

Nomenclature - Answers follow at end

1. What is the systematic name for PO_4^{3-} ?
 - (a) phosphide ion
 - (b) phosphite ion
 - (c) phosphate ion
 - (d) tetraphosphate ion
 - (e) none of the above
2. What is the systematic name for NH_4^+ ?
 - (a) ammonium ion
 - (b) ammonia ion
 - (c) nitrate ion
 - (d) nitrite ion
 - (e) none of the above
3. What is the chemical formula for the perchlorate ion?
 - (a) ClO^-
 - (b) ClO_2^-
 - (c) ClO_3^-
 - (d) ClO_4^-
 - (e) none of the above
4. What is the chemical formula for the hydrogen carbonate ion?
 - (a) $\text{C}_2\text{H}_3\text{O}_2^-$
 - (b) $\text{C}_2\text{H}_3\text{O}_2^{2-}$
 - (c) HCO_3^-
 - (d) HCO_3^{2-}
 - (e) none of the above
5. What is the chemical formula for the hydrogen sulfate ion?
 - (a) HSO_3^-
 - (b) HSO_3^{2-}
 - (c) HSO_4^-
 - (d) HSO_4^{2-}
 - (e) none of the above

Chemical Formulas

- What is the chemical formula for the binary compound composed of Li^+ and O^{2-} ions?
 - LiO
 - Li_2O
 - LiO_2
 - Li_2O_2
 - none of the above
- What is the chemical formula for the binary compound composed of Mg^{2+} and O^{2-} ions?
 - MgO
 - Mg_2O
 - MgO_2
 - Mg_2O_2
 - none of the above
- What is the chemical formula for the binary compound composed of Al^{3+} and O^{2-} ions?
 - AlO
 - Al_2O_3
 - Al_3O_2
 - Al_6O_6
 - none of the above
- What is the chemical formula for the binary compound composed of Sr^{2+} and Br^- ions?
 - SrBr
 - Sr_2Br
 - SrBr_2
 - Sr_2Br_2
 - none of the above
- What is the chemical formula for the binary compound composed of Au^{3+} and I^- ions?
 - AuI
 - Au_3I
 - AuI_3
 - Au_3I_3
 - none of the above

11. What is the chemical formula for the binary compound composed of Co^{3+} and S^{2-} ions?
- (a) CoS
 - (b) Co_2S_3
 - (c) Co_3S_2
 - (d) Co_6S_6
 - (e) none of the above
12. What is the chemical formula for the ternary compound composed of Zn^{2+} and OH^- ions?
- (a) ZnOH
 - (b) ZnOH_2
 - (c) Zn_2OH
 - (d) $\text{Zn}(\text{OH})_2$
 - (e) none of the above
13. What is the chemical formula for the ternary compound composed of Al^{3+} and CN^- ions?
- (a) AlCN
 - (b) AlCN_3
 - (c) Al_3CN
 - (d) $\text{Al}(\text{CN})_3$
 - (e) none of the above
14. What is the chemical formula for the ternary compound composed of Na^+ and CO_3^{2-} ions?
- (a) NaCO_3
 - (b) Na_2CO_3
 - (c) $\text{Na}(\text{CO}_3)_2$
 - (d) $\text{Na}_2(\text{CO}_3)_2$
 - (e) none of the above
15. What is the chemical formula for the ternary compound composed of Co^{3+} and SO_4^{2-} ions?
- (a) CoSO_4
 - (b) Co_2SO_4
 - (c) $\text{Co}_2(\text{SO}_4)_3$
 - (d) $\text{Co}_3(\text{SO}_4)_2$
 - (e) none of the above

16. What is the chemical formula for the ternary compound composed of Ag^+ and NO_3^- ions?
- (a) AgNO_3
 - (b) Ag_3NO_3
 - (c) $\text{Ag}(\text{NO}_3)_3$
 - (d) $\text{Ag}_3(\text{NO}_3)_3$
 - (e) none of the above
17. What is the chemical formula for the ternary compound composed of Ca^{2+} and PO_4^{3-} ions?
- (a) CaPO_4
 - (b) $\text{Ca}_2(\text{PO}_4)_3$
 - (c) $\text{Ca}_3(\text{PO}_4)_2$
 - (d) $\text{Ca}_6(\text{PO}_4)_6$
 - (e) none of the above
18. What is the ionic charge for the copper ion in CuS ?
- (a) zero
 - (b) 1+
 - (c) 2+
 - (d) 3+
 - (e) none of the above
19. What is the ionic charge for the copper ion in Cu_2S ?
- (a) zero
 - (b) 1+
 - (c) 2+
 - (d) 3+
 - (e) none of the above
20. What is the ionic charge for the lead ion in PbO_2 ?
- (a) zero
 - (b) 1+
 - (c) 2+
 - (d) 4+
 - (e) none of the above

21. What is the ionic charge for the lead ion in PbO ?
- (a) zero
 - (b) $2+$
 - (c) $2-$
 - (d) $3+$
 - (e) none of the above
22. What is the ionic charge for the cobalt ion in CoN ?
- (a) zero
 - (b) $1+$
 - (c) $2+$
 - (d) $3+$
 - (e) none of the above
23. What is the ionic charge for the cobalt ion in Co_3N_2 ?
- (a) zero
 - (b) $1+$
 - (c) $2+$
 - (d) $3+$
 - (e) none of the above
24. What is the chemical formula for lithium fluoride?
- (a) LiF
 - (b) LiF_2
 - (c) LiF_3
 - (d) Li_3F_2
 - (e) none of the above
25. What is the chemical formula for strontium iodide?
- (a) SrI
 - (b) SrI_2
 - (c) SrI_3
 - (d) Sr_3I_2
 - (e) none of the above
26. What is the chemical formula for aluminum bromide?
- (a) AlBr
 - (b) AlBr_2
 - (c) AlBr_3
 - (d) Al_3Br_2

27. What is the chemical formula for aluminum sulfide?
- (a) AlS
 - (b) Al_2S
 - (c) Al_2S_3
 - (d) Al_3S_2
 - (e) none of the above
28. What is the chemical formula for silver oxide?
- (a) AgO
 - (b) AgO_2
 - (c) Ag_2O
 - (d) Ag_2O_3
 - (e) none of the above
29. What is the chemical formula for cobalt(II) bromide?
- (a) Co_2Br
 - (b) CoBr_2
 - (c) Co_3Br_2
 - (d) Co_2Br_3
 - (e) none of the above
30. What is the chemical formula for cobalt(III) bromide?
- (a) Co_3Br
 - (b) CoBr_3
 - (c) Co_3Br_2
 - (d) Co_2Br_3
 - (e) none of the above
31. What is the systematic name for BaF_2 ?
- (a) barium fluoride
 - (b) barium difluoride
 - (c) barium(I) fluoride
 - (d) barium(II) fluoride
 - (e) none of the above
32. What is the systematic name for AlCl_3 ?
- (a) aluminum chloride
 - (b) aluminum trichloride
 - (c) aluminum(I) chloride
 - (d) aluminum(III) chloride

33. What is the systematic name for CdI_2 ?
- (a) cadmium iodide
 - (b) cadmium diiodide
 - (c) cadmium(I) iodide
 - (d) cadmium(II) iodide
 - (e) none of the above
34. What is the systematic name for NiS ?
- (a) nickel sulfide
 - (b) nickel(II) sulfide
 - (c) nickel(II) sulfite
 - (d) nickel(II) sulfate
 - (e) none of the above
35. What is the systematic name for Fe_2O_3 ?
- (a) ferrous oxide
 - (b) ferric oxide
 - (c) iron(II) oxide
 - (d) iron(III) oxide
 - (e) none of the above
36. What is the systematic name for Hg_2Cl_2 ?
- (a) mercurous chloride
 - (b) mercuric chloride
 - (c) mercury(I) chloride
 - (d) mercury(II) chloride
 - (e) none of the above
37. What is the systematic name for Cu_3N ?
- (a) cuprous nitride
 - (b) cupric nitride
 - (c) copper(I) nitride
 - (d) copper(II) nitride
 - (e) none of the above
38. What is the systematic name for Mn_3N_2 ?
- (a) manganese nitride
 - (b) manganous nitride
 - (c) manganese(II) nitride
 - (d) manganese(III) nitride

39. Predict the chemical formula for sodium sulfide,
- (a) NaS
 - (b) Na₂S
 - (c) NaS₂
 - (d) Na₂S₃
 - (e) none of the above
40. Predict the chemical formula for cesium fluoride,
- (a) CsF
 - (b) Cs₂F
 - (c) CsF₂
 - (d) Cs₂F₃
 - (e) none of the above
41. Predict the chemical formula for lithium phosphide,
- (a) LiP
 - (b) Li₃P
 - (c) LiP₃
 - (d) Li₂P₃
 - (e) none of the above
42. Predict the chemical formula for radium selenide,
- (a) RaSe
 - (b) Ra₂Se
 - (c) RaSe₃
 - (d) Ra₂Se₃
 - (e) none of the above
43. Predict the chemical formula for cadmium sulfide,
- (a) CdS
 - (b) Cd₂S
 - (c) Cd₂S₃
 - (d) Cd₃S₂
 - (e) none of the above
44. Predict the chemical formula for gallium sulfide,
- (a) GaS
 - (b) Ga₂S
 - (c) Ga₂S₃
 - (d) Ga₃S₂

45. What is the ionic charge for the manganese ion in MnSO_4 ?
- (a) zero
 - (b) 1+
 - (c) 2+
 - (d) 3+
 - (e) none of the above
46. What is the ionic charge for the nickel ion in NiCO_3 ?
- (a) zero
 - (b) 1+
 - (c) 2+
 - (d) 3+
 - (e) none of the above
47. What is the ionic charge for the copper ion in $\text{Cu}(\text{NO}_3)_2$?
- (a) zero
 - (b) 1+
 - (c) 2+
 - (d) 3+
 - (e) none of the above
48. What is the ionic charge for the lead ion in $\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2$?
- (a) zero
 - (b) 1+
 - (c) 2+
 - (d) 3+
 - (e) none of the above
49. What is the ionic charge for the cobalt ion in $\text{Co}_2(\text{CO}_3)_3$?
- (a) zero
 - (b) 1+
 - (c) 2+
 - (d) 3+
 - (e) none of the above
50. What is the ionic charge for the chromium ion in $\text{Cr}_2(\text{SO}_4)_3$?
- (a) zero
 - (b) 1+
 - (c) 2+
 - (d) 3+

51. What is the chemical formula for barium phosphate?
- (a) BaPO_3
 - (b) BaPO_4
 - (c) $\text{Ba}_3(\text{PO}_4)_2$
 - (d) $\text{Ba}_2(\text{PO}_4)_3$
 - (e) none of the above
52. What is the chemical formula for iron(III) sulfate?
- (a) FeSO_3
 - (b) FeSO_4
 - (c) $\text{Fe}_2(\text{SO}_3)_3$
 - (d) $\text{Fe}_2(\text{SO}_4)_3$
 - (e) none of the above
53. What is the chemical formula for copper (II) nitrate?
- (a) CuNO_2
 - (b) $\text{Cu}(\text{NO}_2)_2$
 - (c) CuNO_3
 - (d) $\text{Cu}(\text{NO}_3)_2$
 - (e) none of the above
54. What is the chemical formula for tin(II) perchlorate?
- (a) $\text{Sn}(\text{ClO}_3)_2$
 - (b) $\text{Sn}(\text{ClO}_3)_4$
 - (c) $\text{Sn}(\text{ClO}_4)_2$
 - (d) $\text{Sn}(\text{ClO}_4)_4$
 - (e) none of the above
55. What is the systematic name for Na_2CO_3 ?
- (a) sodium carbonate
 - (b) sodium tr carbonate
 - (c) sodium carbon trioxide
 - (d) disodium carbonate
 - (e) none of the above
56. What is the systematic name for $\text{Li}_2\text{Cr}_2\text{O}_7$?
- (a) lithium chromate
 - (b) lithium dichromate
 - (c) dilithium chromate
 - (d) dilithium dichromate

57. What is the systematic name for $(\text{NH}_4)_2\text{CO}_3$?
- (a) ammonium carbonate
 - (b) ammonium dicarbonate
 - (c) diammonium carbonate
 - (d) diammonium hydrogen carbonate
 - (e) none of the above
58. What is the systematic name for $\text{Fe}_2(\text{SO}_4)_3$?
- (a) ferrous sulfate
 - (b) ferric sulfite
 - (c) iron(II) sulfate
 - (d) iron(III) sulfate
 - (e) none of the above
59. What is the chemical formula for ammonium sulfide?
- (a) NH_4S
 - (b) NH_4S_2
 - (c) $(\text{NH}_4)_2\text{S}$
 - (d) $(\text{NH}_4)_3\text{S}$
 - (e) none of the above
60. What is the chemical formula for zinc hydroxide?
- (a) Zn_3OH
 - (b) $\text{Zn}(\text{OH})_2$
 - (c) $\text{Zn}(\text{OH})_3$
 - (d) $\text{Zn}_3(\text{OH})_2$
 - (e) none of the above
61. What is the chemical formula for potassium cyanide?
- (a) KCN
 - (b) K_2CN
 - (c) $\text{K}(\text{CN})_2$
 - (d) K_3CN
 - (e) none of the above
62. What is the systematic name for NH_4Cl ?
- (a) tetraammonium chloride
 - (b) ammonium chloride
 - (c) ammonium tetrachloride
 - (d) nitrogen tetrahydrogen chloride

63. What is the systematic name for $\text{Cu}(\text{OH})_2$?
- (a) cuprous hydroxide
 - (b) cupric hydroxide
 - (c) copper(I) hydroxide
 - (d) copper(II) hydroxide
 - (e) none of the above
64. What is the chemical formula for laughing gas, dinitrogen oxide?
- (a) NO
 - (b) N_2O_2
 - (c) N_2O
 - (d) NO_2
 - (e) none of the above
65. What is the chemical formula for iodine heptafluoride?
- (a) IF
 - (b) IF_6
 - (c) IF_7
 - (d) I_2F_6
 - (e) none of the above
66. What is the chemical formula for dinitrogen trioxide?
- (a) N_2O
 - (b) N_2O_3
 - (c) N_2O_4
 - (d) N_2O_5
 - (e) none of the above
67. What is the chemical formula for dinitrogen tetraoxide?
- (a) N_2O
 - (b) N_2O_3
 - (c) N_2O_4
 - (d) N_2O_5
 - (e) none of the above
68. What is the chemical formula for dinitrogen pentaoxide?
- (a) N_2O
 - (b) N_2O_3
 - (c) N_2O_4
 - (d) N_2O_5

69. What is the chemical formula for tetraphosphorus trisulfide (the flammable compound on match tips that causes ignition)?
- (a) PS_3
 - (b) P_4S
 - (c) P_3S_4
 - (d) P_4S_3
 - (e) none of the above
70. What is the systematic name for SF_6 ?
- (a) sulfur tetrafluoride
 - (b) sulfur hexafluoride
 - (c) sulfur heptafluoride
 - (d) sulfur octafluoride
 - (e) none of the above
71. What is the systematic name for P_2O_5 ?
- (a) phosphorus pentoxide
 - (b) diphosphorus oxide
 - (c) diphosphorus pentoxide
 - (d) diphosphorus dioxide
 - (e) none of the above
72. What is the systematic name for Cl_2O_7 ?
- (a) chlorine heptaoxide
 - (b) chlorine hexaoxide
 - (c) dichlorine heptaoxide
 - (d) dichlorine hexaoxide
 - (e) none of the above
73. What is the systematic name for Br_3O_8 ?
- (a) bromine heptaoxide
 - (b) bromine octaoxide
 - (c) tribromine heptaoxide
 - (d) tribromine octaoxide
 - (e) none of the above
74. What is the systematic name for I_4O_9 ?
- (a) iodine octaoxide
 - (b) iodine nonaoxide
 - (c) tetraiodine oxide
 - (d) tetraiodine nonaoxide

75. What is the systematic name for P_4O_{10} ?
- (a) phosphorus oxide
 - (b) phosphorus decaoxide
 - (c) tetraphosphorus decaoxide
 - (d) tetraphosphorus nonaoxide
 - (e) none of the above
76. What is the chemical formula for hydrochloric acid?
- (a) $HCl(aq)$
 - (b) $HClO(aq)$
 - (c) $HClO_2(aq)$
 - (d) $HClO_3(aq)$
 - (e) none of the above
77. What is the chemical formula for hydrobromic acid?
- (a) $HBr(aq)$
 - (b) $HBrO(aq)$
 - (c) $HBrO_2(aq)$
 - (d) $HBrO_3(aq)$
 - (e) none of the above
78. What is the chemical formula for hydroselenic acid?
- (a) $HSe(aq)$
 - (b) $H_2Se(aq)$
 - (c) $HSeO_2(aq)$
 - (d) $H_2SeO_3(aq)$
 - (e) none of the above
79. What is the systematic name for aqueous HF ?
- (a) hydrogen fluoride
 - (b) hydrofluoric acid
 - (c) fluorous acid
 - (d) fluoric acid
 - (e) none of the above
80. What is the systematic name for aqueous HI ?
- (a) hydrogen iodide
 - (b) hydroiodic acid
 - (c) iodos acid
 - (d) iodic acid

81. What is the systematic name for aqueous H_2S ?
- (a) hydrogen sulfide
 - (b) dihydrogen sulfide
 - (c) hydrosulfuric acid
 - (d) sulfuric acid
 - (e) none of the above
82. What is the chemical formula for nitric acid?
- (a) $\text{HNO}_2(\text{aq})$
 - (b) $\text{HNO}_3(\text{aq})$
 - (c) $\text{H}_2\text{NO}_2(\text{aq})$
 - (d) $\text{H}_2\text{NO}_3(\text{aq})$
 - (e) none of the above
83. What is the chemical formula for sulfuric acid?
- (a) $\text{HSO}_3(\text{aq})$
 - (b) $\text{HSO}_4(\text{aq})$
 - (c) $\text{H}_2\text{SO}_3(\text{aq})$
 - (d) $\text{H}_2\text{SO}_4(\text{aq})$
 - (e) none of the above
84. What is the systematic name for aqueous $\text{HC}_2\text{H}_3\text{O}_2$?
- (a) acetic acid
 - (b) carbonic acid
 - (c) dicarbonic acid
 - (d) hydrogen carbonic acid
 - (e) none of the above
85. What is the systematic name for aqueous H_2CO_3 ?
- (a) acetic acid
 - (b) carbonic acid
 - (c) dicarbonic acid
 - (d) hydrogen carbonic acid
 - (e) none of the above
86. What is the systematic name for aqueous H_3PO_4 ?
- (a) hydrophosphoric acid
 - (b) hydrophosphorous acid
 - (c) phosphorous acid
 - (d) phosphoric acid

87. What is the systematic name for aqueous HClO_4 ?
- (a) chlorous acid
 - (b) hypochloric acid
 - (c) perchlorous acid
 - (d) perchloric acid
 - (e) none of the above
88. What is the systematic name for aqueous HCN ?
- (a) hydrogen cyanide
 - (b) hydrocyanic acid
 - (c) cyanous acid
 - (d) cyanic acid
 - (e) none of the above
89. Which of the following compounds is named using an -ide suffix?
- (a) LiClO
 - (b) LiClO_2
 - (c) LiClO_3
 - (d) ClO_2
 - (e) none of the above
90. What is the systematic name for aqueous HCl ?
- (a) acetic acid
 - (b) carbonic acid
 - (c) hydrochloric acid
 - (d) sulfuric acid
 - (e) none of the above
91. What does IUPAC stand for?
- (a) Intermediate Unresolved Practical Applied Chemistry
 - (b) International Union of Physical and Analytical Chemistry
 - (c) International Union of Pure and Applied Chemistry
 - (d) Iodine, Uranium, Phosphorus, and Carbon
92. What is the common name for NaHCO_3 ?
- (a) baking soda
 - (b) milk of magnesia
 - (c) oven cleaner
 - (d) window cleaner
 - (e) none of the above

Answer Key

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