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| **Karan Arora**  **R.L. Institute M: 9416974837**  **Class : XII**  **“CO-ORDINATION COMPOUNDS”** |

**Assignment – I**

Ques : Name the following coordination compounds using I.U.P.A.C. system :

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| 1. [Co(NH3)6] Cl3 | 2. [Cr(H2O)4Cl2] NO3 | 3. [Co(NH3)4Cl NO2] NO3 |
| 4. K3 [Fe(C2O4)3] | 5. K3 [Co(CN)5(NO)] | 6. K [Pt(NH3) Cl3] |
| 7. Na2 [CrF4O] | 8. Na2 [SiF6] | 9. [Cr(en)3] Cl3 |
| 10. [CoCl2(en)2] SO4 | 11. Dextro K3 [Ir (C2O4)3] | 12. Na3 [Fe(C2O4)3] |
| 13. [Co(NH3)4(H2O)Br] (NO3)2 | 14. [Cr(H2O)6] Cl3 | 15. [CoCl(en)2(ONO)+] |
| 16. [Pt(NH3)4 Cl2] [Pt(Cl)4] | 17. K4 [Ni(CN)4] | 18. [Cr(H2O)4Cl2] Cl |
| 19. [Co(NH3)3 (NO2)3] | 20. [Pt(NH3)2 Cl2] | 21. [Co(NH3)5 (CO3)] Cl |
| 22. [CoCl2(en)2] SO4 | 23. [Ni(CO)4] | 24. Fe4 [Fe(CN)6]3 |
| 25. [Co (NH3)4 Cl2]3 [Cr(CN)6] | 26. [CoCl(en)2(ONO)+] | 27. [Cr(PPh3) (CO)5] |
| 28. [Fe (C5H5)2] | 29. [Ni(dmg)2] | 30. [Mn3 (CO)12] |
| 31. [Co (NH3)6] ClSO4 | 32. [(NH3)5Cr-OH-Cr(NH3)5] Cl5 | 33. [Cr(NH3)6]3+ |
| 34. [Mn (H2O)6]2+ | 35. [Fe (CN)6]4 – | 36. [Ni(NH3)6] Cl2 |
| 37. [Co (CN)6]3 – | 38. Ca2 [Fe(CN)6] | 39. K [Pt(NH3) Cl3] |
| 40. [Co(NH3)5 Cl] Cl2 | 41. Li [AlH4] | 42. [Cr(NH3)6]3+ |
| 43. [Ni(NH3)6] Cl2 | 44. K4 [Fe (CN)6] | 45. [Pt(NH3)3 (NO)Cl2] Br |
| 46. [Ni (CN)4]2 – | 47. [Co(NH3)5 Cl] Cl2 | 48. [Mn (H2O)6] SO4 |
| 49. [Co(en)3] Cl3 | 50. K3 [Al (C2O4)3] | 51. [Co(NH3)5 CO3] Cl |
| 52. K3 [Co (NO3)6] | 53. K2 [Cu (CN)4] | 54. K3 [Fe (C2O4)3] |
| 55. [Co(NH3)5 NO2] Cl2 | 56. [Cr (H2O)5 SCN]2+ | 57. [CoCl (NO2)(en)2]+ |
| 58. [Co(NH3)4 (H2O)Cl] Cl2 | 59. K3 [Ag (S2O3)2] | 60. K [PtCl3 (NH3)] |
| 61. [PtBrCl (NO2)NH3] – | 62. [PtCl (NH2CH3)(NH3)2] Cl | 63. [CoCl(NO2) (NH3)4] Cl |
| 64. [CrCl2 (en)2] Cl | 65. | |

CO-ORDINATION COMPOUNDS Page No. 1

**Answers**

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| 1. hexaamminecobalt (III) chloride | 2. tetraaquadichloridochromium (III) nitrate |
| 3. tetraamminechloridonitrocobalt (III) nitrate | 4. potassium trioxalatoferrate (III) |
| 5. potassium pentacyanonitrosylcobaltate (II) | 6. potassium amminetrichloridoplatinate (II) |
| 7. sodium tetrafluoridooxochromate (IV) | 8. sodium hexafluoridosilicate (IV) |
| 9. tris (ethylene diamine) chromium (III) chloride | 10. dichloridobis (ethylene diamine) cobalt (IV)  sulphate |
| 11. potassium (+) or d-trioxalatoiridate (III) | 12. sodium trioxalatoferrate (III) |
| 13. tetraammineaquabromidocobalt (III) nitrate | 14. hexaaquachromium (III) chloride |
| 15. chloridobis (ethylene diamine) nitritocobalt (III)  ion | 16. tetraamminedichloridoplatinum (IV) tetra  chloridoplatinate (II) |
| 17. potassium tetracyanonickelate (0) | 18. tetraaquadichloridochromium (III) chloride |
| 19. triamminetrinitrocobalt (III) | 20. diamminedichloridoplatinum (II) |
| 21. pentaamminecarbonatocobalt (III) chloride | 22. dichloridobis (ethylene diamine) cobalt (IV)  sulphate |
| 23. tetracarbonylnickel (0) | 24. ferric hexacyanoferrate (II) |
| 25. tetraamminedichloridocobalt (III) hexacyano  chromate (III) | 26. chloridobis (ethylene diamine) nitritocobalt (III)  ion |
| 27. pentacarbonyltriphenylphosphinechromium (0) | 28. bis(cyclopentadienyl) iron (II) |
| 29. bis(dimethylglyoximato) nickel (II) | 30. dodecacarbonyltrimanganese (0) |
| 31. hexaamminecobalt (III) chloride sulphate | 32. pentaamminechromium (III) – μ – hydroxo  pentaamminechromium (III) chloride |
| 33. hexaamminechromium (III) ion | 34. hexaaquamanganese (II) ion |
| 35. hexacyanoferrate (II) ion | 36. hexaamminenickel (II) chloride |
| 37. hexacyanocobaltate (III) ion | 38. calcium hexacyanoferrate (II) |
| 39. potassium amminetrichloridoplatinate (II) | 40. pentaamminechloridocobalt (III) chloride |
| 41. lithium tetrahydridoaluminate (III) | 42. hexaamminechromium (III) ion |
| 43. hexaamminenickel (II) chloride | 44. potassium hexacyanoferrate (II) |
| 45. triamminedichloridonitrosoniumplatinum (II)  bromide | 46. tetracyanonickelate (II) ion |
| 47. pentaamminechloridocobalt (III) chloride | 48. hexaaquamanganese (II) sulphate |
| 49. tris (ethylene diamine) cobalt (III) chloride | 50. potassium trioxalatoaluminate (III) |
| 51. pentaamminecarbonatocobalt (III) chloride | 52. potassium hexanitratocobaltate (III) |
| 53. potassium tetracyanocuprate (II) | 54. potassium trioxalatoferrate (III) |
| 55. pentaamminenitrocobalt (III) chloride | 56. pentaaquathiocyanato chromium (III) ion |
| 57. chlorido bis (ethylene diamine) nitrocobalt (III) ion | 58. tetraammineaquachloridocobalt (III) chloride |
| 59. potassium dithiosulphatoargentate (I) | 60. potassium amminetrichloridoplatinate (II) |
| 61. amminebromidochloridonitroplatinate (II) | 62. diamminechloridomethylamineplatinum (II)  chloride |
| 63. tetraamminechloridonitrocobalt (III) chloride | 64. dichloride bis (ethylene diamine) chromium (III)  chloride |
| 65. chloridotriphenyl phosphine palladium (II) – μ – dichlorido chloridotriphenyl phosphine palladium (II) | |

CO-ORDINATION COMPOUNDS Page No. 2

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Ques : Write down the formulae of the following co-ordination compounds :

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| 1. hexaaquairon (II) sulphate | 2. potassiumtetracyanonickelate (III) |
| 3. chloronitrodiammineplatinum (II) | 4. potassium hexacyanoferrate (III) |
| 5. chlorodiammineplatinum (II) ion | 6. dichlorotetraamminecobalt (III) ion |
| 7. potassium pentacyanonitrosylcobaltate (III) | 8. bis (acetylacetonato) oxovanadium (IV) |
| 9. hexaammineplatinum (IV) chloride | 10. potassium hexacynoferrate (III) |
| 11. chloridobis (ethylene diamine) nitrocobalt (III) ion | |

**Answers**

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| 1. [Fe (H2O)6] SO4 | 2. K [Ni (CN)4] | 3. [Pt (NH3)2 Cl (NO2)] |
| 4. K3 [Fe (CN)6] | 5. [Pt (NH3)2 Cl]+ | 6. [Co (NH3)4 Cl2]+ |
| 7. K2 [Co (CN)5 NO] | 8. [V (acac)2 O] | 9. [Pt (NH3)6] Cl4 |
| 10. K3 [Fe (CN)6] | 11. [CoCl(en)2(NO2)+] |  |

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