

Chemistry Solved 300 MCQ,S

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- B) Chemical properties of the elements were the periodic function of their atomic number
- C) Physical properties of the elements were the periodic function of their atomic number.
- D) Chemical properties of the elements were the periodic function of their atomic weights.
8. Modern classification of elements is based on
- A) Dobernenier's law of Traids
- B) Newlands's law of Octaves
- C) Mendeleev's Periodic law
- D) ✓ None
9. Which property is same in elements of same group of periodic table?
- A) Ionization potential
- B) Electro negativity
- C) Electron affinity
- D) ✓ Number of valance electrons
10. The valency, ionization energy, electron affinity and electro negativity of elements are related to its
- A) ✓ Atomic size
- B) Properties
- C) Atomic weight
- D) Family group
11. Which of the following is the set of most electronegative elements?
- A) ✓ N, O, F
- B) Ca, Sr, Ba
- C) Na, Mg, Al
- D) Fe, Co, Ni
12. Which of the following elements has maximum ionization potential?
- A) ✓ Mg
- B) Al
- C) Na
- D) K
13. Each vertical column of the periodic table includes elements with chemical characteristics that are in general
- A) Non identical
- B) ✓ Similar
- C) Different
- D) Similar as well as different
14. Each horizontal row of the periodic table includes elements with chemical characteristics
- A) Identical
- B) Similar
- C) ✓ Different
- D) Similar and different

15. According to the Modern periodic law, the chemical properties of the elements are periodic functions of their
- A) Density
B) ☒ Atomic number
C) Atomic mass
D) Mass number
16. The 3d transitional series contains elements having atomic numbers from
- A) 22 to 23
B) ☒ 21 to 30
C) 21 to 31
D) 21 to 29
17. Elements in group IB, IIB through VIIB are known as
- A) ☒ Transition elements
B) Rare earth metals
C) Lanthanides
D) Actinides
18. The fourteen elements following lanthanum are known as.
- A) Lanthanones
B) ☒ Lanthanides
C) Rare earths
D) All
19. Which of the following elements have the larger radius?
- A) F
B) Cl
C) Br
D) ☒ I
20. Nitrogen is comparatively inert element because it has
- A) ☒ Stable electronic configuration
B) Low atomic radius
C) High electro negativity
D) High dissociation energy
21. The trend of change in melting points and boiling points of elements in the period from left to right is graded
- A) Increase
B) ☒ First increase then decrease
C) Decrease
D) First decrease then increase
22. Which of the following is the general electronic configuration of transition elements?
- A) ns^2, np^6, nd^{10}
B) $(n-1)^{d^{1-10}}, ns^2, np^6$
C) ns^2, np^6, nd^{10}
D) ☒ $(n-1)^{d^{1-10}}, ns^2$
23. Which of the following ions has the smallest radius?
- A) Cl
B) S_2^{2-}
C) K^+
D) ☒ Ca^{2+}

24. Large amounts of atomic hydrogen are present in the atmosphere
A) Earth
B) ☒ Sun
C) Moon
D) None
25. Chemical formula of heavy water is
A) H_2O
B) ☒ D_2O
C) DO_2
D) None
26. Hydrogen resembles with
A) Alkali metals
B) Halogens
C) Group - IV elements
D) ☒ All
27. Hydrogen was first prepared by Cavendish in 1766 by the action
A) ☒ $\text{Zn} + \text{HCl}$
B) $\text{Zn} + \text{NaOH}$
C) $\text{Zn} + \text{NaNO}_3$
D) All
28. Hydrogen is a very good
A) ☒ Reducing agent
B) Oxidizing agent
C) Reducing agent as well as oxidizing agent
D) None
29. Hydrogen at the time of its generation during chemical reaction is in the form of atomic state and is called
A) Ionic hydrogen
B) ☒ Nascent hydrogen
C) Atomic hydrogen
D) None
30. Permanent hardness of water is due to
A) Sulphates of Na and K
B) ☒ Sulphates of Mg and Ca
C) Bicarbonates of Mg and Ca
D) None
31. Hydrogen per oxide is used as
A) ☒ An oxidant only
B) An acidic only
C) A reductant only
D) All
32. When steam is passed over red hot coke at 1000 degree centigrade a mixture of carbon monoxide and hydrogen gas is produced. It is known as
A) Heavy water
B) ☒ Water gas
C) Phosgene gas
D) None

33. Hydrogen is commercially prepared by the thermal decomposition of
A) ✓ Methane B) Ethyne
C) NaCl D) Cellulose
34. Hydrogen forms salt like hydrides with the elements of
A) ✓ IA and IIA B) IIIA and IVA
C) VA and VIA D) VIIA
35. Hydrogen forms interstitial hydrides with the elements of
A) s block B) p block
C) ✓ d block D) zero group
36. Ionic hydrides are usually
A) Liquids at room temperature B) ✓ Good reducing agent
C) Good electrical conductors in solid state D) Easily reduced
37. The hydrides which are good conductors of electricity in the fused state are called
A) ✓ Ionic hydride B) Covalent hydride
C) Complex hydride D) Interstitial hydride
38. Covalent hydrides are prepared by the direct action of
A) Metals with hydrogen B) ✓ Non metals with hydrogen
C) Transition elements with hydrogen D) None
39. The hydrides formed by the combination of non metals of groups IVA, VA, VIA and VIIA with hydrogen are called
A) Ionic hydride B) ✓ Covalent hydride
C) Complex hydride D) Interstitial hydride
40. The atoms of the same element which have the same atomic number but different mass numbers are called
A) ✓ Isotopes B) Actinides
C) Isobars D) None
41. Which type of hydrides show strong reducing properties?
A) Covalent B) Ionic
C) ✓ Complex D) Interstitial

42. The outermost orbital of alkali metal is
A) p-orbital B) d-orbital
C) f-orbital D) ☒ s-orbital
43. Densities, mp and bp of alkaline earth metals are higher than alkali metals due to
A) High ionization potential B) High nuclear charge
C) ☒ High ionization potential and nuclear charge D) None
44. Li shows diagonal relationship with
A) Na B) B
C) ☒ Mg D) Ca
45. The oxidation number of each element of group I-A is
A) 0 B) ☒ +1
C) +2 D) -1
46. The oxides of the alkali metals are
A) Covalent oxides B) Acidic oxide
C) Amphoteric oxides D) ☒ Basic oxide
47. When bleaching powder is treated with strong solution of ammonia, which gas is evolved?
A) ☒ Nitrogen B) Oxygen
C) Hydrogen D) Carbon dioxide
48. On adding KI to a solution of CuSO_4 which of the following is obtained
A) Cupric oxide B) ☒ Metallic copper
C) Cuprous iodide with iodine D) No change
49. Sodium metal cannot be stored in
A) Acetylene B) Kerosene
C) Alcohol D) ☒ Water
50. Sodium is a powerful
A) ☒ Reducing agent B) Oxidizing agent
C) Bleaching D) All

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51. The chemical formula of Magnesite isA) MgCl_2 B) $\text{Mg}(\text{HCO}_3)_2$ C) ☒ MgCO_3

D) None

52. The electrolytic cell used for the production of metallic sodium is known asA) ☒ Down's cell

B) Solvay's cell

C) Habeas cell

D) None

53. Sodium metal is obtained from which of the following mineral

A) Lepidolite

B) Amblygonite

C) Camalite

D) ☒ Halite**54. The formula of Chile salt petre is**A) KNO_3 B) ☒ NaNO_3 C) NaCl D) Na_2CO_3 **55. When NaCl is dissolved in water, the sodium ions become**

A) Oxidized

B) Reduced

C) Hydrolyzed

D) ☒ Hydrated**56. The mineral $\text{MgCO}_3 \cdot \text{CaCO}_3$ is known as**

A) Gypsum

B) Beryl

C) ☒ Dolomite

D) Calcite

57. Epson salt is a hydrate ofA) ☒ Magnesium sulphate

B) Calcium sulphate

C) Ferrous ammonium sulphate

D) Magnesium ammonium phosphate

58. NaHCO_3 is commonly called

A) Soda ash

B) ☒ Baking soda

C) Washing soda

D) None

59. Sodium carbonate is generally calledA) ☒ Washing soda or soda ash

B) Backing soda

C) Caustic soda

D) None

60. NaHCO_3 is prepared by
- A) Down's process
B) ✓ Solvay's process
C) Nelson's process
D) None
61. Baking powder has which one of the following formula?
- A) Na_2CO_3
B) Na_2SO_4
C) ✓ NaHCO_3
D) K_2CO_3
62. The chemical formula of gypsum is
- A) $\text{CaSO}_4 \cdot 5\text{H}_2\text{O}$
B) $\text{CaSO}_4 \cdot 4\text{H}_2\text{O}$
C) ✓ $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
D) None
63. The commonly used name for sodium hydroxide is
- A) Soda ash
B) Baking soda
C) ✓ Caustic soda
D) None
64. Sodium hydroxide is heated with silver nitrate, the product will be
- A) Ammonium hydroxide, silver hydroxide
B) Ammonia water
C) ✓ Sodium chlorate, sodium chloride and water
D) No reaction
65. If chlorine is bubbled through cold solution of calcium hydroxide, the product will be
- A) ✓ Bleaching powder, sodium chloride and water
B) Sodium chlorate
C) Sodium chlorate, sodium chloride and water
D) Sodium chloride and hydrochloric acid
66. Nelson's cell is used for the manufacture of
- A) NaCl
B) ✓ NaOH
C) Na_2CO_3
D) CaCO_3
67. Castner - Kellner process is used for the production of _____ on industrial scale
- A) NaCl
B) ✓ NaOH
C) Na_2CO_3
D) NaHCO_3
68. The chemical formula of bleaching powder is
- A) CaCl_2
B) CaOCl
C) ✓ $\text{Ca}(\text{OCl})\text{Cl}$
D) $\text{Ca}(\text{HCO}_3)_2$

69. The bleaching action of bleaching powder is due to the formation of

- A) O_2 B) OCl
C) \checkmark Cl_2 D) Cl

70. White vitriol has the formula

- A) $CUSO_4$ B) \checkmark $ZnSO_4 \cdot 7H_2O$
C) $FeSO_4 \cdot 7H_2O$ D) $COSO_4 \cdot 7H_2O$

71. The elements which belong to group IIIA to group VIIIA are called

- A) s - block elements B) \checkmark p - block elements
C) d - block elements D) f - block elements

72. All elements of group IIIA show high covalency due to

- A) Small size B) High charge
C) Large value of ionization potential D) \checkmark All

73. The formula of borax is

- A) $Na_2B_4O_7$ B) $Na_2B_4O_7 \cdot 5H_2O$
C) $Na_2B_4O_7 \cdot 7H_2O$ D) \checkmark $Na_2B_4O_7 \cdot 10H_2O$

74. The formula of orthoboric acid is

- A) HBO_2 B) HBO_3
C) H_3BO_3 D) \checkmark H_3BO_3

75. Which elements exhibit allotropy?

- A) Li B) Na
C) \checkmark P and S D) B

76. Bauxite, Cryolite and Alunite are ores of

- A) Barium B) Calcium
C) Copper D) \checkmark Aluminum

77. Bayer's process is used for the purification of

- A) Cryolite B) \checkmark Bauxite
C) Alum stone D) Beryl

78. When aluminum is added to potassium hydroxide solution

- A) No action takes place B) Oxygen is evolved
C) Water is produced D) \checkmark Hydrogen is evolved

79. In the Hall - Beroult process for producing aluminum the substance produced at the cathode is

- A) V Al B) Al₂O₃
C) F₂ D) C

80. Na_3AlF_6 is called

- A) Bauxite
B) ✓ Cryolite
C) Alum stone
D) Alunite

81. Aluminum resists corrosion due to the formation of a coat of

- A) AlN
B) $\text{Al}(\text{NO}_3)_3$
C) ✓ Al_2O_3
D) $\text{Al}_2(\text{CO}_3)_3$

82. Diamond is used

- A) For cutting glass
B) As precious stone
C) For rock drilling
D) ☒ All

83. The refractive index of diamond is

- A) 1.4
B) 2.45
C) 3.4
D) 4.4

84. The chemical formula of blue vitriol is

- A) BaSO_4 B) CaSO_4
C) CuSO_4 D) $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

85. Lead chromate is used as pigment under the name of

- A) ☒ Chrome yellow B) ☐ Blue yellow
C) ☐ Litharge D) ☐ Chrome blue

86. The formula of red led is

- A) PbO B) Pb_2O_3
C) Pb_3O_4 D) PbO_2

87. Pb_3O_4 is commonly called

- A) White led B) Litharge
C) ✓ Sandhur D) None

88. The formula of chrome red is
A) PbO
B) PbC_2O_4
C) Pb_2O_4
D) \checkmark $\text{PbCrO}_4 \cdot \text{PbO}$
89. Sandhur a brilliant red coloured compound of lead is obtained by treating
A) Lead chemically
B) Lead with air
C) \checkmark Lead monoxide with air
D) Lead oxide with air
90. Lead monoxide is a yellow powder also called
A) \checkmark Litharge
B) Epson
C) Sandhur
D) None
91. The formula of oleum is
A) H_2SO_4
B) H_2SO_3
C) \checkmark $\text{H}_2\text{S}_2\text{O}_7$
D) $\text{H}_2\text{S}_2\text{O}_3$
92. The king of the chemicals is
A) HCl
B) \checkmark H_2SO_4
C) HClO_4
D) HNO_3
93. H_2SO_4 reacts with Mg metals and liberates
A) O_2
B) \checkmark H_2
C) SO_2
D) SO_3
94. Which of the following is charred by conc. H_2SO_4 ?
A) Wood
B) Paper
C) Sugar
D) \checkmark All
95. H_2S is a good
A) Oxidizing agent
B) \checkmark Reducing agent
C) Donating agent
D) None
96. Which acid is prepared by contact process?
A) HCl
B) HNO_3
C) HF
D) \checkmark H_2SO_4
97. Which acid is used as dehydrating agent?
A) HCl
B) HNO_3
C) \checkmark H_2SO_4
D) CH_3COOH

98. The sulphur trioxide obtained in contact process is used to manufacture sulphuric acid by dissolving in
- | | |
|---------------------------|---------------------------|
| A) ✓ Conc. Sulphuric acid | B) Diluted sulphuric acid |
| C) Water | D) Reacting with steam |
99. The catalyst used to convert sulphur dioxide to sulphur trioxide is
- | | |
|---------------------------|-------------------------|
| A) Cu and Fe | B) Platinia or V_2O_5 |
| C) ✓ Platinum or V_2O_5 | D) Nickel or Iron |
100. The element having seven electrons in their valence shell are called
- | | |
|-------------------|---------------|
| A) Inert elements | B) ✓ Halogens |
| C) Rare earth | D) Actinides |

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101. In which compound oxygen has a positive oxidation state?

- A) H_2O B) H_2O_2
C) ☒ OF_2 D) ClO_2

102. In the electrolytic process for obtaining chlorine gas from brine the cell is called

- A) Down's cell B) Voltaic cell
C) ☒ Nelson's cell D) Top of cell

103. A mixture of one volume to cone. HNO_3 and three volumes of cone HCl is known as

- A) Oxidizing solution B) Leaning solution
C) ☒ Aqua regia D) None

104. The acid produced by Ostwald's Process is

- A) HCl B) H_2SO_4
C) ☒ HNO_3 D) HF

105. Which member of group V-A forms multiple bonds?

- A) Bi B) ☒ N
C) P D) As

106. HNO_3 is a strong

- A) Reducing agent B) ☒ Oxidizing agent
C) Hydrating agent D) None

107. Lunar caustic is another name given to a compound of silver which is

- A) ☒ Nitrate B) Nitrite
C) Chloride D) Chlorite

108. When tin is heated with cone. HNO_3 it forms

- A) Passive B) Stannous nitrate
C) Stannic nitrate D) ☒ Meta stannic acid

109. Cinnabar is an ore of

- A) Lead
B) Zinc
C) Silver
D) ☒ Mercury

110. Transition elements exhibit variable valencies because they release electrons from the following orbits

- A) ns orbit
B) ns and np orbit
C) ☒ (n-1) d and ns orbit
D) (n-1) d orbit

111. The transition elements are located between

- A) s block elements
B) ☒ s and p block elements
C) p block elements
D) f block elements

112. The color of transition element complexes is a result of

- A) Colored anion
B) Colored solvent
C) ☒ Electronic transitions
D) None

113. The metals and compounds of d block elements with unpaired electrons show a specific property called

- A) Allotropy
B) Isomerism
C) Diamagnetism
D) ☒ Para magnetism

114. Manganese belongs to group VIIB of the periodic table. The maximum oxidation state shown by manganese will be

- A) ☒ +7
B) 8
C) -7
D) +6

115. Which of the following is the important Sulphide ore of Copper?

- A) Malachite
B) Azurite
C) ☒ Chalcopyrite
D) Cuprites

116. In the Bessemerization stage of copper metallurgy, copper metal is obtained which is pure

- A) 100%
B) ☒ 99%
C) 98%
D) 97%

117. Blister copper is

- A) Pure copper
B) Special copper
C) ☒ With 1 % impurity
D) Alloy

118. When copper is heated in air, both are formed

- A) $\text{Cu} + \text{CuO}$
C) $\text{Cu} + \text{O}_2$

- B) $\text{Cu} + \text{CO}$
D) $\checkmark \text{CuO} + \text{Cu}_2\text{O}$

119. An alloy of copper which contains 80% Cu and 20% Sn is called

- A) Bronze
C) \checkmark Bell metal

- B) Brass
D) All

120. For making of glass mirrors, one of the main solutions used is that of

- A) Iron
C) \checkmark Silver

- B) Chromium
D) Mercury

121. Lunar caustic is

- A) AgCl
C) KNO_3

- B) $\checkmark \text{AgNO}_3$
D) NaOH

122. Gold dissolves in Aqua regia forming

- A) Aurum chloride
C) Chloro auric acid

- B) \checkmark Auric chloride
D) Golden tetra

123. The black image on an exposed and developed photographic film is composed of

- A) Ag
C) $\checkmark \text{AgBr}$

- B) Ag_2O
D) $[\text{Ag}(\text{S}_2\text{O}_3)_3]^{2-}$

124. Hypo is the technical name of

- A) $\checkmark \text{Na}_2\text{S}_2\text{O}_3$
C) Cu_2S

- B) AgNO_3
D) $\text{CuCO}_3 \cdot \text{Cu}(\text{OH})_2$

125. When potassium dichromate is heated with concentrated sulphuric acid, olive green coloured salt is produced which is a double salt known as

- A) Chrome
C) Chrome green

- B) \checkmark Chrome alum
D) Green potash

126. Potassium permanganate when dissolved in water gives a solution which has color

- A) Clear
C) Green

- B) Yellow
D) \checkmark Pink

127. Potassium permanganate acts as

- A) An acid
- B) A base
- C) ☒ An oxidizing agent
- D) A reducing agent

128. One of the products of a reaction between solid KMnO_4 and cone. HCl

- A) A red liquid
- B) ☒ A greenish yellow gas
- C) MnO_2
- D) HClO_4

129. Ligands are

- A) ☒ Electron pair donors
- B) Electron pair acceptors
- C) Neutral
- D) None

130. The slow and continuous eating away of any metal by the action of environment is called

- A) Oxidation
- B) Reduction
- C) ☒ Corrosion
- D) Erosion

131. Metallic coating is also a method to prevent iron from rusting which of the following is not considered as a metallic coating

- A) Spraying
- B) Electroplating
- C) ☒ Heating
- D) Galvanizing

132. Aluminum resists the process of corrosion due to the formation of

- A) ☒ Aluminum oxide
- B) Aluminum carbonate
- C) Aluminum sulphate
- D) Aluminum nitride

133. Galvanizing is done by dipping clean iron sheet in a zinc chloride bath and

- A) ☒ Heating
- B) Cooling
- C) Forth floating
- D) Alloying

134. Stainless steel is a

- A) ☒ A mixture
- B) A compound
- C) Art element
- D) All

135. An alloy of iron which contains chromium 18%, nickel 8%, 0.18% carbon

- A) Brass
- B) ☒ Stainless steel
- C) Bronze
- D) German Silver

136. Stainless steel contains Cr up to

- A) 12%
- C) 10%

- B) ✓ 18%
- D) 5%

137. The branch of chemistry which deals with the study of compounds containing carbon as an essential element is called

- A) Physical
- C) Nuclear

- B) Inorganic
- D) ✓ Organic

138. Which form of coal contains 92 - 98% carbon?

- A) Peat
- C) Sub bituminous

- B) Bituminous
- D) ✓ Anthracite

139. After heating at high temperature, coal is converted into

- A) Coke
- C) Coal tar

- B) Coal gas
- D) ✓ All

140. Kerosene oil is mixture of hydrocarbons having carbon atoms

- A) ✓ 12 - 16
- C) 14 - 15

- B) 13 - 14
- D) 8 - 9

141. Cyclopentane is an example of

- A) Aromatic compound
- C) ✓ Cyclic compound

- B) Aliphatic compound
- D) None

142. The compound in which two alkyl groups are attached to oxygen atom is called

- A) Aldehyde
- C) ✓ Ether

- B) Ketone
- D) Alcohol

143. Organic compounds contains _____ as an essential element

- A) Nitrogen
- C) Oxygen

- B) ✓ Carbon
- D) Hydrogen

144. In organic compounds carbon atoms form

- A) Ionic bond
- C) ✓ Covalent bond

- B) Metallic bond
- D) None

145. In natural gas the percentage of methane is
A) 90%
C) ☒ 95%
B) 80%
D) 40%
146. In CCl_4 molecule four valencies of carbon atom are directed towards the corners of a
A) Cube
C) Prism
B) Hexagon
D) ☒ Tetrahedron
147. Formula of formic acid is
A) ☒ H-COOH
C) $\text{CH}_3 - \text{CH}_2 - \text{COOH}$
B) $\text{CH}_3 - \text{COOH}$
D) $\text{CH}_3 - \text{CH}_2\text{CH}_2 - \text{COOH}$
148. What is the formula of Valeric acid is
A) H-COOH
C) $\text{CH}_3 - \text{CH}_2 - \text{COOH}$
B) ☒ $\text{CH}_3(\text{CH}_2)_4 - \text{COOH}$
D) $\text{CH}_3 - \text{CH}_2\text{CH}_2\text{COOH}$
149. Common name of Formic acid is
A) ☒ Methanoic acid
C) Propanic acid
B) Ethanoic acid
D) None
150. A series of related chemical compounds that have the same function group and in which two successive members differ in molecular formula by a $-\text{CH}_2$ group are called
A) Isomers
C) Isotopes
B) Metamers
D) ☒ Homologous

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151. The general formula of alkane is

- A) $\text{CH}_n + \text{H}_{2n+2}$
C) C_nH_{2n}

- B) C_nH_n
D) ☒ $\text{C}_n\text{H}_{2n+2}$

152. The general formula of alkenes is

- A) $\text{C}_n\text{H}_{2n+2}$
C) ☒ C_nH_{2n}

- B) C_nH_n
D) $\text{C}_n\text{H}_{2n+1}$

153. Which has the longest bond length?

- A) $\text{C} = \text{C}$
C) ☒ $\text{C} - \text{C}$

- B) $\text{C} \equiv \text{C}$
D) All

154. The class of straight chain hydrocarbons is called

- A) ☒ Acyclic
C) Primary

- B) Cyclic
D) Aromatic

155. Compounds having same molecular formula but different structures are said to be

- A) Monomers
C) Metamers

- B) ☒ Isomers
D) Tautomers

156. Compounds having same molecular formula but different functional groups show

- A) Metamorphism
C) Chain isomerism

- B) Position isomerism
D) ☒ Functional group isomerism

157. The phenomenon in which two or more compounds have the same molecular formula but different carbon chain is known as

- A) Metamorphism
C) Position isomerism

- B) Functional group isomerism
D) ☒ Chain isomerism

158. The phenomenon in which the compounds have the same functional group but different alkyl groups attached to the same multivalent atom is known as

- A) ☒ Metamorphism
C) Position isomerism

- B) Functional group isomerism
D) None

159. An isomer of ethanol is

- A) ✓ Di methyl ether
- C) Ethylene glycol

- B) Diethyl ether
- D) Methanol

160. On strong heating the fractions containing the larger hydrocarbon molecules are broken up into smaller and more volatile molecules, this is called

- A) Sublimation
- C) Roasting

- B) ✓ Cracking
- D) Refining

161. Cracking is also termed as

- A) ✓ Pyrolysis
- C) Polymerization

- B) Refining
- D) Hydrohalogenation

162. Tetraethyl lead is used as

- A) Knocking agent
- C) ✓ Anti Knocking agent

- B) Catalytic agent
- D) Reforming agent

163. The quality of petroleum is determined by

- A) Decane number
- C) Hexane number

- B) ✓ Octane number
- D) None

164. Diesel oil is a mixture of hydrocarbons containing carbon atoms

- A) 13—30
- C) ✓ 13—25

- B) 13—20
- D) 13—18

165. Gasoline is a mixture of hydrocarbons containing carbon atoms

- A) ✓ 5—10
- C) 5—13

- B) 5—8
- D) 5—11

166. Its major constituents are hydrogen (50%), methane (35%) and carbon monoxide (8%)?

- A) Coke
- C) Coal tar

- B) ✓ Coal gas
- D) None

167. The distillation of coal at high temperature and in absence of air is called

- A) Vacuum distillation
- C) Fractional distillation

- B) Normal distillation
- D) ✓ Destructive distillation

168. Removal of one hydrogen atom from alkane produces a group called
- A) Alkene
B) Alkyne
C) ☒ Alkyl
D) Alkane
169. Paraffin's are the type of hydrocarbons which are
- A) Benzonoid
B) Non Benzonoid
C) Closed chain
D) ☒ Open chain
170. The smallest known cyclic hydrocarbon is
- A) ☒ Cyclopropane
B) Cyclobutane
C) Cyclopentane
D) Cycloheptane
171. Aldehydes and carboxylic acids can be obtained by the catalytic oxidation of
- A) ☒ Alcohols
B) Methane
C) Ethane
D) Benzene
172. If an alkyl halide is allowed to react with nascent hydrogen, it produces which of the following compound?
- A) ☒ Alkane
B) Alkyne
C) Alkene
D) Di Alkyl halide
173. The alkyne can be converted to corresponding alkane by adding hydrogen in the presence of a catalyst. This reaction is called
- A) Hydration
B) ☒ Hydrogenation
C) Dehydration
D) Dehydrogenation
174. On heating sodium acetate with sodium hydroxide in the presence of calcium oxide, gives a gas that can be burnt; which of the following is that gas
- A) Ethane
B) ☒ Methane
C) Propane
D) Rutanp
175. A hydrocarbon gas that is colourless, odorless, insoluble in water and found in natural gas as well, which one is that
- A) Ethane
B) ☒ Methane
C) Pentane
D) Butane

176. Methane can react with halogens under catalyzed conditions of sunlight. This type of reaction is called
- A) Addition
B) Substitution
C) Displacement
D) ☒ Photochemical
177. Polyethylene is produced from ethylene at high temperature and pressure. This is an example of
- A) Addition
B) Substitution
C) ☒ Polymerization
D) Hydrogenation
178. Ethene gas when passed through slightly alkaline potassium permanganate solution, the color of the solution is discharged due to
- A) Oxidation
B) ☒ Hydroxylation
C) Hydration
D) Hydrogenation
179. When ethylene is allowed to react with sulphur monochloride, it produces a very poisonous gas known as
- A) Thiophyl gas
B) Chloride gas
C) ☒ Mustard gas
D) Cyanide gas
180. Name the hydrocarbon gas that is applied as general anesthesia
- A) Ethyne
B) Ethane
C) Natural gas
D) ☒ Ethylene
181. Ethylene gas when allowed to react with hydrogen gas in the presence of nickel like catalyst at high temperature, it produces ethane. This reaction is called
- A) Dehydration
B) Hydration
C) ☒ Hydrogenation
D) Hydrolysis
182. In the presence of dilute sulphuric acid and mercury sulphate as catalysts, ethylene produces
- A) Carboxylic acid
B) ☒ Alcohol
C) Aldehyde
D) Ketone
183. On dropping water on calcium carbide, a gas is produced with graphic like small and that burns with luminous flame, which of the following is that gas
- A) Propane
B) ☒ Acetylene
C) Ethane
D) Methane

184. In one of the tests to identify presence of acetylene, Ammonical Cuprous Chloride is used. Which color of the resultant compound confirms the presence of acetylene?
- A) White
B) Yellow
C) ☒ Red
D) Green
185. A property of acetylene is to polymerize. If three molecules of acetylene are allowed to polymerize in the presence of copper at elevated temperature, indicate which one will be the product
- A) Hexyne
B) ☒ Benzene
C) Hexane
D) Cyclohexane
186. Vinyl chloride is produced by the reaction of HCl with
- A) Ethane
B) Ethane
C) ☒ Acetylene
D) Aldehyde
187. Carboxylic acids combine with acetylene in the presence of HgO₂ forming
- A) Esters
B) Alcohols
C) ☒ Vinyl Esters
D) Vinyl chloride
188. Benzene is an aromatic compound obtained from
- A) Petrol
B) Coal
C) ☒ Coal tar
D) Pitch
189. The stability of benzene molecule is attributed to
- A) ☒ Resonance energy
B) Bonding energy
C) Stabilization energy
D) Aromatic character
190. In the presence of nickel at elevated temperature, benzene can be reduced to
- A) Acetylene
B) Hexane
C) ☒ Cyclohexane
D) Ethane
191. The hydrogen of benzene can be substituted by different ions under different conditions. If the ion replacing hydrogen is positively charged, it is called
- A) Addition
B) Nucleophilic substitution
C) substitution
D) ☒ Electrophilic substitution

192. For the nitration of certain organic compounds concentrated H_2SO_4 is used as
A) Sulphonating agent
B) Dehydrating agent
C) ☒ As a catalyst
D) As a solvent only
193. Further nitration of nitrobenzene will be at which position
A) Ortho
B) ☒ Meta
C) Para
D) Not at all
194. In following aromatic compounds which one is containing nitrogen in it?
A) Benzene
B) ☒ Aniline
C) Toluene
D) Xylene
195. The other name of picric acid is
A) Tri - nitro Aniline
B) Trinitrotoluene
C) Yellow acid
D) ☒ 2, 4, 6 - Tri Nitro Phenol
196. When sodium benzoate is treated with caustic soda, it is converted into
A) Hexyne
B) Cyclohexane
C) Cyclohexene
D) ☒ Benzene
197. Paraffins are also called
A) ☒ Alkanes
B) Alkynes
C) Alkenes
D) None
198. Polyethylene is produced from ethylene at high temperature and pressure. This is an example of
A) Addition
B) ☒ Polymerization
C) Substitution
D) Hydrogenation
199. The most stable hybridization resulted from the combination of 's' and 'p' orbitals is
A) sp
B) sp^2
C) ☒ sp^3
D) None
200. Mono Halo derivatives of alkanes are called
A) Amides
B) Alkenes
C) ☒ Alkyl Halides
D) Imides

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201. The general formula of alkyl halides is

- A) ☒ R-X
C) R-CHO

- B) R-NH₂
D) None

202. Alkyl halides on treatment with KOH give

- A) Phenol
C) Aldehyde

- B) ☒ Alkene
D) Ketone

203. The Markowinkoff Rule is used for

- A) Stereochemistry
C) Activity of enzyme

- B) Stability of free radicals
D) ☒ Addition of acid to double bonds

204. The free radicals are species of organic ions that have

- A) Positive charge
C) Negative charge

- B) ☒ Odd election
D) No charge

205. Alkyl halides can be prepared by treating halogen acids with

- A) Ethene
C) ☒ Ethene and Ethanol

- B) Ethanol
D) Aldehyde

206. The reaction of alcohol with SOCl₂ in the presence of pyridine as catalyst gives

- A) Acids
C) ☒ Alkyl halide

- B) Acid chloride
D) Benzene

207. Alkyl halides on treatment with Grignard's reagent give

- A) Alkenes
C) ☒ Alkanes

- B) Alkynes
D) Acids

208. Alkyl magnesium halides are known as

- A) Simon Smith reagent
C) ☒ Grignard's reagent

- B) Tollen's reagent
D) Bardord's reagent

209. Hydrolysis of Grignard's reagent yields

- A) Alcohol
B) Aldehyde
C) Ester
D) ☒ Alkane

210. Grignard's reagent on treatment with dry CO_2 and HCl yields

- A) Ester
B) Alcohol
C) ☒ Carboxylic acid
D) Aldehyde

211. If Ketone reacts with Grignard's reagent, it also produces alcohol, but it will be a

- A) Primary alcohol
B) Secondary alcohol
C) ☒ Tertiary alcohol
D) Aromatic alcohol

212. If a substitution reaction is a two step process, and, in the slow step only one molecule reacts, this type of reaction is called

- A) ☒ SN_1
B) SN_2
C) Trimolecular
D) Bimolecular

213. In the SN_2 type of substitution reaction, an intermediate is formed which is called

- A) Carbide
B) ☒ Carbonium ion
C) Activated complex
D) Intermediate

214. When metallic sodium in ether is heated with an alkyl halide, a higher alkane is formed. It is called

- A) Sulphonation
B) ☒ Wurtz's Reaction
C) Friedel Crafts Reaction
D) None

215. Rectified spirit contains

- A) ☒ 95.6% alcohol
B) 70.5% alcohol
C) 100% alcohol
D) 85.4% alcohol

216. Alcoholic fermentation is brought out by the actions of:

- A) ☒ Yeast
B) CO_2
C) O_2
D) CO

217. Which of the following is known as wood spirit?

- A) Ethyl alcohol
B) Propyl alcohol
C) ☒ Methyl alcohol
D) Butyl alcohol

218. Oxidation of methyl alcohol gives

- A) ☒ Formaldehyde
C) Ester

- B) Acetone
D) Acid

219. Alcohol reacts with carboxylic acids, acid halides and anhydrides to produce the class of compounds known as

- A) Grignard's reagent
C) ☒ Ester

- B) Amides
D) None

220. Oxidation of 2 - propanol gives

- A) ☒ Propanone
C) Pentanone

- B) Butanone
D) None

221. The example of a Trihydric alcohol is

- A) Glycol
C) Tertiary butyl alcohol

- B) ☒ Glycerol
D) Glucose

222. Absolute alcohol contains

- A) 40% water
C) 20% water

- B) 10% water
D) ☒ No water

223. The formula of secondary alcohol is

- A) R-OH
C) ☒ R_2CHOH

- B) $R-CH_2OH$
D) None

224. Glucose in the presence of Zymase is converted into

- A) Alcohol
C) ☒ Ethyl alcohol

- B) Acid
D) Ketone

225. Dehydration of ethyl alcohol yields

- A) Aldehyde
C) ☒ Acid

- B) Ketone
D) ☒ Alkene

226. If concentrated sulphuric acid is added to an alcohol and heated, it produces alkenes. Name the product that will be formed from ethanol

- A) Ether
C) Ethane

- B) ☒ Ethylene
D) Ester

227. When phenol is treated with sulphuric acid, it yields
- A) Ortho sulphuric acid
B) Para sulphuric acid
C) ☒ Both Ortho and Para acid
D) None
228. When phenol is reduced in the presence of Zn dust, we get
- A) Cyclohexene
B) Cyclohexane
C) ☒ Benzene
D) Toulene
229. Nitration of phenol gives
- A) O – nitrophenol
B) P – nitrophenol
C) M – nitrophenol
D) ☒ Both O and P
230. Down's process is used for the preparation of
- A) Esters
B) Ethers
C) Alcohols
D) ☒ Phenols
231. Phenol is used in the preparation of
- A) Aspirin
B) Phenacetin
C) Salol
D) ☒ All
232. Bakelite plastic was prepared by heating phenol with
- A) Preservators
B) Heat dissipaters
C) ☒ Solvents
D) Distillation media
233. Acetone may be converted to Iodoform by heating with
- A) Br_2
B) ☒ I_2
C) F_2
D) Cl_2
234. Aldol condensation reaction is given by molecules containing
- A) Carboxyl group
B) ☒ Alpha hydrogen
C) Similar alkyl group
D) Dissimilar alkyl group
235. The carboxyl compounds that do not have alpha hydrogen undergo
- A) Aldol condensation
B) Kolbe's reaction
C) Addition reaction
D) ☒ Cannizaro reaction

236. The formula of Fehling's solution is

- A) ☒ $\text{Cu}(\text{OH})_2$
C) KOH

- B) NaOH
D) NH_4OH

237. Which of the following is a chief constituent of vinegar?

- A) Alcohol
C) Sucrose

- B) Glucose
D) ☒ Acetic acid

238. Acetic acid reacts with Thionyl Chloride to give

- A) Acetic anhydride
C) Ethyl acetate

- B) ☒ Acetyl chloride
D) None

239. Acetic acid is categorized

- A) Less volatile
C) ☒ Less dissociation

- B) Less density
D) Less viscous

240. To which class of organic

- A) Esters
C) ☒ Salts of organic acids

- B) Amines
D) Aldehydes

241. Reaction between NaOH

- A) Esterification
C) Fermentation

- B) ☒ Saponification
D) Hydrogenation

242. When acetic acid and ethanol react together, an ester is formed which is called

- A) Ethyl ester
C) Fermentation

- B) Ethanoic acid
D) ☒ Ethyl acetate

243. A material cannot be termed as food unless it contains at least one

- A) Vitamin
C) ☒ Nutrient

- B) Mineral
D) Amino acid

244. Milk, fat, butter, cream and fish liver oil contain vitamin

- A) ☒ Vitamin A
C) Vitamin C

- B) Vitamin B
D) Vitamin E

245. Which food component regulates body processes?

- A) Fats
C) Proteins

- B) ☒ Vitamins
D) Carbohydrates

246. The use of the products of digestion in synthesis of cellular structure is known as
- A) Metabolism
B) ✓ Assimilation
C) Homeostasis
D) None
247. Deficiency of all nutrients leads to
- A) Nutrition
B) Malnutrition
C) ✓ Under nutrition
D) None
248. Steroids is an important type of
- A) Proteins
B) Vitamins
C) ✓ Lipids
D) Carbohydrates
249. The most important energy storage are compounds in the animal kingdom
- A) Peptides
B) Amino acids
C) ✓ Lipids
D) None
250. Hormones are made of
- A) ✓ Proteins
B) Carbohydrates
C) Fats
D) Vitamins

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251. Hemoglobin is a

- A) ☒ Proteins
B) Carbohydrates
C) Fats
D) Mineral

252. The branch of chemistry that deals with chemical processes going on in the living matter is called

- A) Physical Chemistry
B) Analytical Chemistry
C) Organic Chemistry
D) ☒ Bio Chemistry

253. Polyhydroxy aldehydes or ketones are also called

- A) Proteins
B) ☒ Carbohydrates
C) Fats
D) Vitamins

254. On heating glucose with Fehling's solution, we get a precipitate of color

- A) Yellow
B) ☒ Red
C) Black
D) Green

255. Which of the following gives a deep blue color with a drop of dilute solution of iodine?

- A) Cellulose
B) Glucose
C) ☒ Starch
D) Sugar

256. Carbohydrates which have three to nine carbon atoms and are not hydrolysable are called

- A) ☒ Monosaccharide
B) Disaccharide
C) Polysaccharide
D) None

257. Cellulose is an example of

- A) Monosaccharide
B) Disaccharide
C) ☒ Polysaccharide
D) None

258. The most abundant and the most important steroid in the human body is

- A) Riboflavin
B) ☒ Cholesterol
C) Folic acid
D) Inositol

259. During digestion fats are broken down to
- A) Glucose
C) ☒ Fatty acids
- B) Amino acids
D) None
260. Fats are usually decomposed in tissues providing
- A) Heat
C) Energy
- B) ☒ Heat and energy
D) Strength
261. During digestion proteins are broken down to
- A) Glucose
C) Fatty acids
- B) ☒ Amino acids
D) None
262. Lipids and proteins are made of
- A) ☒ Macromolecule
C) Micro atom
- B) Micro molecule
D) None
263. Which organic compound is a major structural compound of an animal tissue?
- A) Carbohydrates
C) Cellulose
- B) ☒ Proteins
D) Lipids
264. Enzymes are
- A) Carbohydrate in nature
C) Fat in nature
- B) ☒ Protein in nature
D) None
265. Which of the following is a pure amino acid
- A) ☒ Glycin
C) Hydroxyproline
- B) Protein
D) Enzyme
266. The substance upon which an enzyme acts is known as its
- A) Domain
C) ☒ Substrate
- B) Field
D) Reactant
267. Water soluble vitamins include
- A) Vitamin A, B
C) ☒ Vitamin B, C
- B) Vitamin D, K
D) Vitamin C, E
268. Vitamin B₁ is called
- A) ☒ Thiamin
C) Niacin
- B) Riboflavin
D) Pyridoxine

269. Vitamin B is called

- A) Thiamin
- C) Niacin

- B) ✓ Riboflavin
- D) Pyridoxine

270. Vitamin B5 is called

- A) Thiamin
- C) ✓ Niacin

- B) Riboflavin
- D) Pyridoxine

271. The substances which are added to the soil to provide one or more nutrient elements essential for plant growth are called

- A) Minerals
- C) ✓ Fertilizers

- B) Hormones
- D) None

272. The percentage of nitrogen in ammonium nitrate is

- A) ✓ 32—33%
- C) 40—45%

- B) 34—36%
- D) None

273. The elements like nitrogen, phosphorous, calcium are added in large amounts to the soils and are called

- A) ✓ Nutrients elements
- C) Trace elements

- B) Basic elements
- D) Additives

274. Ammonium nitrate fertilizer is not used for which crop?

- A) Cotton
- C) ✓ Paddy rice

- B) Wheat
- D) Sugar cane

275. The widely used nitrogen fertilizer that contains about 46% nitrogen is

- A) Ammonia
- C) Ammonium sulphate

- B) Ammonium nitrate
- D) ✓ Urea

276. The chemical name of urea is

- A) Chloromethane
- C) ✓ Carbamide

- B) Aneurim
- D) None

277. Fertilizers are classified into

- A) ✓ Two categories
- C) Four major categories

- B) Three major categories
- D) None

278. $\text{Ca}_3(\text{PO}_4)_2$ is called

- A) ☒ Phosphorite
C) Apatite

- B) Wavelite
D) None

279. Soap is an anionic surfactant in which the polar group is a

- A) Aldehyde
C) ☒ Carboxylic group

- B) Alcohol
D) Amino group

280. Detergent are a major cause of water pollution because they

- A) Kill aquatic life
C) Introduce additional nutrients in water
D) ☒ Contains components which are non biodegradable

- B) Enhance bacterial activity

281. Washing soap can be prepared by saponification with alkali of which of the following Oil?

- A) Rose oil
C) ☒ Groundnut oil

- B) Paraffin oil
D) Kerosene oil

282. Commercial detergents contain mainly

- A) RCOONa
C) ROSO_3Na

- B) RONa
D) ☒ ROSO_3Na

283. The principal former of all glasses is

- A) ☒ Silica
C) Potash

- B) Sulphur
D) CaO

284. If glass is cooled suddenly then it becomes

- A) Malleable
C) Transparent

- B) Soft
D) ☒ Brittle

285. Colour is imparted to glass by mixing

- A) Synthetic dye
C) Oxide of non metal

- B) Metal oxide
D) ☒ Colored salts

286. Water glass is

- A) ☒ Another name of sodium silicate
B) A special form of glass, to store water only
C) Hydrated form of glass

- D) Hydrated silica

287. The principle former of almost all glasses is

- A) ✓ $(\text{SiO}_2)_p$ B) $(\text{SiO}_3)_n$
C) $(\text{SiO}_2)_x$ D) None

288. Cotton is an example of

- A) Animal fiber B) Mineral fiber
C) ✓ Vegetable fiber D) Synthetic fiber

289. Silk is an example of

- A) ✓ Animal fiber B) Mineral fiber
C) Vegetable fiber D) Synthetic fiber

290. The fiber which is obtained from naturally occurring proteins is called

- A) Saran B) ✓ Azlon
C) Rayon D) Nylon

291. Terylene fiber is made by reaction of terephthalic acid with

- A) Ethylene B) ✓ Ethylene glycol
C) Glycol D) Terylene

292. A polymer obtained by mixing of hexamethylenediamine and adipic acid is called

- A) Rayon B) Poly ester
C) Polyamide D) ✓ Nylon 66

293. Asbestos is a

- A) ✓ Mineral fiber B) Animal fiber
C) Vegetable fiber D) None

294. Which of the following thermoplastic materials?

- A) ✓ PVC B) Polystyrene
C) Polyethylene D) Synthetic fiber

295. The substances that reduce the brittleness and improve elasticity of plastics are called

- A) Stabilizers B) ✓ Plasticizers
C) Retarders D) Pigments

296. Which of the following is a thermosetting plastic?

- A) PVC B) Polyethylene
C) Polystyrene D) ✓ Silicones

297. The formation of PVC from vinyl chloride is an example of
- A) Substitution reaction B) ☒ Addition polymerization
C) Condensation polymerization D) Condensation reaction
298. The material that increase the mechanical strength of plastics are known as
- A) ☒ Filter B) Retarders
C) Pigments D) Stabilizers
299. The substance added in the paints for improving the mechanical properties is
- A) ☒ Filter B) Retarders
C) Pigments D) Stabilizers
300. A paint consist of
- A) Binder B) Drier
C) Filter D) ☒ All
301. A liquid material that is applied on a surface to form a hard continuous protective film is called
- A) ☒ Paint B) Acrylic
C) Plastic D) Conditioners

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