

Chemistry

1. Who is regarded as father of modern chemistry?

- a) Rutherford
- b) Einstein
- c) Lavoisier
- d) C.V. Raman

Answer: Option (c)

Explanation:

Antoine Lavoisier is considered the father of modern chemistry. He was a French nobleman who recognized and named oxygen and isolated the major components of air.

2. Which acid is present in lemon

- a) malic acid
- b) citric acid
- c) lactic acid
- d) tartaric acid

Answer: Option (b)

Explanation:

Citric acid is present in lemon.

3. Rare gases are

- a) mono atomic
- b) di atomic
- c) tri atomic
- d) None of above

Answer: Option (a)

Explanation:

Rare gases are mono atomic.

4. The term PVC used in the plastic industry stands for

- a) polyvinyl chloride
- b) polyvinyl carbobate

- c) phosphor vanadiu chloride
- d) phosphavinyl chloride

Answer: Option (a)

Explanation:

PVC stands for polyvinyl chloride

5. What among following is used to produce artificial rain?

- a) copper oxide
- b) carbon monoxide
- c) silver iodide
- d) silver nitrate

Answer: Option (c)

Explanation:

Silver iodide is used to produce artificial rain.

6. Oil of vitriol is

- a) nitric acid
- b) sulphuric acid
- c) hydrochloric acid
- d) phosphoric acid

Answer: Option (b)

Explanation:

Sulfuric acid or H_2SO_4 was called "oil of vitriol" by medieval European alchemists because it was prepared by roasting "green vitriol" in an iron retort.

7. Which is used in preparation of dynamite?

- a) glycerol
- b) ethyl alcohol
- c) methyl alcohol
- d) glycol

Answer: Option (a)

Explanation:

Glycerol is used in preparation of dynamite.

8. Bleaching action of chlorine is by

- a) decomposition
- b) hydrolysis
- c) reduction
- d) oxidation

Answer: Option (d)

Explanation:

Chlorine bleaches by the process of oxidation. It needs moisture for its bleaching action. Chlorine reacts with water to form hydrochloric and hypochlorous acids. Hypochlorous acid is unstable, and it easily dissociates to form nascent oxygen.

9. Which metal is heaviest

- a) osmium
- b) mercury
- c) iron
- d) nickle

Answer: Option (a)

Explanation:

Osmium is the heaviest metal.

10. What is a mixture of potassium nitrate powdered charcoal and sulphur called?

- a) paint
- b) aluminium
- c) brass
- d) gun powder

Answer: Option (d)

Explanation:

Gun powder is the mixture of potassium nitrate powdered charcoal and sulphur.

11. Nail polish remover contains?

- a) benzene

- b) acetic acid
- c) acetone
- d) petroleum ether

Answer: Option (d)

Explanation:

Acetone can remove artificial nails made of acrylic or cured gel. A less harsh nail polish remover is ethyl acetate, which often also contains isopropyl alcohol. Ethyl acetate is usually the original solvent for nail polish itself.

12. What nucleus of atom contains?

- a) protons
- b) electrons
- c) electrons and protons
- d) protons and neutrons

Answer: Option (d)

Explanation:

Nucleus of atom contains Protons and neutrons.

13. The isotope atoms differ in?

- a) number of neutrons
- b) atomic number
- c) number of electrons
- d) atomic weight

Answer: Option (a)

Explanation:

Important to note that isotope atoms have same atomic number.

14. Human bone does not contain

- a) calcium
- b) carbon
- c) oxygen
- d) phosphorous

Answer: Option (c)

Explanation:

Human bone contains calcium, carbon, phosphorous.

15. Washing soda is?

- a) sodium sulphite
- b) sodium bicarbonate
- c) sodium carbonate
- d) sodium bisulphite

Answer: Option (c)

Explanation:

Sodium carbonate (also known as washing soda, soda ash and soda crystals, and in the monohydrate form as crystal carbonate), Na_2CO_3 , is the water-soluble sodium salt of carbonic acid.

16. Natural rubber is a polymer derived from?

- a) ethylene
- b) propylene
- c) isoprene
- d) butadiene

Answer: Option (c)

Explanation:

Natural rubber is an addition polymer that is obtained as a milky white fluid known as latex from a tropical rubber tree.

17. Who proposed first atomic theory?

- a) E.Rutherford
- b) De Broglie
- c) John Dalton
- d) D.I.Mendeleef

Answer: Option (c)

Explanation:

Democritus first suggested the existence of the atom but it took almost two millennia before the atom was placed on a solid foothold as a fundamental chemical object by John Dalton (1766-1844).

18. pH of blood is?

- a) 10.4
- b) 9
- c) 7.4
- d) 4

Answer: Option (c)

Explanation:

A pH of 7 is neutral. The lower the pH, the more acidic the blood. A variety of factors affect blood pH including what is ingested, vomiting, diarrhea, lung function, endocrine function, kidney function, and urinary tract infection. The normal blood pH is tightly regulated between 7.35 and 7.45.

19. Which one of the following is the softest?

- a) sodium
- b) iron
- c) aluminium
- d) lithium

Answer: Option (a)

Explanation:

Sodium is the softest one.

20. Which have the maximum density?

- a) Water
- b) Benzene
- c) Ice
- d) Chloroform

Answer: Option (a)

Explanation:

Water has the maximum density.

21. Which is also called Stranger Gas?

- a) Xenon
- b) Neon
- c) Argon
- d) Nitrous oxide

Answer: Option (a)

Explanation:

Xenon is also called Stranger Gas.

22. The chemical used as a fixer in photography is?

- a) sodium thiosulphate
- b) sodium sulphate
- c) borax
- d) ammonium sulphate

Answer: Option (a)

Explanation:

Fixation is commonly achieved by treating the film or paper with a solution of thiosulfate salt. Popular salts are sodium thiosulfate—commonly called hypo—and ammonium thiosulfate—commonly used in modern rapid fixer formulae.

23. Water drops are spherical because of?

- a) viscosity
- b) density
- c) polarity
- d) surface tension

Answer: Option (d)

Explanation:

Surface tension is responsible for the shape of liquid droplets. Although easily deformed, droplets of water tend to be pulled into a spherical shape by the cohesive forces of the surface layer. In the absence of other forces, including gravity, drops of virtually all liquids would be approximately spherical.

24. The oxide of Nitrogen used in medicine as anaesthetic is?

- a) Nitrogen pentoxide
- b) Nitrous oxide
- c) Nitric oxide
- d) Nitrogen dioxide

Answer: Option (a)

Explanation:

The oxide of Nitrogen used in medicine as anaesthetic is Nitrogen pentoxide.

25. Which one of the following metals does not react with water to produce Hydrogen?

- a) Cadmium
- b) Lithium
- c) Potassium
- d) Sodium

Answer: Option (a)

Explanation:

A cadmium metal does not react with water to produce Hydrogen.

26. The most electronegative element among the following is

- a) sodium
- b) bromine
- c) fluorine
- d) oxygen

Answer: Option (c)

Explanation:

Fluorine is the most electronegative element.

27. Atomic number is equal to

- a) Number of electrons
- b) Number of neutron
- c) Number of protons
- d) Total number of protons and neutrons

Answer: Option (c)

Explanation:

Atomic number is equal to Number of protons.

28. The metal used to recover copper from a solution of copper sulphate is?

- a) Na
- b) Ag
- c) Hg
- d) Fe

Answer: Option (d)

Explanation:

The metal used to recover copper from a solution of copper sulphate is Fe.

29. Which gas is used in fire extinguishers?

- a) Carbon dioxide
- b) Nitrogen oxide
- c) Carbon monoxide
- d) Sulphur dioxide

Answer: Option (a)

Explanation:

Carbon dioxide is used in fire extinguishers.

30. The metallurgical process in which a metal is obtained in a fused state is called?

- a) roasting
- b) calcinations
- c) smelting
- d) froth floatation

Answer: Option (c)

Explanation:

The metallurgical process in which a metal is obtained in a fused state is called smelting.

31. Which of the following is produced during the formation of photochemical smog?

- a) Nitrogen Oxides
- b) Hydrocarbons
- c) Methane

d) Ozone

Answer: Option (d)

Explanation:

Ozone is produced during the formation of photochemical smog.

32. Which of the following gas is used in cigarette lighters?

- a) Butane
- b) Propane
- c) Methane
- d) Ethane

Answer: Option (a)

Explanation:

Butane, a highly flammable, colorless, easily liquefied gas used in gas-type lighters and butane torches. Naphtha, a volatile flammable liquid hydrocarbon mixture used in wick-type lighters and burners.

33. Biogas majorly contains?

- a) Ethane
- b) Methane
- c) Hydrogen
- d) CO

Answer: Option (b)

Explanation:

Biogas majorly contains Methane.

34. The nuclear particles which are assumed to hold the nucleons together are?

- a) positrons
- b) neutrons
- c) electrons
- d) mesons

Answer: Option (d)

35. The metal that is used as a catalyst in the hydrogenation of oils is?

- a) Pb
- b) Ni
- c) Cu
- d) Pt

Answer: Option (b)

36. The most abundant element in the earth's crust is?

- a) Aluminium
- b) Nitrogen
- c) Silicon
- d) Oxygen

Answer: Option (d)

Explanation:

The most abundant element in the earth's crust is Oxygen.

37. The ore which is found in abundance in India is

- a) monazite
- b) bauxite
- c) magnetite
- d) fluorspar

Answer: Option (a)

Explanation:

The ore monazite is found in abundance in India.

38. The luster of a metal is due to :

- a) high polishing
- b) high density
- c) chemical inertness
- d) presence of free electrons

Answer: Option (d)

Explanation:

The luster of a metal is due to presence of free electrons.

39. The most malleable metal is

- a) platinum
- b) silver
- c) gold
- d) iron

Answer: Option (c)

Explanation:

The most malleable metal is gold.

40. Iodine can be separated from a mixture of Iodine and Potassium Chloride by?

- a) Filtration
- b) Sublimation
- c) Distillation
- d) Sedimentation

Answer: Option (b)

Explanation:

Iodine can be separated from a mixture of Iodine and Potassium Chloride by Sublimation.

41. The material which can be deformed permanently by heat and pressure is called a

- a) thermoset
- b) thermoplastic
- c) chemical compound
- d) polymer

Answer: Option (a)

42. Mass number of a nucleus is :

- a) the sum of the number of protons and neutrons present in the nucleus
- b) always more than the atomic weight
- c) always less than its atomic number
- d) None of above

Answer: Option (a)

43. Conduction band electrons have more mobility than holes because they are

- a) experience collision more frequently
- b) experience collision less frequently

- c) have negative charge
- d) need less energy to move them

Answer: Option (b)

44. Due to rusting the weight of iron

- a) Decreases
- b) Increases
- c) Remains the same
- d) Uncertain

Answer: Option (b)

Explanation:

Corrosion of a block of metal - Iron to Iron Oxide (rust), Aluminum to Bauxite, Cooper to Cupric-oxide, or otherwise - does not change the weight of the metal in the system. ... As long as the object is undisturbed its weight will increase due to the addition of oxygen molecules.

45. Which gas is used to manufacture vanaspati from vegetable oil is

- a) carbon dioxide
- b) nitrogen
- c) oxygen
- d) hydrogen

Answer: Option (d)

Explanation:

Hydrogen is used to manufacture vanaspati from vegetable oil.

46. The most electropositive elements among the following is :

- a) Cs
- b) Ca
- c) Na
- d) Br

Answer: Option (a)

47. Which one is an organic Acid?

- a) Sulphuric

- b) Citric
- c) Nitric
- d) Phosphoric

Answer: Option (b)

48. The gas used for artificial ripening of green fruit is?

- a) ethane
- b) ethylene
- c) carbon dioxide
- d) acetylene

Answer: Option (b)

Explanation:

Ethylene gas is used for artificial ripening of green fruit.

49. The high reactivity of fluorine is due to?

- a) small size of fluorine atom
- b) its high electro negativity
- c) availability of d-orbitals
- d) strong F - F bond

Answer: Option (b)

Explanation:

The high reactivity of fluorine is due to its high electro negativity.

50. Which element found in all organic compounds?

- a) carbon
- b) nitrogen
- c) calcium
- d) none of them

Answer: Option (a)

Explanation:

Carbon is found in all organic matter, but NOT in inorganic matter organic means chemical compounds with carbon in them. In a more general sense, organic refers to living things. And this is connected to the idea of organic chemistry being based on carbon compounds.

51. Which of the following is the most common element in the Universe?

- a) Nitrogen
- b) Oxygen
- c) Hydrogen
- d) Carbon

Answer: Option (c)

52. Indane gas is a mixture of which gases?

- a) butane and hydrogen
- b) butane and propane
- c) butane and oxygen
- d) methane and oxygen

Answer: Option (b)

53. Silicon is used in which of the following?

- a) semiconductors
- b) solar energy devices
- c) transistors
- d) All of these

Answer: Option (d)

54. Which of the following is the nuclear fuel in the sun?

- a) uranium
- b) hydrogen
- c) helium
- d) alpha particles

Answer: Option (c)

55. Cobalt (⁶⁰) isotope is used in the treatment of which disease?

- a) heart diseases
- b) cancer
- c) diabetes
- d) skin diseases

Answer: Option (b)

56. A sample of chloroform before using as an anesthetic, is tested by which solution?

- a) Fehling's solution
- b) Ammonical silver nitrate solution
- c) Ammonical cuprous chloride
- d) Silver nitrate solution after boiling with alcoholic KOH

Answer: Option (b)

57. Which one of the following glasses is used in bullet proof screens?

- a) Reinforced glass
- b) Pyrex glass
- c) Jena glass
- d) Soda glass

Answer: Option (a)

58. Which one among the following is used as a moderator in nuclear reactors?

- a) Ozone
- b) Heavy hydrogen
- c) Hydrogen peroxide
- d) Heavy water

Answer: Option (d)

59. Hydrofluoric acid is not kept in glass bottles because it reacts with—

- a) visible light
- b) silicon dioxide of glass
- c) aluminium oxide of glass
- d) sodium oxide of glass

Answer: Option (b)

60. Electron affinity of noble gases is—

- a) zero
- b) Low
- c) High
- d) Very high

Answer: Option (a)

61. A mixture of benzene and toluene forms—

- a) Non-ideal solution
- b) Ideal solution
- c) Emulsion
- d) Suspension

Answer: Option (b)

62. The plant cell will shrink when placed in—

- a) An isotonic solution
- b) Hypertonic solution
- c) Hypotonic solution
- d) Water

Answer: Option (b)

63. The aqueous solution of which acids is called Vinegar?

- a) Citric acid
- b) Hydrochloric acid
- c) Acetic acid
- d) Oxalic acid

Answer: Option (c)

64. Acid rain is due to air pollution by?

- a) Carbon dioxide
- b) Carbon monoxide
- c) Methane
- d) Nitrous oxide and Sulphur dioxide

Answer: Option (d)

65. The temperature at which the catalytic activity of the catalyst is maximum, is called-

- a) room temperature
- b) critical temperature
- c) absolute temperature
- d) optimum temperature

Answer: Option (d)

66. The catalyst used in hydrogenation of oils is-

- a) Fe
- b) V₂O₅
- c) Ni
- d) O₂

Answer: Option (c)

67. Efficiency of the catalyst depends on its-

- a) physical state
- b) amount used
- c) molecular state
- d) number of free valencies

Answer: Option (c)

68. Carbon occurs in nature in the purest form as

- a) Diamond
- b) Graphite
- c) Carbon black
- d) Coal

Answer: Option (a)

69. Denaturation of a protein is caused by

- a) Heat
- b) Acid
- c) High salt concentration
- d) All of the above

Answer: Option (d)

70. Diamond is the form of carbon that is

- a) Crystalline
- b) Amorphous
- c) Chemical
- d) Alkaline

Answer: Option (a)

71. A complex compound in which the oxidation number of a metal is zero is

- a) $K_4 [Fe (CN)_6]$
- b) $K_3 [Fe (CN)_6]$
- c) $[Ni (CO)_4]$
- d) $[Pt (NH_3)_4]Cl_2$

Answer: Option (c)

72. Which of the following is not an ore of magnesium?

- a) Carnallite
- b) Dolomite
- c) Calamine
- d) Sea water

Answer: Option (c)

73. Which of the following has the highest bond order?

- a) N_2
- b) O_2
- c) He_2
- d) H_2

Answer: Option (a)

74. Which of the following does not give benzoic acid on hydrolysis?

- a) phenyl cyanide
- b) benzoyl chloride
- c) benzyl chloride
- d) methyl benzoate

Answer: Option (c)

75. During the formation of a chemical bond

- a) energy decreases
- b) energy increases
- c) energy of the system does not change
- d) electron-electron repulsion becomes more than the nucleus-electron attraction

Answer: Option (a)

76. Entropy of the universe is

- a) continuously increasing
- b) continuously decreasing
- c) zero
- d) constant

Answer: Option (a)

77. For a stable molecule the value of bond order must be

- a) negative
- b) positive
- c) zero
- d) There is no relationship between stability and bond order.

Answer: Option (b)

78. Ethanol is converted into ethoxy ethane,

- e) by heating excess of ethanol with conc. H_2SO_4
- a) at 140°C
- b) by heating Ethanol with excess of conc. H_2SO_4 at 443 K
- c) by treating with conc. H_2SO_4 at room temperature
- d) by treating with conc. H_2SO_4 at 273 K

Answer: Option (b)

79. Isopropyl methyl ether when treated with cold hydrogen iodide gives

- a) isopropyl iodide and methyl iodide
- b) isopropyl alcohol and methyl iodide
- c) isopropyl alcohol and methyl alcohol
- d) isopropyl iodide and methyl alcohol

Answer: Option (b)

80. Which one of the following can be oxidised to the corresponding carbonyl compound:

- a) O-Nitrophenol
- b) Phenol
- c) 2-methyl-2-hydroxy propane
- d) 2-hydroxy propane

Answer: Option (d)

81. Methyl phenyl ether can be obtained by reacting

- a) phenolate ions and methyl iodide
- b) methoxide ions and bromobenzene
- c) methanol and phenol
- d) bromobenzene and methyl bromide

Answer: Option (a)

82. In Williamson's synthesis

- a) an alcohol is heated with conc. H_2SO_4 at 140°C
- b) an alkyl halide is treated with sodium
- c) an alkyl halide is treated with sodium alkoxide
- d) None of the above

Answer: Option (c)

83. Methanol cannot be dried with anhydrous CaCl_2 because

- a) CaCl_2 dissolves in it
- b) it is not good dehydrating agent
- c) it forms a solid $\text{CaCl}_2 \times 4\text{CH}_3\text{OH}$
- d) it reacts with CH_3OH
- e) Question 10 WRONG

Answer: Option (c)

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- a) phenolate ions and methyl iodide
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- c) methanol and phenol
- d) bromobenzene and methyl bromide

Answer: Option (a)

85. Bond order of which among the following molecules is zero?

- a) F_2
- b) O_2
- c) Be_2
- d) Li_2

Answer: Option (a)

86. Bithional is generally added to the soaps as an additive to function as a/an

- a) Softener
- b) Dryer
- c) Buffering agent
- d) Antiseptic

Answer: Option (d)

87. Artificial sweetener which is stable under cold conditions only is

- a) Saccharine
- b) Sucralose
- c) Aspartame
- d) Alitame

Answer: Option (c)

88. _____ enhances leathering property of soap.

- a) Sodium rosinat
- b) Sodium carbonate
- c) Sodium stearate
- d) Trisodium phosphate

Answer: Option (a)

89. Which one of the following compounds is added to soap to impart antiseptic properties is?

- a) sodium lauryl sulphate
- b) sodium dodecylbenzenesulfonate
- c) rosin
- d) bithional

Answer: Option (d)

90. Butylated hydroxy anisole is

- a) an anti oxidant
- b) cleansing agent
- c) disinfectant
- d) an antihistamine

Answer: Option (a)

91. The most useful classification of drugs for medicinal chemists is on the basis of _____.

- a) chemical structure
- b) drug action
- c) pharmacological effect
- d) molecular targets

Answer: Option (d)

92. Substances which affect the central nervous system and induce sleep are called.

- a) Tranquilizers
- b) Antipyretics
- c) Analgesics
- d) None of these

Answer: Option (a)

93. Select the compound which on treatment with nitrous acid liberates nitrogen

- a) Nitroethane
- b) Triethylamine
- c) Diethylamine
- d) Ethylamine

Answer: Option (d)

94. Presence of nitrogen in which among the following compounds can NOT be detected by Lassaigne method?

- a) Hydrazine
- b) Aniline
- c) p-Toluidine
- d) Picric acid

Answer: Option (a)

95. Reduction of aromatic nitro compounds using Fe and HCl gives _____

- a) aromatic oxime
- b) aromatic hydrocarbon
- c) aromatic primary amine
- d) aromatic amide

Answer: Option (c)

96. A p-type material is electrically

- a) positive
- b) negative
- c) neutral
- d) depends upon the concentration of p-impurities

Answer: Option (c)

97. A metallic crystal having bcc type stacking pattern, what percentage of volume of this lattice is empty space?

- a) 68%
- b) 32%
- c) 26%
- d) 74%

Answer: Option (b)

98. The number of unidentate ligands in the complex ion is called

- a) EAN
- b) Coordination number
- c) primary valency
- d) oxidation number

Answer: Option (b)

99. Which of the following is an intensive property?

- a) temperature
- b) surface tension
- c) viscosity
- d) all of these

Answer: Option (d)

100. The temperature of the system .decreases in an ____

- a) adiabatic compression
- b) isothermal expansion
- c) isothermal compression
- d) adiabatic expansion

Answer: Option (d)