

1. Cow milk is a rich source of —

- (A) Vitamin A
- (B) Vitamin B1
- (C) Vitamin C
- (D) Vitamin D

2. The element found in the surface of the Moon is —

- (A) Tin
- (B) Tungsten
- (C) Tantalum
- (D) Titanium

3. The average salinity of sea water is —

- (A) 2%
- (B) 3%
- (C) 2.5%
- (D) 3.5%

4. Which of the following is the most stable element?

- (A) Uranium
- (B) Hydrogen
- (C) Oxygen
- (D) Lead

5. Find the odd one ?

- (A) Marble
- (B) Chalk
- (C) Lime Stone
- (D) Slaked Lime

6. Diamond is harder than graphite because of —

- (A) Difference of layers of atoms
- (B) Tetrahedral structure of diamonds
- (C) Difference of crystalline structures
- (D) None of these

7. A super conductor is characterised by —

- (A) Zero permeability
- (B) Low permeability

- (C) High permeability
- (D) Infinite permeability

8. Of the various forms of carbon, which one is used for absorption purpose ?

- (A) Diamond
- (B) Graphite
- (C) Coke
- (D) Wood Charcoal

9. The main constituents of Pearl are —

- (A) Calcium Carbonate, Magnesium Carbonate
- (B) Calcium oxide, Ammonium Chloride
- (C) Argonite , Chonchiolin
- (D) Ammonium Sulphate, Sodium Carbonate

10. An element that does not occur in nature but can be produced artificially is —

- (A) Thorium
- (B) Radium
- (C) Plutonium
- (D) Uranium

11. The inert gas which is substituted for nitrogen in the air, used by deep sea drivers for breathing is —

- (A) Helium
- (B) Argon
- (C) Krypton
- (D) Xenon

12. The group of metals Fe, Co, Ni may be best called as —

- (A) Alkali metals
- (B) Rare metals
- (C) Main group metals
- (D) Transition metals

13. Which of the following characters is not shown by hydrogen —

- (A) It burns in air to form water
- (B) It supports combustion
- (C) It combines with almost all metals forming hydrides
- (D) It readily combines with fluorine and chlorine

14. Which of the following elements is obtained from sea weeds ?

- (A) Argon
- (B) Sulphur
- (C) Vanadium
- (D) Iodine

15. The metallic constituents of hard water are —

- (A) Magnesium, Calcium and tin
- (B) Iron, tin and calcium
- (C) Calcium, magnesium and iron
- (D) Magnesium, tin and iron

16. The property of a substance to absorb moisture from the air on exposure is called —

- (A) Osmosis
- (B) Desiccation
- (C) Efflorescence
- (D) Deliquescence

17. Brass gets discoloured in air due to the presence of which gas in air —

- (A) Carbon dioxide
- (B) Oxygen
- (C) Hydrogen Sulphide
- (D) Nitrogen

18. Quartz crystals normally used in quartz clocks etc. is chemically —

- (A) Sodium Silicate
- (B) Silicon dioxide
- (C) Germanium dioxide
- (D) A mixture of (B) & (C)

19. Bell Metal is an alloy of —

- (A) Brass and Nickel
- (B) Zinc and Copper
- (C) Tin and Copper
- (D) Nickel and Copper

20. The high temperature superconductors are —

- (A) Metal alloys

- (B) Ceramic oxides
- (C) Inorganic polymers
- (D) Pure rare earth metals

21. The ingredients of Gun metal are —

- (A) Iron, tin
- (B) Copper, tin
- (C) Iron, brass, tin
- (D) Iron, zinc, titanium

22. The gas usually causing explosions in coal mines is —

- (A) Hydrogen
- (B) Carbon monoxide
- (C) Air
- (D) Methane

23. Cotton fibers are made of —

- (A) cellulose
- (B) starch
- (C) proteins
- (D) fats

24. Which of the following ores does not contain iron?

- (A) Haematite
- (B) Magnetite
- (C) Limonite
- (D) Cassiterite

25. Nuclear fission is caused by the impact of —

- (A) Proton
- (B) Electron
- (C) Neutron
- (D) (A) & (b)

Answers:

1. (B) 2. (D) 3. (D) 4. (D) 5. (D) 6. (C) 7. (A) 8. (D) 9. (A) 10. (C) 11. (A) 12. (D)
13. (B) 14. (D) 15. (C) 16. (D) 17. (C) 18. (B) 19. (C) 20. (B) 21. (B) 22. (D) 23. (A) 24. (D) 25.
(C).

1. Which is a good nuclear fuel ?

- (A) Uranium — 238
- (B) Neptunium — 239
- (C) Thorium — 236
- (D) Plutonium - 236

2. Long distance photography is facilitated by —

- (A) Visible light
- (B) X-rays
- (C) Infra Red rays
- (D) Ultra violet rays

3. Which radioactive pollutant has recently drawn the attention of the public due to its occurrence in the building materials ?

- (A) Radium
- (B) Radon
- (C) Thorium
- (D) Plutonium

4. In an atomic explosion enormous energy is released which is due to the —

- (A) Conversions of neutrons into protons
- (B) Conversion of chemical energy into nuclear energy
- (C) Conversion of mechanical energy into nuclear energy
- (D) Conversion of mass into energy

5. Which of the following is used as a coolant in nuclear reactors ?

- (A) Heavy water
- (B) Cadmium
- (C) Liquid sodium
- (D) Graphite

6. The isotope of Uranium capable of sustaining chain reaction is —

- (A) U 235
- (B) U 238
- (C) U 239
- (D) None of these

7. Radioactive disintegration of Uranium ultimately results in formation of —

- (A) Radium

- (B) Thorium
- (C) Polonium
- (D) Lead

8. Atom bomb is made on the basis of —

- (A) Nuclear fusion
- (B) Nuclear fission
- (C) Both (A) & (B)
- (D) None of these

9. Which of the following has least penetrating power?

- (A) Alpha particles
- (B) Beta particles
- (C) Gamma particles
- (D) All have same power

10. What is increasing order of the wave lengths of the following colours —

- 1. Orange
 - 2. Indigo
 - 3. Yellow
 - 4. Violet
- (A) 1, 2, 3, 4
 - (B) 3, 4, 1, 2
 - (C) 4, 3, 2, 1
 - (D) 4, 2, 3, 1

11. Atoms are composed of —

- (A) Electrons only
- (B) Protons only
- (C) Electrons & Protons
- (D) Electrons & Nuclei

12. The age of most ancient geological formation is estimated by —

- (A) Potassium-Argon method
- (B) Ra-Si method
- (C) C14 method
- (D) Uranium-lead method

13. Which of the following is used as a moderator in nuclear reactor ?

- (A) Ordinary water
- (B) Radium
- (C) Thorium
- (D) Graphite

14. Isotopes are separated by —

- (A) Filtration
- (B) Sublimation
- (C) Distillation
- (D) Crystalization

15. Who suggested that the most of the mass of atom is located in nucleus ?

- (A) Bohr
- (B) Thomson
- (C) Rutherford
- (D) Avogadro

16. Meson particles are found in —

- (A) R-rays
- (B) X-rays
- (C) Laser beam
- (D) Cosmic rays

17. An atom of an element with mass number 23 and atomic number 11 will have —

- (A) 11 neutrons, 12 protons and 11 electrons
- (B) 11 protons, 12 neutrons and 11 electrons
- (C) 11 protons, 12 electrons and 11 neutrons
- (D) 23 protons and 11 electrons

18. The location and energy of an electron in an atom can be specified by —

- (A) Atomic mass
- (B) Atomic number
- (C) Quantum numbers
- (D) None of these

19. Old-written material, which cannot be read easily can be read by —

- (A) Cosmic Rays
- (B) Ultraviolet rays
- (C) Infra Red rays

(D) None of these

20. In an atomic nucleus, neutrons and protons are held together by —

- (A) Gravitational forces
- (B) Magnetic forces
- (C) Exchange forces
- (D) Coulombic forces

21. Which of the following elements is non-radioactive?

- (A) Uranium
- (B) Thorium
- (C) Plutonium
- (D) Zirconium

22. According to Dalton's atomic theory the smallest particle which can exist independently is —

- (A) An atom
- (B) A molecule
- (C) A cation
- (D) An anion

23. The recent atomic weight scale is based on —

- (A) $1\text{H}1$
- (B) $1\text{H}2$
- (C) $6\text{C}12$
- (D) $8\text{O}16$

24. The neutral atom's two isotopes differ in the number of —

- (A) Electron shells
- (B) Protons
- (C) Valence electrons
- (D) Neutrons

25. Optical fibres are mainly used in —

- (A) Communication
- (B) Weaving
- (C) Musical Instruments
- (D) Food Industry

Answers:

1. (C) 2. (C) 3. (C) 4. (D) 5. (C) 6. (A) 7. (D) 8. (B) 9. (A) 10. (D) 11. (D) 12. (C)
13. (D) 14. (C) 15. (C) 16. (D) 17. (B) 18. (C) 19. (C) 20. (C) 21. (D) 22. (A) 23. (C) 24. (D) 25.
(A)

1. The first synthetic fibre made by man was —

- (A) Rayon
- (B) Nylon
- (C) Polyester
- (D) Terycott

2. Which variety of glass is heat resistant ?

- (A) Hard glass
- (B) Flint glass
- (C) Pyrex glass
- (D) Bottle glass

3. Which of the following is used for removing air bubbles from glass during its manufacture ?

- (A) Fledspar
- (B) Arsenic oxide
- (C) Potassium Carbonate
- (D) Soda Ash

4. What are soaps ?

- (A) Salts of silicates
- (B) Ester of heavy fatty acids
- (C) Sodium or potassium salts of heavier fatty acids
- (D) Mixture of glycerol and alcohol

5. Which of the following is used in making artificial sweetener saccharine ?

- (A) Benzene
- (B) Toluene
- (C) Phenol
- (D) Aniline

6. Rayon is chemically —

- (A) Glucose
- (B) Amylase
- (C) Cellulose
- (D) Peptin

7. Which of following is used as a filter in rubber tyres?

- (A) Graphite
- (B) Coal
- (C) Coke
- (D) Carbon Black

8. In vulcanization, natural rubber is heated with —

- (A) Carbon
- (B) Sulphur
- (C) Silicon
- (D) Phosphorus

9. Which type of fire extinguisher is used for petroleum fire ?

- (A) Foam type
- (B) Soda acid type
- (C) Powder type
- (D) None of these

10. Which is/ are the important raw materials in cement industry ?

- (A) Limestone
- (B) Gypsum & Clay
- (C) Clay
- (D) Limestone & Clay

11. Which of the following is the petroleum wax ?

- (A) Bees wax
- (B) Carnauba wax
- (C) Paraffin wax
- (D) Jojoba wax

12. Which of the following fibres is generally preferred for making gauze and lint ?

- (A) Cotton
- (B) Rayon
- (C) Nylon
- (D) Terylene

13. Rubber is coagulated from latex by adding —

- (A) Hydrochloric acid
- (B) Acetic acid

- (C) Sulphuric acid
- (D) Carbonic acid

14. Paper is manufactured by —

- (A) Wood and resin
- (B) Wood, Sodium and Bleaching powder
- (C) Wood and bleaching powder
- (D) Wood, Calcium, hydrogen sulphate and resin

15. Which synthetic fibre is known as artificial silk ?

- (A) Cotton
- (B) Rayon
- (C) Terylene
- (D) Nylon

16. Deep blue colour is imparted to glass by the presence of —

- (A) Iron oxide
- (B) Cupric oxide
- (C) Nickel oxide
- (D) Cobalt oxide

17. The combustible material at the tip of a safety match stick is —

- (A) Sulphur
- (B) Manganese dioxide
- (C) Phosphorus
- (D) Antimony sulphide

18. Which of the following roofs provide better protection against fire ?

- (A) Cement slab
- (B) Asbestos sheet
- (C) Reinforced concrete
- (D) None of these

19. The material used for bleaching paper pulp is —

- (A) Chlorine
- (B) Caustic soda
- (C) Sodium Hypochlorite
- (D) Lime

20. Which of the following is a protein ?

- (A) Wool
- (B) Starch
- (C) Natural rubber
- (D) Cellulose

21. Soap is a mixture of sodium or potassium salts of—

- (A) Monocarboxylic acid
- (B) Glycerols
- (C) Dicarboxylic acid
- (D) Tricarboxylic acid

22. Which of the following material is used to prepare blue-black ink ?

- (A) Gallic acid
- (B) Tannic acid
- (C) Ferrous sulphate
- (D) All of these

23. The type of glass used in making prisms and lenses is —

- (A) Soft glass
- (B) Pyrex glass
- (C) Jena glass
- (D) Flint glass

24. Carbon tetrachloride fire extinguisher should not be used in closed room because it produces poisonous gas called —

- (A) Carbon Monoxide
- (B) Phosphine
- (C) Phosgene
- (D) None of these

25. Which of the following is commonly called a polyamide ?

- (A) Rayon
- (B) Orion
- (C) Terylene
- (D) Nylon

Answers:

1. (B) 2. (C) 3. (B) 4. (C) 5. (B) 6. (C) 7. (D) 8. (B) 9. (C) 10. (D) 11. (C) 12. (B)

13. (B) 14. (D) 15. (B) 16. (D) 17. (D) 18. (B) 19. (C) 20. (C) 21. (A) 22. (D) 23. (D) 24. (D) 25.
(D)

1. Which of the following is the lightest metal ?

- (A) Mercury
- (B) Silver
- (C) Lithium
- (D) Lead

2. The most important ore of Aluminium is —

- (A) Bauxite
- (B) Calamine
- (C) Calcite
- (D) Galena

3. The element present in the largest amount in rocks and minerals is —

- (A) Carbon
- (B) Silicon
- (C) Hydrogen
- (D) Aluminium

4. An alloy used in making heating elements for electric heating devices is —

- (A) Solder
- (B) Alloysteel
- (C) Nichrome
- (D) German Silver

5. German Silver is an alloy of —

- (A) Copper, Silver & Nickel
- (B) Silver, Copper & Aluminium
- (C) Zinc, Copper & Nickel
- (D) Silver, Zinc & Nickel

6. Air is a/an —

- (A) Compound
- (B) Element
- (C) Mixture

(D) Electrolyte

7. Which of the following is the best conductor of Electricity ?

(A) Ordinary water

(B) Sea water

(C) Boiled water

(D) Distilled water

8. Balloons are filled with —

(A) Helium

(B) Oxygen

(C) Nitrogen

(D) Argon

9. The charcoal used to decolourise raw sugar is —

(A) Animal charcoal

(B) Sugar charcoal

(C) Cocoanut charcoal

(D) Wood charcoal

10. The most abundant metal in the earth's crust is —

(A) Zinc

(B) Copper

(C) Aluminium

(D) Iron

11. The gas used to extinguish fire is —

(A) Neon

(B) Nitrogen

(C) Carbon dioxide

(D) Carbon Monoxide

12. In which of the following activities Silicon Carbide is used ?

(A) Making cement and glass

(B) Disinfecting water and ponds

(C) Making castes for statues

(D) Cutting very hard substances

13. The element common to all acids is —

- (A) Oxygen
- (B) Hydrogen
- (C) Nitrogen
- (D) Sulphur

14. Gobar gas contains mainly —

- (A) Methane
- (B) Carbon dioxide
- (C) Butane
- (D) Carbon Monoxide

15. The most malleable metal is —

- (A) Silver
- (B) Gold
- (C) Aluminium
- (D) Sodium

16. Tetraethyl lead is used as —

- (A) Mosquito repellent
- (B) Pain Killer
- (C) Fire extinguisher
- (D) Petrol additive

17. Which of the following is used in beauty parlours for hair setting ?

- (A) Phosphorus
- (B) Sulphur
- (C) Chlorine
- (D) Silicon

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

- (A) Bromine
- (B) Chlorine
- (C) Helium
- (D) Phosphorus

19. From which mineral is radium obtained —

- (A) Limestone
- (B) Haematite
- (C) Pitchblende

(D) Rutile

20. What is laughing gas ?

- (A) Carbon dioxide
- (B) Sulphur dioxide
- (C) Nitrogen Dioxide
- (D) Nitrous oxide

21. Which of the following is used as a material for making protective windows in space probes ?

- (A) Steel
- (B) Graphite
- (C) Tungsten
- (D) Diamond

22. Which form of phosphorus is used in safety metals?

- (A) Red Phosphorus
- (B) White Phosphorus
- (C) Yellow Phosphorus
- (D) Black Phosphorous

23. Stainless steel is an alloy of —

- (A) Iron, Carbon and Nickel
- (B) Iron and Manganese
- (C) Iron, Chromium and Zinc
- (D) Iron, Chromium and Nickel

24. Which of the following is not correctly matched ?

- (A) Galena : Lead Sulphide
- (B) Green vitriol : Copper sulphate
- (C) Plaster of Paris : Calcium sulphate
- (D) Calomel : Mercurous Chloride

25. Which of the following metals forms an amalgam with other metals ?

- (A) Lead
- (B) Tin
- (C) Zinc
- (D) Mercury

Answers:

1. (C) 2. (A) 3. (B) 4. (C) 5. (C) 6. (C) 7. (B) 8. (A) 9. (D) 10. (C) 11. (C) 12. (D)
13. (B) 14. (A) 15. (B) 16. (D) 17. (B) 18. (A) 19. (C) 20. (D) 21. (D) 22. (A) 23. (D) 24. (B) 25.
(D)

1. Which of the following is not an ore of Aluminium?

- (A) Felsper
- (B) Bauxite
- (C) Cryolite
- (D) Azurite

2. Most soluble in water is —

- (A) Camphor
- (B) Sugar
- (C) Sulphur
- (D) Common Salt

3. Bromine is —

- (A) colourless gas insoluble in water
- (B) A highly inflammable gas
- (C) A Black solid.
- (D) A red liquid.

4. The metal used in storage batteries —

- (A) Iron
- (B) Copper
- (C) Lead
- (D) Zinc

5. Water has maximum density at —

- (A) -4°C
- (B) 0°C
- (C) 4°C
- (D) 100°C

6. The chemical name of Uria is —

- (A) Aneurin
- (B) Chloroetane
- (C) Carbamide
- (D) None of these

7. Permanent hardness of water can be removed by adding —

- (A) Potassium Permanganate
- (B) Chlorine
- (C) Bleaching Powder
- (D) Washing Soda

8. The formula of Plaster of Paris is —

- (A) CaSO_4
- (B) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
- (C) $2\text{CaSO}_4 \cdot 4\text{H}_2\text{O}$
- (D) $2\text{CaSO}_4 \cdot \text{H}_2\text{O}$

9. Which of the following substance is a bad conductor of electricity but a good conductor of heat?

- (A) Asbestos
- (B) Celluloid
- (C) Pusspecks
- (D) Mica

10. Carborandum is —

- (A) Silicon Dioxide
- (B) Silicon Carbide
- (C) Silicon Nitride
- (D) Silicon Phosphide

11. Which of the following is the best conductor of electricity ?

- (A) Copper
- (B) Mica
- (C) Zinc
- (D) Silver

12. Washing soda is the common name of —

- (A) Calcium Carbonate
- (B) Calcium Bi-Carbonate
- (C) Sodium Carbonate
- (D) Sodium Bi-Carbonate

13. The filament of electric bulb is made of —

- (A) Iron

- (B) Nichrome
- (C) Tungsten
- (D) Graphite

14. Bleaching powder is made from —

- (A) Sulphur dioxide and gypsum
- (B) Chlorine and Charcoal
- (C) Soda ash and lime
- (D) Lime and Chlorine

15. The two elements that are frequently used for making transistors are —

- (A) Boron and Aluminium
- (B) Silicon and Germanium
- (C) Iridium and Tungsten
- (D) Niobium and Columbium

16. Which of the following gas is not known as green house gas ?

- (A) Methane
- (B) Carbon dioxide
- (C) Nitrous oxide
- (D) CFC

17. Which of the following is not a neutral oxide ?

- (A) Carbon Monoxide
- (B) Sulphur Dioxide
- (C) Water
- (D) Nitric Oxide

18. Which of the following is used in making smoke bombs ?

- (A) Sulphur
- (B) Phosphorus
- (C) Hydrogen
- (D) Carbon

19. Caustic Soda is —

- (A) NaCl
- (B) Na_2CO_3
- (C) NaOH
- (D) NaHCO_3

20. Chemical formula of Water glass is —

- (A) Na_2SiO_3
- (B) Al_2O_3
- (C) NaAlO_2
- (D) CaSiO_3

21. Which of the following is not a bleaching agent?

- (A) Sulphur di-oxide
- (B) Carbon di-oxide
- (C) Sodium hypochlorite
- (D) Chlorine

22. The gas usually filled in electric bulb is —

- (A) Hydrogen
- (B) Oxygen
- (C) Nitrogen
- (D) Carbon di-oxide

23. Heavy water is —

- (A) Tritium oxide
- (B) Deuterium oxide
- (C) Rain water
- (D) Water at 4°C

24. The gases used in different types of welding would include —

- (A) Oxygen & Hydrogen
- (B) Oxygen, acetylene & argon
- (C) Oxygen & acetylene
- (D) Oxygen, hydrogen & nitrogen

25. Which of the following alloys is used for making magnets ?

- (A) Duralumin
- (B) Stainless Steel
- (C) Alnico
- (D) Magnesium

Answers:

1. (D) 2. (B) 3. (D) 4. (C) 5. (C) 6. (C) 7. (D) 8. (D) 9. (D) 10. (B) 11. (D) 12. (C)

13. (C) 14. (D) 15. (B) 16. (C) 17. (B) 18. (B) 19. (C) 20. (A) 21. (B) 22. (C) 23. (B) 24. (C) 25.
(C) .

1. Permanent hardness of water may be removed by the addition of —

- (A) Alum
- (B) Sodium Carbonate
- (C) Lime
- (D) Potassium Permanganate

2. Potassium nitrate is used in —

- (A) Salt
- (B) Glass
- (C) Fertiliser
- (D) Medicine

3. In which type of rocks are metals like Gold and Copper mostly found ?

- (A) Old igneous
- (B) Old sedimentary
- (C) Old metamorphic
- (D) New metamorphic

4. Which of the following gases is lighter than air ?

- (A) Carbon dioxide
- (B) Oxygen
- (C) Ammonia
- (D) Chlorine

5. Which of the following is used as lubricant ?

- (A) Graphite
- (B) Silica
- (C) Diamond
- (D) Iron Oxide

6. The purest form of iron is —

- (A) Steel
- (B) Pig iron
- (C) Cast iron
- (D) Wrought iron

7. The percentage of carbon is the least in —

- (A) Grey cast iron
- (B) Wrought iron
- (C) White cast iron
- (D) Steel

8. The colour of Emerald is —

- (A) Violet
- (B) Yellow
- (C) Deep Green
- (D) Prussian Blue

9. Permanent hardness of water, due to sulphates of the metal, can be destroyed by the use of —

- (A) Nitrates
- (B) Zeolites
- (C) Sulphonates
- (D) None of these

10. Rust is —

- (A) A mixture of Fe_2O_3 and $\text{Fe}(\text{OH})_2$
- (B) A mixture of FeO and $\text{Fe}(\text{OH})_2$
- (C) FeO only
- (D) A mixture of Fe_2O_3 , $3\text{H}_2\text{O}$ and FeO

11. Liquefied Petroleum gas (LPG) consists of mainly —

- (A) Methane, Ethane and Hexane
- (B) Ethane, Hexane and Nonane
- (C) Methane, Butane and Propane
- (D) Methane, Hexane and Nonane

12. The metal that is present in Photo Films is —

- (A) Mercury
- (B) Platinum
- (C) Magnesium
- (D) Silver

13. Which of the following is in liquid form at room temperature ?

- (A) Cerium
- (B) Sodium

- (C) Francium
- (D) Lithium

14. Soda water contains —

- (A) Nitrous acid
- (B) Carbonic acid
- (C) Carbon dioxide
- (D) Sulphuric acid

15. Which of the following is basis of the modern periodic table ?

- (A) Atomic mass
- (B) Atomic number
- (C) Atomic size
- (D) Atomic volume

16. Of the following metals, which one pollutes the air of a big city ?

- (A) Copper
- (B) Cadmium
- (C) Lead
- (D) Chromium

17. Brass is an alloy of —

- (A) Nickel and Copper
- (B) Copper and Silver
- (C) Nickel and Zinc
- (D) Zinc and Copper

18. The element required for Solar energy conversion —

- (A) Beryllium
- (B) Silicon
- (C) Tantalum
- (D) Ultra pure carbon

19. Monazite is an ore of —

- (A) Sodium
- (B) Titanium
- (C) Thorium
- (D) Zirconium

20. Potassium Permanganate is used for purifying drinking water, because —

- (A) It dissolves the impurities of water
- (B) It is a sterilizing agent
- (C) It is an oxidising agent
- (D) It is a reducing agent.

21. The presence of which of the following salts in water causes corrosion in steam boilers ?

- (A) Sodium Chloride
- (B) Magnesium Chloride
- (C) Calcium bicarbonate
- (D) Potassium bicarbonate

22. Water is a good solvent of ionic salts because —

- (A) It has no colour
- (B) It has a boiling point
- (C) It has a high dipole moment
- (D) It has a high specific heat

23. The hardest substance available in earth is —

- (A) Platinum
- (B) Silicon
- (C) Diamond
- (D) Gold

24. Which of the following is the best conductor of electricity ?

- (A) Zinc
- (B) Copper
- (C) Gold
- (D) Silver

25. The ratio of pure gold in 18 carat gold is —

- (A) 60%
- (B) 75%
- (C) 80%
- (D) 100%

Answers:

1. (B) 2. (B) 3. (A) 4. (C) 5. (A) 6. (D) 7. (D) 8. (C) 9. (B) 10. (D) 11. (C) 12. (D)

13. (C) 14. (C) 15. (B) 16. (C) 17. (D) 18. (B) 19. (C) 20. (C) 21. (B) 22. (C) 23. (C) 24. (D) 25.

(B)

1. The major ingredient of leather is —

- (A) Carbohydrate
- (B) Collagen
- (C) Polymer
- (D) Nucleic acid

2. Glass is made from the mixture of —

- (A) Quartz and mica
- (B) Sand and salt
- (C) Sand and silicates
- (D) None of these

3. Epoxy resins is used as —

- (A) Moth repellants
- (B) Insecticides
- (C) Detergents
- (D) Adhesives

4. Polythene is industrially prepared by the polymerization of —

- (A) Methane
- (B) Styrene
- (C) Acetylene
- (D) Ethylene

5. A mixture of water and alcohol can be separated by —

- (A) Filtration
- (B) Evaporation
- (C) Distillation
- (D) Decantation

6. A substance which changes readily into vapour without heating is called —

- (A) Efflorescent
- (B) Synthetic
- (C) Volatile
- (D) Effervescent

7. In which following processes light energy is converted into chemical energy ?

- (A) Respiration
- (B) Fermentation
- (C) Photosynthesis
- (D) Photorespiration

8. Cooking oil can be converted into vegetables ghee by the process of —

- (A) Oxidation
- (B) Hydrogenation
- (C) Distillation
- (D) Crystallisation

9. Photosynthesis is —

- (A) An exothermic process
- (B) An endothermic process
- (C) A neutral process
- (D) A thermostatic process

10. Which of the following substances exhibit the property of sublimation ?

- (A) Ice
- (B) Wax
- (C) Camphor
- (D) Ethyl Alcohol

11. Combustion is the process in which —

- (A) Heat is produced
- (B) Light is produced
- (C) Heat and Light is produced
- (D) None of these

12. The chemical used as a fixer in photography is —

- (A) Borax
- (B) Sodium thiosulphate
- (C) Sodium Sulphate
- (D) Ammonium persulphate

13. A mixture of iron filings and sand can be separated by —

- (A) Heating
- (B) Sublimation
- (C) Hand picking

(D) Magnetic Separation

14. In which of the following process, Vanadium Pentoxide is used as a catalyst ?

- (A) Contact process
- (B) Haber process
- (C) Solvay process
- (D) None of these

15. The rate of chemical reaction does not depend on —

- (A) Concentration
- (B) Catalyst
- (C) Temperature
- (D) Pressure

16. Which of the following metals can displace hydrogen from dilute acids ?

- (A) Zinc
- (B) Gold
- (C) Copper
- (D) Silver

17. Reaction of alcohol, with carboxylic acid is known as —

- (A) Substitution reaction
- (B) Addition reaction
- (C) Esterification
- (D) Hydrogenation

18. Saponification involves the hydrolysis of fats and oils by —

- (A) Water
- (B) Washing soda
- (C) Stearic acid
- (D) Caustic acid

19. Which of the following gases is obtained by the reaction of water with Calcium Carbide ?

- (A) Acetylene
- (B) Ethylene
- (C) Methane
- (D) Water gas

20. The gas liberated during the reaction of copper with dilute nitric acid is —

- (A) NO₂
- (B) N₂O₅
- (C) O₂
- (D) NO

21. Which of following substances undergoes chemical change on heating ?

- (A) Sodium Chloride
- (B) Silica
- (C) Lead Nitrate
- (D) Platinum wire

22. Water is neither acidic nor alkaline because —

- (A) it cannot accept or donate protons
- (B) it boils at high temperature
- (C) it can dissociate into equal number of hydrogen ions
- (D) it cannot donate or accept electrons

23. PVC is obtained by the polymerisation of —

- (A) Propene
- (B) Vinyl Chloride
- (C) Styrene
- (D) Acetylene

24. Which of the following metals can displace zinc from a solution of zinc sulphate ?

- (A) Lead
- (B) Magnetism
- (C) Iron
- (D) Mercury

25. Water gas is prepared by passing —

- (A) Steam over white hot coke
- (B) Air over red hot coke
- (C) Methane over red hot coke
- (D) Steam over heated sulphur

Answers:

1. (B) 2. (C) 3. (D) 4. (D) 5. (C) 6. (C) 7. (C) 8. (B) 9. (B) 10. (C) 11. (C) 12. (B)
13. (D) 14. (A) 15. (D) 16. (A) 17. (C) 18. (D) 19. (C) 20. (D) 21. (C) 22. (C) 23. (B) 24. (B) 25.
(A)

1. Which of the following metals react with nitrogen to form nitride ?

- (A) Sodium
- (B) Potassium
- (C) Magnesium
- (D) None of these

2. One micron is equal to —

- (A) 1/10th of mm
- (B) 1/100th of mm
- (C) 1/1000th of mm
- (D) 1/10000th of mm

3. Hydrometer is an instrument —

- (A) For measuring sound in water
- (B) To detect the presence of hydrogen in the atmosphere
- (C) For measuring the specific gravity of liquids
- (D) To detect the changes in atmospheric humidity

4. Which thermometer is used to indicate the lowest temperature ?

- (A) Clinical thermometer
- (B) Gas thermometer
- (C) Alcohol thermometer
- (D) Resistance thermometer

5. A chronometer measures —

- (A) Sound waves
- (B) Time
- (C) Water waves
- (D) Colour contrast

6. One fathom is equal to —

- (A) 6 metres
- (B) 6 feet
- (C) 60 feet
- (D) 60 cms

7. What is the unit for measuring the pitch or frequency of sound ?

- (A) Coulomb

- (B) Hum
- (C) Cycles
- (D) Decible

8. The fastest acting enzyme in the biological kingdom is —

- (A) lipase
- (B) amylase
- (C) carboxypeptidase
- (D) carbonic anhydrase

9. German biochemist, Emil Fischer —

- (A) gave Operon model
- (B) compared the fit between enzyme substrate to lock and key
- (C) proposed the theory of competitive inhibition
- (D) proposed the feed back inhibition theory

10. Enzymes generally have —

- (A) same pH and temperature optima
- (B) same pH but different temperature optima
- (C) different pH but same temperature optima
- (D) different pH and temperature optima

11. Coenzyme is —

- (A) always protein
- (B) often metal
- (C) always inorganic compound
- (D) often a vitamin

12. J. B. Sumner isolated first enzyme from Jackbeans as —

- (A) amylase
- (B) trypsin
- (C) urease
- (D) renin

13. Enzymes are absent in —

- (A) fungi
- (B) bacteria
- (C) viruses
- (D) algae

14. The enzymes sucrase acts on —

- (A) sucrose only
- (B) sucrose and starch
- (C) all disaccharides
- (D) any organic monomer

15. Vitamins are —

- (A) inorganic substances which cannot be synthesized by animals
- (B) inorganic by animals
- (C) organic substances that cannot be generally synthesized by animals
- (D) organic substances which can be commonly synthesized by animals

16. Richest source of vitamin B1 (thiamine) is —

- (A) cod liver oil
- (B) curd
- (C) whole bread meal
- (D) eggs

17. One of these vitamins is called erythrocyte maturation factor —

- (A) A
- (B) C
- (C) K
- (D) B12

18. The vitamin which can be synthesized in the gut by bacterial action is —

- (A) vitamin B1
- (B) vitamin B2
- (C) vitamin B12
- (D) All above

19. Deficiency of vitamin D causes —

- (A) rickets
- (B) beri-beri
- (C) scurvy
- (D) night blindness

20. Which one of the following is the best source of vitamin A?

- (A) Apple

- (B) Carrot
- (C) Amla
- (D) Raddish

21. Ascorbic acid is —

- (A) Vitamin K
- (B) Vitamin B
- (C) Vitamin A
- (D) Vitamin C

22. Sterility in some animals is caused due to deficiency of —

- (A) vitamin B
- (B) vitamin D
- (C) vitamin B12
- (D) vitamin E

23. At the boiling temperature an enzyme becomes —

- (A) killed
- (B) denatured
- (C) uneffected
- (D) inactivated

24. Starch hydrolysing enzyme is —

- (A) sucrose
- (B) invertase
- (C) amylase
- (D) cellulase

25. The enzyme used for the formation of RNA on DNA is —

- (A) DNA polymerase
- (B) endonuclease
- (C) topoisomerase
- (D) RNA polymerase

Answers:

1. (C) 2. (C) 3. (C) 4. (C) 5. (B) 6. (B) 7. (D) 8. (D) 9. (B) 10. (C) 11. (D) 12. (C)
13. (C) 14. (A) 15. (C) 16. (C) 17. (D) 18. (D) 19. (A) 20. (B) 21. (D) 22. (D) 23. (B) 24. (C) 25.
(D)

1. The term 'enzyme' was coined by —

- (A) de Duve
- (B) Kunhe
- (C) C. Darwin
- (D) de Candolle

2. Which set of conditions represents easiest way to liquify gas ?

- (A) Low temperature, high pressure
- (B) High temperature, low pressure
- (C) Low temperature, low pressure
- (D) High temperautre, high pressure

3. Artificial rain is caused by spraying small pellets of which of the following over clouds ?

- (A) Ice
- (B) Dry Ice
- (C) NaOH
- (D) NH₄Cl

4. Galvanisation is deposition of —

- (A) Zinc of iron
- (B) aluminium on Iron
- (C) tin on iron
- (D) copper on iron

5. Equal volumes of different gases at any definite temperature and pressure have —

- (A) Equal weights
- (B) equal masses
- (C) equal density
- (D) equal no. of molecules

6. Milk is an example of —

- (A) suspension
- (B) true solution
- (C) emulsion
- (D) gel

7. Which of the following modes of expressing concentration is independent of temperature —

- (A) Molarity
- (B) Molality

- (C) Normality
- (D) Formality

8. If temperature is kept constant during the reaction the process is called —

- (A) Adiabatic
- (B) Isobaric
- (C) Isochoric
- (D) Isothermal

9. Cholera is caused by —

- (A) vibrio cholerae
- (B) salmonella
- (C) bacterioceoccur
- (D) None of these

10. Why do colloidal substance do not deposited below ?

- (A) Specific gravity is less
- (B) It is of very less amount in respect of solvent
- (C) They carry electrical charges
- (D) They are converted to solvent

11. Lightning cause rainfall because —

- (A) It cause combination of oxygen and nitrogen
- (B) Some of the gas molecules become bigger
- (C) It activate H₂O molecule
- (D) Photo-electricity reaction starts

12. Nitrification means —

- (A) Liquifaction of nitrogen
- (B) Convert the atmospheric nitrogen to effective nitrogen compound.
- (C) Production of nitrogen from air
- (D) Conversion of nitrogen to nitric acid.

13. Cell membrane is —

- (A) permeable
- (B) selectively permeable
- (C) semipermeable
- (D) impermeable

14. Cholesterol is one kind of —

- (A) Saturated fatty acid
- (B) unsaturated fatty acid
- (C) Steroid
- (D) Diglyceride

15. Ethyl-alcohol is mixed completely with water. How ethyl alcohol is separated from the mixture ?

- (A) by separation flannel
- (B) by evaporation
- (C) partial-distillation
- (D) evaporation of water

16. White vitriol is —

- (A) $\text{FeSO}_4, 7\text{H}_2\text{O}$
- (B) $\text{ZnSO}_4, 7\text{H}_2\text{O}$
- (C) $\text{MgSO}_4, 7\text{H}_2\text{O}$
- (D) $\text{CuSO}_4, 7\text{H}_2\text{O}$

17. C.T. Scanning uses —

- (A) Ultrasound waves
- (B) Gamma rays
- (C) X-rays
- (D) None of the above

18. Chemically 'speropolenin' is a / an —

- (A) co-polymer of carotinoid and fatty acid
- (B) Carbohydrate
- (C) Propene
- (D) Lactic acid

19. A mixture of salt and sand can be separated by —

- (A) Sublimation
- (B) Dissolving water
- (C) Gravity separation
- (D) Dry distillation

20. Saponification involves the hydrolysis of fats and oils by —

- (A) water

- (B) washing soda
- (C) stearic acid
- (D) caustic soda

21. Photo-synthesis is a/ an —

- (A) exothermic process
- (B) endothermic process
- (C) a neutral process
- (D) a thermostatic process

22. Which of the following is a physical change ?

- (A) oxidation
- (B) reduction
- (C) sublimation
- (D) decomposition

23. Which of the following is not a chemical reaction ?

- (A) Burning of paper
- (B) Digestion of food
- (C) Conversion of water into steam
- (D) Burning of coal

24. Which of the following is a chemical change ?

- (A) Rusting of iron
- (B) Tempering of iron
- (C) Melting of iron
- (D) Bending of iron

25. Photoelectric effect was discovered by —

- (A) Einstein
- (B) Hertz
- (C) Bohr
- (D) Plank

Answers:

1. (B) 2. (A) 3. (C) 4. (A) 5. (D) 6. (C) 7. (B) 8. (D) 9. (A) 10. (A)
11. (C) 12. (B) 13. (C) 14. (A) 15. (C) 16. (B) 17. (A) 18. (A) 19. (B) 20. (D)
21. (B) 22. (C) 23. (C) 24. (A) 25. (A)

1. The penetrating power is maximum in —

- (A) a-rays
- (B) b-rays
- (C) g-rays
- (D) cathode rays

2. Which of the following rays carry no charge ?

- (A) Cathode rays
- (B) X-rays
- (C) a-rays
- (D) Positive rays

3. An atom bomb is based on the principle of —

- (A) Chemical reaction
- (B) Chain reaction in the form of fission
- (C) Nuclear fusion
- (D) None

4. A plant cell differs from an animal cell in the absence of —

- (A) mitochondria
- (B) centrioles
- (C) ribosomes
- (D) endoplasmic reticulum

5. A Vitamin, the absence of which leads to sterility in both males and females is —

- (A) Vitamin K
- (B) Vitamin C or ascorbic acid
- (C) Vitamin D or calciferol
- (D) Vitamin E or tocopherol

6. Anaemia is caused in man due to the deficiency of —

- (A) folic acid
- (B) vitamin A
- (C) vitamin B12
- (D) none

7. Antibiotics are drugs used for the cure of —

- (A) Bacterial diseases
- (B) Cancer

- (C) Malaria
- (D) Nervous disorders

8. Blood does not coagulate inside the body due to the presence of —

- (A) haemoglobin
- (B) heparin
- (C) fibrin
- (D) plasma

9. Blood pressure is dependent on —

- (A) systolic force
- (B) cardiac output
- (C) peripheral resistance
- (D) all of these

10. Which of the following substances undergoes chemical change on heating ?

- (A) Sodium chloride
- (B) Silica
- (C) Lead nitrate
- (D) Platinum wire

11. Vulcanisation is a —

- (A) Science of studying volcanoes
- (B) method of degrade polymers
- (C) Process connected with the making of voltaic cells
- (D) Process of hardening of rubber by heating it with sulphur.

12. Water gas is prepared by passing —

- (A) steam over white-hot coke
- (B) air over red-hot coke
- (C) methane over red-hot coke
- (D) steam over heated sulphur

13. Which of the following gases is obtained by the reaction of water with calcium carbide —

- (A) Acetylene
- (B) Ethylene
- (C) Methane
- (D) Water gas

14. Cooking oil can be converted into vegetable ghee by the process of —
- (A) oxidation
 - (B) hydrogenation
 - (C) distillation
 - (D) crystallisation
15. The contact process is involved in the manufacture of —
- (A) nitric acid
 - (B) Sulphuric acid
 - (C) Ammonia
 - (D) Caustic soda
16. Polythene is industrially prepared by the polymerisation of —
- (A) methane
 - (B) styrene
 - (C) acetylene
 - (D) ethylene
17. Combustion is a process by which —
- (A) heat is produced
 - (B) light is produced
 - (C) heat and light both are produced
 - (D) None of these
18. PVC is obtained by the polymerisation of —
- (A) propane
 - (B) vinyl chloride
 - (C) styrene
 - (D) Acetylene
19. The process by which an organic compound breaks down into simpler compounds on heating to high temperature is known as —
- (A) Aromatisation
 - (B) Polymerisation
 - (C) Pyrolysis
 - (D) Reduction
20. The hydrogenation of the vegetables oils takes place in the presence of finely divided —
- (A) aluminium

- (B) charcoal
- (C) silica
- (D) nickel

21. In which of the following processes light energy is converted into chemical energy ?

- (A) Respiration
- (B) Fermentation
- (C) Photosynthesis
- (D) Photorespiration

22. Rusting of iron involves —

- (A) oxidation
- (B) reduction
- (C) decomposition
- (D) displacement

23. LPG contains —

- (A) Butane and isobutene
- (B) Butane and Propane
- (C) Isobutane and Propane
- (D) Butane, Isobutane and Propane

24. The hormone which stimulates milk production in mammal is known as —

- (A) Glucagon
- (B) prolactin
- (C) progesterone
- (D) oestrogen

25. Antidiuretic hormone (ADH) —

- (A) inhibits the secretion of growth hormone by the pituitary
- (B) inhibits the rate of heart beat
- (C) causes the muscular walls of the arterioles to contract that stimulates the reabsorption of water from the kidney tubules.
- (D) causes an increase in the blood pressure

Answers:

1. (A) 2. (B) 3. (B) 4. (B) 5. (D) 6. (A) 7. (A) 8. (B) 9. (D) 10. (C)
11. (D) 12. (A) 13. (A) 14. (B) 15. (B) 16. (D) 17. (C) 18. (B) 19. (C) 20. (D)
21. (C) 22. (A) 23. (B) 24. (B) 25. (C)