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SUBJECT CODE NO:-2009
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. Third Year Sixth Semester
EXAMINATION JUNE/JULY2022
Chemistry Paper –XVI
(Inorganic Chemistry)

[Time: 1.53 Hours]

[Max.Marks:50]

Please check whether you have got the right question paper.

- N.B
- i) Attempt all questions
 - ii) Draw neat and labeled diagrams wherever necessary.
- Q.1
- a) Discuss the splitting of d- orbitals in tetrahedral metal complexes. 10
 - b) Give two methods of preparation, properties and uses of organotitanium compounds. 10
- OR
- c) Discuss the biological importance of Ca^{++} and Mg^{++} ions. 10
 - d) What is chromatography? Discuss the technique of ascending paper chromatography. 10
- Q.2
- a) What are metal carbonyls? Discuss the nature of bonding in metal carbonyls. 10
 - b) Explain
 - i) Types of Electronic transitions 10
 - ii) Spin selection rule
- OR
- c) Write short notes (any four) 20
 - 1) $\Delta t = 4/9 \Delta_o$ explain it
 - 2) Applications of Thin layer chromatography
 - 3) Biological importance of K^+ ions
 - 4) Spectro chemical series
 - 5) Metal ethylenic complexes
 - 6) Orgel energy level diagram of d' system
- Q.3 Multiple choice questions 10
- 1) The strong field ligand is
 - a) F^- b) Cl^- c) I^- d) CN^-
 - 2) C.F.S.E of d^3 system in strong field octahedral complex is
 - a) $+6Dq$ b) $-4 Dq$ c) $-12 Dq$ d) $+12 Dq$
 - 3) The ground term symbol for d^6 system is
 - a) $5D$ b) $6s$ c) $4F$ d) 2D
 - 4) laporte allowed transition is
 - a) $\Delta l = 0$ b) $\Delta l = \pm 1$ c) $\Delta s = 0$ d) $\Delta s = 1$

- 5) The central metal ion present in chlorophyll is
a) Fe^{++} b) Mg^{++} c) Ni^{++} d) Cu^{++}
- 6) The role of hemoglobin in bio system is
a) Transport of O_2 b) Store O_2 c) store CO_2 d) None of these
- 7) Paper chromatography is an example of
a) Adsorption chromatography
b) Partition chromatography
c) Gas chromatography
d) All of these
- 8) In descending paper chromatography the solvent flows in
a) Upward direction b) Downward direction c) circular direction d) None of these
- 9) IUPAC name of $-(CH_3)_2 Zn$ is
a) Methyl zinc b) diethyl zinc c) dimethyl zinc d) ethyl methyl zinc
- 10) For polymerizing ethylene to form polythene by
a) Organo Al compounds b) Organo Hg compounds
c) Organo Zn compounds d) none of these