

CHAPTER - 4
CHEMICAL BONDING

1. Chemical bond implies :
 - a) repulsion.
 - b) attraction.
 - c) attraction and repulsion balanced at particular distance.
 - d) attraction and repulsion
2. All atoms undergo chemical bond formation so as to attain:
 - a) duplet
 - b) triplet
 - c) tetrad
 - d) octet
3. A crystal is hard and has high melting point. It is:
 - a) Covalent crystal
 - b) Ionic
 - c) Metallic
 - d) Molecular
4. A chemical bond formed by sharing of electrons is called:
 - a) Covalent bond
 - b) Co-ordinate bond
 - c) Ionic bond
 - d) Metallic bond
5. When bond is formed between two atoms, the energy:
 - a) decreases
 - b) increases
 - c) remains same
 - d) increases or decreases
6. Ionic Bond is not found in:
 - a) Na Cl
 - b) Mg Cl₂
 - c) Mg O
 - d) NH₃
7. Factor that does not favour ionic bond formation is:
 - a) low ionisation energy
 - b) high ionisation energy
 - c) high electron affinity
 - d) high lattice energy
8. Which of the following is not a property of ionic compounds:
 - a) crystalline solids
 - b) low M.Pt & B.Pt
 - c) good conductor of electricity
 - d) soluble in polar solvents
9. An exception to octet rule is shown by:
 - a) H, He
 - b) He, Ne
 - c) Na, H
 - d) Na, Ne
10. Ionic compounds do not conduct electricity in:
 - a) solid state
 - b) liquid state
 - c) aqueous solution
 - d) liquid and aqueous solutions
11. In the crystal of NaCl, Na⁺ is a
 - a) Cation
 - b) Anion
 - c) Neutral particles
 - d) None of them
12. Which statement is correct?
 - a) Positively charged ions is cation
 - b) Negatively charged ion is cation.
 - c) Positively charged ions is anion.
 - d) Neutral ion is cation.
13. A negatively charged ion is formed by:
 - a) lose of electrons.
 - b) gain of electrons.
 - c) no electron transfer.
 - d) none of the above.
14. The size of cation is _____ than that of atom from which it is formed:
 - a) larger
 - b) smaller
 - c) same size
 - d) neither larger nor smaller

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15. Which one shows maximum Hydrogen bonding:
- a) H_2O b) H_2Se
c) H_2S d) HF
16. A covalent bond is formed by:
- a) equal sharing of electrons
b) transfer of electrons
c) unequal sharing of electrons
d) all of the above
17. Double Covalent bond connecting 2 Atoms, there is sharing of :
- a) 2 electrons b) 4 electrons
c) 1 electrons d) all of the above
18. Oxygen Molecules has:
- a) 3 covalent bond
b) 2 covalent bonds
c) 3 ionic bond
d) 2 ionic bond
19. Nitrogen Molecules has
- a) 3 covalent bond
b) 2 covalent bonds
c) 3 ionic bonds
d) 3 covalent bonds
20. NaCl has following bond:
- a) covalent bond
b) co-ordinate bond
c) Ionic bond
d) None of these
21. The relative tendency of an atom to attract towards itself the shared pairs of electrons in a covalent bond in a molecules is called.
- a) Ionisation Energy
b) Electron Affinity
c) Electronegativity
d) Lattice Energy
22. Polar covalent bond is present in:
- a) O_2 b) N_2
c) F_2 d) HCl
23. Which is not a property of covalent compounds:
- a) They do not have ions.
b) Their m.pt and B.pt are low.
c) They are soluble in non polar solvents.
d) They are good conductors of electricity.
24. _____ can be used to distinguish ionic & covalent compounds.
- a) Electrical conductivity
b) Electronegativity
c) Polar covalent bond
d) Non polar covalent bond
25. In H_2O molecules, the H atom are bonded to O atom by:
- a) Ionic bonds
b) Co-ordinate bonds
c) Covalent bonds
d) Hydrogen bonds
26. The shape of water molecule is
- a) Angular b) Triangular
c) Tetrahedral d) None of them
27. Which bond is strongest?
- a) Covalent bond
b) Ionic Bond
c) Co-ordinate
d) Metallic bond
28. Positively charged species are called
- a) Cation
b) Anion
c) Neutral particles
d) None of them
29. Which solvent will dissolve NaCl appreciably:
- a) Kerosene oil b) Petrol
c) Water d) Benzene
30. In an ion, the no. of protons and electrons are:
- a) equal b) unequal
c) both A&B d) none of the above

31. Which of the following is a covalent compound but dissociates into ions on dissolving in water:
 a) NaCl b) KCl
 c) MgCl₂ d) HCl
32. In O₂ molecules the type of bond formed is
 a) Electrovalent Bond
 b) Ionic Bond
 c) Double Covalent Bond
 d) all of these
33. In C₂H₄ the two carbon atoms are linked by:
 a) single covalent bonds
 b) double covalent bonds
 c) triple covalent bonds
 d) four covalent bonds
34. Ionic bonds is an extreme case of:
 a) polar covalent bond
 b) non polar covalent bond
 c) polar co-ordinate bond
 d) none of the above
35. The number of electrons in Na⁺ is:
 a) 8 b) 9
 c) 10 d) 11

(Key)

CHAPTER - 4

CHEMICAL BONDING

1(c)	2(d)	3(b)	4(a)	5 (a)
6(a)	7(b)	8(b)	9(a)	10(a)
11(a)	12(a)	13(b)	14(b)	15(a)
16(a)	17(b)	18(b)	19(d)	20(c)
21(c)	22(d)	23(c)	24(a)	25(b)
26(b)	27(b)	28(a)	29(c)	30 (b)
31(d)	32(c)	33(b)	34(a)	35(c)

CHAPTER - 5
CHEMICAL REACTION

1. Chemical formula is a short hand notation used to represent:
 - a) an ion
 - b) an element
 - c) a compound
 - d) all of the above
2. Heat exchanged in a chemical reaction at constant temperature and pressure is called:
 - a) Entropy change
 - b) Enthalpy change
 - c) Internal energy change
 - d) Free energy change
3. Which of following is not a polyatomic Ion:
 - a) Na^+
 - b) NO_3^-
 - c) OH^-
 - d) NH_4^+
4. Which of the following is a polyatomic cation?
 - a) NH_4^+
 - b) NO_3^-
 - c) OH^-
 - d) SO_4^{2-}
5. The correct chemical formula of Aluminium Sulphate is
 - a) $\text{Al}_3(\text{SO}_4)_2$
 - b) $\text{Al}_2(\text{SO}_4)_3$
 - c) $\text{Al}_3(\text{SO}_3)_2$
 - d) $\text{Al}_2(\text{SO}_3)_3$
6. The formula of Calcium Phosphate is
 - a) $\text{Ca}_2(\text{PO}_4)_3$
 - b) $\text{Ca}_2(\text{PO}_3)_3$
 - c) $\text{Ca}_2(\text{PO}_3)_2$
 - d) $\text{Ca}_3(\text{PO}_4)_2$
7. H_2SO_4 is the formula of :
 - a) Hydrogen Sulphide
 - b) Sulphuric Acid
 - c) Hypo solution
 - d) All of the above
8. The name of HCO_3^- ion is :
 - a) hydrogen carbonate
 - b) bicarbonate
 - c) Carbonate
 - d) bicarbonide
9. Chemical formula of Caustic Potash is:
 - a) $\text{Ca}(\text{OH})_2$
 - b) KOH
 - c) NaOH
 - d) CaO
10. The formula of ammonia is:
 - a) NH_2
 - b) NH_3
 - c) NH_4
 - d) NH_4^+
11. The formula of the compound that can be formed from Cr^{3+} and F^- is:
 - a) Cr_3F
 - b) CrF_3
 - c) Cr_3F_2
 - d) Cr_2F_3
12. When products changes to reactants the type of reaction is called
 - a) Reversible
 - b) Irreversible
 - c) Exothermic
 - d) Endothermic
13. Which one of the following does not represent the essentials of a chemical equation;
 - a) It must be arithmetically true
 - b) It must be chemically true
 - c) The number of atoms of each element in reactants and products must be equal.
 - d) It must be balanced.
14. The upward arrow (\uparrow) placed with some species in a chemical equation represent:
 - a) vigorous nature of reaction
 - b) formation of precipitate
 - c) evolution of a gas
 - d) absorption of gas
15. The downward arrow (\downarrow) placed with some species in a chemical equation represent:
 - a) vigorous nature of reaction
 - b) formation of precipitate
 - c) evolution of a gas
 - d) absorption of gas

16. A chemical reaction in which heat is absorbed is known as:
- endothermic reaction
 - cool reaction
 - exothermic reaction
 - hot reaction
17. A reversible reaction is represented by putting:
- ↓
 - ⇌
 - ≈
 - ≠
18. Which of the following is a Physical change
- Burning of wood
 - evolution of gas by putting salt in coke
 - burning of piece of paper
 - Rusting of iron
19. Which of the following is a chemical change?
- melting of ice
 - dissolution of sugar in water
 - evolution of steam from boiling water
 - Evolution of H_2 by dropping sodium in water
20. Which of the following is not essential for a chemical reaction?
- A chemical equation must represent an actual change
 - It should be balanced w.r.t mass and charge
 - It should be atomic
 - The reaction should have minimum whole number of reactants & products
21. In closed system, there is-
- no heat change
 - no change of heat and matter
 - no change of matter
 - None of these
22. Chemical reactions in which the product of the reaction are capable of undergoing a chemical change to give back the reactants are called:
- Self controlled reactions
 - Autocatalysed reactions
 - Reversible reactions
 - Natural reactions
23. In this reaction $H_2O + C \rightarrow CO + H_2$
- H_2O is a reducing agent
 - H_2O is a Oxidising agent
 - C is a Oxidising agent
 - None of these
24. $2CO + O_2 \rightarrow CO_2$ This equation represents
- Combination reaction
 - Decomposition Reaction
 - Displacement Reaction
 - Double Displacement Reaction
25. A reaction in which a compound breaks up to give two or substance is called:
- Combination reaction
 - Decomposition reaction
 - Displacement reaction
 - Double displacement reaction
26. The reaction $Cu + AgNO_3 \rightarrow Cu(NO_3)_2 + 2Ag$ is:
- Combination reaction
 - Decomposition reaction
 - Single displacement reaction
 - Double displacement reaction
27. Oxidation involves:
- loss of electron
 - gain of electron
 - removal of hydrogen
 - addition of oxygen
28. Reduction involves:
- loss of electron
 - gain of electron
 - removal of hydrogen
 - addition of oxygen

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29. A reducing agent:
 a) gets reduced b) gets oxidized
 c) gets oxidized & reduced
 d) none of the above
30. Formation of sodium ion from sodium is:
 a) oxidation b) reduction
 c) both of the above
 d) none of the above
31. An oxidizing agent -
 a) Get reduced b) Get oxidized
 c) Get reduced and oxidized
 d) None of above
32. Burning of candle after ignition is a:
 a) Spontaneous process
 b) Non- spontaneous process
 c) Endothermic process
 d) Non of these
33. A reaction in which oxidation and eduction occur side by side known as
 a) Redox reaction
 b) Combination reaction
 c) Electrolysis
 d) Double displacement reaction
34. In clsoe system there is
 a) No heat change
 b) No change of heat and matter
 c) No change of metal
 d) None of these
35. In the reaction $\text{Cu} + \text{I}_2 \rightarrow \text{Cu}_2 + 2\text{I}^-$
 a) Copper acts as reducing agents
 b) Copper acts as oxidizing agents
 c) Iodine acts as reducing agent
 d) None of the above
36. $\text{SO}_2 + 2\text{H}_2\text{S} \rightarrow 2\text{H}_2\text{O} + \text{S}$ The above eaction represents an example of
 a) Redox reaction
 b) Acid Alkali Reaction
 c) Combination Reaction
 d) Displacement Reaction
37. The state of equilibrium refers to
 a) State of rest
 b) Dynamic state
 c) Stationary state
 d) State of Inertness
38. The value of x, y, z respectively in the equation
 $x \text{Na} + y \text{O}_2 \rightarrow z \text{Na}_2\text{O}$
 a) 2,2,3 b) 3,3,2
 c) 3,2,3 d) 2,3,2
39. The value of — is:
 $\text{KOH} + \text{---} \rightarrow \text{KCl} + \text{H}_2\text{O}$
 a) H_2O b) Cl_2
 c) Cl_2O d) HCl
40. $3 \text{MnO}_2 + 4\text{Al} \rightarrow 3\text{Mn} + 2\text{Al}_2\text{O}_3$
 In this reaction, the substance oxidized & reduced respectively are:
 a) Mn & O b) Al & O
 c) Mn & Al d) Al & Mn
41. $\text{Ca} + \text{Cl}_2 \rightarrow \text{CaCl}_2$
 Here, the substance reduced is
 a) Ca b) Cl_2
 c) CaCl_2 d) Ca & Cl_2 both

(Key)

CHAPTER - 5 CHEMICAL REACTIONS

- | | | |
|-------|-------|-------|
| 1 d) | 2 b) | 3 a) |
| 4 a) | 5 b) | 6 d) |
| 7 b) | 8 b) | 9 b) |
| 10 b) | 11 b) | 12 a) |
| 13 a) | 14 c) | 15 b) |
| 16 a) | 17 b) | 18 b) |
| 19 d) | 20 c) | 21 b) |
| 22 c) | 23 b) | 24 a) |
| 25 b) | 26 c) | 27 a) |
| 28 b) | 29 b) | 30 a) |
| 31 a) | 32 a) | 33 a) |
| 34 b) | 35 a) | 36 a) |
| 37 b) | 38 d) | 39 d) |
| 40 d) | 41 b) | |

CHAPTER - 6
COAL AND PETROLEUM

- 1) Carbon forms a vast number of compound due to the fact that carbon has
 - a) Variable valency
 - b) Property of catenation
 - c) Great chemical affinity
 - d) none of these
- 2) The fuel obtained from coal that is almost pure form of carbon is
 - a) Heavy oil
 - b) Coke
 - c) Petroleum gas
 - d) Anthracite
- 3) Among the following which one is the oldest refinery in India which is handling the most of refining of petroleum and its products.
 - a) Varanasi
 - b) Mumbai
 - c) Digboi
 - d) Mathura
- 4) The general formula of alkanes is
 - a) C_nH_{2n+1}
 - b) C_nH_{2n+2}
 - c) C_nH_{2n-2}
 - d) C_nH_{2n}
- 5) Unsaturated hydrocarbons have
 - a) Single bond
 - b) double bond only
 - c) Triple bond only
 - d) both double and triple bond
- 6) Alkanes have at least :
 - a) A single bond
 - b) A double bond only
 - c) A triple bond only
 - d) none of these
- 7) A domestic L.P.G cylinder contains 14 kg gas while cylinder used for commercial purposes has gas.
 - a) 19 kg
 - b) 16 kg
 - c) 18 kg
 - d) 22 kg
- 8) Which of the following is an alkyne
 - a) $H_3C - CH_3$
 - b) $H_2C = CH_2$
 - c) $HC \equiv CH$
 - d) $H_3C - CH_2 = CH_3$
- 9) Alkenes are also known as
 - a) Paraffins
 - b) Acetylene
 - c) Olefins
 - d) Alkynes
- 10) The first member of alkynes is
 - a) Ethane
 - b) Ethene
 - c) Methane
 - d) Acetylene
- 11) The structure of methane is of _____ shape
 - a) Tetrahedral
 - b) Trigonal
 - c) Linear
 - d) Pentagonal
- 12) The bond angle between various carbon hydrocarbon bonds in methane is
 - a) 120°
 - b) 180°
 - c) 90°
 - d) $109^\circ, 28'$
- 13) Fossile fuel are
 - a) Renewable and exhaustible
 - b) Renewable but inexhaustible
 - c) Non-renewable
 - d) Non-renewable and can not be recycled
- 14) Methane is also known as
 - a) Bio gas
 - b) Marsh gas
 - c) Natural gas
 - d) Petroleum gas
- 15) For detecting leakage of L.P.G from a cylinder, a compound is added in small amount while filling the gas.
 - a) Ethane mercaptane
 - b) Ethyl mercaptane
 - c) Ethene mercaptane
 - d) Methane mercaptane
- 16) The type of reaction between methane and chlorine in presence of diffused sunlight is
 - a) Addition
 - b) Elimination
 - c) Substitution
 - d) Polymerisation

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- 17) The process of breaking down of a hydrocarbon molecule containing higher number of carbon atoms to lesser number of carbon atom is called
- Knocking
 - Cracking
 - Breaking
 - Splitting
- 18) Ethene undergoes
- Addition reaction
 - Substitution reaction
 - Elimination reaction
 - All of the above
- 19) Burning methane in limited supply of oxygen causes formation of poisonous gas
- CO
 - CO₂
 - SO₂
 - NO₂
- 20) Hydrogenation is carried out in the presence of catalyst
- Copper
 - Vanadium
 - Nickel
 - Cobalt
- 21) Hydrogenation involves
- Conversion of carbon-carbon single bond to double bond
 - Conversion of carbon-carbon single bond to triple bond
 - Conversion of carbon-carbon double bond to single bond
 - All of these
- 22) Which of these is not a fossil fuel —
- CNG
 - LPG
 - Petrol
 - Hydrogen
- 23) Which gas is the main constituent of Biogas, Gobar gas and Sewage gas ?
- Butane
 - Propane
 - Ethane
 - Methane
- 24) Which of these is not a natural source of energy.
- Coal
 - Petroleum
 - electricity
 - Sun
- 25) On passing ethyne through red hot tube _____ is formed
- Ethene
 - Ethane
 - Benzene
 - Benzene
- 26) Ethene is prepared by
- Dehydration of ethanol using conc. H₂SO₄
 - Heating a mixture of sodium acetate and soda lime
 - Heating ethane with oxygen
 - Heating calcium carbide with water
- 27) The gas used for ripening of fruits is
- Methane
 - Ethane
 - Ethene
 - Ethyne
- 28) For welding of metals, the flame used contains a mixture of
- Acetylene
 - Hydrogen
 - Methane
 - Nitrogen
- 29) The gas formed by the action of water on calcium carbide on water is
- Ethane
 - Methane
 - Ethene
 - Ethyne
- 30) Which one of the following gives red ppt. When ammonical cuprous chloride is added to
- Ethane
 - Ethene
 - Ethyne
 - Ethyl chloride
- 31) The shape of Ethyne molecule is
- Flat
 - Linear
 - Tetrahedral
 - None of the above
- 32) On passing ethyne through a solution of copper chloride and ammonium chloride _____ is formed
- Hexane
 - Cyclo hexane
 - Benzene
 - Divinyl acetylene
- 33) A test tube contains a brown colour solution 'X'. When ethane is passed it remains unchanged but disappears when ethene is passed. The name of X is

- a) Bromine b) KMnO_4
 c) $\text{K}_2\text{Cu}_2\text{O}_7$ d) Methyl orange
- 34) Full form of CNG is
 a) Composed Nitrogen gas
 b) Compressed Natural gas
 c) Carbonated natural gas
 d) Common natural gas
- 35) The coal having maximum carbon content is
 a) Peat b) Lignite
 c) Bituminous d) Anthracite
- 36) Destructive distillation of coal is carried out
 a) in absence of air
 b) in presence of air
 c) in presence of NH_3
 d) in presence of carbon di oxide
- 37) Destructive distillation of coal is carried out at
 a) 100-200 K temp.
 b) 1270-1675 K
 c) 0-10 K
 d) 5000-10,000 K
- 38) The most inferior quality of coal is
 a) Peat b) Lignite
 c) Bituminous d) Anthracite
- 39) During fractional distillation of petroleum, the fraction obtained at 343-437 K temperature is
 a) Petroleum Gas
 b) Petrol
 c) Diesel Oil
 d) Lubricating Oil
- 40) are employed to run vehicles like scooters, buses, trucks, trains etc.
 a) External combustion engine
 b) Internal combustion engine
 c) Both a) and b)
 d) None of the above.
- 41) Which of the following is regarded as the best variety of coal
 a) Bituminous b) Lignite
 c) Anthracite d) Peat
- 42) Petroleum Gas has carbon atom:
 a) $\text{C}_1 - \text{C}_4$ b) $\text{C}_5 - \text{C}_7$
 c) $\text{C}_7 - \text{C}_{12}$ d) $\text{C}_{12} - \text{C}_{15}$
- 43) Coal tar is obtained by
 a) Destructive distillation of petroleum
 b) Destructive distillation of coal
 c) Simple distillation of petroleum
 d) Simple distillation of Coal
- 44) As a solvent in drycleaning
 a) Petroleum wax
 b) Petroleum coke
 c) Petroleum ether
 d) Petrol
- 45) Carbon has a valency of
 a) One b) Two
 c) Three d) Four
- 46) The main component of natural gas is:
 a) methane b) ethane
 c) propane d) butane
- 47) The full form of L.P.G. is
 a) Liquid Pressure Gas
 b) Liquified Propane Gas
 c) Liquified Petroleum Gas
 d) None of the above
- 48) Internal combustion engine uses:
 a) Coal
 b) fuel hydrocarbons
 c) both coal & fuel hydrocarbon
 d) none of the above
49. External combustion Engine are based on:
 a) Direct use of heat energy
 b) Indirect use of heat energy
 c) Chemical Energy
 d) Electrical Energy

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50. The ultimate source of energy fossil fuels are
a) Water b) Sun
c) Moon d) Stars
51. Petrol is obtained at _____ temp. during destructive distillation of coal
a) 303 - 363 K b) 343 - 437 K
c) 453 - 550 K d) 525 - 670 K
52. The property of forming bonds with atoms of same element is called;
a) Catenation b) Carbonation
c) Isomerism d) Hydrogen Bonding
53. The property due to which compounds have same molecular formula but different structural formula is called:
a) Catenation b) homogenation
c) isomerism d) hydrogen bonding
54. Shape of Ethene molecule is:
a) tetrahedral b) flat or planar
c) linear d) none of the above
55. Coal mainly contains -
a) Carbon
b) Carbon and Hydrogen
c) Carbon, Hydrogen and Nitrogen
d) Carbon, Nitrogen and Oxygen
56. Which of following is a non-polluting fuel for vehicles
a) Petrol b) Diesel
c) Kerosene d) CNG
57. Ethene is more reactive than methane due to
a) presence of double bond
b) presence of two carbons
c) Presence of four hydrogens
d) all of the above
58. Colour of the crude oil pumped out from a well is
a) Brown b) Black
c) Gray d) White
59. The general formula of Alkanes is:
a) C_nH_{2n+1} b) C_nH_{2n+2}
c) C_nH_{2n-2} d) C_nH_{2n}

(Key)

Chapter - 6

COAL AND PETROLEUM

- | | | | | | |
|-------|-------|-------|-------|-------|-------|
| 1. B | 11. A | 21. C | 31. B | 41. C | 51. B |
| 2. D | 12. D | 22. D | 32. D | 42. A | 52. A |
| 3. C | 13. A | 23. D | 33. A | 43. B | 53. C |
| 4. B | 14. C | 24. C | 34. B | 44. C | 54. B |
| 5. D | 15. B | 25. C | 35. D | 45. D | 55. A |
| 6. b | 16. C | 26. A | 36. A | 46. A | 56. D |
| 7. A | 17. B | 27. C | 37. B | 47. C | 57. A |
| 8. C | 18. A | 28. A | 38. A | 48. B | 58. B |
| 9. C | 19. A | 29. D | 39. B | 49. A | 59. B |
| 10. D | 20. C | 30. C | 40. B | 50. B | |

CHAPTER - 7

RATE OF CHEMICAL REACTION AND CHEMICAL EQUILIBRIUM

- 1) Chemical kinetics is:
 - a) the study of chemical reactions.
 - b) the study of rate of chemical reactions.
 - c) the study of time taken by chemical reactions.
 - d) the study of concentration of substances in chemical reactions
- 2) Photo chemical reactions are those which takes place
 - a) At high temperature
 - b) In the presence of light
 - c) In photography
 - d) Takes Place in the presense of catalyst
- 3) The units of rate of reaction are:
 - a) moles/litre²
 - b) moles/litre⁻¹/sec
 - c) moles/litre
 - d) moles/litre/sec
- 4) The rate of a chemical reactions at a particular moment is called:
 - a) Average rate
 - b) Rate
 - c) Instantaneous rate
 - d) Mean rate
- 5) Rate of reaction is:
 - a) +ve in beginning + -ve later on
 - b) always +ve
 - c) always -ve
 - d) -ve in beginning + +ve later on
- 6) Reactions that take place within 10^{-15} sec are:
 - a) slow reactions
 - b) fast reactions
 - c) medium reactions
 - d) very slow reactions
- 7) Femto chemistry is the
 - a) study of fast reactions
 - b) study of slow reactions
 - c) study of rate of reactions
 - d) study of concentration of reactions
- 8) Activation energy of reaction is equal to
 - a) Thresold energy of the reaction
 - b) Thresold energy + energy of reactants
 - c) Thresold energy - energy of reactants
 - d) Thresold energy + energy of products
- 9) According to Bronsted concept acid and base differ by a
 - a) proton
 - b) electron
 - c) neuton
 - d) atom
- 10) Biochemical reactions are controlled by
 - a) Temperature
 - b) Enzymes
 - c) Radiations
 - d) None of the above
- 11) Factor that does not affect rate of reaction
 - a) Conc. of reaction
 - b) Temperature
 - c) Catalysts
 - d) Time
- 12) The rate of reaction:
 - a) increases with increase in concentration of reactants.
 - b) decreases with increase in concentration of reactants.
 - c) increases with decrease of temperature.
 - d) decreases in presence of catalyst.
- 13) Combustion is the process in which:
 - a) substance burns in presence of oxygen.
 - b) substance burns in presence of carbon.
 - c) substance burns in presence of carbon dioxide.
 - d) substance burns in presence of carbon mono oxide.

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- 14) Rate of reaction increases:
- with decrease of temperature.
 - with increase of temperature.
 - does not change with temperature.
 - none of the above.
- 15) Which of the following is a closed system ?
- Jet Engine
 - Tea placed in steel kettle
 - Pressure cooker
 - Rocket engine during propulsion
- 16) Under a given set of experimental conditions with the increase of concentration of reactants. The rate of chemical reaction
- Decrease
 - Increases
 - Remain uneffective
 - First decrease
- 17) Enzymes can increase the rate of reaction by
- 10^5 times
 - 10^{-5} times
 - 10^{-10} times
 - 10
- 18) Radiations:
- does not change the rate of reaction
 - decrease the rate of reaction
 - increase the rate of reaction
 - increase as well as decrease the rate of reaction
- 19) The taste of soft drink is due to the CO_2 dissolved in it because it makes
- Acid
 - Base
 - Carbonic acid
 - Carbonic base
- 20) Reactions in which heat is released are called.
- exothermic reactions
 - endothermic reactions
 - chemothermic reactions
 - none of the above
- 21) Reactions in which heat is absorbed are called
- exothermic reactions
 - endothermic reactions
 - chemothermic reactions
 - none of the above
- 22) system in which both energy and matter get exchange is called
- Open system
 - closed system
 - Insulated system
 - None of them
- 23) The following is an endothermic reaction:
- $2\text{Al} + \text{Fe}_2\text{O}_3 \rightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}$
 - $\text{Ba}(\text{OH})_2 \cdot 8\text{H}_2\text{O} + 2\text{NH}_4\text{SCN} \rightarrow \text{Ba}(\text{SCN})_2 + 2\text{NH}_3 + 10\text{H}_2\text{O}$
 - $\text{CH}_4 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$
 - None of the above
- 24) In exothermic reactions:
- The total amount of energy of products is less than the total amount of energy of reactants.
 - The total amount of energy of products is more than the total amount of energy of reactants.
 - The total amount of energy of products is equal to the total amount of energy of reactants.
 - The total amount of energy of reactants is less than the total amount of energy of products.
- 25) Reactions which can be reversed in opposite direction are called:
- irreversible reactions
 - endothermic reactions
 - reversible reactions
 - exothermic reactions
- 26) Which of the following is not a reversible reaction

- a) $2C_4H_{10} + 3O_2 \rightarrow 8CO_2 + 10H_2O + \text{Heat}$
 b) $N_2 + 3H_2 \rightarrow 2NH_3$
 c) $CuSO_4 \cdot 5H_2O \rightarrow CuSO_4 + 5H_2O$
 d) $NH_4Cl \rightarrow NH_3 + HCl$
- 27) Reversible reactions occur in:
 a) isolated system
 c) closed system
 b) cool system
 d) open system
28. On diluting a buffer solution, its pH
 a) increases b) Decreases
 c) remains same
 d) May increase or decrease
- 29) The pH value of water at 298K is:
 a) 7 b) less than 7
 c) greater than 7 d) zero
- 30) Which of the following is a Lewis acid:
 a) Cl^- b) H_3O^+
 c) BF_3 d) C_2H_5OH
- 31) Neutralisation involves
 a) Acid and salt
 b) Acid and water
 c) Acid and Base
 d) Loss of acid
- 32) BF_3 is an example of:
 a) Lewis acid b) Arrhenius acid
 c) Lewis base d) None of the above
- 33) State of equilibrium refers to
 a) state of rest
 b) dynamic state
 c) stationary state
 d) state of inertness
- 34) A Lewis acid:
 a) must contain H atom
 b) is always a proton donor
 c) is an electron pair donor
 d) is an electron pair acceptor
35. The example of weak acid is
 a) CH_3COOH b) HCl
 c) H_2SO_4 d) HNO_3
- 36) Which of the following is not a Lewis base
 a) Ag^+ b) H_2O
 c) CN^- d) CH_4
- 37) According to Lewis concept, base is
 a) proton donor
 b) electron pair donor
 c) electron pair acceptor
 d) proton acceptor
- 38) pH of a solution is:
 a) $-\log_{10}[H^+]$ b) $\log_{10}[H^+]$
 c) $\log_{10}[OH^-]$ d) $-\log[OH^-]$
- 39) For neutral solution the value of pH -
 a) < 7 b) > 7
 c) $= 7$ d) none of these
- 40) The pH of pure water is
 a) less than 7 b) 7
 c) zero d) greater than 7
- 41) Which of the following will be strongly acidic
 a) pH = 4.5 b) pH = 0
 c) pH = 1.4 d) both (b) & (c)
- 42) An acid
 a) turns blue litmus red
 b) turns red litmus blue
 c) does not affect
 d) none of the above
- 43) Blood has a pH of
 a) 7.3 – 7.5 b) 4 – 4.4
 c) 4.5 – 5.5 d) 2.4 – 3.4
- 44) A base is a substance that dissociates in aqueous solution to give ions:
 a) Hydrogen b) Hydroxyl
 c) Both (a) and (b)
 d) None of the above

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- 45) Photosynthesis and photography are:
a) fast reactions
b) chemical reactions
c) photochemical reactions
d) light reactions
- 46) Equilibrium can be attained in
a) open system
b) isothermal system
c) iso baric system
d) closed system
- 47) The value of equilibrium constant depends on
a) concentration b) volume
c) pressure d) temperature
- 48) The compounds that get completely ionised are:
a) strong electrolyte
b) weak electrolyte
c) strong insulator
d) weak insulator
- 49) Due to dehydration of copper sulphate, water is removed & colour changes to
a) Blue b) White
c) Dark blue d) Both (a) & (c)
- 50) An example of strong base is
a) NaOH b) NH_4OH
c) $\text{Mg}(\text{OH})_2$ d) $\text{Ca}(\text{OH})_2$
- 51) pH scale was give by:
a) Bohr b) Sorensen
c) Chadwick d) Strasshahn
- 52) Chemical formula of rust is:
a) $\text{Fe}_2\text{O}_3 \cdot x \text{H}_2\text{O}$ b) FeO
c) $\text{ZnO} \cdot x \text{H}_2\text{O}$ d) $\text{Fe}_3\text{O}_4 \cdot x \text{H}_2\text{O}$
- 53) Apples cut turn brown in colour when exposed to air due to:
a) presence of potassium
b) presence of vitamins
c) presence of proteins
d) presence of iron
- 54) In a refrigerator, rate of reaction
a) increases b) decreases
c) increases as well as decreases
d) none of the above
- 55) Rate of reaction
a) decreases with increased concentration.
b) increases with increased concentration
c) increases as well as decreases with increased concentration.
d) none of the above.
- 56) In a pressure cooker rate of reaction increases due to:
a) high pressure b) low pressure
c) high temperature
d) low temperature
- 57) In a homogenous system reactants and products are
a) different phase
b) same phase c) different pressure
d) same pressure
- 58) Which of following is a weak electrolyte
a) CH_3COOH b) NaOH
c) NH_4Cl d) CH_3COONa
- 59) The catalyst added to hydrogen peroxide (H_2O_2) to decrease its rate of reaction is
a) glycerine b) ammonia
c) soda d) hydrogen
- 60) Sign of reversibility is:
a) = b) \rightleftharpoons
c) \rightarrow d) \rightleftharpoons
- 61) Reversible reactions are
a) always completed
b) sometimes completed
c) never completed
d) none of the above
- 62) The pH of a neutral solution is
a) less than 7 b) 7
c) greater than 7 d) 0

63. Water soluble bases are called :
 a) Carbonic acid b) Carbonic base
 c) Alkali d) Ion
- 64) If pH of solutions is greater than 7 then the solution is
 a) Acidic b) Basics
 c) Neutral d) Alkaline
- 65) Acids which dissociate to a less extent in water are:
 a) strong acids b) strong base
 c) weak acid d) weak base
- 66) Acids are:
 a) sweet in taste b) bitter in taste
 c) offensive d) sour in taste
- 67) Basic are:
 a) slippery to touch
 b) sour in taste
 c) sweat to taste
 d) non slippery to touch
- 68) An Arrhenius acid dissociates to give
 a) H^+ b) OH^-
 c) H_2O d) election pain
- 69) An Arrhenius base gives:
 a) H^+ b) OH^-
 c) H_2O d) election pain
- 70) Human blood is an example of
 a) Acidic solution
 b) Basic solution
 c) Buffer solution
 d) None of these

(Key) Chapter - 7**(Rate of Chemical Reaction and Chemical Equilibrium)**

1	A	21	B	41	D	61	C
2.	B	22	A	42	A	62	B
3	C	23	B	43	A	63	C
4.	C	24	A	44	B	64	B
5	B	25	B	45	C	65	C
6	B	26	B	46	D	66	D
7	A	27	C	47	D	67	A
8.	C	28	C	48	A	68	A
9	A	29	A	49	B	69	B
10	B	30	C	50	A	70	C
11	D	31	C	51	B		
12	A	32	A	52	A		
13	A	33	B	53	D		
14	B	34	D	54	B		
15	B	35	A	55	B		
16	B	36	A	56	A		
17	A	37	B	57	B		
18	A	38	A	58	A		
19	C	39	C	59	A		
20	A	40	B	60	D		

CHAPTER - 8

IMPORTANT CHEMICAL COMPOUNDS

- 1) The formula of washing soda is:
 - a) $\text{Na}_2\text{CO}_3 \cdot 2\text{OH}_2\text{O}$
 - b) $\text{CaCO}_3 \cdot 10\text{H}_2\text{O}$
 - c) $\text{Na}_2\text{CO}_3 \cdot 2\text{OH}_2\text{O}$
 - d) $\text{NaOH} \cdot 10\text{H}_2\text{O}$
- 2) $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$ is known as
 - a) Common salt
 - b) Rock salt
 - c) Black salt
 - d) Glauber's salt
- 3) The raw materials used for manufacturing sodium carbonate by Solvay's process are:
 - a) NaCl , CaCO_3 , NH_3
 - b) $\text{CaCl}_2 + \text{NaCl} + \text{CO}_2$
 - c) $\text{Na}_2\text{SO}_4 + \text{CaCO}_3$, NH_3
 - d) $\text{CaSO}_4 + \text{NaCl} + \text{CO}_2$
- 4) Brine is
 - a) NaCl
 - b) CaCO_3
 - c) NH_3
 - d) CaCl_2
- 5) Ammonia absorber is:
 - a) container containing NH_3 & brine
 - b) container containing NH_3 & CaCO_2
 - c) container containing NH_3 & CaCl_2
 - d) container containing NH_3 & CaSO_2
- 6) During carbonation
 - a) sodium carbonate is formed
 - b) sodium bicarbonate is formed
 - c) calcium carbonate is formed
 - d) calcium bicarbonate is formed
- 7) Carbon di oxide used for carbonation is obtained from
 - a) CaCO_3
 - b) $\text{Ca}(\text{HCO}_3)_2$
 - c) Na_2CO_3
 - d) NaHCO_3
- 8) The strong reducing agent among the given alkali is
 - a) Na
 - b) K
 - c) Li
 - d) Cs
- 9) Hard water is made soft by using
 - a) Sodium bicarbonate
 - b) Sodium carbonate
 - c) Sodium chloride
 - d) Sodium hydroxide
- 10) The solution obtained when Na_2CO_3 is dissolved in water is
 - a) acidic
 - b) neutral
 - c) alkaline
 - d) amphoteric
- 11) Sodium carbonate reacts with acids to form
 - a) CO
 - b) CO_2
 - c) C
 - d) O_2
- 12) Which salt give crimson red colour in flame.
 - a) SrCl_2
 - b) CaCl_2
 - c) NaCl
 - d) MgCl_2
- 13) Baking soda is
 - a) Na_2CO_3
 - b) NaHCO_3
 - c) NaCl
 - d) KHCO_3
- 14) is used as an antacid ?
 - a) Sodium chloride
 - b) Bleaching powder
 - c) Sodium bicarbonate
 - d) Sodium carbonate
- 15) Baking powder contains
 - a) NaHCO_3 , $\text{Ca}(\text{H}_2\text{PO}_4)_2$ & starch
 - b) Na_2CO_3 , $\text{Ca}(\text{H}_2\text{PO}_4)_2$ & starch
 - c) NaHCO_3 , $\text{Ca}(\text{HPO}_4)_2$ & starch
 - d) Na_2CO_3 , $\text{Ca}(\text{H}_2\text{PO}_4)_2$ & starch
- 16) Sodium hydrogen carbonate is obtained as primary product of
 - a) Solvay's process
 - b) Contact process
 - c) Haber process
 - d) Bachmanns process

- 17) The formula of bleaching powder is
 a) CaCl_2 b) CaCl_2O_2
 c) CaOCl d) CaOCl_2
- 18) The structure of bleaching powder is
 a) $\begin{array}{l} \text{Cl} \\ \diagup \\ \text{Ca} \\ \diagdown \\ \text{OCl} \end{array}$ b) $\begin{array}{l} \text{O} \\ \diagup \\ \text{Ca} \\ \diagdown \\ \text{Cl} \end{array}$
 c) $\begin{array}{l} \text{O} \\ \diagup \\ \text{Ca} \\ \diagdown \\ \text{Cl} \end{array}$ d) $\begin{array}{l} \text{Cl} \\ \diagup \\ \text{Ca} \\ \diagdown \\ \text{Cl} \\ \diagdown \\ \text{O} \end{array}$
- 19) Bleaching power is
 a) strong oxidising agent
 b) neither
 c) strong reducing agent
 d) both oxidising & reducing agent
- 20) The modern method of preparation of bleaching powder is:
 a) Solvay's process
 b) Contact process
 c) Bachmann's method
 d) Haber process
- 21) The substance used for sterilization of water is
 a) sodium bicarbonate
 b) bleaching powder
 c) sodium carbonate
 d) staked lime
- 22) Bleaching powder is formed by the reaction of
 a) slaked lime and chlorine
 b) quick lime and chlorine
 c) wood pulp and chlorine
 d) soda lime and chlorine
- 23) Uses of bleaching powder is
 a) reducing agent in laboratory
 b) manufacture of soap
 c) softening hard water
 d) sterilization of drinking water
- 24) Bleaching powder reacts with CO_2 to form
 a) $\text{CaHCO}_3 + \text{Cl}_2$ b) $\text{CaCO}_3 + \text{Cl}_2$
 c) $\text{NaCO}_3 + \text{Cl}_2$
 d) $\text{NaHCO}_3 + \text{Cl}_2$
- 25) Name that compound which is prepared from gypsum when small amount of water is added to it.
 a) Cement
 b) Bleaching powder
 c) Baking soda
 d) Plaster of Paris
- 26) Substance used for keeping washing powder dry is
 a) NaCl b) Na_2O
 c) NaOH d) Na_2CO_3
- 27) Number of molecules of water of crystallization in washing soda is
 a) 21 b) 3
 c) 10 d) 8
- 28) Which of following methods is not used in making hard water soft
 a) Chlorinating
 b) Adding washing soda
 c) Permutit process
 d) Demineralization
- 29) Bleaching powder is used in textile mills, poker industry and laundry to
 a) remove colour
 b) remove impurities
 c) remove water
 d) remove smell
- 30) Substance prepared by passing Cl_2 gas over solid slaked lime is
 a) baking powder
 b) bleaching powder
 c) washing powder
 d) detergent powder
- 31) White substance smelling of chlorine used to clear water storage tanks and disinfecting water is

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- a) bleaching powder
b) baking powder
c) detergent powder
d) washing powder
- 32) Baking powder is a
a) mixture b) element
c) compound d) alloy
- 33) Which of following exhibit maximum number of allotropes
a) C b) Si
c) Sn d) Pb
- 34) Gas used as bleaching agent is
a) H_2 b) Cl_2
c) N_2 d) CO_2
- 35) The formula of Plaster of Paris is
a) $CaSO_4 \cdot \frac{1}{2}H_2O$ b) $CaO \cdot \frac{1}{2}H_2O$
c) $CaSO_4 \cdot 2H_2O$ d) $Ca_2O \cdot \frac{1}{2}H_2O$
- 36) Plaster of Paris is obtained by heating
a) Epsom b) $CaCO_3$
c) Gypsum d) $Ca(HCO_3)_2$
- 37) Formula of gypsum is
a) $Ca_2O \cdot 2H_2O$ b) $CaSO_4 \cdot 2H_2O$
c) $Ca_2O \cdot \frac{1}{2}H_2O$ d) $CaSO_4 \cdot \frac{1}{2}H_2O$
- 38) The substance used for surgical bandages is
a) $Ca_2SO_4 \cdot 2H_2O$ b) $CaO \cdot 2H_2O$
c) $CaSO_4 \cdot \frac{1}{2}H_2O$ d) $CaO \cdot \frac{1}{2}H_2O$
- 39) The chemical formula of lime stone is
a) $CaCO_2$ b) $CaCO_3$
c) $CaCl_2$ d) CaO
- 40) The method used for manufacturing bleaching powder is :
a) Bachmann's process
b) Solvay's process
c) Bessemer's process
d) Frasch process
- 41) During setting the volume of Plaster of Paris
a) decreases b) increases
c) does not change
d) increase & then decreases
- 42) Formula of quick lime is
a) $Ca(OH)_2$ b) Ca_2O
c) $CaCO_3$ d) CaO
- 43) Quick lime is obtained by heating
a) $CaHCO_3$ b) $CaSO_4$
c) $CaCO_3$ d) $CaSO_3$
- 44) The temperature for preparation of quick lime should not exceed
a) 1270 K b) 670 K
c) 2170 K d) 1070 K
- 45) The substance used as flux in metallurgy is
a) plaster of paris b) slaked lime
c) cement d) quick lime
- 46) Which of the following is not a use of quick lime
a) in manufacture of dye stuff
b) to make statues and models
c) in drying alcohol
d) softening of hard water
- 47) The substance used for making statues and models is
a) $CaSO_4 \cdot \frac{1}{2}H_2O$ b) $CaSO_4 \cdot 2H_2O$
c) CaO d) Ca_2O
- 48) Laughing gas is
a) Carbondioxide b) Sulphur dioxide
c) Nitrous oxide d) Hydrogen per oxide
- 49) Slaked lime is
a) $Ca(OH)_2$ b) $CaCO_3$
c) CaO d) $CaSO_4$
- 50) Cement is a mixture of
a) aluminates and silicates of calcium
b) aluminates and ferrites of calcium
c) ferrites and silicates of magnesium
d) aluminates & silicates of magnesium

- 51) Cement is made by mixing two materials
 a) calcareous and argillaceous
 b) calcareous and ferriceous
 c) argillaceous and ferriceous
 d) mercuraceous and argillaceous
- 52) Gypsum is added to cement in order to
 a) increase the rate of setting of cement
 b) decrease the rate of setting of cement
 c) increase the rate of drying of cement
 d) decrease the rate of drying of cement
- 53) Raw material needed for the manufacture of Portland cement are
 a) limestone + clay + sand
 b) limestone + clay + gypsum
 c) limestone + sand + gypsum
 d) alumina + sand + gypsum
- 54) These days steel is prepared by
 a) Frascch process
 b) Bachmann's
 c) Solvay's process
 d) Open hearth process
- 55) Ordinary glass is
 a) Sodium silicate
 b) Calcium silicate
 c) Calcium and sodium silicate
 d) Copper silicate
- 56) Concrete is
 a) cement + sand + water
 b) cement + sand + small stones + water
 c) cement + silica + water
 d) cement + silica + water
- 57) R.C.C is
 a) Reinforced Calcium Cement
 b) Reinforced Calcareous Cement
 c) Reinforced Silicate Cement
 d) Reinforced Concrete Cement
- 58) R.C.C is
 a) iron frame embedded in wet concrete
 b) aluminium frame embedded in wet concrete
 c) magnesium frame embedded in wet concrete
 d) steel frame embedded in wet concrete
- 59) Common glass is called
 a) soda glass b) flint glass
 c) hard glass d) pyrex glass
- 60) Soda glass is made by heating a mixture of
 a) sodium carbonate, calcium carbonate and sand
 b) sodium carbonate, calcium chloride and sand
 c) sodium chloride, calcium carbonate and sand
 d) sodium chloride, calcium carbonate and gypsum
- 61) Glass is a
 a) Liquid b) solid
 c) Super cooled liquid
 d) transparent organic polymer
- 62) Glass used for making superior laboratory apparatus is
 a) soda glass b) potash glass
 c) pyrex glass d) flint glass
- 63) Glass used for making optical lenses is
 a) soda glass b) flint glass
 c) pyrex glass d) potash glass
- 64) Glass react with
 a) Oleum b) Hf
 c) HNO_3 d) $\text{K}_2\text{Cr}_2\text{O}_7$
- 65) Which of the metal is present in chlorophyll?
 a) chromium b) cobalt
 c) magnesium d) iron
- 66) The following is not a method for manufacture of steel
 a) Open Hearth process
 b) Closed Hearth process

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- c) Bessemer process
d) Electric Furnace process
- 67) Steel is iron containing
a) 0.1 to 1.5% of carbon
b) 4-5% of carbon
c) 1 to 2.5% of carbon
d) 5-10% of carbon
- 68) Bessemer process is used for manufacture of
a) nickel b) aluminium
c) steel d) iron
- 69) Which of following gases is most soluble in water
a) No b) SO_2
c) NH_3 d) CO_2
- 70) A Bessemer converter's internal lining is a coating of
a) calcium silicate b) silica
c) mixture of calcium oxide and magnesium oxide
d) iron oxide
- 71) Substances which can be used for removing Nitrogen from air is
a) Mg b) P
c) CaCl_2 d) Lime water
- 72) The gas used as fuel in open hearth process is
a) marsh gas b) producer gas
c) bio gas d) water gas
- 73) The argillaceous component of cement is rich in
a) silver b) lime
c) alumina d) chromium
- 74) The charge in open hearth process is
a) scrap iron + lime
b) cast iron + lime
c) cast iron, pig iron + haematite
d) cast iron, scrap iron, haematite +lime
- 75) Components of stainless steel are
a) iron, chromium and nickel
b) iron, tungsten
c) iron, manganese
d) iron, nickel
- 76) Tungsten steel is
a) Fe + V b) Fe + U
c) Fe + W d) Fe + Ni
- 77) Mild steel contain carbon
a) less than 0.1%
b) greater than 0.25%
c) greater than 0.1%
d) less than 0.25%
- 78) High carbon steel contains carbon
a) 0.45 to 1.5%
b) 2.5 to 4%
c) 1.5 to 2.5%
d) 0.15 to 0.25%
- 79) Stainless steel usually contains
a) aluminium b) zinc
c) tin d) chromium
- 80) Carbon content in cast iron is
a) 2.5 – 4.5% b) 4.5 – 10%
c) 0 – 2.5% d) 10 – 15%
- 81) The substance used in fire extinguisher is:
a) CaCl_2 b) $\text{Ca}(\text{HCO}_3)_2$
c) NaCl d) NaHCO_3
- 82) Bleaching powder reacts with wood pulp to form
a) lignin b) chlorine
c) chlorolignin d) oxygen
- 83) An extremely acid resistant alloy is
a) Brass b) Magnesium
c) Ferrosilicon d) German silicon
- 84) Which of the following is used as a fertilizer
a) CaSO_4 b) $\text{Ca}_3(\text{PO}_4)_2$
c) CaSiO_3 d) MnSiO_3

- 85) Dehydrated soda sodium carbonate is known as
 a) soda b) soda lime
 c) soda potash d) soda ash
- 86) Solvay's process is also known as
 a) soda-lime process
 b) ammonia lime process
 c) lime process
 d) ammonia-soda process
- 87) Substance which cannot be prepared from washing soda is
 a) glass b) borax
 c) soap d) match
- 88) Baking soda is
 a) soluble in water
 b) insoluble in water
 c) sparingly soluble in water
 d) none of the above
- 89) In soda type fire extinguishers the gas released is:
 a) CO b) CO₂
 c) SO₂ d) CS₂
- 90) Compound used in laundry house for bleaching clothes is
 a) CaCl₂ b) CaO
 c) CaOCl₂ d) Ca(OH)₂
- 91) Which compound is used for white washing
 a) ZnO b) CaCl₂
 c) ZnCl d) Ca(OH)₂
- 92) The formula of Gypsum is
 a) CaSO₄ · 2H₂O b) CaF₂
 c) CaCl₂ · 2H₂O d) None of these
- 93) The chemical formula of tricalcium aluminates is
 a) Ca₂(Al₂O₆)₃ b) Ca₃Al₂O₆
 c) Ca₃(Al₂O₆)₂ d) Ca₃AlO₃
- 94) Which glass is also known as borosilicate glass
 a) hard glass b) flint glass
 c) pyrex glass d) common glass
- 95) In which furnace steel is prepared from raw iron
 a) open hearth furnace
 b) blast furnace
 c) electric furnace
 d) bessemer converter

(Key)

Chapter - 8 (Some Important Chemical Compounds)

1	C	16	A	31	A	46	B	61	C	76	C	91	D
2	D	17	D	32	A	47	A	62	C	77	D	92	A
3	A	18	A	33	A	48	C	63	B	78	A	93	B
4	A	19	A	34	B	49	A	64	B	79	D	94	C
5	A	20	C	35	A	50	A	65	C	80	A	95	D
6	B	21	B	36	C	51	A	66	B	81	D		
7	A	22	A	37	B	52	B	67	A	82	C		
8	C	23	D	38	C	53	C	68	C	83	C		
9	B	24	B	39	B	54	D	69	C	84	B		
10	C	25	D	40	A	55	C	70	C	85	D		
11	B	26	D	41	B	56	B	71	A	86	D		
12	D	27	C	42	D	57	D	72	B	87	D		
13	B	28	D	43	C	58	A	73	C	88	C		
14	C	29	A	44	A	59	A	74	D	89	B		
15	A	30	B	45	D	60	A	75	B	90	C		

CHAPTER - 9
METALS AND NON-METALS

- 1) The metal poisonous for human body is
 - a) copper
 - b) lead
 - c) silver
 - d) gold
- 2) Metal that can be cut with a knife is
 - a) Na
 - b) Fe
 - c) Cu
 - d) Ag
- 3) Poorest conductor of heat is
 - a) Ag
 - b) Au
 - c) Pb
 - d) Mg
- 4) Metal that is liquid at room temperature is
 - a) Mg
 - b) Au
 - c) Ag
 - d) Hg
- 5) Black material inside the pencil is
 - a) Fe
 - b) Graphite
 - c) Pb
 - d) Cu
- 6) Metals have shining surfaces due to
 - a) absence of free electrons
 - b) presence of free electrons
 - c) polish
 - d) none of the above
- 7) The property due to which metals can be made into sheets is
 - a) ductility
 - b) flexibility
 - c) malleability
 - d) elasticity
- 8) Ductility is the property due to which
 - a) metals conduct electricity
 - b) metals shine
 - c) metals can be made into blades
 - d) metal can be drawn into wires
- 9) Property due to which metals allow current to pass through them is
 - a) conductance
 - b) resistance
 - c) flexibility
 - d) elasticity
- 10) Sodium metal is stored in
 - a) Mustard oil
 - b) Kerosene oil
 - c) Castor oil
 - d) Water
- 11) ZnO is:
 - a) basic
 - b) amphoteric
 - c) acidic
 - d) none
- 12) Fe is a mixture of FeO and Fe₂O₃ is
 - a) feeri ferro oxide
 - b) ferric oxide
 - c) ferrous oxide
 - d) magnetite
- 13) Why Govt has banned petrol which contains tetraethyl lead ? Because it is
 - a) An alloy
 - b) Strategic metal
 - c) Poisonous metal
 - d) Metalloid
- 14) The metal oxide used as refractory material is:
 - a) MgO
 - b) Fe
 - c) ZnO
 - d) FeO
- 15) The metal oxide used to prepare sand paper is:
 - a) Fe₂O₃
 - b) Al₂O₃
 - c) ZnO
 - d) SiO₂
- 16) The natural material in which metal are found in earth's crust
 - a) minerals
 - b) ore
 - c) flux
 - d) slag
- 17) Ores are:
 - a) minerals from which metal can be extracted
 - b) natural material in which metals are found in earth's crust
 - c) mineral containing iron
 - d) mineral containing copper

- 18) Haematite is an ore of:
 a) Hg b) Pb
 c) Fe d) Mg
- 19) Metal which is constituent of haemoglobin is
 a) copper b) zinc
 c) manganese d) iron
- 20) Crushing and grinding of ore is called
 a) liquation b) hydration
 c) pulverisation d) concentration
- 21) The sulphide ores are concentrated by
 a) hydraulic
 b) liquation
 c) magnetic separation
 d) froth floatation
- 22) In modern surgery, metal pins are used for tidding or holding the broken bones together. This pins is made of
 a) Cu b) Stainless steel
 c) Al d) Pb
- 23) A Lustrous non metal is
 a) I b) O
 c) N d) S
- 24) Bauxite is concentrated by
 a) magnetic separation
 b) froth flotation c) hydraulic washing
 d) leaching
- 25) Bauxite is
 a) $\text{Al}_2\text{O}_3 \cdot 2\text{H}_2\text{O}$ b) $\text{ZnO} \cdot 2\text{H}_2\text{O}$
 c) $\text{Fe}_2\text{O}_3 \cdot 2\text{H}_2\text{O}$ d) $\text{Zn} \cdot \text{S}$
- 26) Heating of ore in limited supply of air of absence of air is
 a) calcinations b) roasting
 c) leaching d) reduction
- 27) Heating of ore in presence of air is
 a) calcination b) roasting
 c) leaching d) reduction
- 28) Methods of reduction is not
 a) with aluminium b) electrolytic
 c) with carbon d) with iron
- 29) Substance which combines with gangue to form fusible material is
 a) slag b) ore
 c) flux d) mineral
- 30) Calcination and roasting are methods of
 a) conversion of ore to metal oxide
 b) conversion of metal oxide to metal
 c) conversion of metal sulphide to metal
 d) conversion of metal to metal sulphide
- 31) Which one of following metal has highest density
 a) Au b) Fe
 c) Pt d) Pb
- 32) By which property metals can be hammered into thin sheets.
 a) Ductility b) Malleability
 c) Conductance d) Hardness
- 33) Electrolytic reduction is used for
 a) Al b) Zn
 c) Fe d) Mg
- 34) First element in the peroidic table is:-
 a) O b) N
 c) H d) Li
- 35) Which of the following metal is malleable
 a) Au b) Fe
 c) Pt d) Pb
- 36) Distillation method of refining is used for
 a) metals having high M. Pt.
 b) metals having low M. Pt.
 c) metals having high density
 d) metals having low density
- 37) Zone refining is used for
 a) manganese & aluminium
 b) silicon & germanium

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- c) magnesium & zinc
d) iron & copper
- 38) Zone refining is also called
a) fractional refining
b) fractional distillation
c) fractional heating
d) fractional crystallization
- 39) In electrolytic method of refining, metal which has to be purified is made
a) electrolyte
b) cathode
c) both anode & cathode
d) anode
- 40) Impurities associated with ore are called
a) flux b) slag
c) gangue d) mineral
- 41) Corrosion of metal can be prevented by
a) Painting b) Galvanizing
c) Electroplating d) all of these
- 42) Metals possess electropositive character and hence chemically
a) Unreactive b) Very less reactive
c) Reaction d) Very reactive
- 43) Galvanised iron sheets have coating of
a) Sn b) Pb
c) Zn d) Cr
- 44) Which of these is not a halogen :-
a) F b) Cl
c) Br d) S
- 45) Ores of iron are:
a) haematite, limonite
b) bauxite, alumina
c) haematite, bauxite
d) cryolite, limonite
- 46) Which is heaviest among the following
a) Au b) Ag
c) Fe d) Cu
- 47) Limonite is
a) Fe_3O_4 b) $\text{Fe}_2\text{O}_3 \cdot 3\text{H}_2\text{O}$
c) FeO d) Fe_2O_3
- 48) Iron pyrites are
a) Fe_2O_3 b) Fe_3O_4
c) FeCO_3 d) FeS_2
- 49) Smelting is carried out in
a) bessemer converter
b) blast furnace
c) closed hearth process
d) open hearth furnace
- 50) The purest form of iron is
a) steel b) cast iron
c) pig iron d) wrought iron
- 51) At the top of furnace
a) carbon monoxide is formed
b) calcium silicate is formed
c) iron is obtained
d) silica is formed
- 52) The most abundant element in the earth's crust (by weight) is :-
a) Si b) Al
c) O d) Fe
- 53) Magnetite ore is concentrated by:
a) loading b) magnetic separation
c) oxidation d) distillation
- 54) Gas evolved when sulphide ores are roasted is
a) CO_2 b) SO_2
c) CO d) NO_2
- 55) Cheapest and most common reducing agent is
a) charcoal b) coal tar
c) clay d) coke
- 56) On the Earth's crust, most abundant metal is
a) Iron b) Aluminium
c) Copper d) Nickel

- 57) A homogenous mixture of one metal with one or more metal or non metal is
 a) ore b) alloy
 c) steel d) mineral
- 58) Duralumin is an alloy of
 a) Al b) Mg
 c) Fe d) Au
- 59) The main constituent of brass is
 a) silver b) copper
 c) tin d) aluminium
- 60) The alloy used for making aeroplane parts is
 a) german silver b) Alnico
 c) brass d) duraluminium
- 61) Main constituent of gun metal is
 a) copper b) iron
 c) nickel d) chromium
- 62) Stainless steel is made up of
 a) Al, Ir, Ne⁻ and C
 b) Fe, Co, Ni and C
 c) Fe, O, Ne⁻ and C
 d) Fe, Al, Ni and C
- 63) The main constituent of rolled gold is
 a) gold b) iron
 c) tin d) copper
- 64) German silver is made up of:
 a) Al, Zn, Ni b) Cu, Zn, Ni
 c) Sn, Zn, Ni d) Fe, Zn, Ni
- 65) Common constituent of brass and bronze are
 a) Cu b) Zn
 c) Sn d) C
- 66) Alloy used in making utensils, equipments for feed and dairy industry is
 a) stainless steel b) steel
 c) solder d) bronze
- 67) The metal used in storage batteries is
 a) Sn b) Cu
 c) Pb d) Ni
- 68) Metals are good conductors of electricity because they have
 a) do not have free electrons
 b) free protons
 c) free neutrons
 d) free electrons
- 69) Gold is found in free state due to its
 a) high reactivity
 b) low reactivity
 c) moderate reactivity
 d) very high reactivity
- 70) Gas evolved when sulphide ores are roasted
 a) CO₂ b) SO₂
 c) CO d) NO₂
- 71) During roasting Zn gets converted to:
 a) ZnCl₂ b) ZnSO₄
 c) ZnCO₃ d) ZnO
- 72) The process of slow eating of metal due to attack of atmosphere gas on the surface of metals is
 a) foaming b) eating
 c) corrosion d) coating
- 73) Rusting of iron is an example of
 a) protection b) erosion
 c) corrosion d) roasting
- 74) Rust is:
 a) Fe₂CO₃ b) Fe₂O₃.4H₂O
 c) FeCl₃ d) FeO
- 75) Rusting of iron is an
 a) electrochemical process
 b) chemical process
 c) electrical process
 d) leaching process
- 76) Brass is an alloy of
 a) Cu and Zn b) Cu and Al
 c) Zn and Al d) Mn and Cu
- 77) Non-metal that can exist in different forms is -

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- a) Sulphur b) Iodine
c) Oxygen d) Carbon
- 78) In galvanization process, iron is covered with layer to prevent it from rusting.
a) Tin b) Zinc
c) Copper d) Aluminium
- 79) Non metals are present on
a) left side of periodic table
b) right side of periodic table
c) centre of periodic table
d) bottom of periodic table
- 80) As we move from top to bottom in periodic table, the reactivity of non metals
a) decreases b) increases
c) increase and then decreases
d) does not change
- 81) Which is a property of non metal
a) conductance b) malleability
c) ductility d) bitterness
- 82) Most reactive metal is:
a) Al b) K
c) Fe d) Na
- 83) The most electronegative element is
a) fluorine b) iodine
c) potassium d) sodium
- 84) The amount of energy released when an electron is added to an atom in gaseous state is:
a) electronegativity
b) electron affinity
c) ionisation energy
d) lattice energy
- 85) Non metal used for fertilizer is
a) nitrogen b) phosphorous
c) potassium d) sodium
- 86) Name a metal which is liquid at room temperature.
a) Copper b) Sodium
c) Mercury d) Potassium
- 87) Element used for vulcanisation of rubber is
a) nitrogen b) phosphorous
c) sodium d) sulphur
- 88) Graphite is an allotropic form of
a) phosphorous b) sulphur
c) nitrogen d) carbon
- 89) The major constituent of air are
a) metals b) non metals
c) metalloids d) inert gases
- 90) Most abundant element in universe is
a) hydrogen b) oxygen
c) carbon d) nitrogen
- 91) Hydrogen, deuterium and tritium are
a) isobars b) isotopes
c) isotones d) none of these
- 92) Element used as a fuel in nuclear reactors is :-
a) U b) Cd
c) Mg d) Pt
- 93) Which of one is a soft metal
a) Fe b) Cu
c) Na d) Al
- 94) The gases used for filling balloons of airships are:
a) hydrogen & oxygen
b) helium & nitrogen
c) helium & hydrogen
d) hydrogen & nitrogen
- 95) Rocket fuel is mixture of:
a) liquid H₂ & liquid O₂
b) liquid H₂ & liquid helium
c) liquid O₂ & liquid He
d) liquid helium & liquid N₂
- 96) Which metal is used for making match boxes
a) P b) Cu
c) Na d) Fe

- 97) Water gas is:
 a) $\text{CO} + \text{H}_2$ b) $\text{CO} + \text{O}_2$
 c) $\text{CO}_2 + \text{H}_2$ d) $\text{CO} + \text{N}_2$
- 98) Zinc and H_2SO_4 react to give
 a) H_2S b) H_2
 c) SO_2 d) H_2O
- 99) Sodium reacts with moist air to give
 a) O_2 b) H_2O
 c) H_2 d) N_2
- 100) The scientist who discovered ammonia was
 a) Arrhenius b) Haber
 c) Le Chatelier d) Ostwald
- 101) Which of following is a good conductor of heat and electricity
 a) diamond b) charcoal
 c) anthracite d) graphite
- 102) Aqueous solution of ammonia is
 a) acidic b) alkaline
 c) amphoteric d) none
- 103) Element having atomic number 24 is :-
 a) Ca b) Cu
 c) Cr d) Mg
- 104) Sulphur is obtained by:
 a) Frasch process
 b) Contact process
 c) Haber process
 d) Ostwalds process
- 105) Sulphur occur as
 a) S_4 b) S_5
 c) S_8 d) S_{10}
- 106) is used in electric batteries.
 a) Sulphur b) Hydrogen
 c) Hydrochloric acid
 d) Sulphuric acid
- 107) The crystalline forms of sulphur are
 a) rhombic & monoclinic
 b) octagonal & monoclinic
 c) trigonal & rhombic
 d) octagonal & trigonal
- 108) Which of following properties are typical properties of a metal
 a) Soild b) Gas
 c) Malleable d) Insulater
- 109) What is always contain in amalgams
 a) Hg b) Fe
 c) Au d) Zn
- 110) The structure of S_8 is
 a) diamond shaped
 b) wedge shaped c) chain shaped
 d) crown shaped
- 111) Sulphuric acid is prepared by
 a) Frasch process
 b) Contact process
 c) Haber process
 d) Ostwalds process
- 112) Oleum is
 a) H_2SO_4 b) $\text{H}_2\text{S}_2\text{O}_7$
 c) $\text{H}_2\text{S}_2\text{O}_8$ d) H_2SO_8
- 113) Sulphuric acid decomposes on heating to give
 a) SO_2 b) SO_3
 c) S d) O_2
- 114) Compound used as refrigerant is
 a) S b) SO_2
 c) CO_2 d) CO
- 115) A bivalent metal that can be extracted by electrolysis is
 a) Zn b) Fe
 c) Cu d) Al
- 116) Non metals are electronegative because they
 a) donate electrons
 b) share electrons
 c) accept electrons
 d) none of these

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- 117) A non metal that exhibits variable valency of 2, 4 & 6 is
a) S b) N
c) P d) Si
- 118) Element whose molecule exists in the form of 8 member ring like structure is
a) P b) N
c) C d) S
- 119) The metal used in the construction industry is
a) Fe b) Cu
c) Al d) Sn
- 120) Element used to produce sulphuric acid from nitric acid is
a) Si b) P
c) S d) Na
- 121) Element used in manufacture of gun powder is
a) S b) Si
c) P d) C
- 122) Element used to give shapes to hair are is
a) S b) N
c) Si d) Zn
- 123) Element that will form basic oxide is
a) S b) Na
c) P d) N
- 124) Element that replaces hydrogen from HCl is
a) P b) N
c) S d) Na
- 125) Element involved in electrical conductivity in nerves is
a) C b) Na
c) H d) Fe

(Key) CHAPTER - 9 (Metals and Non-Metals)

1	B	19	D	37	B	55	D	73	C	91	B	109	A
2	A	20	C	38	D	56	B	74	B	92	A	110	D
3	C	21	D	39	D	57	B	75	A	93	C	111	B
4	A	22	B	40	C	58	A	76	A	94	C	112	B
5	B	23	A	41	D	59	B	77	D	95	A	113	B
6	B	24	D	42	D	60	D	78	B	96	A	114	B
7	C	25	A	43	C	61	A	79	B	97	A	115	D
8	D	26	A	44	D	62	C	80	A	98	B	116	C
9	A	27	B	45	A	63	D	81	D	99	C	117	A
10	B	28	D	46	A	64	B	82	B	100	B	118	D
11	B	29	C	47	B	65	A	83	A	101	D	119	A
12	A	30	A	48	D	66	A	84	B	102	B	120	C
13	C	31	C	49	B	67	C	85	A	103	C	121	A
14	A	32	B	50	D	68	D	86	C	104	A	122	A
15	B	33	A	51	C	69	B	87	D	105	C	123	B
16	A	34	C	52	C	70	B	88	D	106	D	124	D
17	A	35	C	53	B	71	D	89	B	107	A	125	B
18	C	36	B	54	B	72	C	90	A	108	C		

CHAPTER - 10
CARBON COMPOUNDS

- 1) Carbon compounds with single bond are called:
 - a) alkanes
 - b) alkenes
 - c) alkynes
 - d) alkanones
- 2) Carbon compounds with double bond are called:
 - a) alkanes
 - b) alkenes
 - c) alkynes
 - d) alkanols
- 3) Carbon compounds with triple bond are called.
 - a) alkanes
 - b) alkenes
 - c) alkynes
 - d) alkanols
- 4) Functional Group of Ketone is
 - a) $-\text{CHO}$
 - b) $-\text{COOH}$
 - c) $-\text{OH}$
 - d) $>\text{CO}$
- 5) Alcohols have general formulas:
 - a) $\text{C}_n\text{H}_{2n+2}$
 - b) $\text{C}_n\text{H}_{2n+1}\text{OH}$
 - c) $\text{C}_n\text{H}_{2n+1}\text{CHO}$
 - d) $\text{C}_n\text{H}_{2n+1}\text{O}$
- 6) Chemical formula for glucose is
 - a) $\text{C}_5\text{H}_{12}\text{O}_5$
 - b) $\text{C}_6\text{H}_{12}\text{O}_6$
 - c) $\text{C}_5\text{H}_{10}\text{O}_5$
 - d) $\text{C}_6\text{H}_{10}\text{O}_5$
- 7) Ethanol is obtained by the fermentation of
 - a) Alkanes
 - b) Sugars
 - c) Alkanals
 - d) Starch
- 8) Fermentation is carried out in presence of
 - a) Bacteria's
 - b) Yeast
 - c) Virus
 - d) None of the above
- 9) Which among the following can adsorbed coloring matter from a solution.
 - a) Gas carbon
 - b) Coal
 - c) Animal charcoal
 - d) Coke
- 10) Amongst the following, identify ketone group.
 - a) $\begin{array}{c} \text{O} \\ || \\ -\text{C}-\text{H} \end{array}$
 - b) $\begin{array}{c} \text{O} \\ || \\ -\text{C}-\text{OH} \end{array}$
 - c) $\begin{array}{c} \text{O} \\ || \\ -\text{C}- \end{array}$
 - d) $\begin{array}{c} \text{O} \\ || \\ \text{HO}-\text{C}-\text{OH} \end{array}$
- 11) Valency of carbon is
 - a) 3
 - b) 2
 - c) 5
 - d) 4
- 12) Dehydration of ethanol gives:
 - a) ethane
 - b) ethene
 - c) ethyne
 - d) propane
- 13) Substance used as dehydrating agent is:
 - a) Conc HCl
 - b) Conc H_2SO_4
 - c) Conc HNO_3
 - d) Conc H_3PO_4
- 14) Ethanol gets oxidised to
 - a) ethanone
 - b) ethanal
 - c) ethanoic acid
 - d) ether
- 15) Alcohols react with organic acids to form
 - a) esters
 - b) ethers
 - c) ethanoic acid
 - d) ethanol
- 16) Ethanoic acid and ethanol react to form:
 - a) methyl ethanoate
 - b) ethyl propionate
 - c) ethyl ethanoate
 - d) methyl propionate
- 17) Beer and wine are prepared by fermenting:
 - a) orange + barley juice
 - b) barley and orange juice
 - c) orange + prape juice
 - d) barley + grape juice
- 18) The decompositions of alcohol into CO_2 and water takes place in the human body in:

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- a) Small intestine b) Stomach
c) Large intestine d) Liver
- 19) Which allotrope of carbon is valued as gem
a) Coke b) Graphite
c) diamond d) Coal
- 20) Aldehydes and ketones belong to:
a) ethers b) esters
c) carbnyl compounds d) none of the above
- 21) Organic compound have
a) Covalent bond
b) Co-ordinate bond
c) Ionic bond
d) Metallic Bond
- 22) Aldehydes have
- a) $\begin{array}{c} \text{R} \\ \diagdown \\ \text{C} - \text{HO} \\ \diagup \\ \text{R}_1 \end{array}$ b) $\begin{array}{c} \text{R} \\ \diagdown \\ \text{C} = \text{O} \\ \diagup \\ \text{H} \end{array}$
- c) $\begin{array}{c} \text{O} \\ \diagdown \\ \text{C} = \text{R} \\ \diagup \\ \text{H} \end{array}$ d) $\begin{array}{c} \text{R}_1 \\ \diagdown \\ \text{C} - \text{OH} \\ \diagup \\ \text{R} \end{array}$
- 23) Methanal is formed by the oxidation of
a) Methane b) Ethane
c) Methanol d) Ethanol
- 24) Methanal can be prepared by the dehydration of
a) $(\text{HCOO})_2\text{Ca}$ b) CaHCO_3
c) CaCO_3 d) $(\text{CH}_3\text{COO})_2\text{Ca}$
- 25) 40% solutions of methanal is called:
a) formaldehyde b) formalin
c) formic acid d) formamide
- 26) Methanal oxidises to
a) methanol
b) methane
c) methanoic acid
d) ethanoic Acid
- 27) Methanal gets reduced in presence of:
a) barum b) vanadium
c) cobalt d) palladium
- 28) Methanal gets reduced to:
a) methanol b) methane
c) methanone d) methanoic acid
- 29) Which among the following is hardest
a) Iron b) Diamond
c) Coke d) Stone
- 30) Drinkold is :-
a) Solid CO_2
b) Ether and Dry Ice
c) Dry Ice and Alcohol
d) Dry Ice and Acetone
- 31) Silver mirror is formed by the reaction of methanal will
a) Schiff's reagent
b) Fehling solution
c) Wanklyn reagent
d) Tollen's reagent
- 32) 40% solution of formaldehyde is used as
a) Disinfectant b) Insecticide
c) Weedicide d) All the above
- 33) Bakelite is prepared from
a) formaldehyde
b) acetatdehyde
c) formic acid
d) acetic acid
- 34) Catenation property is shown by :-
a) H b) O
c) C d) N
- 35) The IUPAC name of
 $\begin{array}{c} \text{CH}_3 - \text{CH} - \text{CH}_2\text{CH}_3 \\ | \\ \text{OH} \end{array}$
a) Butan-2-one b) Butan-3-one
c) Butan-2-al d) Butan-3-al

- 36) Propanone is formed by heating
 a) Calcium formate
 b) Calcium acetate
 c) Calcium propionate
 d) Calcium bicarbonate
- 37) Which of one is a crystalline form
 a) diamond b) Coke
 c) Bone charcoal
 d) Gas carbon
- 38) Propanone on oxidation gives:
 a) Methanoic acid
 b) Ethanoic acid
 c) Propionic acid
 d) None of the above
- 39) Oxidation of ketones takes place in presence of
 a) potassium permanganate
 b) NaBH_4
 c) potassium dichromate
 d) NaOH
- 40) Major component of bio gas is :-
 a) Methane b) Ethane
 c) Ammonia d) Hexane
- 41) Ethylene oxide on hydrolysis yield
 a) Ethyl alcohol
 b) Ethylene glycol
 c) Ethanol
 d) Acetone
- 42) Fatty acids are:
 a) monocarboxylic acids of aliphatic series
 b) monocarboxylic acids of aromatic series
 c) dicarboxylic acids of aliphatic series
 d) dicarboxylic acids of aromatic series
- 43) The IUPAC name of $\text{CH}_3-\overset{\text{O}}{\parallel}{\text{C}}-\text{OH}$ is
 a) formic acid
 b) methanoic acid
 c) ethanoic acid
 d) acetic acid
- 44) Ethanoic acid can be prepared from methyl cyanide by its
 a) oxidation b) reduction
 c) dehydration d) hydrolysis
- 45) Methanoic acid and methanol react to form
 a) methyl methanoate
 b) ethyl methanoate
 c) ethyl ethanoate
 d) methyl ethanoate
- 46) Ethanoic acid reacts with NH_3 to give
 a) ethyl amine b) ethyl cyanide
 c) ethyl amide d) ethyl nitrate
- 47) Wood spirit is
 a) Methyl alcohol b) Ethyl alcohol
 c) Butyl alcohol d) Propyl alcohol
- 48) Acetic anhydride is prepared from
 a) ethanoic acid b) acetone
 c) ethanol d) acetamide
- 49) Polymerisation in which two or more chemically different monomers takes part is called:
 a) addition polymerisation
 b) copolymerisation
 c) chain polymerisation
 d) none of these
- 50) Structural units of high polymers are called:
 a) fibres b) thermo units
 c) monomers d) fabrics
- 51) Polymers made up of same type of monomers are called:
 a) homopolymers
 b) heteropolymers
 c) co-polymers
 d) none of the above
- 52) Synthetic rubber is a polymer of:
 a) chloroprene b) isoprene
 c) propylene d) ethylene

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- 53) Polypropylene is formed by polymerisation of
a) propyne b) propane
c) propene
d) none of the above
- 54) Buna S is a co-polymer of
a) 1,3 Butadiene + styrene
b) 1,2 Butadiene + styrene
c) 1,4 Butadiene + ester
d) 1,2 Butadiene + ester
- 55) Teflon is :
a) poly tetra fluoro ethylene
b) poly tetra fluorine
c) poly tetra fluoro ethyne
d) poly fluoro ethane
- 56) Common name of $\text{CH}_3 - \overset{\text{O}}{\parallel}{\text{C}} - \text{OH}$ is :
a) Formic acid
b) Acetic acid
c) Butaric acid
d) Hydrochloric acid
- 57) Which of the following used as a filler in rubber tyres
a) Graphite b) Coal
c) Coke d) Carbon Black
- 58) Nylon is a co-polymer of :
a) a diamine and dicarboxylic acid
b) a monoamine and mono carboxylic acid
c) a diamine and mono carboxylic acid
d) a monoamine and dicarboxylic acid
- 59) Functional group of Aldehyde is
a) $-\text{COOH}$ b) $-\text{C} \equiv \text{N}$
c) $-\text{CHO}$ d) None of them
- 60) Soap is made by heating :
a) animal or vegetable oil with $\text{Ca}(\text{OH})_2$
b) animal or vegetable oil with NaOH
c) animal or vegetable oil with $\text{Mg}(\text{OH})_2$
d) animal or vegetable oil with $\text{C}_2\text{H}_5\text{OH}$
- 61) The hydrophobic end of soap molecules gets attracted to :
a) water b) grease
c) both of the above
d) none of the above
- 62) The hydrocarbon in soap is :
a) hydrophide b) neutral
c) hydrophilic d) alkaline
- 63) Chemical formula of chloroform is :
a) CaCl_3 b) CHCl_3
c) CoCl_2 d) CCl_4
- 64) Bakelite is produced from :
a) phenol + formic acid
b) phenol + formaldehyde
c) ethanol + formic acid
d) ethanol + formaldehyde
- 65) Vinegar is :
a) formic acid
b) acetic acid
c) propronic acid
d) butanoic acid
- 66) Natural rubber is a polymer of :
a) chloroprene b) isoprene
c) propene d) neoprene
- 67) The important product of saponification is :
a) glycerol b) methanol
c) ethanol d) stearic acid
- 68) Soaps are :
a) sodium salts of ethanol
b) sodium salts of methanol
c) sodium salt of propanol
d) sodium salt of higher fatty acid
- 69) $-\text{CHO}$ group is :
a) aldehydic group
b) alcoholic group
c) ketonic group
d) acidic group

- 70) The functional group in $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$ is
 a) hydroxyl group
 b) carboxylic acid group
 c) aldehyde group
 d) ketone group
- 71) Enzymes required for fermentation of sugarcane to ethanol are
 a) maltase & lactase
 b) invertase & maltase
 c) invertase & zymase
 d) maltase & zymase
- 72) Which one will react with sodium metal
 a) ethane b) propane
 c) ethanol d) ethene
- 73) Used as preservative
 a) Acetone b) Methanol
 c) Ethanol d) Carboxylic acid
- 74) Hydrocarbons are compounds made up of
 a) C & H b) C & O
 c) C & H_2O d) C & He
- 75) Carboxylic group is present in
 a) ethanol b) ethylene
 c) formaldehyde d) formic acid
- 76) Carbon belongs to which group of periodic table
 a) IV b) III
 c) II d) I
- 77) Elements which are chemically identical but differ markedly in their physical properties are called
 a) isomers b) isobars
 c) mesomers d) allotropes
- 78) Solids with regular geometric shapes formed from regular arrangement of particles are called
 a) Non-crystals b) Crystals
 c) Metals d) None of them
- 79) In all organic compounds carbon shows
 a) tervalency b) monovalency
 c) bervalency d) tetravalency
- 80) Which of the following reacts with carboxylic acid in presence of conc. H_2SO_4 to form esters?
 a) alcohol b) aldehyde
 c) alkene d) alkyne
- 81) Which of the following is prepared by fermentation of sugar or starch with enzymes present in yeast
 a) ethanol b) ethanoic acid
 c) ethanal d) ethene
- 82) Ethanol gets oxidised in presence of acidified KMnO_4 to give
 a) ethanol b) ethanoic acid
 c) ethane d) ethyne
- 83) When soap is dissolved in water, it forms:
 a) droplets b) micelles
 c) foam d) syndets
- 84) Compounds of homologous series are
 a) CH_3OH & $\text{C}_2\text{H}_5\text{OH}$
 b) CH_4 & $\text{C}_2\text{H}_5\text{OH}$
 c) CH_4 & C_2H_2
 d) C_2H_2 & C_4H_6
- 85) Which of the following turns blue litmus red
 a) $\text{CH}_2 = \text{CH}_2$ b) CH_3COOH
 c) CH_4 d) HCHO
- 86) Antifreeze is a mixture of water and
 a) acetic acid b) ethyl alcohol
 c) formic acid d) methyl alcohol
- 87) P.V.C is a
 a) carbohydrate b) detergent
 c) polymer d) synthetic fibre
- 88) The chemical formulas of Teflon is
 a) $(-\text{CFe}_2-\text{CFe}_2-)_n$
 b) $(\text{CF}_2-\text{CF}_2-)_n$

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- c) $\text{CF}_2\text{—CF}_2$
d) $(\text{—CH}_2\text{—CH}_2\text{—})_n$
- 89) Nylon is polymer of:
a) adipic acid + hexamethylene diamine
b) acetic acid + hexamethylene diamine
c) adipic acid + hexaethylene
d) acetic acid + hexa methane
- 90) Which one is a good conductor of electricity
a) Diamond b) Coke
c) Carbon d) Graphite
- 91) With soap, hard water forms
a) scum b) foam
c) bubbles d) none
- 92) The formation of ethanol by fermentation of sugar, is a/ an
a) condensation reaction
b) exothermic reaction
c) endothermic reaction
d) substitution reaction
- 93) What is action of alcohols on litmus?
a) no action
b) turns blue litmus to red
c) turns red litmus to blue
d) turns blue litmus to green
- 94) For preparing non-stick cooking pans is used
a) Teflon b) Polyethene
c) Polypropene d) Buna-S-rubber
- 95) Which of these does not form charcoal
a) Bone b) Blood
c) Sugur d) Wood
- 96) Which of these materials is non-biodegradable
a) egg shell b) leather
c) nylon d) paper
- 97) The hydrophilic end of a synthetic detergent is
a) $\text{—COO}^-\text{Na}^+$ b) $\text{—CO}^-\text{Na}^+$
c) $\text{—SO}_3\text{Na}^+$
d) $\text{CH}_3\text{—(CH}_2\text{)}_{10}\text{—CH}_2\text{—}$

ANSWER KEY
(Carbon Compounds)

1	A	21	A	41	C	61	B		
2	B	22	B	42	A	62	A		
3	C	23	C	43	C	63	B	81	A
4	D	24	A	44	D	64	B	82	B
5	B	25	B	45	A	65	B	83	B
6	B	26	C	46	C	66	B	84	A
7	B	27	D	47	A	67	A	85	B
8	B	28	A	48	A	68	D	86	C
9	A	29	B	49	B	69	A	87	C
10	C	30	A	50	C	70	B	88	B
11	D	31	A	51	A	71	C	89	A
12	B	32	A	52	A	72	C	90	D
13	B	33	A	53	C	73	D	91	A
14	B	34	C	54	A	74	A	92	B
15	A	35	A	55	A	75	D	93	A
16	C	36	B	56	B	76	A	94	A
17	D	37	A	57	D	77	D	95	B
18	D	38	B	58	A	78	B	96	C
19	C	39	C	59	C	79	D	97	C
20	C	40	A	60	B	80	A		