NEET ANSWER KEY & SOLUTIONS

SUBJECT :- CHEMISTRY

CLASS :- 12th **PAPER CODE :- CWT-6**

CHAPTER :- COORDINATION COMPOUNDS

ANSWER KEY

1.	(D)	**2.**	(C)	**3.**	(B)	**4.**	(D)	**5.**	(C)	**6.**	(A)	**7.**	(A)
8.	(B)	**9.**	(C)	**10.**	(A)	**11.**	(C)	**12.**	(C)	**13.**	(D)	**14.**	(A)
15.	(D)	**16.**	(B)	**17.**	(D)	**18.**	(D)	**19.**	(C)	**20.**	(C)	**21.**	(A)
22.	(A)	**23.**	(B)	**24.**	(C)	**25.**	(C)	**26.**	(B)	**27.**	(B)	**28.**	(D)
29.	(B)	**30.**	(B)	**31.**	(B)	**32.**	(C)	**33.**	(A)	**34.**	(A)	**35.**	(C)
36.	(A)	**37.**	(C)	**38.**	(D)	**39.**	(A)	**40.**	(B)	**41.**	(C)	**42.**	(D)
43.	(B)	**44.**	(A)	**45.**	(A)	**46.**	(C)	**47.**	(D)	**48.**	(B)	**49.**	(C)
50.	(C)												

SOLUTIONS

SECTION-A

1. (D)

Sol.

2. (C)

Sol. Secondary valency or coordination number.

3. (B)

Sol. O.N: $\rightarrow$ x+0-3=-1

x=+2

C.N $\rightarrow$ 4

4. (D)

Sol. C.N $\longrightarrow$ 6

O.N $\longrightarrow$ x-2+0=0

x=+2

5. (C)

Sol. As SO_4^{-2} is secondary non-ionizable valency.

6. (A)

Sol. $[Cr(CO_6)] \longrightarrow$ 24-0+12=36

7. (A)

Sol. Inert gas configuration to be stable.

8. (B)

Sol. 34 = 28-2+2×x

34 = 26+2x 8 = 2x x = 4

9. (C)

Sol. As 'F' is weak field ligand.

10. (A)

Sol. By IUPAC rule,

Tetraamminedichloroplatinum(IV) tetrachloroplatinate(II).

11. (C)

Sol. By IUPAC rule,

Potassium pentachloronitridoosmate(VI)

12. (C)

Sol. 2X-2=+4

X =+3

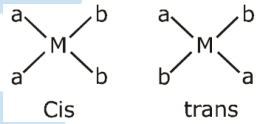
13. (D)

Sol. By IUPAC rule,

μ -hydroxo-bis(pentamminechromium)(III) ion.

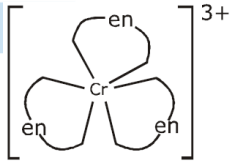
14. (A)

Sol. Ma_2b_2 type



15. (D)

Sol. $[Cr(en)_3]Cl_3$



No centre of symmetry and plane of symmetry. It is optically active

16. (B)

Sol. As H_2O molecules changes it's position.

17. (D)

Sol. Trans isomer.

18. (D)

Sol. Identical due to octahedral shape.

19. (C)

Sol. Both optical and G.I

20. (C)

Sol. No. of geometrical isomers expected for octahedral complex $[M_{abcdef}]$ is 15

21. (A)

Sol. Linkage due to SCN^- and NCS^-

22. (A)
Sol. None

23. (B)
Sol. Higher the value of K, stable is the compound

24. (C)
Sol. Tetraamminedichlorocobalt(III) nitrate.

25. (C)
Sol. Fe^{+3} has C.N= 6

26. (B)
Sol. CO is strong field ligand which makes paring of electrons and no unpaired paired. Thus it is diamagnetic.

27. (B)
Sol. MnO_4^-, Mn^{+7} all d-e^- are removed.

28. (D)
Sol. Cu^{+2} C.N= 6 (octahedral), O.N=+2

29. (B)
Sol. $[FeF_6]^{-3} \longrightarrow Fe^{+3}$ n=5 $\pi = \sqrt{5(5+2)}$
$Fe(CN)_6^{-3} \longrightarrow$ pairing of e^- takes place due to CN^-

30. (B)
Sol. $Cu^{+2} \longrightarrow$ strong field ligand $[Cu(NH_3)_4]^{+2}$
(Pairing takes place leaving 1- unpaired e^-

31. (B)
Sol. Lowered in energy by 0.4 Δ_o

32. (C)
Sol. $[CrF_6]^{-4} \longrightarrow$ unpaired e^- = 4
$[MnF_6]^{-4} \longrightarrow 5$
$[Cr(CN)_6]^{-4} \longrightarrow 2$
$[Mn(CN)_6]^{-4} \longrightarrow 1$

33. (A)
Sol. n=2 $\pi = \sqrt{n(n+2)}$ B.M

34. (A)
Sol. H_2O, F^- and F^- are weak field ligand, so does not causes pairing.

35. (C)
Sol. Linear and Tetrahedral compounds never exit as geometrical isomerism because the relative position of ligands to the central metal atom is same with respect to each other.

SECTION-B

36. (A)
Sol. Silver halides are photosensitive, they turns dark when comes in contact with light.

37. (C)
Sol. Chlorophyll is a complex of Magnesium.

38. (D)
Sol. HgI_2 and KI react to give Nessler's Reagent (K_2HgI_4).

39. (A)
Sol. A yellow coloured compex will be formed due to CdS.

40. (B)
Sol. Al_4C_3 is not a OMC, it forms ionic bond with carbide and TEL is a sigma bonded OMC.

41. (C)
Sol. Zeigler natta catalyst.

42. (D)
Sol. Ferrocene is π-bonded Ogranometallic compound.

43. (B)
Sol. Transfer of e^- from filled metal orbitals to anti-bonding orbital of ligands.

44. (A)
Sol. $[Ni(CO)_4]$

45. (A)
Sol. C_2H_5HgCl
Lead forms a complex with EDTA. This complex is water soluble and is excreted from body

46. (C)
Sol. $[Ca(EDTA)]^{-2}$

47. (D)
Sol. Cl^- ion in complex is non-ionizable, so no precipitate with $AgNO_3$.

48. (B)
Sol. d^7 has more unpaired electron (3) than d^2 so it has higher magnetic moment contain 3 eparied e^- , so high cl then d.

49. (C)
Sol. F^- is a weak field ligand.

50. (C)
Sol. NF_3 is a covalent compound.