View Text Solution](#)

20. Which of the of the following fluoro -compouds is most likely to beahve as a Lewis base?



Answer: C

 [Watch Video Solution](#)

21. Among the following ,which one is the wrong statement

- A. I_3^+ has bent geometry
- B. PH_5 and $BiCl_5$ do not exist
- C. $p\pi - d\pi$ bonds are present in SO_2
- D. SeF_4 and CH_4 have same shape

Answer: D

 [Watch Video Solution](#)

22. Which one is the highest melting halide ?

A. NaCl

B. NaBr

C. NaF

D. NaI

Answer: C



Watch Video Solution

23. Which of the following hydrogen halide has the highest boiling point?

A. HF

B. HCl

C. HBr

D. HI

Answer: A

 [Watch Video Solution](#)

24. Which of the following halogen does not exhibit positive oxidation state in its compounds?

A. Cl

B. Br

C. I

D. F

Answer: D

 [Watch Video Solution](#)

25. Which compound is the most volatile in nature.

A. HF

B. HCl

C. HBr

D. HI

Answer: B



[View Text Solution](#)

26. Which one below is a pseudohalide

A. CN^-

B. ICl

C. IF_5

D. I_3^-

Answer: A

 [Watch Video Solution](#)

27. The above answer is correct because the chosen halide has

A. Minimum ionic character

B. Maximum ionic character

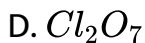
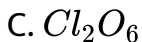
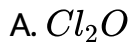
C. Highest oxidising power

D. Lowest polarity

Answer: B

 [View Text Solution](#)

28. Which one is the anhydride of $HClO_4$?



Answer: D



[Watch Video Solution](#)

29. Unlike other halogens Fluorine does not show higher oxidation states because

A. It is highly electronegative

B. It has no d-orbitals

C. Its atomic radius is very small

D. The F^- ion is stable and isoelectronic with neon

Answer: B

 [Watch Video Solution](#)

30. The type of bonding in HCl molecule is

A. Pure covalent

B. Polar covalent

C. Highly covalent

D. H-bonding

Answer: B

 [Watch Video Solution](#)

31. Metal halide which is insoluble in water is

A. AgI

B. KBr

C. $CaCl_2$

D. AgF

Answer: A



Watch Video Solution

32. The mixture of concentrated HCl and HNO_3 made in 3:1 ratio contains

A. ClO_2

B. NOCl

C. NCl_3

D. N_2O_4

Answer: B

 [Watch Video Solution](#)

33. Which two of the following are used for preparing iodised salt?

(i) KIO_3 (ii) KI (iii) I_2 (iv) HI

A. (i) and (ii)

B. (i) and (iii)

C. (ii) and (iv)

D. (iii) and (iv)

Answer: A

 [Watch Video Solution](#)

34. Tincture of iodine is

- A. Aqueous solution of I_2
- B. Solution of I_2 in aqueous KI
- C. Alcoholic solution of I_2
- D. Aqueous solution of KI

Answer: C

 [Watch Video Solution](#)

35. Deacon's process is used in the manufacture of _____.

- A. Bleaching powder
- B. Sulphuric acid

C. Nitric acid

D. Chlorine

Answer: D



Watch Video Solution

36. mark the element which displaces three halogens from their compounds

A. F

B. Cl

C. Br

D. I

Answer: A



Watch Video Solution

37. Mark the element which shows only one oxidation state in its compounds

A. F

B. Cl

C. Br

D. I

Answer: A



Watch Video Solution

38. Fluorine reacts with water to give :

A. HF and O_2

B. HF and OF_2

C. HF and O_3

D. HF, O_2 and O_3

Answer: D

 [Watch Video Solution](#)

39. Chlorine was discovered by

A. Davy

B. Priestley

C. Rutherford

D. Sheele

Answer: A

 [Watch Video Solution](#)

40. Iodine dissolves readily in

- A. Water
- B. Potassium iodide
- C. Carbon tetrachloride
- D. Alcohol

Answer: B

 [Watch Video Solution](#)

41. Which of the following statements is correct

- A. Only chlorine and bromine form oxy acids

- B. All halogens form oxy acids
- C. All halogens except fluorine form oxy acids
- D. Only iodine form oxy acids.

Answer: C

 [Watch Video Solution](#)

42. Which of the following molecule is theoretically not possible ?

- A. OF_4
- B. OF_2
- C. SF_4
- D. O_2F_2

Answer: A

 Watch Video Solution

43. Which of the following has least bond angle?

A. H_2O

B. HCl

C. HBr

D. HI

Answer: D

 Watch Video Solution

44. I^{131} is used for the treatment of

A. Thyroid disorders

B. Skin disorders

C. Brain tumour

D. Kidney stones

Answer: A



Watch Video Solution

45. A salt which on heating with conc. H_2SO_4 gives violet vapours is

A. Iodide

B. Nitrate

C. Sulphate

D. Bromide

Answer: A

 [Watch Video Solution](#)

46. Chlorine gas is dried over :

A. CaO

B. NaOH

C. KOH

D. conc. H_2SO_4

Answer: D

 [Watch Video Solution](#)

47. In the preparation of chlorine from HCl , MnO_2 acts as

- A. Oxidizing agent
- B. Reducing agent
- C. Catalytic agent
- D. Dehydrating agent

Answer: A

 [Watch Video Solution](#)

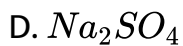
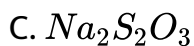
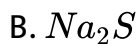
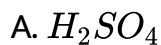
48. Sodium chloride when heated with conc. H_2SO_4 and solid potassium dichromate gives

- A. Chromium chloride
- B. Chromyl chloride
- C. Chromous chloride
- D. None of these

Answer: B

 [Watch Video Solution](#)

49. Colour of iodine solution is disappeared by shaking it with aqueous solution of



Answer: C

 [Watch Video Solution](#)

50. Sea weed is employed as a source of manufacture of

A. F

B. I

C. Br

D. Cl

Answer: B



[Watch Video Solution](#)

51. Which of the following has greatest reducing power?

A. HI

B. HBr

C. HCl

D. HF

Answer: A



Watch Video Solution

52. Mark the smallest atom

A. F

B. Cl

C. Br

D. I

Answer: A



Watch Video Solution

53. Bromine is obtained on commercial scale from

- A. Caliche
- B. Carnellite
- C. Common salt
- D. Cryolite

Answer: B



[Watch Video Solution](#)

54. Which of the following is correct –

- A. Iodine is a solid
- B. Chlorine is insoluble in water
- C. Iodine is more reactive than bromine

D. Bromine is more reactive than chlorine

Answer: A

 [Watch Video Solution](#)

55. Phosgene is the common name of

- A. Carbonyl chloride
- B. Phosphine
- C. Phosphorus oxychloride
- D. phosphorus trichloride

Answer: A

 [Watch Video Solution](#)

56. The solubility of iodine in water increases in the presence of

- A. Alcohol
- B. Chloroform
- C. Sodium hydroxide
- D. Potassium iodide

Answer: D



Watch Video Solution

57. Bromine gas turns starch iodide paper

- A. Blue
- B. Red
- C. Colourless

D. Yellow

Answer: A

 [Watch Video Solution](#)

58. Br^- is converted into Br_2 by using

A. Cl_2

B. conc. HCl

C. HBr

D. H_2S

Answer: A

 [Watch Video Solution](#)

59. Euchlorine is a mixture of

- A. Cl_2 and SO_2
- B. Cl_2 and ClO_2
- C. Cl_2 and CO
- D. None of these

Answer: B



[Watch Video Solution](#)

60. chlorine can be manufacturing from

- A. Electrolysis of NaCl
- B. Electrolysis of brine
- C. Electrolysis of bleaching powder

D. All of these

Answer: B

 [Watch Video Solution](#)

61. Which of the following halogen oxides is ionic?

A. ClO_2

B. BrO_2

C. I_2O_5

D. I_4O_9

Answer: D

 [Watch Video Solution](#)

62. Mark the strongest acid

A. HF

B. HCl

C. HBr

D. HI

Answer: D



[Watch Video Solution](#)

63. Which of the following arrangement for the three halogens Cl, Br and I when placed in the order of their increasing electron affinity is correct ?

A. Cl,Br, I

B. I,Br,Cl

C. Br,Cl,I

D. I,Cl,Br

Answer: B

 [Watch Video Solution](#)

64. Which has the highest molar heat of vaporisation?

A. HF

B. HCl

C. HBr

D. HI

Answer: D

 [Watch Video Solution](#)

65. Which of the following condition is used to find atomic Cl_2 from molecular Cl_2 ?

- A. High temperature, high pressure
- B. Low temperature, high pressure
- C. High temperature, low pressure
- D. Low temperature, low pressure

Answer: C

 [Watch Video Solution](#)

66. When iodine is passed through aqueous solutions of NaF, NaBr and NaCl

- A. It gives mixture of F_2 , Cl_2 and Br_2

B. It gives chlorine

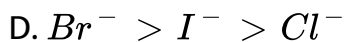
C. It gives bromine

D. None of these

Answer: D

 [Watch Video Solution](#)

67. Among Cl^- , Br^- , I^- , the correct order for being oxidised to dihalogen is



Answer: C

 [Watch Video Solution](#)

68. On heating $KClO_3$ we get :

A. Cl_2O

B. ClO_2

C. ClO_3

D. Cl_2O_7

Answer: B

 [Watch Video Solution](#)

69. Which is formed when fluorine react with hot and concentract sodium hydroxide?



Answer: A



Watch Video Solution

70. In K solution, I_2 readily dissolved and forms





Answer: D

 [Watch Video Solution](#)

71. When I_2 is passed through KCl, KF and KBr solutions

A. Cl_2 and Br_2 are evolved

B. Cl_2 is evolved

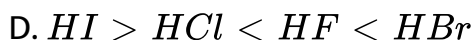
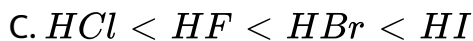
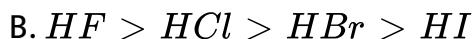
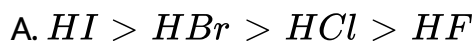
C. Cl_2 , Br_2 and F_2 are evolved

D. None of the above

Answer: D

 [Watch Video Solution](#)

72. The correct order of the thermal stability of hydrogen halides ($H - X$) is



Answer: B

 [Watch Video Solution](#)

73. A gas reacts with CaO , but not with $NaHCO_3$. The gas is



C. N_2

D. O_2

Answer: B

 [Watch Video Solution](#)

74. When chlorine water is exposed to sunlight, O_2 is liberated.

Hence

A. Hydrogen has little affinity to O_2

B. Hydrogen has more affinity to O_2

C. hydrogen has more affinity to Cl_2

D. it is a reducing agent

Answer: C

 [Watch Video Solution](#)

75. When cold $NaOH$ reacts with Cl_2 which of the following is formed

A. $NaClO$

B. $NaClO_2$

C. $NaClO_3$

D. None of these

Answer: A

 Watch Video Solution

76. Hydrogens bonding does not play any role in boiling of

A. NH_3

B. H_2O

C. Hl

D. C_2H_5OH

Answer: C



Watch Video Solution

77. When I_2 is dissolved in CCl_4 , the colour that results is

A. Brown

B. Violet

C. Colourless

D. Bluish green

Answer: B

 Watch Video Solution

78. Beilstein test is used for

A. N_2

B. Cl

C. Na

D. CO_2

Answer: B

 Watch Video Solution

79. Bromine water reacts with SO_2 to form

A. H_2O and HBr

B. H_2SO_4 and HBr

C. HBr and S

D. S and H_2O

Answer: B



[Watch Video Solution](#)

80. Cl_2 reacts with CS_2 in presence of I_2 catalyst to form

A. $CHCl_3$

B. CCl_4

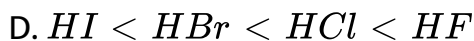
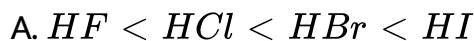
C. C_2H_5Cl

D. C_2H_6

Answer: B

 Watch Video Solution

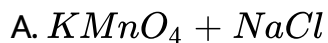
81. The correct order of acidic strength is

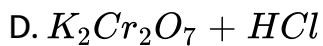
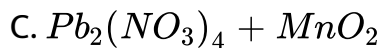
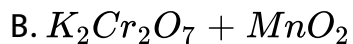


Answer: A

 Watch Video Solution

82. Chlorine is liberated, when we heat





Answer: D



Watch Video Solution

83. which of the following halogen is solid at room temperture?

A. Chlorine

B. Iodine

C. Bromine

D. Fluorine

Answer: B

 Watch Video Solution

84. Bleaching powder is obtained by treating chlorine with

A. CaO

B. CaCO_3

C. CaSO_4

D. $\text{Ca}(\text{OH})_2$

Answer: D

 Watch Video Solution

85. Least volatile hydrogen halide is

A. HF

B. HCl

C. HI

D. HBr

Answer: A



Watch Video Solution

86. Fluorine is a stronger oxidising agent than chlorine in aqueous solution. This is attributed to many factors except

A. Heat of dissociation

B. Electron affinity

C. heat of hydration

D. ionisation potential

Answer: B

 [Watch Video Solution](#)

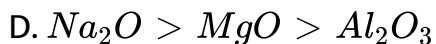
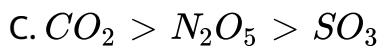
87. When KBr is treated with concentrated H_2SO_4 reddish brown gas evolved, gas is

- A. Mixture of bromine and HBr
- B. HBr
- C. Bromine
- D. None of these

Answer: C

 [Watch Video Solution](#)

88. The correct order of acidic strength is

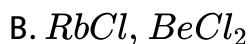
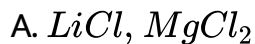


Answer: A



Watch Video Solution

89. Amongst $LiCl$, $RbCl$, $BeCl_2$ and $MgCl_2$, the compounds with the greatest and the least ionic character respectively are :



C. $RbCl$, $MgCl_2$

D. $MgCl_2$, $BeCl_2$

Answer: B

 [Watch Video Solution](#)

90. The effective component of bleaching powder is....of calcium

A. Chlorine

B. bromine

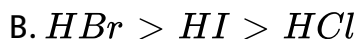
C. aluminium

D. calcium

Answer: A

 [Watch Video Solution](#)

91. The correct order of ease of cleavage of ether linkage by hydrogen halide follows :



Answer: A

 [Watch Video Solution](#)

92. Cl_2O is best prepared by passing dry

A. chlorine gas over hot HgO

B. Chlorine and oxygen gas over hog pt catalyst

C. hydrogen chloride and oxygen over silver oxide

D. chlorine over hot silver chlorate

Answer: a

 [Watch Video Solution](#)

93. Which of the hydrogen halides forms salts like KHX_2 (where X is a halogen atom)

A. HF

B. HCl

C. HI

D. HBr

Answer: A

 [Watch Video Solution](#)

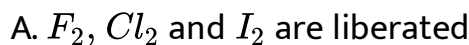
94. Which of the following is not a green house gas?



Answer: D

 Watch Video Solution

95. When Br_2 is treated with aqueous solutions of NaF, NaCl and NaI separately



B. Only F_2 and Cl_2 are liberated

C. Only I_2 is liberated

D. Only Cl_2 is liberated

Answer: C



[Watch Video Solution](#)

96. The least active halogen with hydrogen is

A. Cl

B. I

C. Br

D. F

Answer: B

 Watch Video Solution

97. When fluoride is heated with conc. H_2SO_4 and MnO_2 the gas evolved is

- A. F_2
- B. SF
- C. HF
- D. None

Answer: C

 Watch Video Solution

98. Of the following acids, the one that is strongest is

- A. $HBrO_4$

B. HOCl

C. HNO_2

D. H_3PO_3

Answer: A

 [Watch Video Solution](#)

99. Fluorine is a better oxidising agent than Br_2 . It is due to

A. Small size of fluorine

B. more electron repulsion in fluorine

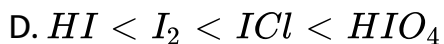
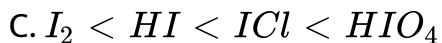
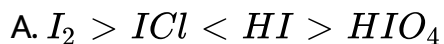
C. more electronegativity of fluorine

D. more electronegativity of fluorine

Answer: C

 Watch Video Solution

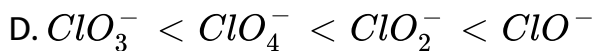
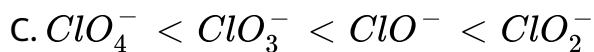
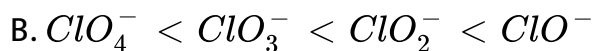
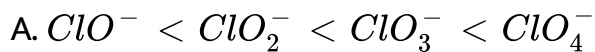
100. Which of the following sequence is correct with reference to the oxidation number of iodine?



Answer: D

 Watch Video Solution

101. The correct order of increasing hydration energy of the following conjugate bases of oxoacids of chlorine is



Answer: A

 [Watch Video Solution](#)

102. Which one of the halogen acid is a liquid?

A. HF

B. HCl

C. HBr

D. HI

Answer: A

 [Watch Video Solution](#)

103. Which one of the following acids is the weakest?

A. HClO

B. HBr

C. HClO_3

D. HCl

Answer: A

 [Watch Video Solution](#)

104. Which of the following represent represent clear electropositive properties

A. F

B. Cl

C. Br

D. I

Answer: D



[Watch Video Solution](#)

105. In dark, which of the following reacts with hydrogen

A. Br_2

B. F_2

C. I_2

D. Cl_2

Answer: B

 [Watch Video Solution](#)

106. Bad conductor of electricity is

A. H_2F_2

B. HCl

C. HBr

D. Hl

Answer: A

 [Watch Video Solution](#)

107. Chlorine cannot be used

- A. As bleaching agent
- B. In sterilization
- C. In preparation of antiseptic
- D. For extraciton of silver and copper

Answer: D



Watch Video Solution

108. KI when heated with conc. H_2SO_4 , it forms

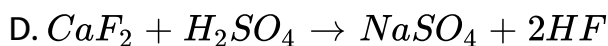
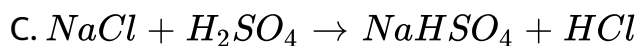
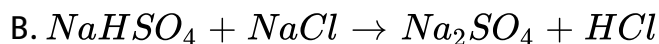
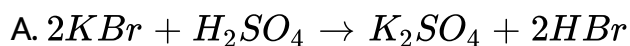
- A. HI
- B. I_2



Answer: B

 [Watch Video Solution](#)

109. Which reaction cannot be used for the preparation of the halogen acid ?



Answer: A

 [Watch Video Solution](#)

110. The more activeness of fluorine is due to

- A. F-F bond has less energy
- B. F_2 is gas at normal temperature
- C. Its electron affinity is maximum
- D. F-F bond has more energy

Answer: A

 Watch Video Solution

111. Nitric acid converts iodine into

- A. Iodic acid
- B. Hydroiodic acid

C. Iodine nitrate

D. Iodine pentoxide

Answer: A

 [Watch Video Solution](#)

112. As the atomic number of halogens increases. The halogens

A. Lose the outermost electrons less readily

B. Become lighter in colour

C. Become less denser

D. Gain electrons less readily

Answer: D

 [Watch Video Solution](#)

113. Element that liberates oxygen gas from water is

A. P

B. Na

C. F

D. I

Answer: C



Watch Video Solution

114. The bleaching action of the bleaching powder is due to the liberation of

A. Chlorine

B. Molecular oxygen

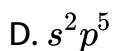
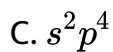
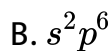
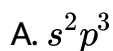
C. Nascent oxygen

D. Calcium carbonate

Answer: C

 [Watch Video Solution](#)

115. Which of the following represents outermost shell electronic configuration of halogens



Answer: D

 [Watch Video Solution](#)

116. Which of the following properties increases on going down from F to I in Group VII-A of the periodic table

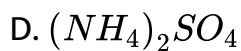
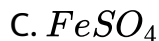
- A. Electronegativity
- B. volatile nature
- C. ionic radius
- D. oxidizing power

Answer: C

 Watch Video Solution

117. Iodine is formed when potassium iodide reacts with:

- A. $ZnSO_4$



Answer: B



[Watch Video Solution](#)

118. For which one of the following properties of halogens the sequence $F > Cl > Br > I$ holds good

A. Electron affinity

B. Electronegativity

C. Atomic radius

D. Boiling point

Answer: B



Watch Video Solution

119. Which of the following non-metals is a liquid?

- A. Bromine
- B. Carbon
- C. Phosphorus
- D. Sulphur

Answer: A



Watch Video Solution

120. Which one of the followign is the most basic ?

A. I

B. Br

C. Cl

D. F

Answer: A



Watch Video Solution

121. Which can do glass etching ?

A. HIO_4

B. SiF_4

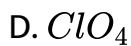
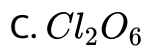
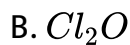
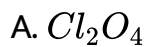
C. HF

D. HNO_3

Answer: C

 [Watch Video Solution](#)

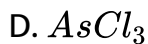
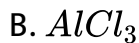
122. ClO_2 reacts with O_2 to give



Answer: C

 [Watch Video Solution](#)

123. Which of the following is a Lewis acid?

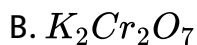


Answer: B



Watch Video Solution

124. Which of the following after reacting with KI do not remove iodine



Answer: D

 [Watch Video Solution](#)

125. Aqueous solution of which of the following acids cannot be kept in a bottle of glass

- A. HF
- B. HCl
- C. HBr
- D. HI

Answer: A

 [Watch Video Solution](#)

126. Chlorine can remove

- A. Br from NaBr solution
- B. F from NaF solution
- C. Cl from NaCl solution
- D. F from CaF_2 solution

Answer: A



[Watch Video Solution](#)

127. Which statement is false

- A. Electronegativity of fluorine is maximum
- B. electron affinity of fluorine is maximum
- C. melting point of fluorine is minimum

D. boiling point of fluorine is maximum

Answer: B::D

 [Watch Video Solution](#)

128. Which of the following pairs is not correctly matched

- A. A halogen which is liquid at room temperature -Bromine
- B. The most electronegative element - Fluorine
- C. The most reactive halogen - Fluorine
- D. The strongest oxidizing halogen - Iodine

Answer: D

 [Watch Video Solution](#)

129. Which of the following oxidizes H_2O to oxygen?

A. Chlorine

B. Fluorine

C. Bromine

D. Iodine

Answer: B



[Watch Video Solution](#)

130. Chlorine cannot displace

A. Fluorine from NaF

B. Iodine from NaI

C. Bromine from NaBr

D. None of these

Answer: A

 [Watch Video Solution](#)

131. Which of the following halogens does not form its oxyacids ?

A. Fluorine

B. Chlorine

C. Bromine

D. Iodine

Answer: A

 [Watch Video Solution](#)

132. Which of the following chemical contains chlorine

- A. Fischer salt
- B. Epsom salt
- C. Fremy's salt
- D. Spirit of salt

Answer: D



Watch Video Solution

133. Which statement is not true

- A. $Ni(CO_4)$ is diamagnetic
- B. BI_3 is stronger lewis acid than BF_3
- C. Graphite conducts electricity whereas diamond does not

D. $C\text{Cl}_4$ is hydrolysed whereas $B\text{Cl}_3$ is inert

Answer: D

 [Watch Video Solution](#)

134. What is the product obtained in the reaction of HgCl_2 and $\text{Hg}(\text{CN})_2$?

A. $(\text{CN})_2$

B. Addition compound $\text{HgCl}_2, \text{Hg}(\text{CN})_2$

C. $\text{Hg}(\text{CN})\text{Cl}$

D. $\text{Hg}[\text{Hg}(\text{CN})_2\text{Cl}_2]$

Answer: B

 [Watch Video Solution](#)

135. Which of the following has least bond dissociation energy ?

A. Cl-Cl

B. F-F

C. Br-Br

D. I-I

Answer: D



Watch Video Solution

136. HI cannot be prepared by the action of conc. H_2SO_4 on KI because

A. HI is stronger than H_2SO_4

B. HI is more volatile than H_2SO_4

C. H_2SO_4 is an oxidizing agent

D. H_2SO_4 forms complex

Answer: C

 [Watch Video Solution](#)

137. The element which never acts as reducing agent in a chemical reaction is

A. O

B. Li

C. F

D. C

Answer: C

 [Watch Video Solution](#)

138. the bleaching action of chlorine is due to

- A. Oxidation
- B. Reduction
- C. Hydrolysis
- D. Its acidic nature

Answer: A

 Watch Video Solution

139. White enamel of our teeth is

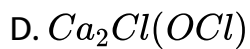
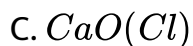
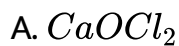
- A. $Ca_3(PO_4)_2$
- B. CaF_2



Answer: B

 [Watch Video Solution](#)

140. Bleaching powder is represented as



Answer: D

 [Watch Video Solution](#)

141. NaOCl is used as a bleaching agent and sterllising agent. It can be synthesised by the action of

- A. NaCl with H_2O
- B. NH_4Cl with NaOH
- C. Cl_2 with cold and dilute NaOH
- D. Cl_2 with hot and concentrated NaOH

Answer: C

 [Watch Video Solution](#)

142. Which of the following chloride is water insoluble

- A. HCl
- B. AgCl

C. Both (a) and (b)

D. None of these

Answer: B

 [Watch Video Solution](#)

143. What products are expected from the desproprtination reactin of hypochorous acid ?

A. $HClO_3$ and Cl_2O

B. $HClO_2$ and $HClO_4$

C. HCl and Cl_2O

D. HCl and $HClO_3$

Answer: D



144. Identify the incorrect statement among the following

A. Ozone reacts with SO_2 to give SO_3

B. Silicon reacts with $NaOH_{(aq)}$ in the presence of air to give
 Na_2SiO_3 and H_2O

C. Cl_2 reacts with excess of NH_3 to give N_2 and HCl

D. Br_2 react with hot and strong NaOH solution to give NaBr,
 $NaBrO_4$ and H_2O

Answer: D



Watch Video Solution

145. With cold and dilute sodium hydroxide fluorine reacts to give

A. NaF and OF_2

B. $NaF + O_3$

C. O_2 and O_3

D. $NaF + O_2$

Answer: A

 [Watch Video Solution](#)

146. To purify fluorine gas, fumes of HF are removed by

A. Solid NaF

B. H_2 gas

C. Solid KHF_2

D. None of these

Answer: A

 [Watch Video Solution](#)

147. Which is not oxidized by MnO_2

A. F

B. Cl

C. I_2

D. I

Answer: A

 [Watch Video Solution](#)

148. The reaction of the type $2X_2 + S \rightarrow SX_4$ is shown by sulphur when X is

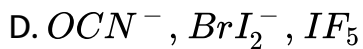
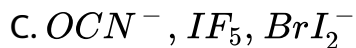
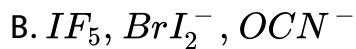
- A. Fluorine or chlorine
- B. Chlorine only
- C. Chlorine and bromine only
- D. F, Cl, Br all

Answer: A

 [Watch Video Solution](#)

149. The correct order of pseudohalide, polyhalide and interhalogen are

- A. BrI_2^- , OCN^- , IF_5

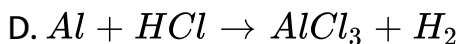
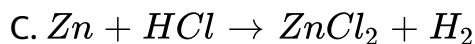
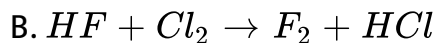
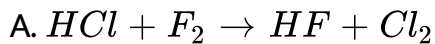


Answer: D



[View Text Solution](#)

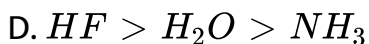
150. Which reaction is not valid



Answer: B

 Watch Video Solution

151. In which cases, the order of acidic strength is not correct ?

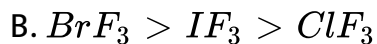


Answer: B

 Watch Video Solution

152. The stability of interhalogen compounds follows the order





Answer: A



Watch Video Solution

153. Bleaching powder loses its power on keeping for a long time because

A. It changes into calcium hypochlorate

B. it change into calcium chloride and calcium hydroxide

C. it absorbs moisture

D. it changes into calcium chloride and calcium chlorate

Answer: D

 [Watch Video Solution](#)

154. Which of the following element is extracted commercially by the electrolysis of an aqueous solution of its compound

- A. Chlorine
- B. Bromine
- C. aluminium
- D. Calcium

Answer: A

 [Watch Video Solution](#)

155. Among the halogens, the one which is oxidised by nitric acid is

- A. Fluorine
- B. Iodine
- C. Aluminium
- D. Bromine

Answer: B

 [Watch Video Solution](#)

156. Chlorine gas reacts with red hot calcium oxide to give

- A. Bleaching powder and dichlorine monoxide
- B. Bleaching powder and water

C. Calcium chloride and chlorine dioxide

D. Calcium chloride and oxygen

Answer: D

 [Watch Video Solution](#)

157. On heating, chloric acid decomposes to

A. $HClO_4$, Cl_2 , O_2 and H_2O

B. $HClO_2$, Cl_2 , O_2 and H_2O

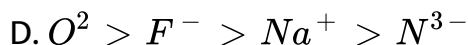
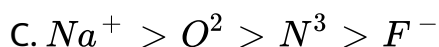
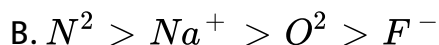
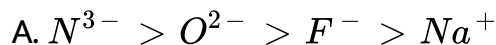
C. $HClO$, Cl_2O and H_2O_2

D. HCl , $HClO$, Cl_2O and H_2O

Answer: A

 [Watch Video Solution](#)

158. For $N^{3-} > O^{2-} > F^{-}$ and Na^{+} , the order in which their ionic radii varies is

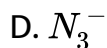


Answer: A

 [Watch Video Solution](#)

159. Which of the following is not a pseudohalide





Answer: A

 [Watch Video Solution](#)

160. If I_2 is dissolved in aqueous KI, the intense yellow species I_3^- is formed. The structure of I_3^- ion is

- A. Square pyramidal
- B. Trigonal bipyramidal
- C. Octahedral
- D. Pentagonal bipyramidal

Answer: B

 [Watch Video Solution](#)

161. on exciting Cl_2 molecule by UV light, we get



D. All

Answer: A

 Watch Video Solution

162. The chief source of iodine in which it is present as sodium iodate is

A. Sea water

B. Caliche

C. Carnallite

D. Iodine never exists as sodium iodate

Answer: B



Watch Video Solution

163. Hydrogen has the tendency to gain one electron to acquire helium configuration, in this respect, it resembles:

A. Halogens

B. Actinides

C. Transition elements

D. Alkali metals

Answer: A

 [Watch Video Solution](#)

164. On heating $NaCl + K_2CrO_7 + conc. H_2SO_4$, the gas comes out is

A. O_2

B. Cl_2

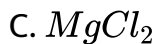
C. $CrOCl_2$

D. CrO_2Cl_2

Answer: D

 [Watch Video Solution](#)

165. The component which forms a dative bond with ammonia



Answer: B



[View Text Solution](#)

166. When Cl_2 gas is passed through hot and conc. solution of KOH, following compound is formed



C. $KClO_2$

D. $KClO_4$

Answer: B

 [Watch Video Solution](#)

167. Which of the following has lowest boiling point

A. HF

B. HCl

C. HBr

D. HI

Answer: B

 [Watch Video Solution](#)

168. Which of the following is isolated in pure form

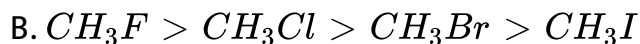
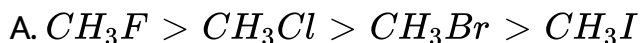


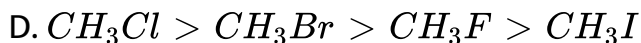
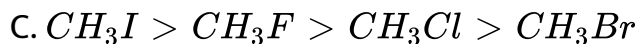
Answer: A



Watch Video Solution

169. Which of the following is the CORRECT order for strength of C-X bond ?





Answer: A

 [Watch Video Solution](#)

170. Chlorine reacts with sodium hydroxide under various conditions to give

- A. Sodium chloride
- B. sodium hypochlorite
- C. sodium chlorate
- D. all of these

Answer: D

 [Watch Video Solution](#)

171. On boiling an aqueous solution of $KClO_3$ with iodine, the following product is obtained



Answer: A

 Watch Video Solution

172. In the isolation of fluorine, a number of different of difficulties were encountered. Which statement is correct

- A. The potential required for the discharge of the fluoride ions is the lowest
- B. Fluorine reacts with most glass vessels
- C. fluorine has great affinity for hydrogen
- D. Electrolysis of aqueous HF gives ozonised oxygen

Answer: A



[View Text Solution](#)

173. A solution of HCl in water is good conductor while gaseous hydrogen chloride is not. This is due to the reason that

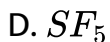
- A. Water is a good conductor of electricity
- B. HCl in water ionises
- C. Gas can not conduct electricity but water can

D. None of these

Answer: B

 [Watch Video Solution](#)

174. The formula of some fluorides are given below. Which of them will combine further with fluorine?



Answer: A

 [Watch Video Solution](#)

175. The compound which is added to table salt for maintaining proper health is

A. KCl

B. KBr

C. NaI

D. $MgBr_2$

Answer: C



[Watch Video Solution](#)

176. Which halogen can be purified by sublimation ?

A. F_2

B. Cl_2

C. Br_2

D. I_2

Answer: D

 [Watch Video Solution](#)

177. The alkali metal halides are soluble in water but LiF is insoluble because

A. It is amphoteric

B. The Li-F bond is highly ionic

C. Its lattice energy is high

D. Li^+ ion is least hydrated

Answer: C

 [Watch Video Solution](#)

178. Match the interhalogen compounds of column-I with the geometry in column II and assign the correct code



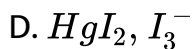
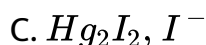
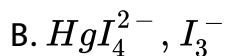
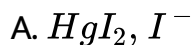
- A. (A) (B) (C) (D)
(iii) (i) (iv) (ii)
- B. (A) (B) (C) (D)
(v) (iv) (iii) (ii)
- C. (A) (B) (C) (D)
(iv) (iii) (ii) (i)
- D. (A) (B) (C) (D)
(iii) (iv) (i) (ii)

Answer: A



View Text Solution

179. $HgCl_2$ and I_2 both when dissolved in water containing I^- ions the pair of species formed is:



Answer: B



Watch Video Solution

180. Which of the following statements is not true for halogens?

A. All do not form monobasic oxyacids

B. all are oxidizing agents

C. all but fluorine show positive oxidation states

D. Chlorine has the highest electron-gain enthalpy

Answer: A

 [Watch Video Solution](#)

Ordinary thinking (Noble gases)

1. The correct geometry and hybridisation for XeF_4 are

A. Square planar, sp^3d^2

B. Octahedral, sp^3d^2

C. Trigonal bipyramidal, sp^3d

D. Planar triangle, sp^3d^3

Answer: A

 [Watch Video Solution](#)

2. Which of the following noble gases is least soluble in water?

A. Xe

B. Ar

C. Ne

D. He

Answer: D

 [Watch Video Solution](#)

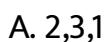
3. The correct order of solubility in water for He, Ne, Ar, Kr, Xe , is



Answer: C

 [Watch Video Solution](#)

4. In XeF_2, XeF_4 , and XeF_6 , the number of lone pairs on Xe is, respectively,



B. 1,2,3

C. 4,1,2

D. 3,2,1

Answer: D

 [Watch Video Solution](#)

5. Among the following molecule

(i) XeO_3 (ii) $XeOF_4$ (iii) XeF_6

Those having same number of lone pairs on Xe are

A. (i) and (ii) only

B. (i) and (iii) only

C. (ii) and (iii) only

D. (i),(ii) and (iii)

Answer: D



Watch Video Solution

6. When electric discharge is passed through neon at low pressure, the colour of the glow is

- A. Red
- B. Green
- C. Yellow
- D. Orange

Answer: A



Watch Video Solution

7. The noble gas which forms maximum number of compound is

A. Ar

B. He

C. Xe

D. Ne

Answer: C



[Watch Video Solution](#)

8. Which of the following gases exist more abundantly in nature than the others

A. Helium

B. Neon

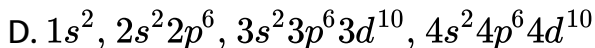
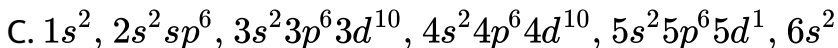
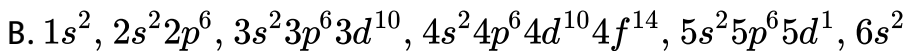
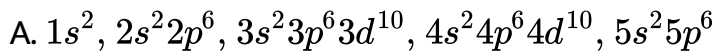
C. Argon

D. Krypton

Answer: C

 [Watch Video Solution](#)

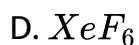
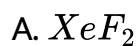
9. Which of the following represents noble gas configuration?



Answer: A

 [Watch Video Solution](#)

10. Which of the following is not obtained by direct reaction of constituent elements



Answer: C



Watch Video Solution

11. Which inert gas has abnormal behaviour in liquefaction



C. Ar

D. Kr

Answer: B

 [Watch Video Solution](#)

12. The last orbit of argon would have electrons

A. 6

B. 2

C. 18

D. 8

Answer: D

 [Watch Video Solution](#)

13. Least chemical activity is shown by

A. Nitrogen

B. Argon

C. Methane

D. Ammonia

Answer: B



Watch Video Solution

14. The electronic configuration of neon is

A. $1s^2, 2s^2 2p^2$

B. $1s^2, 2s^2 2p^6$

C. $1s^2, 2s^2$

D. $1s^2$

Answer: B



[Watch Video Solution](#)

15. The coloured discharge tubes for advertisement mainly contains

A. Argon

B. Neon

C. Helium

D. Xenone

Answer: B



[Watch Video Solution](#)

 [Watch Video Solution](#)

16. Noble gases do not react with other elements because

- A. They have completely paired up and stable electron shells
- B. The sizes of their atoms are very small
- C. Are not found in abundance
- D. Are monoatomic

Answer: A

 [Watch Video Solution](#)

17. Which mineral was used in the isolation of Helium

- A. Lime stone
- B. Pitch blende

C. Rutile

D. Haematite

Answer: B

 [Watch Video Solution](#)

18. Which of the possible following fluorides of xenon is impossible ?



Answer: C

 [Watch Video Solution](#)

 [Watch Video Solution](#)

19. Which of the following is monoatomic?

A. Nitrogen

B. Fluorine

C. Neon

D. Oxygen

Answer: C

 [Watch Video Solution](#)

20. Molecules of a noble gas do not possess vibrational energy because a noble gas

A. Is monoatomic

- B. Is chemically inert
- C. Has completely filled shells
- D. Is diamagnetic

Answer: A

 [Watch Video Solution](#)

21. Among the fluorides below, the one which does not exist is

- A. XeF_4
- B. HeF_4
- C. SF_4
- D. CF_4

Answer: B

 Watch Video Solution

22. Percentage of A_1 in air is about

A. 0.01

B. 0.02

C. 0.03

D. 0.04

Answer: A

 Watch Video Solution

23. Argon was discovered by

A. Rayleigh

B. Frankland and Lockyer

C. Jansen

D. Ramsay

Answer: D



Watch Video Solution

24. Which of the following gases *is / are* called rare gas?

A. Ne

B. He

C. Kr

D. All of these

Answer: D

 Watch Video Solution

25. Which noble gas is more soluble in water ?

A. He

B. Ar

C. Ne

D. Xe

Answer: D

 Watch Video Solution

26. XeF_4 on partial hydrolysis produces

A. XeF_2



Answer: B



[Watch Video Solution](#)

27. Which of the following is an inert gas?



D. Argon

Answer: D

 [Watch Video Solution](#)

28. Noble gases are used in discharge tubes to give different colours. Reddish-orange glow is due to

A. Ar

B. Ne

C. Xe

D. Kr

Answer: B

 [Watch Video Solution](#)

29. Which of the following inert gas liquifies easily

A. Kr

B. He

C. Ne

D. Ar

Answer: A



Watch Video Solution

30. Noble gases are group of elements which exhibit very :

A. High chemical activity

B. Low chemical activity

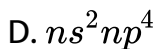
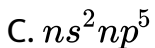
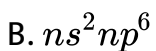
C. Minimum electronegativity

D. Much paramagnetic properties

Answer: B

 Watch Video Solution

31. Which of the following outer electronic configuration represents argon ?



Answer: B

 Watch Video Solution

32. Which of the following has zero valency

A. Sodium

B. Beryllium

C. Aluminium

D. Krypton

Answer: D



Watch Video Solution

33. Which of the following is most polarised

A. Kr

B. He

C. Ar

D. Xe

Answer: D

 [Watch Video Solution](#)

34. Who among the following first prepared a stable compound of noble gas?

A. Rutherford

B. Rayleigh

C. Ramsay

D. Neil Barlett

Answer: D

 [Watch Video Solution](#)

35. Which one of the following noble gases is not found in atmosphere?

A. Rn

B. Kr

C. Ne

D. Ar

Answer: A



Watch Video Solution

36. Helium is added to the oxygen supply used by deep sea divers because

A. It is less soluble in blood than nitrogen at high pressure

B. It is lighter than nitrogen

C. It is readily miscible with oxygen

D. It is less poisonous than nitrogen

Answer: A

 [Watch Video Solution](#)

37. Fluorine forms chemical compounds with

A. He

B. Ne

C. Ar

D. Xe

Answer: D

 [Watch Video Solution](#)

38. Which element out of the He, Ar, Kr and Xe forms least number of compounds ?

A. He

B. Ar

C. Kr

D. Xe

Answer: A



[Watch Video Solution](#)

39. The last member of the family of inert gases is

A. Helium

B. Neon

C. Argon

D. Radon

Answer: D



[Watch Video Solution](#)

40. The forces acting between noble gas atoms are

A. Vander waals forces

B. Ion-dipole forces

C. London dispersion forces

D. Magnetic forces

Answer: A



[Watch Video Solution](#)

41. Which of the following statements is not correct for a noble gas

- A. Ar is used in electric bulbs
- B. Kr is obtained during radioactive disintegration
- C. Half life of Rn is only 3.8 days
- D. He is used producing very low temperature

Answer: B

 [Watch Video Solution](#)

42. Which of the following noble gases does not have an octet of electrons in its outermost shell ?

- A. Neon

B. Radon

C. Argon

D. Helium

Answer: D



Watch Video Solution

43. Gradual addition of electronic shells in the noble gases causes a decrease in their

A. Ionization energy

B. Atomic radius

C. Boiling point

D. Density

Answer: A

 [Watch Video Solution](#)

44. XeF_6 on hydrolysis gives

A. XeO_3

B. XeO

C. XeO_2

D. Xe

Answer: A

 [Watch Video Solution](#)

45. The inert gas producing maximum number of compounds are

A. He and Ne

B. Ar and Ne

C. Kr and Ne

D. Ar and Xe

Answer: D

 [Watch Video Solution](#)

46. From the knowledge of the position of radium in the periodic table, which of the following statements would you expect to be false

A. $RaSO_4$ is insoluble in water

B. $RaSO_4$ is insoluble in HNO_3

C. $RaSO_4$ is a white solid

D. $RaSO_4$ is a colourless liquid

Answer: C



[View Text Solution](#)

47. Which of the following compound cannot be prepared ?



Answer: A



[Watch Video Solution](#)

48. The lightest gas is

A. N_2

B. Ar

C. Rn

D. He

Answer: D



[Watch Video Solution](#)

49. Which one of the following statements regarding helium is incorrect ?

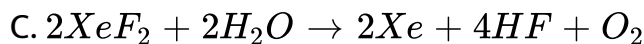
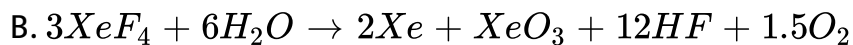
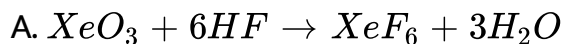
A. It is used to produce and sustain powerful superconducting magnets

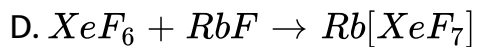
- B. It is used as a cryogenic agent for carrying out experiments at low temperature
- C. It is used to fill gas balloons instead of hydrogen because it is lighter and non-inflammable
- D. It is used in gas-cooled nuclear reactors

Answer: C

 [Watch Video Solution](#)

50. Which one of the following reaction of xenon compounds is not Feasible?





Answer: A

 [Watch Video Solution](#)

51. The oxidation number of xenon in $XeOF_2$ is

A. Zero

B. 2

C. 4

D. 3

Answer: C

 [Watch Video Solution](#)

52. Which of the following is planar?



Answer: D



Watch Video Solution

53. Which of the following has SP^3 hybridization ?

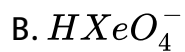




Answer: A

 [Watch Video Solution](#)

54. Perxenate ion is



Answer: A

 [Watch Video Solution](#)

55. Which of the following exhibits the weakest intermolecular forces?

A. He

B. HCl

C. NH_3

D. H_2O

Answer: A



[Watch Video Solution](#)

56. The formation of $O_2^+ [PtF_6]^-$ is the basis for the formation of xenon fluorides. This is because:

A. O_2 and Xe have comparable sizes

B. Both O_2 and Xe are gases

C. O_2 and Xe have comparable ionisation energies

D. O_2 and Xe have comparable electronegativities

Answer: A::C

 [Watch Video Solution](#)

57. Which is the most easily liquifiable rare gas

A. Ar

B. Ne

C. Xe

D. Kr

Answer: C

 [Watch Video Solution](#)

58. Helium is used in balloons in place of hydrogen because it is

- A. Radioactive
- B. More abundant than hydrogen
- C. Incombustible
- D. Lighter than hydrogen

Answer: C



Watch Video Solution

59. Argon is used

- A. To obtain low temperature
- B. In high temperature welding

C. in high temperature for treatment of cancer

D. in filling airships

Answer: B

 [Watch Video Solution](#)

60. Which one has the highest boiling point?

A. Xe

B. Ar

C. Kr

D. He

Answer: A

 [Watch Video Solution](#)

61. Low chemical reactivity of the noble gases can be attributed to their

- A. Being non-metals
- B. Having high ionization energies
- C. being gases
- D. found in nature in small quantities

Answer: B

 [Watch Video Solution](#)

62. Which of the noble gases is most reactive ?

- A. He
- B. Ne

C. Ar

D. Xe

Answer: D



[Watch Video Solution](#)

63. Which of the following is the correct sequence of the noble gases in their in the periodic table ?

A. Ar,He,Kr,Ne,Rn,Xe

B. He,Ar,Ne,Kr,Xe,Rn

C. He,Ne,Ar,Kr,Xe,Rn

D. He,Ne,Kr,Ar,Xe,Rn

Answer: C



[Watch Video Solution](#)

64. What is the geometrical shape of XeO_3

- A. Planar triangular
- B. trigonal pyramidal
- C. square planar
- D. Tetrahedral

Answer: B



Watch Video Solution

65. Which structure for XeO_3 and XeF_4 are consistent with the

VSEPR model

- A. XeO_3 , trigonal pyramidal , XeF_4 , square planar

B. XeO_3 , trigonal planar, XeF_4 square planar

C. XeO_3 trigonal pyramidal , XeF_4 tetrahedral

D. XeO_3 , trigonal planar , XeF_4 tetrahedral

Answer: A

 [Watch Video Solution](#)

66. Which is the lightest gas ?

A. Hydrogen

B. Oxygen

C. Helium

D. Nitrogen

Answer: A

 [Watch Video Solution](#)

67. Helium was discovered by

- A. Crooks
- B. Rutherford
- C. Frankland and lockyer
- D. Dorn

Answer: C

 [Watch Video Solution](#)

68. Nuclear fusion produces

- A. Argon

B. Deuterium

C. Helium

D. Krypton

Answer: C



Watch Video Solution

69. Monazite is source of

A. He

B. Kr

C. Ar

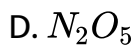
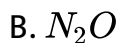
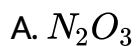
D. Ne

Answer: A

 Watch Video Solution

Critical thinking (Objective Questions)

1. Which of the following oxides of nitrogen is paramagnetic ?



Answer: C

 Watch Video Solution

2. The solubility in water of sulphate down the Be group is



A. High heat of solvation for smaller ions like Be^{2+}

B. Increasing molecular weight

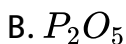
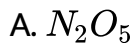
C. Decreasing lattice energy

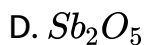
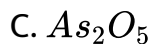
D. Increases in melting points

Answer: A

 [Watch Video Solution](#)

3. Which of the following oxides is the most acidic?





Answer: A

 [Watch Video Solution](#)

4. Red phosphorus is less reactive than yellow phosphorus because

A. Its colour is red

B. It is highly polymerised

C. It is hard

D. It is insoluble in C_2H_5OH

Answer: B

 [Watch Video Solution](#)

5. Mark the oxide which is amphoteric in character.

- A. CO_2
- B. SiO_2
- C. SnO_2
- D. CaO

Answer: C

 Watch Video Solution

6. The reaction of $Na_2S_2O_3$ with iodine gives

- A. Sodium sulphide
- B. Sodium sulphite

C. Sodium sulphate

D. Sodium tetrathionate

Answer: D

 [Watch Video Solution](#)

7. Nitrolim is

A. $Ca(NO_3)_2$

B. $Ca(CN)_2$

C. $CaCN_2 + C$

D. $CaCN_2$

Answer: C

 [Watch Video Solution](#)

8. When SO_2 is passed through acidified solution of H_2S

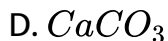
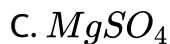
- A. H_2SO_4 is formed
- B. H_2SO_3 is formed
- C. Sulphur is precipitated
- D. None of these

Answer: C

 [Watch Video Solution](#)

9. Which of the following salt becomes plaster of paris on being appropriately hydrated

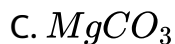
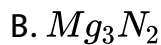
- A. $ZnCO_3$
- B. $CaSO_4$



Answer: B

 [Watch Video Solution](#)

10. Magnesium powder burns in air to give :



Answer: D

 [Watch Video Solution](#)

11. Lithium aluminium hydride $LiAlH_4$, acts as

- A. Oxidising agent
- B. Reducing agent
- C. Both the above
- D. None of these

Answer: B



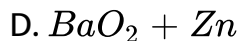
Watch Video Solution

12. ZnO when heated with BaO at $1100^\circ C$ gives a compound.

Identify the compound

A. $BaZnO_2$

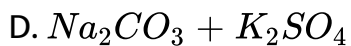
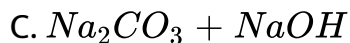
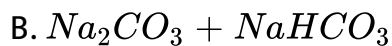
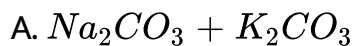
B. $Ba + ZnO_2$



Answer: A

 [Watch Video Solution](#)

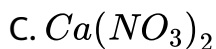
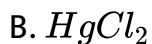
13. Fusion mixutre is



Answer: A

 [Watch Video Solution](#)

14. Which is insoluble in water

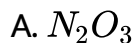


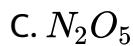
Answer: D



[Watch Video Solution](#)

15. Which of the following oxides does not form acidic aqueous solution ?

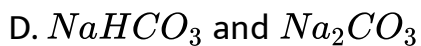
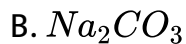
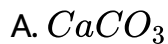




Answer: D

 [Watch Video Solution](#)

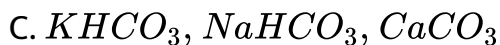
16. Fire extinguishers contain :



Answer: D

 [Watch Video Solution](#)

17. Increasing order of solubility is



Answer: D



[View Text Solution](#)

18. One mole of magnesium nitride on reaction with an excess of water gives

A. Two moles of ammonia

B. One mole of nitric acid

C. One mole of ammonia

D. Two moles of nitric acid

Answer: A

 [Watch Video Solution](#)

19. The oxidant which cannot act as a reducing agent is

A. NO_2

B. SO_2

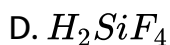
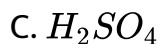
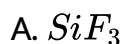
C. CO_2

D. ClO_2

Answer: C

 [Watch Video Solution](#)

20. Which of the following acid is formed when SiF_4 reacts with water ?

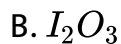
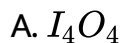


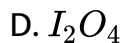
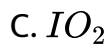
Answer: B



[Watch Video Solution](#)

21. Ozone with dry iodine give

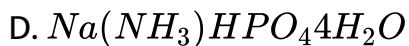
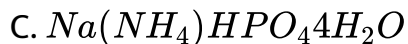
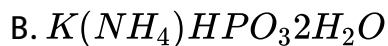




Answer: A

 [Watch Video Solution](#)

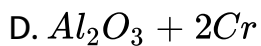
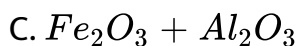
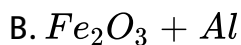
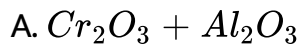
22. Microcosmic salt is



Answer: C

 [Watch Video Solution](#)

23. Thermite is a mixture of



Answer: B



Watch Video Solution

24. Which group is called buffer group of the periodic table ?

A. I

B. VII

C. VIII

D. Zero

Answer: D

 [Watch Video Solution](#)

25. As the alkaline earth metals (except Be) tend to lose their valence electrons readily they act as

A. Weak oxidizing agent

B. weak reducing agent

C. Strong oxidizing agent

D. Strong reducing agent

Answer: D

 [Watch Video Solution](#)

26. Which of the following metal is not manufactured by electrolysis

A. Na

B. Mg

C. Al

D. Fe

Answer: D

 Watch Video Solution

27. Which one of the following is not used as a filler in laundry soap ?

- A. Sodium silicate
- B. Glycerol
- C. Sodium rosinate
- D. Borax

Answer: B

 [Watch Video Solution](#)

28. In the incorrect statement/s among the following is/are

- I. NCl_5 does not exist while PCl_5 does
- II. Lead prefers to form tetravalent compound as compare to bivalent.
- III. The three C-O bonds are not equal in the carbonate ion
- IV. Both O_2^+ and NO are paramagnetic

A. I,III and IV

B. I and IV

C. II and III

D. I and III

Answer: C



Watch Video Solution

29. Be and Al exhibit diagonal relationship . Which of the following statements about them is/are not true ?

(i) Both react with HCl to liberate H_2 .

(ii) They are made passive by HNO_3 .

(iii) Their carbides give acetylene on treatment with water .

(iv) Their oxides are amphoteric .

A. (III) and (IV)

B. (I) and (III)

C. (I) only

D. (III) only

Answer: D



Watch Video Solution

30. The disease kala azar is cured by

A. Colloidal antimony

B. Milk of magnesia

C. Argyrols

D. Colloidal gold

Answer: A



Watch Video Solution

31. Six volumes of oxygen, on complete ozonisation form ____ volumes of ozone.

A. 4

B. 3

C. 2

D. 6

Answer: A



Watch Video Solution

32. Carbon differs from other elements of the group. Which is the false statement

- A. Due to its marked tendency to form long chains (catenations)
- B. Due to its unique ability to form multiple bonds
- C. due to d-orbitals in penultimate shell
- D. due to its limitation of co-ordination number 4

Answer: C



[View Text Solution](#)

33. The atomic radii of alkali metals (M) lie in the order $Li < Na < K < Rb$, but the radii of M^+ ions in aqueous solution lie in the reverse order $Li^+ > Na^+ > Rb^+$. What is the reason for this reverse order (on going from Li to Rb)

- A. Gradual increases in ionisation energy

B. Increasing weakness of the metallic bond

C. Increasing electropositive character

D. Decreasing degree of hydration

Answer: D



Watch Video Solution

34. The compounds of alkaline earth metals have the following magnetic nature:

A. Diamagnetic

B. Paramagnetic

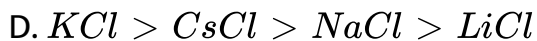
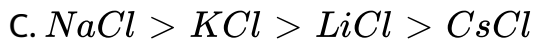
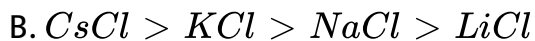
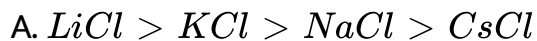
C. Ferromagnetic

D. Diaferromagnetic

Answer: A

 [Watch Video Solution](#)

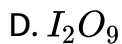
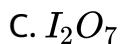
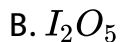
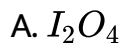
35. The stability of the following alkali metal chlorides follows the order:



Answer: B

 [Watch Video Solution](#)

36. Which one of the following is the true covalent oxide of iodine?



Answer: B



[Watch Video Solution](#)

37. Which of the following is the life saving mixture for an asthma patient

A. Mixture of helium and oxygen

B. mixture of neon and oxygen

C. mixture of xenon and nitrogen

D. mixture of argon and oxygen

Answer: A



[Watch Video Solution](#)

38. Which of the following oxide is diamagnetic

A. NO

B. NH_3

C. N_2H_4

D. N_2H_2

Answer: B

 Watch Video Solution

39. Which of the following statements is false for alkali metals ?

- A. Lithium is the strongest reducing agent
- B. Na is amphoteric in nature
- C. Li^+ is exceptionally small
- D. All alkali metals give blue solution in liquid ammonia

Answer: B

 Watch Video Solution

40. The number of electron and proton in the third alkaline earth metal ion will be

A. $\frac{e}{20}, \frac{p}{20}$

B. $\frac{e}{18}, \frac{p}{20}$

C. $\frac{e}{18}, \frac{p}{18}$

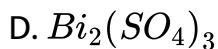
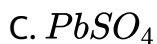
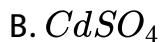
D. $\frac{e}{19}, \frac{p}{20}$

Answer: B



Watch Video Solution

41. Which of the following salt is insoluble in water



Answer: C

 Watch Video Solution

42. Which of the following pairs has bleaching property

A. O_3 and NO_2

B. O_3 and H_2S

C. SO_2 and Cl_2

D. Cl_2 and NO_2

Answer: C

 Watch Video Solution

43. KO_2 is used in oxygen cylinders in space and submarines because it

A. Absorbs CO_2 and increases O_2 content

B. Eliminates moisture

C. Absorbs CO_2

D. Produce ozone

Answer: A

 [Watch Video Solution](#)

44. Concentrated hydrochloric acid when kept in open air sometimes produces a cloud of white fumes. The explanation for it is that :

A. Concentrated hydrochloric acid emits strongly smelling HCl gas all the time

B. Oxygen in air reacts with the emitted HCl gas to form a cloud of chlorine gas

C. Strong affinity of HCl gas for moisture in air results in forming of droplets of liquid solution which appears like a cloudy smoke

D. Due to strong affinity for water, a concentrated hydrochloric acid pulls moisture of air towards itself. This moisture forms droplets of water and hence the cloudy

Answer: B

 [Watch Video Solution](#)

45. The substance not likely to contain $CaCO_3$ is:

A. A marble statue

B. Calcinated gypsum

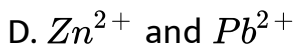
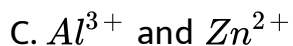
C. Sea shells

D. Dolomite

Answer: B

 [Watch Video Solution](#)

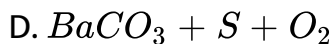
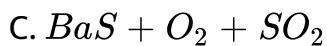
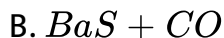
46. Concentrated aqueous sodium hydroxide can be a separated mixture of



Answer: B

 [Watch Video Solution](#)

47. $BaSO_4$ and carbon on heating reacts to produce

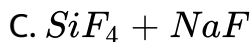
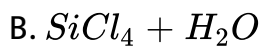
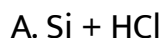


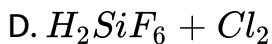
Answer: B



[Watch Video Solution](#)

48. Silicon chloroform is prepared by





Answer: A

 [Watch Video Solution](#)

49. In which of the following arrangements, the order is according to the property indicated against it?

A. $F_2 > Cl_2 > Br_2 > I_2$ Oxidising agent

B. $NH_3 > PH_3 > AsH_3 > SbH_3 > BiH_3$ Basic property

C. $F > Cl > Br > I$ Electron gain enthalpy

D. $C > Si > Ge > Sn$ Ability to form $p\pi - d\pi$ bond

Answer: C

 [Watch Video Solution](#)

50. The composition of the common glass is

- A. $Na_2O \cdot CaO \cdot 6SiO_3$
- B. $Na_2O \cdot Al_2O_3 \cdot SiO_2$
- C. $CaO \cdot Al_2O_3 \cdot SiO_2$
- D. $Na_2O \cdot CaO \cdot 6SiO_2$

Answer: D



[Watch Video Solution](#)

51. The most efficient agent for the absorption of SO_3 is

- A. 98% H_2SO_4
- B. 80 % H_2SO_4
- C. 20 % oleum

D. 90 % H_2SO_4

Answer: A

 [Watch Video Solution](#)

52. The metal which does not form ammonium nitrate by reaction with dilute nitric acid is

A. Al

B. Fe

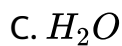
C. Pb

D. Mg

Answer: C

 [Watch Video Solution](#)

53. Which one of the following is not an amphoteric substance ?



Answer: A



[Watch Video Solution](#)

54. For which element the inertness of the electron pair will not be observed



C. Pb

D. In

Answer: B



[Watch Video Solution](#)

55. Which of the following element does not belong to the family of elements indicated

A. Rubidium (Rb,Z=37) : Alkali metals

B. Barrium (Ba,Z=56): Alkaline earth metals

C. Iridium (Ir,Z=77) : Noble gases

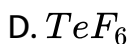
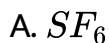
D. Argon (Ar,Z=18): Noble gas

Answer: C



[Watch Video Solution](#)

56. Which of the following is most easily hydrolysed amongst the following

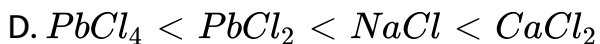
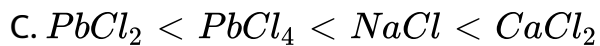
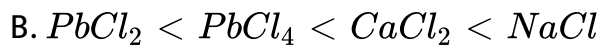
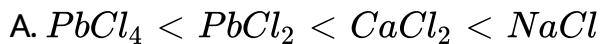


Answer: D



Watch Video Solution

57. Which of the following is in the increasing order of the ionic character



Answer: A

 [Watch Video Solution](#)

58. The colour of liquid O_2 is _____.

A. Red

B. Dark blue

C. Pale yellow

D. Pale blue

Answer: D



Watch Video Solution

59. Lead is maximum in

A. Soda glass

B. Jena glass

C. Pyrex glass

D. Flint glass

Answer: D



Watch Video Solution

60. The correct sequence in decreasing order of the percentage of nitrogen in the given compounds is

A. *Urea* > *Ammonium chloride* > *ammonium nitrate*

> *Ammonium nitrite*

B. *Urea* > *Ammonium nitrate* > *Ammonium nitrate*

> *Ammonium chloride*

C. *Urea* > *Ammonium nitrate* > *Ammonium nitrate*

> *Ammonium chloride*

D. *Urea* > *Ammonium nitrite* > *Ammonium chloride*

> *ammonium nitrate*

Answer: C



View Text Solution

61. Match List I with List II and select the correct answer using the codes given below the lists



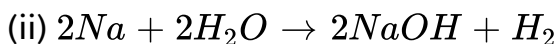
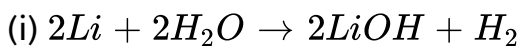
- A. A B C D
 4 3 2 1
- B. A B C D
 3 2 1 4
- C. A B C D
 4 2 3 1
- D. A B C D
 4 1 2 3

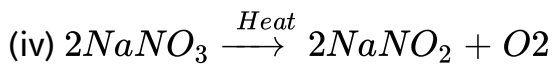
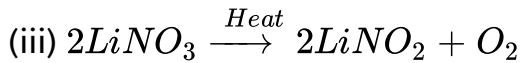
Answer: A



View Text Solution

62. Four reaction are given below





Which of the above, if any, is wrong

A. (IV)

B. (iii)

C. (i)

D. None of these

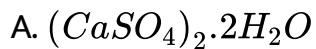
Answer: B



[Watch Video Solution](#)

JEE Section (Only choice correct answer)

1. Formula of gypsum salt is



Answer: C

 [Watch Video Solution](#)

2. Calcium is obtained by

A. Roasting of lime stone

B. Reduction of $CaCl_2$ with carbon

C. Electrolysis of a solution of $CaCl_2$ in water

D. Electrolysis of a solution $CaCl_2$

Answer: D

 [Watch Video Solution](#)

3. HCl is added to following oxides. Which one would give H_2O_2 ?

A. MnO_2

B. PbO_2

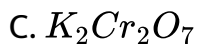
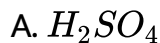
C. BaO_2

D. None of these

Answer: C

 [Watch Video Solution](#)

4. HBr and HI can reduce sulphuric acid, HCl can reduced $KMnO_4$ and HF can reduce.....



D. None of these

Answer: D



Watch Video Solution

5. Which of the following statement about anhydrous aluminium chloride is correct

A. It exists as $AlCl_3$ molecules

B. It is not easily hydrolysed

C. It sublimes at $100^{\circ}C$ under vacuum

D. It is strong lewis base

Answer: C

 [Watch Video Solution](#)

6. The correct order of the second ionisation potential of carbon, nitrogen, oxygen and fluorine is

A. $C > N > O > F$

B. $O > N > F > C$

C. $O > F > N > C$

D. $F > O > N > C$

Answer: C

 [Watch Video Solution](#)

7. Moderate acts as a bleaching agent only in presence of

- A. Silica
- B. Graphite
- C. Diamond
- D. Carborundum

Answer: B

 [Watch Video Solution](#)

8. Chlorine acts as bleaching agent only in the presence of

- A. Dry air
- B. Moisture
- C. Sunlight
- D. Pure oxygen

Answer: B

 [Watch Video Solution](#)

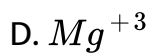
9. Hydrogen gas will not reduce

- A. Heated cupric oxide
- B. Heated ferric oxide
- C. Heated stannic oxide
- D. Heated aluminium oxide

Answer: D

 [Watch Video Solution](#)

10. The hydration energy of Mg^{2+} is larger than that of



Answer: B

 [Watch Video Solution](#)

11. Glauber's salt is

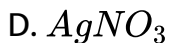
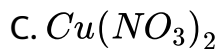
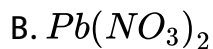


Answer: D



Watch Video Solution

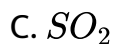
12. Nitrogen dioxide cannot be obtained by heating



Answer: A

 [Watch Video Solution](#)

13. A gas that cannot be collected over water is.



Answer: C

 [Watch Video Solution](#)

14. Which of the following pair can't exist in solution

A. NaHCO_3 and NaOH

B. Na_2CO_3 and NaOH

C. Na_2CO_3 and NaCl

D. NaHCO_3 and NaCl

Answer: A



Watch Video Solution

15. The compound which gives oxygen on moderate heating is

A. Cupric oxide

B. Mercuric oxide

C. Zinc oxide

D. Aluminium oxide

Answer: B

 [Watch Video Solution](#)

16. The bonds present in N_2O_5 are .

- A. only ionic
- B. Covalent and coordinate
- C. Only covalent
- D. Covalent and ionic

Answer: B

 [Watch Video Solution](#)

17. The metallic lustre exhibited by sodium is explained by

- A. Diffusion of sodium ions
- B. Oscillation of loose electrons
- C. Excitation of free protons
- D. Existence of body centred cubic lattice

Answer: B

 [Watch Video Solution](#)

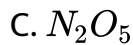
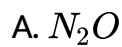
18. Which nitrogen trihalides is least basic

- A. NF_3
- B. NCl_3
- C. NBr_3
- D. NI_3

Answer: A

 [Watch Video Solution](#)

19. Which oxide of nitrogen is coloured gas?



Answer: D

 [Watch Video Solution](#)

20. Bromine can be liberated from potassium bromide solution by the action of

- A. Iodine solution
- B. Chlorine water
- C. Sodium chloride
- D. Potassium iodide

Answer: B

 [Watch Video Solution](#)

21. The electronegativity of the following elements increases in the order

- A. C,N,Si,P

B. N,Si,C,P

C. Si,P,C,N

D. P,Si,N,C

Answer: C



Watch Video Solution

22. The strongest base is

A. NH_3

B. PH_3

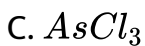
C. AsH_3

D. SbH_3

Answer: A

 Watch Video Solution

23. Which is the most explosive?



D. All of these

Answer: A

 Watch Video Solution

24. The colour of the body in earthworm is brown due to the presence of

A. Na

B. Ba

C. Sr

D. K

Answer: B



[Watch Video Solution](#)

25. Concentrated HNO_3 reacts with I_2 to give :

A. HI

B. HOI

C. $HOIO_2$

D. $HOIO_3$

Answer: C

 [Watch Video Solution](#)

26. Hydrogen directly combines with

A. Au

B. Cu

C. Ni

D. Ca

Answer: D

 [Watch Video Solution](#)

27. Potash alum is a

A. Complex salt

B. Acid salt

C. Double salt

D. Normal salt

Answer: C



Watch Video Solution

28. The acid used In lead storage cells is

A. Phosphoric acid

B. Nitric acid

C. Sulphuric acid

D. Hydrochloric acid

Answer: C

 Watch Video Solution

29. Lead pencil contains

- A. PbS
- B. Graphite
- C. FeS
- D. Pb

Answer: B

 Watch Video Solution

30. When $AgNO_3$ is heated strongly, the products formed are

- A. NO and NO_2

B. NO_2 and O_2

C. NO_2 and N_2O

D. NO and O_2

Answer: B

 [Watch Video Solution](#)

31. Nitrogen is liberated by the thermal decomposition of only

A. NH_4NO_2

B. NaN_3

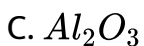
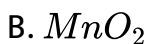
C. $(NH_4)_2Cr_2O_7$

D. All the three

Answer: D

 Watch Video Solution

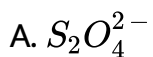
32. Which compound acts as an oxidising as well as reducing agent?

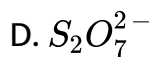
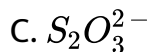
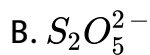


Answer: A

 Watch Video Solution

33. There is no $S - S$ bond in





Answer: D



Watch Video Solution

34. When sulphur is boiled with Na_2SO_3 solution, the compound formed is

A. Sodium sulphide

B. Sodium sulphate

C. Sodium persulphate

D. Sodium thiosulphate

Answer: D

 [Watch Video Solution](#)

35. By the action of hot conc. H_2SO_4 , phosphorus changes to

- A. Phosphorus acid
- B. Orthophosphoric acid
- C. Metaphoric acid
- D. Pyrophosphoric acid

Answer: B

 [Watch Video Solution](#)

36. The alkali metal that reacts with nitrogen directly to form nitride is

A. Li

B. Na

C. K

D. Rb

Answer: A



[Watch Video Solution](#)

37. When heated NH_3 is passed over CuO gas evolved is

A. N_2

B. N_2O

C. HNO_3

D. NO_2

Answer: A

 [Watch Video Solution](#)

38. The cyanide ion CN and N_2 are isoelectronic, but in contrast to CN^- , N_2 is chemically inert, because of

A. Low bond energy

B. Absence of bond polarity

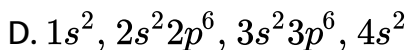
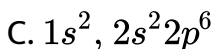
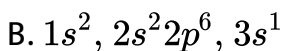
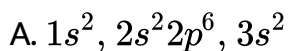
C. Unsymmetrical electron distribution

D. Presence of more number of electrons in bonding orbitals

Answer: D



39. Which one of the following configuration represents a noble gas ?



Answer: C



Watch Video Solution

40. Solubility of iodine in water is greatly increased by the addition of iodide ions because of the formation of

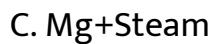
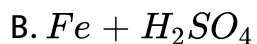
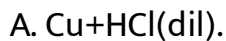


Answer: C



Watch Video Solution

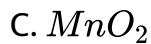
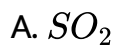
41. Which of the following pairs will not produce dihydrogen gas ?



Answer: A

 [Watch Video Solution](#)

42. Which one of the following is a true peroxide ?



Answer: B

 [Watch Video Solution](#)

43. In the metallurgy of aluminium , cryolite is mixed in the molten state because it

- A. Increases the mp of alumina
- B. Oxidises alumina
- C. Reduces alumina
- D. Decreases the mp of alumina

Answer: D

 [Watch Video Solution](#)

44. Hydrogen is evolved the action of cold dilute HNO_3 on :

- A. Fe
- B. Mn

C. Cu

D. Al

Answer: B

 [Watch Video Solution](#)

45. One mole of calcium phosphide on reaction with excess water gives

A. One mole of phosphine

B. Two moles of phosphoric acid

C. Two moles of phosphine

D. One mole of phosphorous petoxide

Answer: C

 [Watch Video Solution](#)

46. Which one of the following pairs of substances when mixed, produces chlorine gas at room temperature?

- A. NaCl and MnO_2
- B. NaCl and HNO_3 (Conc.)
- C. NaCl and H_2SO_4 (conc.)
- D. HCl (conc.) and $KMnO_4$

Answer: D

 Watch Video Solution

47. In P_4O_{10} each P atom is linked with ____ O atoms

- A. 2

B. 3

C. 4

D. 5

Answer: C



[Watch Video Solution](#)

48. H_2SO_4 cannot be used to prepare HBr from NaBr as it

A. Reacts slowly with NaBr

B. Oxidises HBr

C. Reduces HBr

D. Disproportionate HBr

Answer: B

49. 

A. I-A,II-D,III-G,IV-B

B. I-E,II-H,III-C,IV-F

C. I-A,II-D,III-G,IV-F

D. I-E,II-D,III-G,IV-B

Answer: B

 View Text Solution

50. H_2O_2 will oxidise

A. $KMnO_4$

B. PbS

C. MnO_2

D. H_2S

Answer: B



[Watch Video Solution](#)

51. Which of the following halides is least stable and has a doubtful existence ?

A. CI_4

B. GeI_4

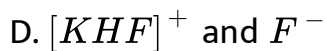
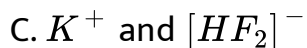
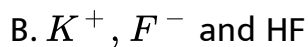
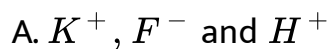
C. SnI_4

D. PbI_4

Answer: D

 [Watch Video Solution](#)

52. KF combines with HF to form KHF_2 . The compound contains the species



Answer: C

 [Watch Video Solution](#)

53. Sodium thiosulphate is prepared by

- A. Reducing Na_2SO_4 solution with H_2S
- B. Boiling Na_2SO_3 solution with S in alkaline medium
- C. Neutralising $H_2S_2O_3$ solution with NaOH
- D. Boiling Na_2SO_3 solution with S in acidic medium

Answer: B



[Watch Video Solution](#)

54. The following acids have been arranged in order of decreasing acid strength. Identify the correct order.

$ClOH$ (I) , $BrOH$ (II) , IOH (III)

A. IgtIIgtIII

B. $2\text{H}_2\text{SO}_4$

C. $2\text{H}_2\text{SO}_3$

D. H_2SO_4 and H_2O_2

Answer: A

 [Watch Video Solution](#)

55. Hydrolysis of one mole of peroxodisulphuric acid produces

A. Two moles of sulphuric acid

B. Two moles of peroxomonosulphuric acid

C. One mole of sulphuric acid and one mole of peroxomonosulphuric acid

D. One mole of sulphuric acid, one mole of hydrogen peroxide.

Answer: C

 [Watch Video Solution](#)

56. Which of the following statement is correct for $CsBr_3$

- A. It is a covalent compound
- B. It contains Cs^{3+} and Br^- ions
- C. It contains Cs^+ and Br_3^- ions
- D. It contains Cs^+ and Br^- and lattice Br_2 molecule

Answer: C

 [Watch Video Solution](#)

57. Which of the following oxides is neutral

A. CO

B. SnO_2

C. ZnO

D. SiO_2

Answer: A



Watch Video Solution

58. Property of the alkaline earth metals that increases with their atomic number is

A. Ionisation energy

B. Electronegativity

C. Solubility of their sulphates

D. Solubility of their hydroxides

Answer: D

 [Watch Video Solution](#)

59. Among KO_2 , AlO_2^- , BaO_2 and NO_2^+ unpaired electron is present in :

A. NO_2^+ and BaO_2

B. KO_2 and BaO_2

C. KO_2 only

D. BaO_2 only

Answer: C

 [Watch Video Solution](#)

60. The lattice energy order for lithium halide is

A. $\text{LiF} > \text{LiCl} > \text{LiBr} > \text{LiI}$

B. $\text{LiCl} > \text{LiF} > \text{LiBr} > \text{LiI}$

C. $\text{LiBr} > \text{LiCl} > \text{LiF} > \text{LiI}$

D. $\text{LiI} > \text{LiBr} > \text{LiCl} > \text{LiF}$

Answer: A



Watch Video Solution

61. Which of the following group of chemicals, in addition to water, are used for the manufacture of Na_2CO_3 by Solvay process

A. NaCl , CO and NH_3

B. NaCl , CO_2 and NH_3

C. NaCl , NH_4Cl and CO_2

D. NaHCO_3 , CO and NH_3

Answer: A

 [Watch Video Solution](#)

62. In the commercial electrochemical process for aluminium extraction, the electrolyte used is

A. $\text{Al}(\text{OH})_3$ in NaOH solution

B. An aqueous solution of $\text{Al}_2(\text{SO}_4)_3$

C. A molten mixture of Al_2O_3 and Na_3AlF_6

D. A molten mixture of $\text{AlO}(\text{OH})$ and $\text{Al}(\text{OH})_3$

Answer: C

 [Watch Video Solution](#)

63. Ammonium dichromate on heating gives

- A. Chromium oxide and ammonia
- B. Chromic acid and nitrogen
- C. Chromium oxide and nitrogen
- D. Chromic acid and ammonia

Answer: C

 Watch Video Solution

64. In compounds of type ECl_3 , where $E = BP, As$ or B , the angles $Cl - E - Cl$ for different E are in the order

- A. $B > P = As > Bi$

B. $BgtPgtAs\ gtBi$

C. $Bltp=As=Bi$

D. $BltpItAsItBi$

Answer: B



[Watch Video Solution](#)

65. Ammonia, on reaction with hypochlorite anion, can form

A. NO

B. NH_4Cl

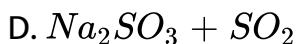
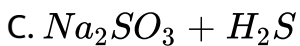
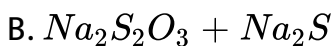
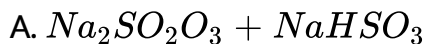
C. N_2H_4

D. HNO_2

Answer: C

 Watch Video Solution

66. Sulphur on boiling with $NaOH$ solution gives

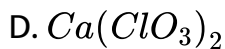
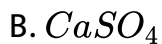


Answer: B

 Watch Video Solution

67. The bleaching action of bleaching powder is due to the formation of





Answer: C



Watch Video Solution

68. One mole of calcium phosphide on reaction with excess water gives

A. One mole of phosphine

B. Two moles of phosphoric acid

C. Two moles of phosphine

D. One mole of phosphorous petoxide

Answer: C

 [Watch Video Solution](#)

69. In the commercial electrochemical process for aluminium extraction, the electrolyte used is

- A. $Al(OH)_3$ in NaOH solution
- B. An aqueous solution of $Al_2(SO_4)_3$
- C. A molten mixture of Al_2O_3 and Na_3AlF_6
- D. A molten mixture of $AlO(OH)$ and $Al(OH)_3$

Answer: C

 [Watch Video Solution](#)

70. In compounds of type ECl_3 , where $E = BP, As$ or B , the angles $CI - E - CI$ for different E are in the order

A. $BgtP=As =Bi$

B. $BgtPgtAs gtBi$

C. $Bltp=As=Bi$

D. $BltpItAsltBi$

Answer: B

 [Watch Video Solution](#)

71. One mole of calcium phosphide on reaction with excess water gives

A. One mole of phosphine

- B. Two moles of phosphoric acid
- C. Two moles of phosphine
- D. One mole of phosphorous petoxide

Answer: C

 [Watch Video Solution](#)

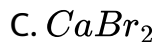
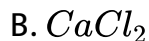
72. A mixture of calcium acetate and calcium formate on heating gives

- A. Cl_2 only
- B. ClO_2 only
- C. $Cl_2 + ClO_2$
- D. $Cl_2 + ClO_2 + ClO_3$

Answer: C

 [Watch Video Solution](#)

73. Which of the following has the lowest solubility



Answer: A

 [Watch Video Solution](#)

74. Sodium oxalate on heating with conc. H_2SO_4 gives

A. CO only

B. CO_2 only

C. CO and CO_2

D. SO_2 and SO_3

Answer: C



Watch Video Solution

75. Which of the following products is formed on boiling tin with an alkali solution

A. $Sn(OH)_2$

B. $Sn(OH)_4$

C. SnO_3^{2-}

D. SnO_2

Answer: C

 [Watch Video Solution](#)

76. Which of the following is the most suitable drying agent for ammonia gas ?

- A. Calcium oxide
- B. Anhydrous calcium chloride
- C. Phosphorus pentoxide
- D. Conc. Sulphuric acid

Answer: a

 [Watch Video Solution](#)

77. Amongst H_2O , H_2S , H_2Se and H_2Te the one with highest boiling point is :

- A. H_2O because of hydrogen bonding
- B. H_2Te because of higher molecular weight
- C. H_2S because of hydrogen bonding
- D. H_2Se because of lower molecular weight

Answer: A

 [Watch Video Solution](#)

78. Which of the following is the weakest acid?

- A. HF
- B. HCl

C. HBr

D. HI

Answer: A

 [Watch Video Solution](#)

79. Electrolytic reduction of alumina to aluminium by Hall-Heroult process is carried out:

A. In the presence of NaCl

B. In the presence of fluorite

C. In the presence of cryolite which forms a melt with lower melting temperature

D. In the presence of cryolite which forms a melt with higher melting temperature

Answer: C

 [Watch Video Solution](#)

80. The number of $P - O - P$ bonds in cyclic metaphosphoric acid is.

- A. Zero
- B. Two
- C. Three
- D. Four

Answer: C

 [Watch Video Solution](#)

81. The number of S-S bonds in sulphur trioxide trimer (S_3O_9) is

A. Three

B. Two

C. One

D. Zero

Answer: D



[Watch Video Solution](#)

82. Polyphosphates are used as water softening agents because they

A. form soluble complexes with ionic species

B. Precipitate anionic species

C. Forms soluble complexes with cationic species

D. Precipitate cationic species

Answer: C

 [Watch Video Solution](#)

83. Polyphosphates are used as water softening agents because they

A. Form soluble complexes with anionic

B. Precipitate anionic species

C. Form soluble complexes with cationic species

D. Precipitate cationic species

Answer: C

 [Watch Video Solution](#)

84. For H_3PO_3 and H_3PO_4 the correct choice is

- A. H_3PO_3 is dibasic and reducing
- B. H_3PO_3 is dibasic and non-reducing
- C. H_3PO_4 is tribasic and reducing
- D. H_3PO_3 is tribasic and non-reducing

Answer: A

 Watch Video Solution

85. H_3BO_3 is.

- A. Monobasic and weak lewis acid
- B. Monobasic and weak bronsted acid

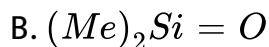
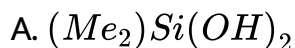
C. Monobasic and strong lewis acid

D. Tribasic and weak bronsted acid

Answer: A

 [Watch Video Solution](#)

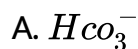
86. $(Me)_2SiCl_2$ on hydrolysis will produce.



Answer: C

 [Watch Video Solution](#)

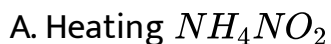
87. A sodium salt on treatment with $MgCl_2$ gives white precipitate only on heating. The anion of the sodium salt is



Answer: A

 [Watch Video Solution](#)

88. $(NH_4)_2Cr_2O_7$ on heating liberates a gas. The same gas will be obtained by



B. Heating NH_4NO_3

C. Treating H_2O_2 with $NaNO_2$

D. Treating Mg_3N_2 with H_2O

Answer: A

 [Watch Video Solution](#)

89. Number of lone pair of electrons in XeF_4 is

A. 0

B. 1

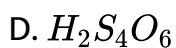
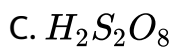
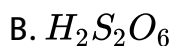
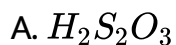
C. 2

D. 3

Answer: B

 Watch Video Solution

90. The acid having O - O bond is



Answer: C

 Watch Video Solution

91. Pb and Sn are extracted from their chief ore by

A. Carbon reduction and self reduction respectively

B. Self reduction and carbon reduction respectively

C. Electrolysis and self reduction respectively

D. Self reduction and electrolysis respectively

Answer: B



[Watch Video Solution](#)

92. Which blue liquid is obtained on reacting equimolar amounts of two gases at $-30^{\circ}C$?

A. N_2O

B. N_2O_3

C. N_2O_4

D. N_2O_5

Answer: B

 [Watch Video Solution](#)

93. Which is the most thermodynamically stable allotropic form of phosphorus ?

- A. Red
- B. White
- C. Black
- D. Yellow

Answer: C

 [Watch Video Solution](#)

94. The name of the structure of silicates in which three oxygen atoms of $[SiO_4]^{4-}$ are shared is

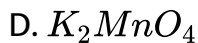
- A. Pyrosilicate
- B. Sheet silicate
- C. Linear chain silicate
- D. Three dimensional silicate

Answer: D

 [Watch Video Solution](#)

95. Which of the following will not be oxidised by O_3 ?

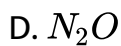
- A. KI
- B. $FeSO_4$



Answer: C

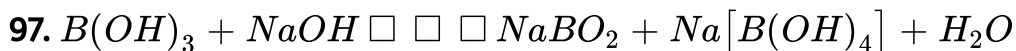
 [Watch Video Solution](#)

96. When PbO_2 reacts with conc. HNO_3 the gas evolved is



Answer: A

 [Watch Video Solution](#)



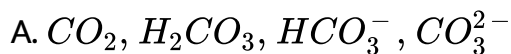
How can this reaction is made to proceed in forward direction?

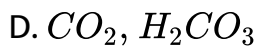
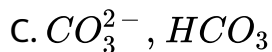
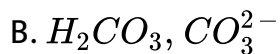
- A. Addition of cis 1,2 diol
- B. Addition of borax
- C. Addition of trans 1,2 diol
- D. Addition of Na_2HPO_4

Answer: A

 [Watch Video Solution](#)

98. The species present in solution when CO_2 is dissolved in water





Answer: A



Watch Video Solution

99. Argon is used in arc welding because

A. Low reactivity with metal

B. Ability to lower the melting point of metal

C. Flammability

D. High calorific value

Answer: A

 Watch Video Solution

100. XeF_4 and XeF_6 are expected to be

- A. Oxidizing
- B. Reducing
- C. Unreactive
- D. Strongly basic

Answer: A

 Watch Video Solution

101. The percentage of p-character in the orbitals forming $p - p$ bonds in P_4 is

- A. 25

B. 33

C. 50

D. 75

Answer: D



[Watch Video Solution](#)

102. Aqueous solution of $Na_2S_2O_3$ on reaction with Cl_2 , gives

A. $Na_2S_4O_6$

B. $NaHSO_4$

C. NaCl

D. NaOH

Answer: B

 [Watch Video Solution](#)

103. The reaction of P_4 with X leads selectively to P_4O_6 . The X is :

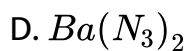
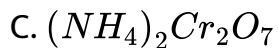
- A. Dry O_2
- B. A mixture of O_2 and N_2
- C. Moist O_2
- D. O_2 in the presence of aqueous NaOH

Answer: B

 [Watch Video Solution](#)

104. Extra pure N_2 can be obtained by heating

- A. NH_3 with CuO



Answer: D

 [Watch Video Solution](#)

105. The shapes of XeO_2F_2 molecule is

A. Trigonal bipyramidal

B. Square planar

C. Tetrahedral

D. See-Saw

Answer: D

 Watch Video Solution

106. Which of the following is the wrong statement ?

- A. ONCl and ONO^- are isoelectronic
- B. O_3 molecule is bent
- C. Ozone is violet-black in solid state
- D. Ozone is diamagnetic gas

Answer: A

 Watch Video Solution

107. Concentrated nitric acid upon long standing turns yellowish-brown due to the formation of :

- A. NO

B. NO_2

C. N_2O

D. N_2O_4

Answer: B



Watch Video Solution

108. The metal that cannot be obtained by electrolysis of an aqueous solution of its salts is :

A. Ag

B. Ca

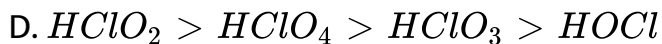
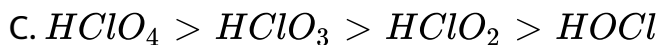
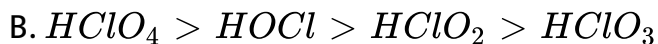
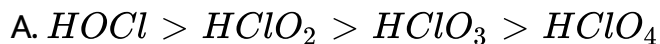
C. Cu

D. Cr

Answer: B

 [Watch Video Solution](#)

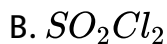
109. Among the following oxoacids, the correct decreasing order of acid strength is:



Answer: C

 [Watch Video Solution](#)

110. The product formed in the reaction of $SOCl_2$ with white phosphorus is



Answer: A

 [Watch Video Solution](#)

111. Under ambient conditions, the total number of gases released as products in the final step of the reaction scheme shown below is



A. 0

B. 1

C. 2

D. 3

Answer: C



[View Text Solution](#)

112. Hydrogen peroxide in its reaction with KIO_4 and NH_2OH respectively, is acting as a

A. Reducing agent, oxidising agent

B. Reducing agent, reducing agent

C. Oxidising agent, oxidising agent

D. Oxidising agent, reducing agent

Answer: A



Watch Video Solution

113. The molecular formula of a commercial resin used for exchanging ions in water softening is $C_8H_7SO_3Na$ (*mol. Wt.* 206) . What would be the maximum uptake of Ca^{2+} ions by the resin when expressed in mole per gram resin?

A. $\frac{1}{103}$

B. $\frac{1}{206}$

C. $\frac{2}{309}$

D. $\frac{1}{412}$

Answer: D

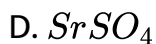


114. From the following statements regarding H_2O_2 , choose the incorrect statements:

- A. It can act only as an oxidizing agent
- B. It decompose on exposure to light
- C. It has to be stored in plastic or wax lined glass bottles in dark
- D. It has to be kept away from dust

Answer: A

115. Which one of the following alkaline earth metal sulphates has its hydration enthalpy greater than its lattice enthalpy?

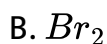
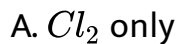


Answer: B



[Watch Video Solution](#)

116. Which among the following is the most reactive gas?



C. I_2

D. Icl

Answer: D

 [Watch Video Solution](#)

117. Match the catalysis to the correct process



A. A-(iii),B-(ii) ,C-iv ,D-(i)

B. A-(ii),B-(i) ,C-(iv),D-(iii)

C. A-(ii),B-(iii),C-(iv),D-(i)

D. A-(iii),B-(i),C-(ii),D-(iv)

Answer: B

 [Watch Video Solution](#)

118. Which has the highest boiling point?

A. He

B. Ne

C. Kr

D. Xe

Answer: D

 Watch Video Solution

119. The species in which the N-atom is in a state of sp hybridisation is

A. NO_2^-



Answer: D



Watch Video Solution

120. The pair in which phosphorus atoms have a formed oxidation state of +3 is

- A. Pyrophosphorous and hypophosphoric acids
- B. Orthophosphorous and hypophosphoric acids
- C. Pyrophosphorous and pyrophorous acid
- D. Orthophosphorous and pyrophosphorous acids

Answer: D

 [Watch Video Solution](#)

121. The main oxides formed on combustion of Li, Na and K in excess of air respectively are

- A. Li_2O , Na_2O_2 and K_2O
- B. Li_2O_2 , Na_2O_2 and KO_2
- C. Li_2O , Na_2O_2 and KO_2
- D. Li_2O , Na_2O and KO_2

Answer: C

 [Watch Video Solution](#)

122. Which of the following atoms has the highest first ionisation energy ?

A. Na

B. K

C. Sc

D. Rb

Answer: C

 [Watch Video Solution](#)

123. Which one of the following statements about water is false ?

A. Water can act both as an acids and as a base

- B. There is extensive intramolecular hydrogen bonding in the condensed phase
- C. Ice formed by heavy water sinks in normal water
- D. Water is oxidized to oxygen during photosynthesis

Answer: B

 [Watch Video Solution](#)

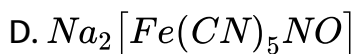
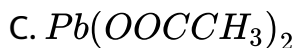
124. The increasing order of atomic radii of the following group 13 elements is

- A. Al < Ga < In < Tl
- B. Ga < Al < In < Tl
- C. Al < In < Ga < Tl
- D. Al < Ga < Tl < In

Answer: B

 [Watch Video Solution](#)

125. The reagent (s) that can selectively precipitate S^{2-} from a mixture of S^{2-} and SO_4^{2-} in aqueous solution is (are)



Answer: A

 [Watch Video Solution](#)

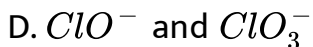
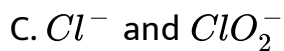
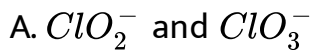
126. Both lithium and magnesium display several similar properties due to the diagonal relationship, however, the one which is incorrect is

- A. Both form soluble bicarbonates
- B. Both form nitrides
- C. Nitrates of both Li and Mg yields NO_2 and O_2 on heating
- D. Both form basic carbonates

Answer: D

 [Watch Video Solution](#)

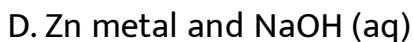
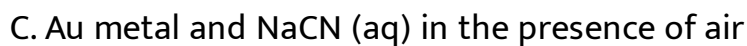
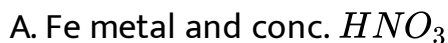
127. The products obtained when chlorine gas reacts with cold and dilute aqueous $NaOH$ are :



Answer: B

 [Watch Video Solution](#)

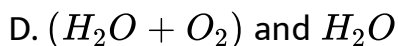
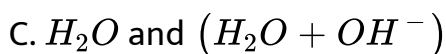
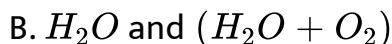
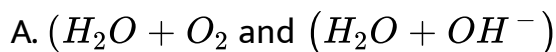
128. Which of the following combination will produce H_2 gas ?



Answer: D

 [Watch Video Solution](#)

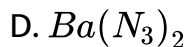
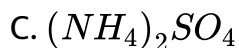
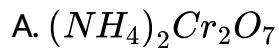
129. Hydrogen peroxide oxidises $[Fe(CN)_6]^{4-}$ to $[Fe(CN)_6]^{3-}$ in acidic medium but reduces $[Fe(CN)_6]^{3-}$ to $[Fe(CN)_6]^{4-}$ in alkaline medium. The other products formed are, respectively



Answer: B

 [Watch Video Solution](#)

130. The compound that does not produce nitrogen gas by the thermal decomposition is



Answer: C

 Watch Video Solution

JEE Section (More than one choice correct answer)

1. In the electrolysis of alumina, cryolite is added to

- A. lower the mp of alumina
- B. Increases the electrical conductivity
- C. Minimize the anode effect
- D. Remove impurities from alumina

Answer: A::B

 [Watch Video Solution](#)

2. Sodium sulphate is soluble in water, whereas barium sulphate is sparingly soluble because

- A. The hydration energy of sodium sulphate is more than its lattice energy
- B. The lattice energy of barium sulphate is more than its hydration energy

- C. The lattice energy has no role to play in solubility
- D. The hydration energy of sodium sulphate is less than its lattice energy

Answer: A::B

 [Watch Video Solution](#)

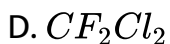
3. Nitrogen (i) oxide is produced by

- A. Thermal decomposition of ammonium nitrate
- B. Disproportional of N_2O_4
- C. Thermal decomposition of ammonium nitrite
- D. Interaction of hydroxylamine and nitrous acid

Answer: A::D

 Watch Video Solution

4. The compound(s) used as refrigerant are



Answer: A::D

 Watch Video Solution

5. Out of the following metals that cannot be obtained by electrolysis of the aqueous solution of their salts is



B. Mg

C. Cu

D. Al

Answer: B::D



Watch Video Solution

6. When zeolite, which is hydrated sodium aluminium silicate, is treated with hard water, the sodium ions are exchanged with

A. H^+ ions

B. Ca^{2+} ions

C. SO_4^{2-} ions

D. Mg^{2+} ions

Answer: B::D



Watch Video Solution

7. The material used in solar cells contains

A. Cs

B. Si

C. Sn

D. Ti

Answer: B



Watch Video Solution

8. The major role of fluorpar (CaF_2) which added in small quantities in the electrolyte reduction of alumina dissolved in fused cryolite (N_3AlF_6) is

- A. As a catalyst
- B. To make the fused mixture very conducting
- C. To lower the temperature of the melt
- D. To decreases the rate of oxidation of carbon at the anode

Answer: B::C

 [Watch Video Solution](#)

9. SO_2 is obtained when

- A. Oxygen reacts with dilute sulphuric acid

B. Hydrolysis of dilute H_2SO_4

C. Concentrated H_2SO_4 reacts with Na_2SO_3

D. All of these

Answer: B::C

 [Watch Video Solution](#)

10. The critical temperature of water is higher than that of O_2 because the H_2O molecule has .

A. Fewer electrons than O_2

B. Two covalent bonds

C. V-shape

D. Dipole moment

Answer: C::D

 [Watch Video Solution](#)

11. Highly pure dilute solution of sodium in liquid ammonia

- A. Shows blue colour
- B. Exhibits electrical conductivity
- C. Produce sodium amide
- D. Produce hydrogen gas

Answer: A::B

 [Watch Video Solution](#)

12. Sodium nitrate decomposes above $800^{\circ}C$ to give

A. N_2

B. O_2

C. NO_2

D. Na_2O

Answer: A::B::D



Watch Video Solution

13. White phosphorus (P_4) has

A. Six P-P single bonds

B. four P-P single bonds

C. Four lone pairs of electrons

D. PPP angles of 60°

Answer: A::C::D

 [Watch Video Solution](#)

14. Which of the following form dimeric halides

A. Al

B. Mg

C. In

D. Ga

Answer: A::C::D

 [Watch Video Solution](#)

15. Which of the following is formed by xenon ?

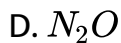


Answer: B::D



Watch Video Solution

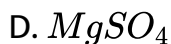
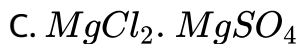
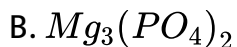
16. When PbO_2 reacts with conc. HNO_3 the gas evolved is



Answer: A::B

 [Watch Video Solution](#)

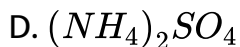
17. $MgSO_4$ on reaction with NH_4OH and Na_2HPO_4 forms a white crystalline precipitate. What is its formula ?



Answer: A

 [Watch Video Solution](#)

18. A solution of colourless salt on boiling with excess $NaOH$ produces a non-flammable gas. The gas evolution ceases after sometime upon addition of Zn dust to the same solution, the gas evolution restarts. The colourless salt (s) is (are).

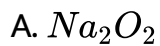


Answer: A::B



Watch Video Solution

19. The compounds(s) formed upon combustion of sodium metal in excess air is/are

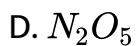
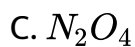
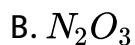
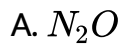


Answer: A::B



Watch Video Solution

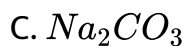
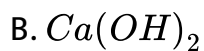
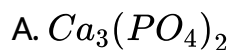
20. The nitrogen oxide (s) that contain (s) $N - N$ bonds (s) is (are).



Answer: A::B::C

 [Watch Video Solution](#)

21. The reagent(s) used for softening the temporary hardness of water is (are):



Answer: B::C

 [Watch Video Solution](#)

22. With respect to graphite and diamond, which of the following statement(s) given below is (are) correct ?

- A. Graphite is harder than diamond
- B. Graphite has higher electrical conductivity than diamond
- C. Graphite has higher thermal conductivity than diamond
- D. Graphite has higher C-C bond order than diamond

Answer: B::D

 [Watch Video Solution](#)

23. The correct statement(s) about O_3 is/are

- A. O-O bond lengths are equal
- B. Thermal decomposition of O_3 is endothermic

C. O_3 is diamagnetic in nature

D. O_3 has bent structure

Answer: A::C::D

 [Watch Video Solution](#)

24. The pair(s) of reagents that yield paramagnetic species is/are

A. Na and excess of NH_3

B. K and excess of O_2

C. Cu and dilute HNO_3

D. O_2 and 2-ethylantraquinol

Answer: A::B::C

 [Watch Video Solution](#)

25. The correct statement (s) for orthoboric acid is/are

- A. It behaves as a weak acid in water due to self ionization
- B. Acidity of its aqueous solution increases upon addition of ethylene glycol
- C. It has a three dimensional structure due to hydrogen bonding
- D. It is weak electrolyte in water

Answer: B::D

 [Watch Video Solution](#)

26. The correct statements (s) regarding,

(i) $HClO$,

(ii) $HClO_2$,

(iii) $HClO_3$

(iv) $HClO_4$ is are

- A. The number of Cl=O bonds in (ii) and (iii) together is two
- B. The number of lone pairs of electrons on Cl in (ii) and (iii) together is three
- C. The hybridization of Cl in (iv) is sp^3
- D. Amongst (i) to (iv), the strongest acid is (i)

Answer: B::C



[View Text Solution](#)

27. The nitrogen containing compound produced in the reaction of HNO_3 with P_4O_{10}

- A. Can also be prepared by reaction of P_4 and HNO_3
- B. Is diamagnetic
- C. Contains one N-N bond
- D. Reacts with Na metal producing a brown gas

Answer: B::D

 [Watch Video Solution](#)

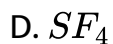
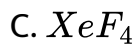
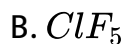
28. The crystalline form of borax has

- A. Tetranuclear $[B_4O_5(OH)_4]^{2-}$ units
- B. All boron atoms in the same plane
- C. Equal number of sp^2 and sp^3 hybridized boron atoms
- D. One terminal hydroxide per boron atom

Answer: A::C::D

 [Watch Video Solution](#)

29. The compound(s) with two lone pairs of electron on the central atom is (are)



Answer: B::C

 [Watch Video Solution](#)

30. The correct statement(s) about , $HClO_4$ and $HClO$, is

- A. The central atom in both $HClO_4$ and $HClO$ is sp^3 hybridized
- B. $HClO_4$ is formed in the reaction between Cl_2 and H_2O
- C. The conjugate base of $HClO_4$ is weaker base than H_2O
- D. $HClO_4$ is more acidic than $HClO$ because of the resonance stabilization of its anion

Answer: A::C::D



Watch Video Solution

31. The colour of the X_2 molecules of group 17 elements changes gradually from yellow to violet down the group. This is due to

- A. Decreases in $\pi^* - \sigma^*$ gap down the group
- B. Decreases in ionization energy down the group
- C. The physical state of X_2 at room temperature changes from gas to solid down the group
- D. Decreases in HOMO-LUMO gap down the group

Answer: A::D

 [Watch Video Solution](#)

32. Among the following , the correct statements (s) is (are)

- A. $Al(CH_3)_3$ has the three -centre two electrons bonds in its dimeric structure
- B. The lewis acidity of BCl_3 is greater than that $AlCl_3$

C. $AlCl_3$ has the three-centre two electron bonds in the dimeric structure

D. BH_3 has the three -centre two -electron bonds in the its dimeric structure

Answer: A::B::D



[View Text Solution](#)

33. The option (s) with only amphoteric oxides is (are)

A. NO , B_2O_3 , PbO , SnO_2

B. Cr_2O_3 , CrO , SnO , PbO

C. Cr_2O_3 , BeO , SnO , SnO_2

D. ZnO , Al_2O_3 , PbO , PbO_2

Answer: C::D

 [Watch Video Solution](#)

34. Which of the following statements is/are correct

- A. Boric acid is a hydrogen bonded molecule
- B. Al_2O_3 is amphoteric while B_2O_3 is acidic
- C. Boric acid can combine with CuO to give metaborate and borax bead test
- D. Boric acid is a lewis acid

Answer: A::B::C::D

 [Watch Video Solution](#)

35. Which of the following is/are V-shaped molecule (s)



Answer: A::D



Watch Video Solution

36. Sodium thiosulphate can be prepared by

A. Boiling Na_2SO_3 solution with sulphur in acidic medium

B. Boiling an aqueous solution of NaOH with sulphur

C. Neutralising H_2SO_4 with NaOH

D. Boiling Na_2SO_3 with sulphur in alkaline medium

Answer: B::D

 Watch Video Solution

37. Which of the following statements (s) is/are correct for group-II metals

A. On decreasing down the group, the lattice energy as well as hydration energy decreases

B. Only BeF_2 is soluble whereas MgF_2 , CaF_2 , SrF_2 and BaF_2 are insoluble

C. $BeCl_2$ is insoluble whereas $MgCl_2$, $CaCl_2$, $SrCl_2$ and $BaCl_2$ are soluble

D. $BeSO_4$ is soluble whereas $BaSO_4$ is insoluble

Answer: A::B::C::D



View Text Solution

38. Which of the following statements are correct regarding 17th group elements

A. I^- reduces Cu^{2+} to Cu^+

B. Cl^- reduces Cu^{2+} to Cu^+

C. I_3^- exists whereas Cl_3^- does not

D. The bond energy order is $Cl_2 > Br_2 > F_2 > I_2$

Answer: A::C::D



Watch Video Solution

39. Which of the following properties of white phosphorus are shared by red phosphorus ?

- A. It shows phosphorescence in air
- B. It burns when heated in air
- C. It dissolves in CS_2
- D. It reacts with NaOH to form phosphine $(PH)_3$

Answer: A::C::D

 [Watch Video Solution](#)

40. Which of the following gases turn lime water milky?

- A. SO_2
- B. CO_2 only

c. CO

D. Cl_2

Answer: B

 [Watch Video Solution](#)

JEE Section (Reasoning type question)

1. Assertion: Although PF_5 , PCl_5 and PBr_5 are known, the pentahalides of nitrogen have not been observed.

Reason: Phosphorus has lower electronegativity than nitrogen.

A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 1

- B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 1
- C. Statement 1 is true, statement 2 is false
- D. Statement 1 is false, statement 2 is true

Answer: B

 [Watch Video Solution](#)

2. Assertion: Amongst the halogens, fluorine can oxidise the elements to the highest oxidation- state.

Reason: Due to small size of fluoride ion, it is difficult to oxidise fluoride ion to fluorine. Hence reverse reaction takes place more easily.

- A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 2
- B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 2
- C. Statement 1 is true, statement 2 is false
- D. Statement 1 is false, statement 2 is true

Answer: B

 [Watch Video Solution](#)

3. Statement I Sulphate is estimated as $BaSO_4$, not as $MgSO_4$.

Statement II Ionic radius of Mg^{2+} is smaller than that of Ba^{2+} .

- A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 3

- B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 3
- C. Statement 1 is true, statement 2 is false
- D. Statement 1 is false, statement 2 is true

Answer: B

 [Watch Video Solution](#)

4. Assertion : The value of van der Waal's constant a is larger for ammonia than for nitrogen

Reason : Hydrogen bonding is present in ammonia

- A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 4

- B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 4
- C. Statement 1 is true, statement 2 is false
- D. Statement 1 is false, statement 2 is true

Answer: A

 [Watch Video Solution](#)

5. Assertion: F atom has a less negative electron affinity than Cl atom.

Reason: Additional electrons are repelled more effectively by $3p$ electrons in Cl atom than by $2p$ electrons in F atom.

- A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 5

- B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 5
- C. Statement 1 is true, statement 2 is false
- D. Statement 1 is false, statement 2 is true

Answer: C

 [Watch Video Solution](#)

6. $Al(OH)_3$ is amphoteric in nature.

$Al - O$ and $O - H$ bonds can be broken with equal ease in $Al(OH)_3$.

- A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 6

- B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 6
- C. Statement 1 is true, statement 2 is false
- D. Statement 1 is false, statement 2 is true

Answer: A

 [Watch Video Solution](#)

7. Between $SiCl_4$ and CCl_4 , only $SiCl_4$ reacts with water.

$SiCl_4$ is ionic and CCl_4 is covalent.

- A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 7
- B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 7

C. Statement 1 is true, statement 2 is false

D. Statement 1 is false, statement 2 is true

Answer: C

 [Watch Video Solution](#)

8. Assertion: Boron always forms covalent bond.

Reason: The small size of B^{3+} favours formation of covalent bond.

A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 1

B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 1

C. Statement 1 is true, statement 2 is false

D. Statement 1 is false, statement 2 is true

Answer: A

 [Watch Video Solution](#)

9. Statement I In water, orthoboric acid behaves as a weak monobasic acid.

Statement II In water, orthoboric acid acts as a proton donor.

- A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 9
- B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 9
- C. Statement 1 is true, statement 2 is false
- D. Statement 1 is false, statement 2 is true

Answer: C

 [Watch Video Solution](#)

10. Statement I: Alkali metals dissolve in liquid ammonia to give blue solutions.

Statement II: Alkali metals in liquid ammonia give solvated species of the type $[M(NH_3)_n]^\oplus$ (M = alkali metals).

- A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 10
- B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 10
- C. Statement 1 is true, statement 2 is false
- D. Statement 1 is false, statement 2 is true

Answer: B

 [Watch Video Solution](#)

11. Assertion (A) : Pb^{+4} compounds are stronger oxidising agents than Sn^{4+} compounds .

Reason (R): The higher oxidation states for group 14 elements are more stable for the heavier members of the group due to inert pair effect .

A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 1

B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 1

C. Statement 1 is true, statement 2 is false

D. Statement 1 is false, statement 2 is true

Answer: C

 [Watch Video Solution](#)

12. Statement I Nitrogen and oxygen are the main components in the atmosphere but these do not react to form oxides of nitrogen.

Statement II The reaction between nitrogen and oxygen requires high temperature.

- A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 12
- B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 12
- C. Statement 1 is true, statement 2 is false
- D. Statement 1 is false, statement 2 is true

Answer: A

 [Watch Video Solution](#)

13. Statement-1 : Ammonium nitrate on heating gives N_2O .

Statement-2 : The contaminant is NO which is removed by passing through ferrous sulphate solution

- A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 1
- B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 1
- C. Statement 1 is true, statement 2 is false
- D. Statement 1 is false, statement 2 is true

Answer: B



Watch Video Solution

14. Statement 1: Li is the strongest reducing agent among all the elements of periodic table

statement 2: Li has the lowest hydration energy among the alkali metals.

- A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 14
- B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 14
- C. Statement 1 is true, statement 2 is false
- D. Statement 1 is false, statement 2 is true

Answer: C



Watch Video Solution

15. Statement 1: D-Cl bond is stronger than H-Cl bond.

statement 2: Chlorine reacts more rapidly with H_2 than with D_2 .

- A. Statement 1 is true, statement 2 is true, statement 2 is a correct explanation for statement 1
- B. Statement 1 is true, statement 2 is true, statement 2 is not a correct explanation for statement 1
- C. Statement 1 is true, statement 2 is false
- D. Statement 1 is false, statement 2 is true

Answer: B



Watch Video Solution

1. The noble gases have closed-shell electronic configuration and are monoatomic gases under normal conditions. The low boiling points of the lighter noble gases are due to weak dispersion forces between the atoms and the absence of other Interatomic Interactions.

The direct reaction of xenon with fluorine leads to a series of compounds with oxidation numbers +2,+4 and +6. XeF_4 reacts violently with water to give XeO_3 The compound of xenon exhibit rich stereochemistry and their geometries can be deduced considering the total number of electron pairs in the valence shell.

Argon is used In arc welding because of its:

- A. Low reactivity with metal
- B. Ability to lower the melting point of metal
- C. Flammability

D. High calorific value

Answer: A

 [Watch Video Solution](#)

2. The noble gases have closed -shell electronic configuration and are monoatomic gases under normal conditions. The low bp of the lighter noble bp of the lighter noble gases are due to weak dispersion force between the atoms and the absence of other interatomic interactions. The direct reaction of xenon with fluorine leads to a series of compounds with oxidation numbers +2,+4 and +6 . XeF_4 reacts violently with water to give XeO_3 . the compound of xenone exhibit rich stereochemistry and their geometries can be deduced considering the total number of electron pairs in the valence shell.

The structures of XeO_3 is

- A. Linear
- B. planar
- C. Pyramidal
- D. T-shaped

Answer: C

 [Watch Video Solution](#)

3. The noble gases have closed-shell electronic configuration and are monoatomic gases under normal conditions. The low boiling points of the lighter noble gases are due to weak dispersion forces between the atoms and the absence of other Interatomic Interactions.

The direct reaction of xenon with fluorine leads to a series of compounds with oxidation numbers +2,+4 and +6. XeF_4 reacts

violently with water to give XeO_3 . The compound of xenon exhibit rich stereochemistry and their geometries can be deduced considering the total number of electron pairs in the valence shell.

XeF_4 and XeF_6 are expected to be:

- A. Oxidizing
- B. Reducing
- C. Unreactive
- D. Strongly basic

Answer: A

 [Watch Video Solution](#)

4. There are some deposits of nitrated and phosphates in the earth's crust. Nitrates are more soluble in water. Nitrates are

difficult to reduce under laboratory conditions but microbes do it easily. Ammonia forms a large number of complexes with transition metal ions. Hybridisation easily explains the ease of sigma donation capability of NH_3 and PH_3 . Phosphine is a flammable gas and is prepared from white phosphorous.

Which of the following statement is correct ?

- A. Phosphates have no biological significance in humans
- B. Between nitrates and phosphates, phosphates are less abundant in earth's crust
- C. Between nitrates and phosphates, phosphates are less in earth's crust
- D. Oxidation of nitrates is possible in soil

Answer: C



Watch Video Solution

5. There are some deposits of nitrated and phosphates in the earth's crust. Nitrates are more soluble in water. Nitrates are difficult to reduce under laboratory conditions but microbes do it easily. Ammonia forms a large number of complexes with transition metal ions. Hybridisation easily explains the ease of sigma donation capability of NH_3 and PH_3 . Phosphine is a flammable gas and is prepared from white phosphorous.

Which of the following statement is correct ?

- A. Between NH_3 and PH_3 , NH_3 is a better electron donor orbital and is less directional
- B. Between NH_3 and PH_3 , PH_3 is a better electron occupies sp^3 orbitals and is more directional
- C. Between NH_3 and PH_3 , NH_3 is a better electron donor because the lone pair of electron occupies sp^3 orbital and is

more directional

D. Between NH_3 and PH_3 , PH_3 is a better electron donor because the lone pair of electron occupies spherical 's' orbital and is less directional

Answer: C

 [Watch Video Solution](#)

6. There are some deposits of nitrates and phosphate in earth's crust. Nitrates are more soluble in water. Nitrates are difficult to reduce under the laboratory conditions but microbes do it easily. Ammonia forms large number of complexes with transition metal ions. Hybridization easily explains the ease of sigma donation capability of NH_3 and PH_3 . Phosphine is a flammable gas and is prepared from white phosphorous.

White phosphorus on reaction with $NaOH$ gives PH_3 as one of the products. This is a:

- A. Dimerization reaction
- B. Disproportional reaction
- C. Condensation reaction
- D. Precipitation reaction

Answer: B



[Watch Video Solution](#)

7. Upon heating $KClO_3$ in presence of catalytic amount of MnO_2 , a gas W is formed. Excess amount of W reacts with white phosphorus to give X . The reaction of X with pure HNO_3 gives Y and Z .

Y and Z are, respectively

A. N_2O_4 and HPO_3

B. N_2O_4 and H_3PO_3

C. N_2O_3 and H_3PO_4

D. N_2O_5 and HPO_3

Answer: D

 [Watch Video Solution](#)

8. Upon heating $KClO_3$ in presence of catalytic amount of MnO_2 , a gas W is formed. Excess amount of W reacts with white phosphorus to give X . The reaction of X with pure HNO_3 gives Y and Z .

W and X are, respectively

A. O_2 and P_4O_{10}

B. O_2 and P_4O_6

C. O_3 and P_4O_6

D. O_3 and P_4O_{10}

Answer: A



Watch Video Solution

9. 'A' on heating at $700^\circ C$ in air gives a white infusible amorphous powder (B) which is decomposed when heated in the current of steam to give white powder 'C' and a gas 'D'. 'D' turns red litmus blue and in aqueous solution, gives reddish brown ppt with K_2HgI_4 . compound 'C' on strong heating gives 'E'.

'A' is

A. B

B. Si

C. P_4

D. N_2

Answer: A

 [Watch Video Solution](#)

10. A' on heating at $700^\circ C$ in air gives a white infusible amorphous powder (B) which is decomposed when heated in the current of steam to give white powder 'C' and a gas 'D'. 'D' turns red litmus blue and in aqueous solution, gives reddish brown ppt with K_2HgI_4 . compound 'C' on strong heating gives 'E'.

'E' is

A. B_2O_3

B. SiO_2

C. NH_3

D. N_2O

Answer: A

 [Watch Video Solution](#)

11. 'A' on heating at $700^\circ C$ in air gives a white infusible amorphous powder (B) which is decomposed when heated in the current of steam to give white powder 'C' and a gas 'D'. 'D' turns red litmus blue and in aqueous solution, gives reddish brown ppt with K_2HgI_4 . compound 'C' on strong heating gives 'E'.

'C' is

A. B_2O_3

B. H_3BO_3

C. P_2O_5

D. SiO_2

Answer: B

 Watch Video Solution

12. A' on heating at $700^{\circ}C$ in air gives a white infusible amorphous powder (B) which is decomposed when heated in the current of steam to give white powder 'C' and a gas 'D'. 'D' turns red litmus blue and in aqueous solution, gives reddish brown ppt with K_2HgI_4 . compound 'C' on strong heating gives 'E'.

'B' is

A. BN

B. B_2O_3

C. SiO_2

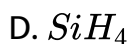
D. P_4O_{10}

Answer: A

 Watch Video Solution

13. A' on heating at $700^{\circ}C$ in air gives a white infusible amorphous powder (B) which is decomposed when heated in the current of steam to give white powder 'C' and a gas 'D'. 'D' turns red litmus blue and in aqueous solution, gives reddish brown ppt with K_2HgI_4 . compound 'C' on strong heating gives 'E'.

'D' is



Answer: B

 Watch Video Solution

JEE Section (Integer type questions)

1. The coordination number of Al in the crystalline state of $AlCl_3$ is ____.

 Watch Video Solution

2. The value of n in the molecular formula $Be_nAl_2Si_6O_{18}$ is:

 Watch Video Solution

3. Among the following, the number of compounds that can react with PCl_5 to give $POCl_3$ is $O_2, CO_2, SO_2, H_2O, H_2SO_4, P_4O_{10}$.

 [Watch Video Solution](#)

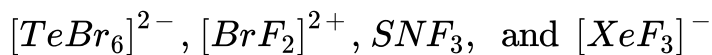
4. Among the following, the number of compounds that can react with SnS_2 , the total number of BLACK coloured sulphides is

 [View Text Solution](#)

5. Three moles of B_2H_6 are completely reacted with methanol. The number of moles of boron containing product formed is:

 [Watch Video Solution](#)

6. The sum of the number of lone pair of electrons on each central atom in the following species is



(Atomic number : N = 7, F = 9, S = 16, Br = 35, Te = 52, Xe = 54)

 [Watch Video Solution](#)

7. How many of the following s-block elements do not give characteristic colours in the flame test

Li, Be, Ca, Sr, Mg, Na, K, Ba

 [Watch Video Solution](#)

8. Number of B-O-B bond in borax

 [Watch Video Solution](#)

9. How many carbon atoms are present in aspirin ?

 [Watch Video Solution](#)

10. What mass (in mg) of available O_2 per liter is present in the a solution of H_2O_2 10 mL of which when treated requires 25 mL of $N/20 KMnO_4$ for complete oxidation of it

 [View Text Solution](#)

11. A 5.0mL of solution of H_2O_2 liberates 0.508g of iodine from acidified KI solution. Calculate the strength of H_2O_2 solution in terms of volume strength at STP .

 [Watch Video Solution](#)

12. How many varieties of heavy water are possible in terms of 3 different isotopes of oxygen

 [Watch Video Solution](#)

13. 20 volume H_2O_2 solution has a strength of about

 [Watch Video Solution](#)

JEE Section (Matrix match type question)

1. Match the reaction in Column I with the nature of the reactions/type of the products listed in column II



 [View Text Solution](#)

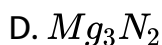
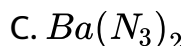
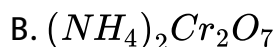
2. The unbalanced chemical reaction given in Column I show missing reagent or condition which are provided in column II match column I with column II.



[View Text Solution](#)

JEE Section (JEE advanced) 2018(More than one choice answer)

1. The compound (s) which generate (s) N_2 upon thermal decomposition is (are) :



Answer: B::C

 [Watch Video Solution](#)

2. Based on the compounds of group 15 elements, the correct statement (s) is (are)

A. Bi_2O_5 is more basic than N_2O_5

B. NF_3 is more covalent than BiF_3

C. PH_3 boils at lower temperature than NH_3

D. The N-N single bond is stronger than the F-F single bond

Answer: A::B::C

 [Watch Video Solution](#)

1. The total number of compounds having at least one bridging oxo group among the molecules given below is ____.

N_2O_3 , N_2O_5 , P_4O_6 , P_4O_7 , $H_4P_2O_5$, $H_5P_3O_{10}$, $H_2S_2O_3$, $H_2S_2O_5$

 [Watch Video Solution](#)