Al-Razi Guess Paper consist of 100 MCQs, 100 Short Questions and Long Questions to get 100% Success in Examination

OBJECTIVE TYPE
(Multiple Choice Questions)

1. **A reaction in which products are converted into reactants is called:**
   a reversible reaction
   B irreversible reaction
   C forward reaction
   D backward reaction
2. **When $CaCO_3$ is heated in an open flask,it decomposes to form calcium oxide (CaO) and _________.**
   A O_2 B CO
   c CO_2 D CO_3
3. **Kc value depends on:**
   A pressure B temperature
   c volume
   D none of these
4. **When the number of moles on both sides of the reaction is equal, the unit of K_c will be:**
   A $mol^{-2}dm$ B $mol\ dm^3$
   C $mol^{-2}dm^6$ d no Unit
5. **A reversible reaction is expressed as:**
   A $\longrightarrow$ B $\rightharpoonup$
   C $\leftharpoondown$ d □□□
6. **______ possibilities are their at equilibrium state:**
   A 1 b 2 C 3 D 4
7. **The color of iodine is:**
   A red B black
   c purple D colorless
8. **The substances present on product sides are called:**
   a numerator
   B denominator
   C reactants D products
9. **The molar concentration is expressed as:**
   A { } B ( ) c [ ] D ϕ
10. **A reaction attains a state of equilibrium when:**
    A Qc > Kc B Qc < Kc
    c Qc = Kc D $Q_C = 0$
11. **If Qc > Kc the reaction will be:**
    A dynamic B static
    C forward d reverse
12. **Guldberg and Waage put forward Law of Mass Action in:**
    A 1859 b 1869
    C 1879 D 1889
13. **In the beginning the rate of reverse reaction is:**
    a negligible B moderate
    C very fast D slow
14. **Which base is more corrosive?**
    A NH_4OH b NaOH
    C $Ca(OH)_2$ D $Al(OH)_3$
15. **The conjugate acid of HPO_4^{2-} is:**
    A PO_4^{3-} B $H_2PO_4^{2-}$
    c $H_2PO_4^-$ D H_2PO_4
16. **In Lewis Acids and base reaction, which bond is present?**
    A Ionic B Covalent
    C Metallic
    d Co-ordinate co-valent bond
17. **Which acid causes the acidity of stomach:**
    A Sulphuric acid
    b Hydrochloric acid
    C Nitric acid D Oxalic acid
18. **The compound used to make soap is:**
    a NaOH B $Ca(OH)_2$
    C $Al(OH)_3$ D NH_4OH
19. **In strong alkaline solution the colour of litmus become:**
    a Red B Blue
    C Yellow D Colorless
20. **What is the pOH of a 0.02M $Ca(OH)_2$?**
    A 1.698 b 1.397
    C 12.31 D 12.61
21. **The water of crystallization is responsible for the:**
    A Melting points of crystals
    B Boiling points of crystals
    c Shapes of crystals
    D Transition point of crystals
22. **The reaction between an acid and a base forms:**
    a Salt and water
    B Salt and gas
    C Salt and acid
    D Salt and base
23. **Which of the given acids is not a mineral acid?**
    A HCI B H_2SO_4
    C HNO_3 d H_2CO_3
24. **The conjugate acid of $CH_3–NH_2$ is:**
    A CH_3NH^+ B CH_3NH^-
    c $CH_3NH_3^+$ D $CH_3NH_3^-$
25. **Which of the following compounds is not a Lewis acid?**
    A H^+ B BF_3
    C $AlCl_3$ d NH_3
26. **Which acid is found in apples?**
    A Uric acid B Formic acid
    C Stearic acid d Malic acid
27. **All known organic compounds have been broadly divided into categories depending upon their carbon skeleton:**
    A 1 b 2 C 3 D 4
28. **Cyclobutane is an example of:**
    a Alicyclic
    B Heterocyclic
    C Aromatic compounds
    D Covalent
29. **The ability of carbon to form a chain is called:**
    A Isomerism b Catenation
    C Resonance
    D Condensation
30. **The coal gas is a mixture of:**
    A CO,CH_4
    B CO_2,CH_4,CO
    c CO,CH_4,H_2
    D $CO\ CH_4,CO_2$
31. **Petroleum is refined by:**
    A destructive distillation
    b fractional distillation
    C simple distillation
    D dry distillation

32. The formula of pentane is:
a C_5H_{12} B C_5H_{10}
C C_5H_8 D C_5H_{14}

33. The general formula of alkyl radicals is:
A C_nH_{2n+2} B C_nH_{2n-2}
c C_nH_{2n+1} D C_nH_{2n}

34. Which of the following compounds is a ketone?
A $(CH_3)_2CHOH$
b $(CH_3)_2CO$
C $(CH_3)_2NH$
D $(CH_3)_2CHC\ell$

35. Cyclic compounds having one or more atoms of elements other than carbon atoms in their ring:
A Alicyclic
b Heterocyclic
C Aromatic D Covalent

36. What percentage of natural gas consists of methane (CH_4)?
A 82% B 83%
C 84% d 85%

37. Test for unsaturation is:
A Sodium metal test
B Baeyer's test
c Bromine test
D Ester test

38. The percentage of carbon in anthracite:
a 90% B 80%
C 70% D 60%

39. Carbonization process is the conversion of:
A coal into coal tar
B coal into wood
c Wood into coal
D wood into coal tar

40. Which of the following compounds is the simplest hydrocarbon?
a Methane B Ethane
C Propane D Propyne

41. The general formula for unsaturated hydrocarbons is:
A C_nH_{2n-2} b C_nH_{2n+2}
C C_nH_{2n} D C_nH_n

42. Substitution reaction is characterized by which of the following?
A Alkanes b Alkenes
C Alkynes
D None of these

43. Marsh gas consists mainly of:
A Butane B Propane
C Ethane d Methane

44. Dehydration means removal of:
a Water B Halogen
C Hydrogen D Nitrogen

45. It is formed by oxidation of alkenes:
A Glyoxal B Oxalic acid
c Glycol D Formic acid

46. A small amount of acetylene is found in about___percent of coal gas.
A 0.06 B 0.07
C 0.08 d 0.09

47. Acetylene is formed by dehalogenation of tetrahalides. This reaction occurs in the presence of whom?
a Sodium metal
B Zinc metal
C Magnesium metal
D Potassium metal

48. The end product of the oxidation of acetylene is:
a Oxalic acid B Glycol
C Glyoxal
D Ethane glycol

49. The chemical formula of chloroform is:
A $CH_3C\ell$ B $CH_2C\ell_2$
c $CHC\ell_3$ D $CC\ell_4$

50. Which of the following compounds is not formed by halogenation of methane?
A CCl_4 B $CHCl_3$
c CO_2 D CH_3Cl

51. The order of reactivity of hydrogen halides with alkenes is:
a HI > HBr B HBr > HI
C $HC\ell$ > HBr D HBr < $HC\ell$

52. Dehydrohalogenation occurs in the presence of which of the following?
A aqueous NaOH
b alcoholic KOH
C Aqueous KOH
D Alcoholic NaOH

53. Which of the following features is not found in monosaccharides?
A White crystalline solid
B Soluble in water
c Hydrolyzable
D Naturally reducing

54. The most important oligosaccharide is:
a Sucrose B Glucose
C Fructose D Maltose

55. The number of amino acids in proteins is _____.
A 1000
B Less than 10,000
c More than 10000
D 2000

56. Thousands of amino acids polymerize to form:
A Carbohydrates
B Proteins c Lipids
D Vitamins

57. Which vitamin is fat soluble?
A A B D
C K d All of these

58. Which vitamin deficiency causes night blindness?
a Vitamin A B Vitamin E
C Vitamin C D Vitamin D

59. Glucose is:
A Hexahydroxy
B Hexahydroxy ketone
C Pentahydroxy
d pentahydroxy aldehyde

60. Is produced by the process of photosynthesis:
A Starch B Cellulose
C Sucrose d Glucose

61. About ______% of the dry cell weight of animals is made up of proteins.
A 25 b 50 C 75 D 100

62. Who transmits genetic information from generation to generation?
A Proteins
b Nucleic acids
C Carbohydrates D Lipids

63. Eye inflammation is caused by deficiency of which vitamin?
A Vitamin D B Vitamin C
C Vitamin B d Vitamin A

64. Which of these does not contain a protein?
A Pulses b Potatoes
C Beans D Eggs

65. Glucose is a:
A Hexahydroxy aldehyde
b Pentahydroxy aldehyde
C Pentahydroxy ketone
D Hexahydroxy ketone

66. About 99% atmosphere's mass lies within:
a 35 kilometer
B 30 kilometer
C 15 kilometer
D 11 kilometer

67. At the height 85-120 km for earth's surface is:
A Troposphere
B Mesosphere
C Stratosphere
d Thermosphere

68. Which sphere is just above the earth's surface?
A Mesosphere
B Stratosphere
C Thermosphere
d Troposphere

69. One of these is a secondary pollutant:
A Methane
B Sulfur trioxide
C Sulfur dioxide
d Nitric acid

70. Earth's atmosphere is getting warmer due to an increase in the concentration of a gas:
A CO b CO_2
C O_3 D SO_2

71. Which pollutant is not found in car exhaust?
A CO b O_3
C NO_2 D SO_2

72. Ozone is found in:
A Troposphere
b Stratosphere
C Mesosphere
D Thermosphere

73. Ozone is useful because it absorbs _____.
A Infrared radiations
b Ultraviolet radiations
C Chlorofluorocarbons
D Air pollution

74. Height of stratosphere from earth's surface is:
A 30km B 40km
c 50km D 60km

75. Waste material that pollutes air, water and soil is termed as:
A Pollution b Pollutant
C Solvent D Solution

76. Which gas protects the earth's surface from ultraviolet radiations:
A CO_2 B CO
c O_3 D N_2

77. Iron and steel structure are damaged by:
A Carbon monoxide
b Sulphur dioxide
C Methane
D Carbon dioxide

78. Water molecules contain:
A Oxygen and Helium
b Oxygen and Hydrogen
C Hydrogen and Helium
D Oxygen and Nitrogen

79. Temporary hardness is removed by adding which salt?
A CaO B Na_2CO_3
c $Ca(OH)_2$ D $CaCO_3$

80. A disease transmitted by protozoa is:
A Dysentery B Cholera
c Cryptosporidium
D Hepatitis

81. Gas is used to kill harmful bacteria in water:
A Iodine b Chlorine
C Fluorine D Bromine

82. Typhoid is a disease caused by ______.
A Viruses B Algae
C Fungi d Bacteria

83. Compounds that protect teeth from disease:
a Fluorine B Chlorine
C Phosphorus D Sodium

84. The procedure for removing temporary hardness is:
A By freezing
B By filtration
c By boiling D By aeration

85. The removal of Mg^{+2} and Ca^{+2} ions which are responsible for the hardness of water is called:
A temporary hardness
B permanent hardness
c water softening
D hydrogen bonding

86. Why can water dissolve non-ionic compounds?
A Ion-ion forces
B Ion-dipole forces
C Dipole-dipole forces
d Hydrogen bonding

87. The density of water at 4°C is _______.
A $4gcm^{-3}$ B $3gcm^{-3}$
C $2gcm^{-3}$ d $1gcm^{-3}$

88. Hardness of water is determined by Clark's method:
A $Ca(HCO_3)_2$ B Ca zeolite
c $Ca(OH)_2$ D Na_2zeolite

89. The chemical formula of Chalcopyrite is:
A Cu_2S b $CuFeS_2$
C CuS D FeS

90. What is the formula of urea?
A NH_2COONH_4
B NH_2COONH_2
C NH_2CONH_4
d NH_2CONH_2

91. Fuel oil contains carbon:
A $C_7 - C_{10}$ B $C_{10} - C_{12}$
c $C_{15} - C_{18}$ D All of these

92. Which one is used as jet fuel?
A Fuel oil
b Kerosene oil
C Diesel oil
D Lubricant oil

93. The crude oil is heated in a furnace up to temperature:
A 300°C b 400°C
C 500°C D 600°C

94. In Haber's process the catalyst used is:
A Nickel B Platinum
C Cadmium d Iron

95. When CO_2 is passed through the ammonical brine, the only salt that precipitate is:
a $NaHCO_3$ B NH_4HCO_3
C Na_2CO_3 D $(NH_4)_2CO_3$

96. What is chalcopyrite?
a Copper B Silver
C Iron D Aluminum

97. Froth flotation process is used to concentrate the ore on:
A Density basis
B Concentration basis
c Wetting basis
D Magnetic basis

98. In Solvay's process slaked lime is used to:
A Prepare CO_2
B Prepare quick lime
c Recover ammonia
D Form Na_2CO_3

99. The percentage of nitrogen in urea is:
A 76.6% B 66.6%
C 56.6% d 46.6%

100. The impurities associated with the minerals are knows as:
A Metallurgy B Ores
c Gangue D Compounds

(Short Questions)

1. What types of reactions never go to completion?

2. Write any two characteristics of forward reaction.

3. Define chemical equilibrium state.
4. Make a graph that shows the establishment of equilibrium state.
5. What is active mass? Also write its units.
6. Define the law of Mass Action.
7. Write down the expression of K_C for a General Reversible Reaction.
8. What is the difference between active mass and reaction rate?
9. What are numerator and denominator?
10. Prove that Kc has no units.
11. What is meant by reaction limit?
12. If $Q_c > K_c$ and $Q_c = K_c$ for a reaction, predict the direction of action.
13. What happens if $Q_C < K_C$?
14. Write the formula of an acid and a base.
15. Write two physical properties of Acids.
16. What is conjugate acid? Define it.
17. Prove that water is an amphoteric specie.
18. Define adduct with example.
19. Which acids are found in urine and lemon?
20. Name an acid used in preservation of food.
21. Write the names of acids found in citrus fruits and Sour milk.
22. Give two uses of Acetic acid.
23. Write two uses of nitric acid in daily life.
24. Write any two chemical properties of bases.
25. Write uses of Sodium Hydroxide and Potassium Hydroxide.
26. Define pH scale. Write its range.
27. Explain vital force theory.
28. Define the molecular formula and write the formula of hexane.
29. Write the condensed and dot and cross formulas of ethyne.
30. Define benzene.
31. Define Pitch and Coke.
32. Write the names of the gases found in coal gas.
33. Define petroleum.
34. Write two uses of natural gas.
35. Prove that organic compounds are used as a food.
36. What is an ether group? Write the formula of dimethyl ether.
37. Give formulae of Formaldehyde and Acetaldehyde.
38. How are alkyl radicals formed? Explain with example.
39. Is coal tar a compound? What is its importance?
40. Write the names of any two unsaturated hydrocarbons.
41. What are addition reactions? Explain with example.
42. What do you know about halogenation of Alkanes?
43. Define the process of hydrogenation and give an example.
44. Write two uses of ethane.
45. Why are alkenes reactive?
46. Write two uses of ethene.
47. Why are alkynes called acetylenes?
48. Prepare acetylene from tetrachloroethane.
49. Write the formulas of oxalic acid and carbon tetrachloride.
50. Identify propane and propene by a chemical test.
51. Write the physical properties of alkenes.
52. Give the preparation of Alkynes by Dehydrohalogenation of vicinal dihalides.
53. Describe carbohydrate as an energy source.
54. What is called reducing sugar? Give an example.
55. Give the characteristic of monosaccharides.
56. Describe the sources of sucrose and starch.
57. Give characteristics of oligosaccharides.
58. Define polysaccharides and give an example.
59. Define drip system.
60. How are proteins formed?
61. What do you know about denaturing of protein?
62. What are amino acids?
63. Shortly brief that Plants are source of Oil.
64. What is meant by genetic code of life?
65. Why excessive use of vitamin D is harmful.
66. What is the difference between Atmosphere and Environment?
67. Write the names of atmosphar's regions.
68. Why is the temperature of upper stratosphere is higher?
69. Define pollutants and air pollutants.
70. Write the names of the two primary pollutants of air.
71. State the major sources of CO and CO_2 emissions.
72. Give two effects of global warming.
73. Why are the flood risks increasing?
74. How is acid rain produced?
75. What is Ozone and the Ozone Hole?
76. How ozone layer is being depleted by chlorofluorocarbons?
77. Give two serious effects of Ozone depletion.
78. State any four properties of water.
79. Write a short note on dysentery.
80. Briefly discuss the disease fluorosis.
81. Write about cryptosporidium.
82. Why pesticides are used?
83. What is the difference between Biodegradable and Non-Biodegradable Substances?
84. Define industrial effluents.
85. Write two disadvantages of hard water.
86. How sodium zeolite softens water?
87. Write the formula for slaked lime.
88. Write the role of capillary action in plants.
89. Define minerals.
90. Name the various metallurgical operations.
91. Write a short note on gravity separation in metallurgy.
92. What is meant by smelting?
93. How is slag formed in the smelting process?
94. What is the principle of solvay's process?
95. How ammonia is recovered in the Solvay's process?
96. What is the function of fertilizers?
97. Describe the formation of petroleum.
98. Give uses of kerosene oil.
99. What role is played by pine oil in the froth flotation process?
100. What is meant by a gangue?