LALBABA COLLEGE
CHEMISTRY – GENERAL
INTERNAL ASSESSMENT
CC3/GE3 − 2021
FULL MARKS – 10
TIME – HALF HRS

ANSWER *ANY TEN* QUESTIONS WITH TICK (√) MARK

NAME:

ROLL NO.

REGISTRATION NO.

1. The oxidation state of *Fe* in the complex $[Fe(CO)_5]$ is
(a) +2
(b) Zero
(c) +4
(d) -1

2. The number of neutral molecules or negative groups attached to the central metal atom in a complex ion is called
(a) Primary valency
(b) Atomic number
(c) Coordination number
(d) Effective atomic number

3. In $[NiCl_4]^{2-}$, the number of unpaired electron is
(a) 4
(b) 2
(c) 3
(d) 4.5

4. The complex salt can be made by the combination of $[Co^{III}(NH_3)_5\ Cl]^x$ with:
(a) $2K^+$
(b) Cl^-
(c) Na^+
(d) $2Cl^-$

5. d^2sp^3 hybridisation leads to
(a) Octahedral shape
(b) Trigonal bipyrimidal
(c) Hexagonal shape
(d) Tetrahedral shape

6. The oxidation state of *Fe* in $K_4[Fe(CN)_6]$ is
(a) +2
(b) +3
(c) -2
(d) +4

7. The IUPAC name of $[Ni(CO)_4]$ is
(a) Tetra carbonyl nickel (0)
(b) Tetra carbonyl nickelate (II)
(c) Tetra carbonyl nickel (II)
(d) Tetra carbonyl nickelate (0)

8. Al^{3+} has a lower ionic radius than Mg^{2+} ion because

(a) Mg atom has less number of neutrons than Al
(b) Al^{3+} has a higher nuclear charge than Mg^{2+}
(c) Their electronegativities are different
(d) Al has a lower ionization potential than Mg atom

9. Born Haber Cycle can not be used to estimate

(a) Lattice energy
(b) Electron gain enthalpy
(c) Hydration energy
(d) Dissociation energy

10. Which has the highest electron affinity?

(a) F
(b) Cl
(c) Br
(d) I

11. The order of increase of basicity is as follows

(a) MgO < BeO < CaO < BaO
(b) BeO < MgO < CaO < BaO
(c) BaO < CaO < MgO < BeO
(d) CaO < BaO < BeO < MgO

12. Transport number of the cation (t_+)

(U = current carried by cation, V = current carried by anion)

(a) $t_+ = U/(U+V)$
(b) $t_+ = U.(U+V)$
(c) $t_+ = (U+V)$
(d) $t_+ = (U+V)/U$

13. Which is the example of hexadentate ligand?
(a) Aminodiacetate ion
(b) Dimethyl glyoxime
(c) 2, 2-dipyridyl
(d) Ethylene diammine tetra acetate ion [EDTA]

14. The electronegativity difference is highest for the pair
(a) Li, Cl
(b) K, F
(c) Na, Cl
(d) Li, F

15. Which of the following pairs has the same size?

(a) Fe^{2+}, Ni^{2+}
(b) Zn^{4+}, Ti^{4+}
(c) Zr^{4+}, Hf^{4+}
(d) Zn^{2+}, Hf^{2+}