NAME
www.name.edu.np

QAD Series

Inorganic Chemistry [Metal & Metallurgy]

1. **Which element will be repelled by magnetic field?**
   a) Hg b) Co c) Sn d) Pb
2. **Which is insoluble in water?**
   a) Na_2O b) CaO c) Al_2O_3 d) K_2O
3. **Which of the following metal has got no hydroxides?**
   a) Zn b) Cu c) Fe d) Hg
4. **Which of the following gets dissolved in NaOH solution?**
   a) $Fe(OH)_3$ b) $Cu(OH)_2$ c) $Zn(OH)_2$ d) $Mg(OH)_2$
5. **Which of the following chloride gets hydrolysed?**
   a) NaCl b) AgCl c) $FeCl_3$ d) Cu_2Cl_2
6. **Which of the following gives a mixture of NO_2 & O_2 on heating?**
   a) $NaNO_3$ b) $LiNO_3$ c) KNO_3 d) $RbNO_3$
7. **The metal which gives basic carbonate by adding Na_2CO_3 solution to its salt solution in water is:**
   a) Ag b) Ba c) Mg d) Sr
8. **The sulphate which is sparingly soluble in water is:**
   a) $BaSO_4$ b) $CaSO_4$ c) Hg_2SO_4 d) $ZnSO_4$
9. **The alkali metals readily dissolve in liquid ammonia to give solutions which are blue in colour, if dilute. The blue colour is believed to be due to:**
   a) ammoninated cations b) ammonical anions
   c) ammoniated electrons
   d) ammoniated cations and ammoniated electrons
10. **Alums are not formed by:**
    a) Li b) Na c) K d) Rb
11. **In the manufacture of sodium hydroxide by the electrolysis of sodium chloride solution. The cathode and anode are separated using a diaphragm because:**
    a) It increases the yield of chlorine
    b) It prevents the reaction taking place between sodium hydroxide and chlorine
    c) It prevents the mixing of sodium hydroxide and the sodium chloride
    d) It prevents the reaction taking place between sodium and chlorine
12. **The raw materials required for the manufacture of Na_2CO_3 by Solvay's process are:**
    a) NH_4Cl, NaCl, $Ca(OH)_2$ b) NaCl, NH_3, $CaCO_3$
    c) $CaCl_2$, $(NH_4)_2CO_3$, NH_3 d) NaCl, $(NH_4)_2CO_3$, NH_3
13. **The reaction of sodiuthiosulphate with I_2 gives:**
    a) Sodium sulphide b) Sodium sulphate
    c) Sodium sulphate d) Sodium tetrathionate
14. **Which of the following is used as an antacid?**
    a) MgO b) $Mg(OH)_2$ c) $BeSO_4$ d) $MgSO_4$
15. **A fire work gives out Crimson coloured light, it contains a salt of:**
    a) Ca b) Na c) Sr d) Ba
16. **The function of sand in mortar is:**
    a) to prevent excessive shrinkage which might result in cracks
    b) to decrease the plasticity of the mass
    c) to make the mass compact
    d) to decrease the hardness
17. **Which one of the following metals ions pays an important role in muscle contraction?**
    a) K^+ b) Na^+ c) Mg^{2+} d) Ca^{2+}
18. **Mixture of $MgCl_2$ and MgO is called:**
    a) Portland cement b) Sorrel's cement
    c) Double salt d) None
19. **Which of the following is not the mixed salt?**
    a) Bleaching powder b) Rochele's salt
    c) Microcosmic salt d) Fremy's salt
20. **Magnesium burns in air to give:**
    a) MgO b) Mg_3N_2
    c) $MgCO_3$ d) MgO & Mg_3N_2
21. **Zinc compound used as a bright red pigment is:**
    a) $ZnCrO_4.Zn(OH)_2$ b) $Zn(NO_3)_2.6H_2O$
    c) $ZnSO_4.7H_2O$ d) None
22. **Spelter is:**
    a) Impure Cu b) Impure Zn c) ZnO d) CuO
23. **Which of the following is a phosphorescent substance?**
    a) Diamond b) Zinc sulphide c) Na_2ZnO_2 d) NaOH
24. **The complex ion $[Zn(NH_3)_4]^{2+}$ has the structure:**
    a) Tetrahedral b) Octahedra
    c) Square pyramidal d) Linear
25. **Zinc coating may be performed by:**
    a) hot dip galvanizing b) Electrogalvanising
    c) Metallizing & sherardising d) all
26. **Mercuric chlorides is a strong poison, its best antidode is:**
    a) White of an egg b) Vinegar
    c) Milk of lime d) Hg_2Cl_2
27. **The chloride that turns black on the addition of NH_4OH is:**
    a) AgCl b) $PbCl_2$ c) Hg_2Cl_2 d) both b & c
28. **Fe^{2+} ion is distinguished from Fe^{3+} ion by:**
    a) $AgNO_3$ b) NH_4SCN c) $BaCl_2$ d) H_2SO_4
29. **Passivity of iron is due to the formation of:**
    a) Fe_2O_3 b) Fe_3O_4 c) $FeSO_4$ d) none
30. **Acidified $KMnO_4$ solution is decolourised by:**
    a) White vitriol b) Mohr's salt
    c) Bleaching powder d) Microcosmic salt
31. **The numbers of ions formed by pot. ferrocyanide in aqueous solution is:**
    a) 2 b) 3 c) 4 d) 5
32. **Most commonly used reducing agent is:**
    a) $SnCl_4$ b) HF c) $SnCl_2$ d) Cl_2
33. **The thermal stability of:**
    a) $CCl_4 > SiCl_4 > GeCl_4 > SnCl_4$
    b) $SnCl_4 > GeCl_4 > SiCl_4 > CCl_4$
    c) $SiCl_4 > CCl_4 > GeCl_4 > SnCl_4$
    d) None of these
34. **Lead dioxide is obtained when:**
    a) Lead is heated in air at 573 K
    b) Lead nitrate is heated
    c) Red lead is treated with dil. HNO_3
    d) Litharge is heated in excess of air at 623 K
35. **Which is not used in paints?**
    a) $PbCrO_4$ b) PbO_2 c) White lead d) Pb_3O_4
36. **Lead pencil contains:**
    a) Graphite b) Lead
    c) Charcoal d) Lead sulphide
37. **925 Fine silver means;**
    a) 9.5% Ag + 90.75% Cu b) 92.5% Ag + 7.5% Cu
    c) 9.25% Cu + 90.75% Ag d) 7.5% Ag + 92.5% Cu
38. **The silver salt most commonly used in photography is:**
    a) AgCl b) AgBr c) AgI d) AgF
39. **Silver nitrate produces a black stain on skin due to:**
    a) its corrosive action
    b) its reduction to metallic silver
    c) its strong reducing action
    d) the formation of complex compound
40. **In case of gold:**
    a) + 1 state is more stable
    b) +3 state is more stable
    c) both +1 and +3 state have equal stability
    d) none
41. **$AuCl_3$ on heating gives:**
    a) AuCl b) Cl_2 c) $AuCl_2$ d) both a & b
42. **Lanthanide contraction implies:**
    a) decrease in density b) decrease in mass
    c) decrease in ionic radii d) decrease in radioactive
43. **Which of the following statement is false?**
    a) Calcination involves definite chemical changes
    b) Roasting involves definite chemical changes
    c) Calcination makes mass porous
    d) Roasting is carried in presence of air
44. **Metal obtained by leaching its ore with dilute cyanide solution is**
    a) Cr b) Ag c) Cu d) Zn
45. **Silver containing lead as impurity is removed by**
    a) poling b) cupellation c) lavigation d) distillation

46. Purification of silicon element used in semi conductor is done by
a) heating b) froth floatation
c) zone refining d) heating in vaccum

47. During smelting, an additional substance is added which combines with impurities to form a fusible product. It is known as:
a) slag b) mud c) flux d) gangue

48. The metal which doesn't form amalgum is
a) Ag b) Zn c) Cu d) Fe

49. A mixture of $Al(OH)_3$ and $Fe(OH)_3$ can be separated by
a) HCl b) NH_4OH c) NaOH d) HNO_3

50. Van Arkel method of purification of metals involves converting the metal to a
a) volatile stable compound
b) volatile unstable compound
c) non-volatile stable compound
d) none of the above

51. Impurities of lead in silver are removed by
a) Parke's process b) Solvay's process
c) Cyanide process d) Amalgamation

52. Bell metal is an alloy of
a) Cu + Pb b) Cu + Zn c) Cu + Ni d) Cu + Sn

53. Which of the following is the best conductor of electricity?
a) Gold b) Copper c) Aluminium d) Silver

54. Chili salt petre (Nitre) is :
a) KNO_3 b) $NaNO_3$ c) $NaNO_2$ d) K_2SO_4

55. The waste material present in an Ore (mineral) is called :
a) Flux b) Alloy c) Gangue d) Slag

56. Which of following is not a sulphide ore
a) Glaena b) Cinnabar c) Copper pyrite d)Dolomite

57. Which metals dose not occurs in nature in free states
a) Cu b) Ag c) Au d0 Zn

58. Nitrolim contains :
a) $CaH_2 + N_2$ b) $CaCN_2+C$ c) $CaNC_2+C$ d) CaC_2+N

59. The stability of hydride of alkali metal :
a) LiH > NaH > KH > RbH b) LiH < NaH < KH < RbH
c) LiH > NaH > KH > RbH d) LiH > NaH > KH < RbH

60. The correct formula for plaster of paris is :
a) $CaSO_4.1/2H_2O$ b) $2CaSO_4.H_2O$
c) Both d) $CuSO_4.2H_2O$

61. Rinmann's green is :
a) $CO(AlO_2)_2$ b) ZnO.CoO
c) $ZnCl_2.3ZnO$ d) $ZnSO_4.7H_2O$

62. Chromium compound usually used in tanning of leather is :
a) CrO_3 b) CrO_2Cl_2
c) $CrCl_3$ d) $K_2SO_4.Cr_2(SO_4)_3.24H_2O$

63. Which of the following is deliquescent .
a) $ZnCL_2$ b) Hg_2Cl_2 c)$CdCl_2$ d) $HgCl_2$

64. Rusting of iron is catalysed by :
a) Fe b) O_2 c) Zn d) H^+

65. Which is not the basic flux?
a) $CaCO_3$ b) CaO c) MgO d) SiO_2

66. Fire extinguisher contains H_2SO_4 and :
a) $NaHCO_3 + Na_2CO_3$ b) $NaHCO_3$ solution
c) Na_2CO_3 d) $CaCO_3$

67. The metal that can be extracted from sea water is :
a) Cesium b) Calcium c) Magnesium d) Zinc

68. Bone ash contains :

69. Lithophone is a combination of :
a) ZnS and $PbSO_4$ b) ZnS and $CaSO_4$
c) ZnS & $SrSO_4$ d) ZnS + $CaSO_4$

70. Monel metal is an alloy of :
a) Cu,Ni,Fe,Mn b) Cu,Sn,Zn c) Cu,Sn,P d) Cu,Zn

71. Which of the following oxide does not undergo froath floatation process:
a) Cupper pyrite b) Pyrolusite c) Galena d) Cassiterite

72. In the froth floatation process for the purification of ores, the ore particles float because
a) they are light
b) their surface is hydrophobic i.e; not easily wetted by water
c) they bear electrostatic charge
d) they are insoluble

73. Which metal can't be obtained by electrolysis of its aqueous solution?
a) Cu b) Mg c) Cr d) Ni

74. Cyanide process is used for obtaining
a) Cr b) Ag c) Cu d) Zn

75. The highest temperature is achieved in which type of furnace?
a) Blast b) Reverberatory
c) Electric d) Cannot be predicted

76. Electrolytic reduction method is used in the extraction of :
a) Highly electronegative elements
b) Highly electropositive elements
c) Transition metals d) Noble metals

77. Important ore of Zinc is
a) Calamine b) Cryolite c) Cassiterite d) Malachite

78. Carnallite on electrolysis gives
a) Ca and Cl_2 b) Na and Cl_2 c) Al and Cl_2 d) Mg & Cl_2

79. A metal which is refined by poling is
a) sodium b) blister copper c) zinc d) silver

80. Identify the ore not containing iron
a) Siderite b) Limonite c) Chalcopyrites d) Carnallite

81. Which of the following metals is preserved in water?
a) phosphorus b) Na c) Zn d) Fe

82. In aluminothermic process, ignite mixture is
a) Al powder only b) Al + Mg only
c) Al + Mg + BaO_2 only d) All possible

83. Thomas slag is
a) $Ca_3(PO_4)_2$ b) $CaSiO_3$
c) Mixture of (a) and (b) d) None

84. Matte is
a) Cu_2s b) FeS c) Cu_2S + FeS d) All

85. Purest form of iron is
a) cast iron b) hard steel
c) stainless steel d) wrought iron

86. In extraction of sodium by down's process, we use
a) Graphite–Anode b) Graphite –cathode
c) Both d) None

87. The waste material present in an ore (mineral) is called:
a) Flux b) Alloy c) Gangue d) Slag

88. Which is used as substitute of platinum in Jewellery?
a) Rolled gold b) White gold
c) Purple of Cassius d) Faraday's gold

89. In Alumino-thermic process Al is used:
a) as reducing agent b) as oxidising agent
c) to increase the volume
d) to lower the heat of furnace

90. Froth floatation process involves:
a) absorption b) adsorption
c) coagulation d) sedimentation

91. In blast furnace, maximum temperature is in which zones?
a) Zone of fusion b) Zone of combustion
c) Zone of slag information d) Zone of reduction

92. Portland cement is manufactured by using limestones,
a) Clay and sand b) gypsum and sand
c) gypsum and alumina d) clay and gypsum

93. The alkali metals readily dissolves in liquid ammonia to give solution which are blue in colour. The blue colour is believed to be due to :
a) Ammoniated cation b) Ammoniated anion
c) Ammoniated electron
d) Ammonited cation and anion

94. Which of the following metals is obtained by leaching its ore with dilute cyanide solution?
a) Chromium b) Cobalt c) Gold d)Nickel

95. The colour of solution obtained by adding excess of KI in the solution of $HgCl_2$ is:
a) orange b) brown c) red d) colourless

96. Iron obtained from the blast furnace is known as:
a) Cast iron b) Wrought iron c) Pig iron d) Steel

97. Nitriding of steel is carried in an atmosphere of:
a) NH_3 b) O_2 c) N_2 d) H_2S