

CHEMISTRY

Q1. Which among the following has the maximum density?

- (a) Water
- (b) Ice
- (c) Ethylene
- (d) Acetone

Q2. What happens in an oxidation reaction?

- (a) Protons are lost.
- (b) Electrons are lost
- (c) Neutrons are lost
- (d) Electrons are gained

Q3. The reactions in which oxidation and reduction occur simultaneously are called _____.

- (a) Feral reactions
- (b) Redox reactions
- (c) Demug reactions
- (d) Kerol reactions

Q4. Who discovered Nitrogen?

- (a) Faraday
- (b) Heisenberg
- (c) Hooke
- (d) Rutherford

Q5. Device used for the detection and measurement of all types of radiation (alpha, beta and gamma)-

- (a) Geiger counter
- (b) Polarimeter
- (c) Calorimeter
- (d) Radiometer

Q6. Carnotite is an ore/mineral of _____.

- (a) Beryllium
- (b) Chromium
- (c) Uranium
- (d) Copper



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10 TOTAL TESTS

- 5 MATHEMATICS TESTS
- 5 GENERAL ABILITY TESTS

Bilingual

Q7. There is a protocol signed to reduce production of CFC, known as -

- (a) CFC Protocol
- (b) IR Protocol
- (c) Montreal Protocol
- (d) UV Protocol

Q8. Malachite is an ore/mineral of -

- (a) Lead
- (b) Manganese
- (c) Mercury
- (d) Copper

Q9. Which among the following will be a negative ion?

- (a) If it has more electrons than protons
- (b) If it has more electrons than neutrons
- (c) If it has more protons than electrons
- (d) If it has more protons than neutrons

Q10. Why metals conduct electricity?

- (a) Because of low melting point
- (b) Because of high tensile strength
- (c) Because of free electrons
- (d) Because of high atomic density

Q11. The poisonous gas accidentally released in Bhopal Gas Tragedy is -

- (a) Methane
- (b) Nitrous Oxide
- (c) Methyl Isocyanate
- (d) Cyanogen

Q12. Release of which among the following is the primary reason for depletion of the ozone layer?

- (a) Nitrous oxide
- (b) Hydrogen dioxide
- (c) Chlorofluro carbon
- (d) Carbon monoxide

Q13. Which of the following molecules is joined by a double covalent bond?

- (a) Cl₂
- (b) O₂
- (c) N₂
- (d) He

Q14. Which of the following elements has the lowest melting point?

- (a) Iodine
- (b) Lead
- (c) Tin
- (d) Mercury

Q15. The common name of sodium bicarbonate is ____.

- (a) Baking soda
- (b) Borax
- (c) Bleach
- (d) Epsom salt

Q16. Metals react with sodium hydroxide to produce _____.

- (a) Oxygen gas
- (b) Sodium
- (c) Water
- (d) Hydrogen gas

Q17. Which base is present in lime water?

- (a) Sodium hydroxide
- (b) Magnesium hydroxide
- (c) Calcium hydroxide
- (d) Ammonium hydroxide

Q18. Rusting is ____.

- (a) Electrolysis
- (b) Oxidation
- (c) Redox
- (d) Reduction

Q19. Which amongst the following is not a Cation?

- (a) Aluminium ion
- (b) Copper ion
- (c) Sulphate ion
- (d) Zinc ion

Q20. Which of the following is not a component of Smog?

- (a) Volatile organic compounds
- (b) Nitrogen Oxide
- (c) Sulphur dioxide
- (d) Chlorine oxide

Q21. What is the common name of CaOCl_2 ?

- (a) Baking Powder
- (b) Baking Soda
- (c) Bleaching Powder
- (d) Washing Soda

Q22. What is the common characteristic of the elements of the same group in the periodic table?

- (a) Electrons in outer most shell
- (b) Total number of electrons
- (c) Total number of protons
- (d) Atomic weight

Q23. Which disease is caused by Nickel?

- (a) Itai Itai
- (b) Dermatitis
- (c) Learning disability
- (d) Asthma

Q24. Most liquids that conduct electricity are solutions of acids, bases and _____.

- (a) Copper
- (b) Aluminium
- (c) Salts
- (d) Iron

Q25. Which base is present in milk of magnesia?

- (a) Magnesium hydroxide
- (b) Ammonium hydroxide
- (c) Sodium hydroxide
- (d) Calcium hydroxide

Q26. Which among the following is present inside the nucleus of an atom?

- (a) Protons and Neutrons
- (b) Electrons and Protons
- (c) Neutrons and Electrons
- (d) Neutrons, Protons, Electrons

Q27. What is baking soda?

- (a) Aluminum bicarbonate
- (b) Sodium isolate
- (c) Sodium bicarbonate
- (d) Aluminum sulphate

Q28. Who discovered Nitrogen?

- (a) Faraday
- (b) Heisenberg
- (c) Hooke
- (d) Rutherford

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Q29. Device used for the detection and measurement of all types of radiation (alpha, beta and gamma)-

- (a) Geiger counter
- (b) Polarimeter
- (c) Calorimeter
- (d) Radiometer

Q30. Which among the following metal is used for galvanization?

- (a) Zinc
- (b) Copper
- (c) Iron
- (d) Silver

Q31. What is dry ice?

- (a) Solid Carbon dioxide
- (b) Solid Nitrogen dioxide
- (c) Solid Sulphur dioxide
- (d) Solid Water

Q32. Which of the following pairs is INCORRECT?

- I. Hematite: Iron
 - II. Pitchblende: Copper
 - III. Monazite: Thorium
- (a) Only I
 - (b) Only II
 - (c) Only I and II
 - (d) Only I and III

Q33. What is an endothermic reaction?

- (a) Reaction in which heat is released.
- (b) Reaction in which heat is absorbed.
- (c) Reaction in which neither heat is released nor absorbed.
- (d) None of these

Q34. The depletion in Ozone layer is caused by _____.

- (a) Nitrous oxide
- (b) Carbon dioxide
- (c) Chlorofluorocarbons
- (d) Methane

Q35. When water itself combines chemically with some element or mineral it is called -

- (a) Carbonation
- (b) Desalination
- (c) Hydration
- (d) Oxidation

Q36. Rodenticide is the chemical which is used to control.

- (a) Bats
- (b) Monkeys
- (c) Mouse
- (d) Rabbits

Q37. Which of the following is a non-metal that remains liquid at room temperature?

- (a) Phosphorous
- (b) Bromine
- (c) Chlorine
- (d) Helium

Q38. The energy, found in dry cell is-

- (a) Mechanic
- (b) Electric
- (c) Chemical
- (d) Electromagnetic

Q39. Which chemical substance is used for making rat poison?

- (a) Ethyl Alcohol
- (b) Methyl Isocyanate
- (c) Potassium Cyanide
- (d) Ethyl Isocyanide

Q40. Which gas is used in fire extinguisher?

- (a) Carbon dioxide
- (b) Hydrogen
- (c) Oxygen
- (d) Sulphur dioxide

Q41. Which of the following is not a part of an atom?

- (a) Electron
- (b) Proton
- (c) Neutron
- (d) Photon

Q42. What is the most commonly used substance in fluorescent tubes?

- (a) Sodium oxide and Argon
- (b) Sodium vapour and Neon
- (c) Mercury vapour and Argon
- (d) Mercury oxide and Neon

Q43. Which is the most abundant element after Oxygen?

- (a) Silicon
- (b) Carbon
- (c) Sodium
- (d) Chlorine

Q44. Chemically "Plaster of Paris" is:

- (a) Calcium Sulphate
- (b) Calcium Carbonate
- (c) Calcium Oxide
- (d) Calcium Oxalate

Q45. Which one of the following pairs is correctly matched?

- (a) Silver Iodide - Horn Silver
- (b) Silver Chloride - Artificial rain
- (c) Zinc Phosphide - Rat poison
- (d) Zinc Sulphide - Philosopher's wool

Q46. In atom, neutron was discovered by:

- (a) J.J. Thomson
- (b) Chadwick
- (c) Rutherford
- (d) Newton

Q47. Which one of the following substances is used in the preservation of food stuff?

- (a) Citric Acid
- (b) Potassium Chloride
- (c) Sodium Benzoate
- (d) Sodium Chloride

Q48. Which one of the following gases, released from biogas plant is used as a fuel gas?

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

Q49. Which of the following is an antidiabetic drug?

- (a) Insulin
- (b) Penicillin
- (c) Chloroquine
- (d) Aspirin



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<ul style="list-style-type: none">• 5 MATHEMATICS TESTS• 5 GENERAL ABILITY TESTS
Bilingual

Q50. Which one of the following liquids is very good conductor of heat?

- (a) Mercury
- (b) Benzene
- (c) Ether
- (d) None of these

Q51. Which among the following is white phosphorus?

- (a) P1
- (b) P6
- (c) P4
- (d) P5

Q52. Which among the following is present inside the nucleus of an atom?

- (a) Protons and Neutrons
- (b) Electrons and Protons
- (c) Neutrons and Electrons
- (d) Neutrons, Protons, Electrons

Q53. What is baking soda?

- (a) Aluminum bicarbonate
- (b) Sodium isolate
- (c) Sodium bicarbonate
- (d) Aluminum sulphate

Q54. Which among the following elements is a liquid at room temperature?

- (a) Phosphorus
- (b) Mercury
- (c) Sodium
- (d) Aluminum

Q55. Which among the following is an endothermic reaction?

- (a) Respiration
- (b) Combustion
- (c) Sweating
- (d) Burning of natural gas

Q56. Who discovered benzene?

- (a) Hal Anger
- (b) Michael Faraday
- (c) Bruce Ames
- (d) Nicolas Appert

Q57. Which among the following is false about acids?

- (a) They give H^+ ions in aqueous solution
- (b) Most acids contain hydrogen
- (c) They turn blue litmus red
- (d) They are bad conductor of electricity in aqueous solution

Q58. The Chemical formula of Cadmium nitrate is ____.

- (a) $Cd(NO_3)_2$
- (b) $CdNO_3$
- (c) $Cd_2(NO_3)_2$
- (d) Cd_2NO_3

Q59. Which glass is used to make sunglasses?

- (a) Crook's glass
- (b) Potash glass
- (c) Jena glass
- (d) Soda glass

Q60. Beryllium loses ____ electrons to achieve noble gas electron configuration.

- (a) 1
- (b) 2
- (c) 3
- (d) 4

Q61. Which base is present in milk of magnesia?

- (a) Magnesium hydroxide
- (b) Ammonium hydroxide
- (c) Sodium hydroxide
- (d) Calcium hydroxide

Q62. Which of the following is an ore of iron?

- (a) Dolomite
- (b) Epsom Salt
- (c) Siderite
- (d) Galena

Q63. What is the process of rust forming on iron called?

- (a) Rusting
- (b) Crystallisation
- (c) Shovel
- (d) Spade

Q64. The most abundant metal in the Earth's crust is the following?

- (a) Zinc
- (b) Copper
- (c) Aluminium
- (d) Iron

Q65. Name the gas used in preparation of bleaching powder -

- (a) Oxygen
- (b) Hydrogen
- (c) Nitrogen
- (d) Chlorine

Q66. The depletion in Ozone layer is caused by _____.

- (a) Nitrous oxide
- (b) Carbon dioxide
- (c) Chlorofluorocarbons
- (d) Methane

Q67. When water itself combines chemically with some element or mineral it is called -

- (a) Carbonation
- (b) Desalination
- (c) Hydration
- (d) Oxidation

Q68. Ozone consists of -

- (a) Oxygen only
- (b) Oxygen and nitrogen
- (c) Hydrogen and carbon
- (d) Oxygen and carbon

Q69. The pH of lemon juice is expected to be—

- (a) More than 7
- (b) Equal to 7
- (c) Nothing can be predicted
- (d) Less than 7

Q70. Vinegar is chemically known as:

- (a) Acetic acid
- (b) Butyric acid
- (c) Formic acid
- (d) Tartaric acid

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Q71. Which of the following do not consist carbon?

- (a) Diamond
- (b) Graphite
- (c) Coal
- (d) None of these

Q72. Which acid is found in Vinegar?

- (a) Lactic Acid
- (b) Citric Acid
- (c) Malic Acid
- (d) Acetic Acid

Q73. Which one of the following gases, released from biogas plant is used as a fuel gas?

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

Q74. Baking soda is-

- (a) Sodium Chloride
- (b) Sodium Bicarbonate
- (c) Baking Soda
- (d) Sodium Hydroxide

Q75. CNG is-

- (a) Compressed Natural Gas
- (b) Cyanogen Natural Gas
- (c) Condensed Nitrogen Gas
- (d) Controlled Natural Gas

Q76. Alkali metals can -

- (a) Be highly unstable at room temperature
- (b) Vaporize at room temperature
- (c) Easily gain electrons
- (d) Easily lose electrons

Q77. Why does Carbon Tetrachloride have no dipole moment?

- (a) Because of same size of carbon and chlorine atoms
- (b) Because of regular tetrahedral structure
- (c) Because of planar structure
- (d) Because of similar electron affinities of carbon and chlorine

Q78. Which drug is used as an Antidepressant?

- (a) Oxybutynin
- (b) Tramadol
- (c) Sumatriptan
- (d) Bupropion

Q79. Which of the following gases is heavier than oxygen?

- (a) Carbon dioxide
- (b) Ammonia
- (c) Methane
- (d) Helium

Q80. Which acid is released when an Ant bites?

- (a) Hydrochloric Acid
- (b) Formic Acid
- (c) Acetic Acid
- (d) Phosphoric Acid

Q81. Which of the following is not a donor atom?

- (a) Phosphorus
- (b) Antimony
- (c) Arsenic
- (d) Aluminium

Q82. 0 K is equivalent to -

- (a) 273°C
- (b) - 273°C
- (c) 0°C
- (d) 100°C

Q83. _____ gives hardness to stainless steel.

- (a) Zinc
- (b) Lead
- (c) Carbon
- (d) Tin

Q84. Which of the following is not soluble in water?

- (a) Lead sulphate
- (b) Zinc sulphate
- (c) Potassium sulphate
- (d) Sodium sulphate

Q85. The main constituent of biogas is -

- (a) Oxygen
- (b) Methane
- (c) Acetic acid
- (d) Methyl alcohol

Q86. The pH of human blood is between -

- (a) 6.5–7
- (b) 7.35–7.45
- (c) 8–9
- (d) 4.5–5

Q87. Isotope ^{14}C is associated with-

- (a) For cancer diagnosis
- (b) Determining the age of the earth
- (c) Determining the age of fossil
- (d) For traler technology

Q88. Which one of the following pairs is correctly matched?

- (a) Silver Iodide - Horn Silver
- (b) Silver Chloride - Artificial rain
- (c) Zinc Phosphide - Rat poison
- (d) Zinc Sulphide - Philosopher's wool

Q89. In atom, neutron was discovered by:

- (a) J.J. Thomson
- (b) Chadwick
- (c) Rutherford
- (d) Newton

Q90. The gas used to inflate the tyres of an aircraft is-

- (a) Hydrogen
- (b) Nitrogen
- (c) Helium
- (d) Neon

Q91. Which of these consists carbon?

- (a) Lignite
- (b) Tin
- (c) Silver
- (d) Iron

Q92. Of how many carats is the pure gold?

- (a) 22
- (b) 24
- (c) 28
- (d) 20

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Bilingual

Q93. Radioactivity was discovered by:

- (a) Rutherford
- (b) Becquerel
- (c) Bohr
- (d) Benjamin Franklin

Q94. The element found maximum in the soil layer is-

- (a) Oxygen
- (b) Nitrogen
- (c) Manganese
- (d) Silicon

Q95. Which is the most reactive metal?

- (a) Sodium
- (b) Calcium
- (c) Iron
- (d) Potassium

Q96. Aluminium surface is often 'Anodized'. This means the deposition of a layer of-

- (a) Chromium Oxide
- (b) Aluminium Oxide
- (c) Nickel Oxide
- (d) Zinc Oxide

Q97. Galvanized iron is coated with-

- (a) Aluminium
- (b) Galena
- (c) Silver
- (d) Zinc

Q98. Bronze is an alloy of-

- (a) Copper and Tin
- (b) Copper and Silver
- (c) Copper and Iron
- (d) Copper and Lead

Q99. Dry ice is-

- (a) Solid water
- (b) Mountain ice
- (c) Solid CO₂
- (d) Solid carbon mono oxide

Q100. Because of impurities the boiling point of a liquid-

- (a) Increases
- (b) Decreases
- (c) Remains constant
- (d) They are not related

Solutions

S1. Ans.(a)

Sol. Water has maximum density.

S2. Ans.(b)

Sol. Oxidation is the loss of electrons or an increase in oxidation state by a molecule, atom, or ion.

S3. Ans.(b)

Sol. A redox reaction is a type of chemical reaction that involves both oxidation and reduction simultaneously.

S4. Ans.(d)

Sol. Nitrogen is a chemical element with symbol N and atomic number 7. It was first discovered and isolated by Scottish physician Daniel Rutherford in 1772.

S5. Ans.(a)

Sol. A Geiger counter (Geiger-Muller tube) is a device used for the detection and measurement of all types of radiation alpha, beta and gamma radiation.

S6. Ans.(c)

Sol. Carnotite an important uranium ore.

S7. Ans.(c)

Sol. The Montreal Protocol is an international environmental agreement with universal ratification to protect the earth's ozone layer by eliminating use of ozone depleting substances (ODS) like CFC, which would otherwise allow increased UV radiation to reach the earth.

S8. Ans.(d)

Sol. Malachite is an ore/mineral of copper.

S9. Ans.(a)

Sol. Negative ion which is created by an electron gain and it has more electrons than protons.

S10. Ans.(c)

Sol. Metals conduct electricity because of free electrons.

S11. Ans.(c)

Sol. Bhopal gas tragedy occurred on the night of 2-3 December 1984 at the Union Carbide India Limited (UCIL) pesticide plant in Bhopal, Madhya Pradesh. Over 500,000 people were exposed to methyl isocyanate (MIC) gas and other chemicals leaked from UCIL.

S12. Ans.(c)

Sol. The Chlorofluoro carbon formed by chlorine, fluorine and carbon. They are often used as refrigerants, solvents, and for the manufacture of spongy plastics. It is the primary reason for depletion of the ozone layer.

S13. Ans.(b)

Sol. Oxygen atom is joined by double covalent bond.

S14. Ans.(d)

Sol. Mercury has the lowest melting point. Mercury has a melting point of -37.89F.

S15. Ans.(a)

Sol. Sodium bicarbonate is commonly known as baking soda. It is a chemical compound with the formula NaHCO_3 .

S16. Ans.(d)

Sol. Sodium hydroxide reacts with metal to release hydrogen gas. The metal takes the oxygen atom from sodium hydroxide, which in turn takes the oxygen atom from the water, and releases the two hydrogen atoms. The reaction thus produces hydrogen gas.

S17. Ans.(c)

Sol. Calcium hydroxide base is present in lime water.

S18. Ans.(c)

Sol. Redox reaction is the reaction in which oxidation and reduction occurs simultaneously. Rust of iron is nothing but hydrate of iron oxide and iron (III) oxide -hydroxide.

S19. Ans.(c)

Sol. A cation is a positively-charged ion, while an anion is negatively charged. Sulphate is an anion.

S20. Ans.(d)

Sol. Smog is a type of air pollutant. It is composed of nitrogen oxides, sulphur oxides, ozone, smoke or particulates among others (less visible pollutants include carbon monoxide, CFCs and radioactive sources).

S21. Ans.(c)

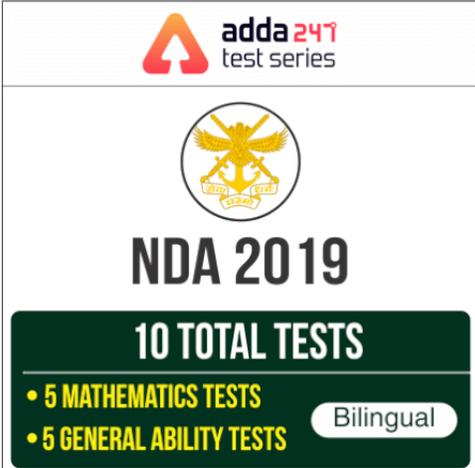
Sol. Calcium hypochlorite is an inorganic compound with formula CaOCl_2 . As a mixture with lime and calcium chloride, it is marketed as chlorine powder or bleach powder for water treatment and as a bleaching agent. Common name of CaOCl_2 is Bleaching Powder.

S22. Ans.(a)

Sol. The elements in each group have the same number of electrons in the outer orbital. Those outer electrons are also called valence electrons. They are the electrons involved in chemical bonds with other elements.

S23. Ans.(b)

Sol. Nickel allergy is a common cause of allergic contact dermatitis—an itchy rash that appears where your skin touches a usually harmless substance.



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Bilingual

S24. Ans.(c)

Sol. Most liquids that conduct electricity are solutions of acids, bases and salts.

S25. Ans.(a)

Sol. Milk of magnesia is the suspension of base Magnesium hydroxide $Mg(OH)_2$ in water.

S26. Ans.(a)

Sol. There are two types of particle in the nucleus of an atom the proton and the neutron.

S27. Ans.(c)

Sol. Baking soda is also known as Sodium bicarbonate. It is a chemical compound with the formula $NaHCO_3$. It is a salt composed of sodium ions and bicarbonate ions. Sodium bicarbonate is a white solid that is crystalline but often appears as a fine powder.

S28. Ans.(d)

Sol. Nitrogen is a chemical element with symbol N and atomic number 7. It was first discovered and isolated by Scottish physician Daniel Rutherford in 1772.

S29. Ans.(a)

Sol. A Geiger counter (Geiger-Muller tube) is a device used for the detection and measurement of all types of radiation alpha, beta and gamma radiation.

S30. Ans.(a)

Sol. Galvanisation is the process of applying a protective zinc coating to iron or steel, to prevent rusting. The most common method is hot dip galvanizing, in which steel sections are submerged in a bath of molten zinc.

S31. Ans.(a)

Sol. Dry ice, sometimes referred to as "cardice", is the solid form of carbon dioxide. It is used primarily as a cooling agent. Its advantages include lower temperature than that of water ice and not leaving any residue. It is useful for preserving frozen foods where mechanical cooling is unavailable.

S32. Ans.(b)

Sol. Pitchblende is a radioactive, uranium-rich mineral and ore. It has a chemical composition that is largely UO_2 , but also contains UO_3 and oxides of lead, thorium, and rare earth elements. It is known as pitch blende due to its black color and high density.

S33. Ans.(b)

Sol. The term endothermic process describes a process or reaction in which the system absorbs energy in the form of heat.

S34. Ans.(c)

Sol. The ozone layer is a region of Earth's stratosphere that absorbs most of the Sun's ultraviolet (UV) radiation. The depletion in Ozone layer is caused by Chlorofluorocarbons.

S35. Ans.(c)

Sol. When water itself combines chemically with some element or mineral called hydration.

S36. Ans.(c)

Sol. Potassium Cyanide (KCN) or Zinc Phosphide is a highly toxic chemical used as a rodenticide – a poison to kill the mouse.

S37. Ans.(b)

Sol. Bromine is the only non-metal and Mercury only metal, liquid at room temperature.

S38. Ans.(c)

Sol. The best example of changing into electric energy from chemical energy is primary cells or batteries, the dry cell is also made up in this phenomenon.

S39. Ans.(c)

Sol. Potassium Cyanide (KCN) or Zinc Phosphide is a highly toxic chemical used as a rodenticide a poison to kill the mouse.

S40. Ans.(a)

Sol. Carbon dioxide gas is used in a fire extinguisher to control small fires, often in emergency situations.

S41. Ans.(d)

Sol. Proton, electron and neutron are part of an atom. These particles are also known as three fundamental particles, but the photon is associated with light energy and also known as energy packet of light.

S42. Ans.(c)

Sol. A fluorescent lamp or fluorescent tube is a gas discharge lamp that uses electricity to excite mercury vapour. It contains Mercury Vapour and Argon.

S43. Ans.(a)

Sol. The most abundant element on earth's surface after Oxygen is Silicon.

S44. Ans.(a)

Sol. A group of gypsum cement, essentially hemihydrated Calcium Sulphate ($\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$), a white powder that forms a paste when it is mixed with water and then hardens into a solid used in making a cast, mould and sculpture.

S45. Ans.(c)

Sol. Pairs is correctly matched as such-

Silver Iodide – Artificial rain, Silver Chloride – Horn Silver, Zinc Phosphide – Rat poison, Zinc Oxide – Philosopher's wool.

S46. Ans.(b)

Sol. Neutron is a neutral particle which has no electrical charge. It was discovered by Chadwick in 1932.

S47. Ans.(c)

Sol. The chemical formula of Sodium Benzoate is $\text{NaC}_7\text{H}_5\text{O}_2$. It is widely used as food preservative.

S48. Ans.(c)

Sol. Methane is the principal gas in biogas. It is also the main component of natural gas, a fossil fuel, can be used to replace natural gas in many applications including cooking, heating, steam production, etc.

S49. Ans.(a)

Sol. Insulin is an anti-diabetic drug.

S50. Ans.(a)

Sol. Mercury is a chemical element with the symbol (Hg). Mercury is used in thermometers due to its special properties. Mercury is good conductor of heat.

S51. Ans.(c)

Sol. The most important form of elemental phosphorus from the perspective of applications and chemical literature is white phosphorus. It consists of tetrahedral P_4 molecules, in which each atom is bound to the other three atoms by a single bond.

S52. Ans.(a)

Sol. There are two types of particle in the nucleus of an atom the proton and the neutron.

S53. Ans.(c)

Sol. Baking soda is also known as Sodium bicarbonate. It is a chemical compound with the formula NaHCO_3 . It is a salt composed of sodium ions and bicarbonate ions. Sodium bicarbonate is a white solid that is crystalline but often appears as a fine powder.

S54. Ans.(b)

Sol. There are two elements that are liquid in room temperature which are Bromine (Br) and Mercury (Hg).

S55. Ans.(c)

Sol. Endothermic process describes a process or reaction in which the system absorbs energy from its surroundings. Sweating is an endothermic reaction.

S56. Ans.(b)

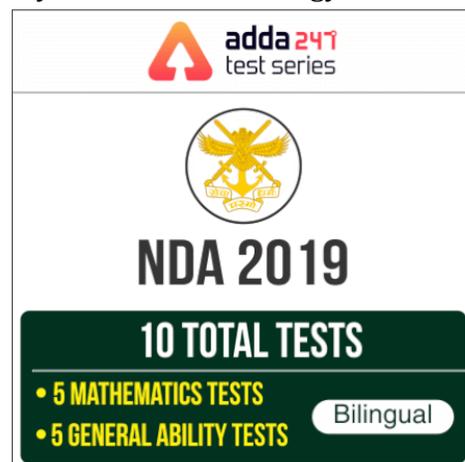
Sol. Benzene was first discovered by the English scientist Michael Faraday in 1825

S57. Ans.(d)

Sol. Acids are not bad conductor of electricity in aqueous solution.

S58. Ans.(a)

Sol. The Chemical formula of Cadmium Nitrate is $\text{Cd}(\text{NO}_3)_2$.



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S59. Ans.(a)

Sol. Crook Glass is a type of glass that contains cerium and other rare earths and has a high absorption of ultraviolet radiation; used in sunglasses.

S60. Ans.(b)

Sol. Beryllium has atomic number 4. Beryllium loses 2 electrons to achieve noble gas electron configuration.

S61. Ans.(a)

Sol. Milk of magnesia is the suspension of base Magnesium hydroxide $Mg(OH)_2$ in water.

S62. Ans.(c)

Sol. Dolomite is an ore of Magnesium; Epsom salt is an ore of Magnesium and sulphur; Galena is an ore of lead and Siderite is an ore of iron.

S63. Ans.(a)

Sol. Rusting is the process of rust forming on iron. In rusting, the red or orange coating that forms on the surface of iron when exposed to air and moisture, consisting chiefly of ferric hydroxide and ferric oxide formed by oxidation.

S64. Ans.(c)

Sol. Most abundant element is Oxygen followed by Silicon. Both of these are non-metal. Silicon is followed by Aluminium which is most abundant metal.

S65. Ans.(d)

Sol. The chlorine gas is used to react with the caustic soda in preparation of bleaching powder.

S66. Ans.(c)

Sol. The ozone layer is a region of Earth's stratosphere that absorbs most of the Sun's ultraviolet (UV) radiation. The depletion in Ozone layer is caused by Chlorofluorocarbons.

S67. Ans.(c)

Sol. When water itself combines chemically with some element or mineral called hydration.

S68. Ans.(a)

Sol. Ozone (O_3), or trioxygen, is a triatomic molecule, consisting of three oxygen atoms.

S69. Ans.(d)

Sol. Lemons are acidic. Any chemical with a pH less than 7 is considered acidic. Lemon juice has a pH around 2.0.

S70. Ans.(a)

Sol. Vinegar consists of acetic acid and water. A small amount of sugar and fruit juice may be added to vinegar as a flavouring agent.

S71. Ans.(d)

Sol. Diamond is an additional form of Carbon. Its relative density is 3.5 Graphite is a slaty-black coloured smooth and brightly organic matter of relative density 2.25, while coal is a solid organic matter used as fuel. All the three are consist of carbon.

S72. Ans.(d)

Sol. Acetic acid is the chief component of vinegar. Vinegar is liquid consisting mainly of acetic acid (CH_3COOH) and water.

S73. Ans.(c)

Sol. Methane is the principal gas in biogas. It is also the main component of natural gas, a fossil fuel, can be used to replace natural gas in many applications including cooking, heating, steam production, etc.

S74. Ans.(b)

Sol. Sodium bicarbonate is also known as Baking Soda. The chemical formula of Sodium Bicarbonate is NaHCO_3 .

S75. Ans.(a)

Sol. C.N.G. is the short form of compressed Natural Gas.

S76. Ans.(d)

Sol. Alkali metals have one electron in their outer shell so alkali metal can easily lose electrons.

S77. Ans.(b)

Sol. Carbon Tetrachloride have no dipole moment because of regular tetrahedral structure.

S78. Ans.(d)

Sol. Bupropion is used to treat major depressive disorder and to help people stop smoking.

S79. Ans.(a)

Sol. For oxygen, a molecule consists of two oxygen atoms, and has a weight of $2 \times 16 = 32$. For carbon dioxide, there is one carbon atom (weight 12) and two oxygen atoms (mass 16×2) for a total of 44. This means that carbon dioxide should be about $44/32 = 1.375$ times (ideally) as heavy as an equivalent volume of oxygen. In reality, carbon dioxide is 1.383 times as heavy as oxygen. Even after solidification carbon di oxide is slightly heavier than similar volume of solid oxygen.

S80. Ans.(b)

Sol. The acid produced by ants is called formic acid. The name comes from the Latin word for ant, which is "formica." Chemically, it is a simple carboxylic acid.

S81. Ans.(d)

Sol. In semiconductor physics, a donor is a dopant atom that, when added to a semiconductor, can form a n-type region. All except aluminium are donor atom.

S82. Ans.(b)

Sol. 0 K is equivalent to -273°C .

S83. Ans.(c)

Sol. Carbon gives hardness to Stainless Steel.

S84. Ans.(a)

Sol. Lead Sulphate is not soluble in water.

S85. Ans.(b)

Sol. The main constituent of biogas is methane. Biogas comprises primarily methane (CH_4) and carbon dioxide (CO_2) and may have small amounts of H_2S , H_2O (moisture) .

S86. Ans.(b)

Sol. The pH of human blood is between 7.35 to 7.45.

S87. Ans.(c)

Sol. This theory was given by Willard Frank Libby in 1949. To determine the age of wood and bones (the time which elapsed after the death of plant) is called Ratio Carbon Dating. The Half-life of Carbon 14 is $5,730 \pm 40$ years.

S88. Ans.(c)

Sol. Pairs is correctly matched as such- Silver Iodide – Artificial rain, Silver Chloride – Horn Silver, Zinc Phosphide – Rat poison, Zinc Oxide – Philosopher's wool.

S89. Ans.(b)

Sol. Neutron is a neutral particle which has no electrical charge. It was discovered by Chadwick in 1932.

S90. Ans.(b)

Sol. Nitrogen gas is used in the tyres of an aeroplane. This is because the nitrogen gas does not support combustion and can assist in preventing wheel fire when the aircraft lands .

S91. Ans.(a)

Sol. Coal minerals are divided mainly into four types on the basis of the percentage of Carbon amount- Peat, Lignite, Bituminous and Anthracite.

S92. Ans.(b)

Sol. It is an extension of the older carat (Karat in North American spelling) system of denoting the purity of gold by fractions of 24, such as '18 carat' for an alloy with 75% (18 parts per 24) pure gold by mass.

S93. Ans.(b)

Sol. Radioactivity was discovered in 1896 by the French Scientist Henri Becquerel when he was working with phosphorescent materials.

S94. Ans.(a)

Sol. The element found the maximum in the soil layer is Oxygen 46.8% followed by Silicon 27.2%, Calcium 3.65% and Carbon 0.6%.

S95. Ans.(d)

Sol. Potassium is the most reactive metal.

Reactivity series (or Electrochemical Series) of metals Most reactive

Potassium	K
Sodium	Na
Barium	Ba
Calcium	Ca

From the above reactivity series, we can see that Potassium is the most reactive metal.

S96. Ans.(b)

Sol. Anodizing is an electrical-chemical process by which the surface of a metal is made durable and rust resistant. In this process, a layer of Aluminium Oxide is deposited on Aluminium.

S97. Ans.(d)

Sol. Galvanization is the process of applying protective zinc coating to steel or iron to prevent rusting.

S98. Ans.(a)

Sol. Bronze is an alloy made up of Copper and another metal Tin. Compositions may vary but most modern bronze is 88% Copper and 12% Tin.

S99. Ans.(c)

Sol. Dry ice sometimes referred to as solid CO₂ or dry snow is the solid form of Carbon dioxide.

S100. Ans.(a)

Sol. The boiling point of a liquid is the temperature at which its vapour pressure is equal to the pressure of the gas above it. Generally impurities increases the boiling point of liquid.

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