

Total No. of Printed Pages:3

SUBJECT CODE NO:- B-2001
FACULTY OF SCIENCE
B.Sc. T.Y (Sem-VI) Examination March/April 2018
Chemistry Paper –XVI
Inorganic Chemistry

[Time: 1:30 Hours]

[Max.Marks: 50]

- N.B Please check whether you have got the right question paper.
- i) Attempt all questions.
ii) Draw neat & labeled diagrams wherever necessary.
- Q.1 (a) Discuss the splitting of d-orbitals in Tetrahedral metal complexes. 10
(b) Give any two methods of preparation, properties and uses of organomercury compounds 10
- OR
- (c) Explain Orgel energy diagram for d^1 configuration in octahedral complexes. 10
(d) Explain the effect of following factors on $10 Dq$ parameter. 10
i) Nature of central metal ion
ii) Nature of ligand
- Q.2 (a) Discuss the principle and technique of Thin Layer Chromatography 10
(b) Explain in detail Nitrogen fixation 10
- OR
- (c) Write short notes on Any Four 20
1) Assumptions of C.F.T.
2) Laporte selection rule
3) Role of Na^+ ions in biosystem
4) Role of Mg^{++} ions in biosystem.
5) Descending paper chromatography.
6) Metal ethylinic complexes.

Q.3 Multiple Choice questions.

10

1. The weak field ligand is

- (a) Cl^-
- (b) NH_3
- (c) CO
- (d) CN^-

2. The energy of e_g orbitals in octahedral complexes increases by

- (a) $-6 Dq$
- (b) $-4 Dq$
- (c) $+6 Dq$
- (d) $+4 Dq$

3. The number of unpaired electrons in Fe^{2+} ion

- (a) 6
- (b) 4
- (c) 3
- (d) 2

4. The ground state term symbol for d^5 system.

- a) 6S
- b) 2D
- c) 3F
- d) 4F

5. The number of unpaired electrons in 2D system

- (a) 2
- (b) 1
- (c) 3
- (d) 0

6. The IUPAC name of the $\text{C}_2\text{H}_5\text{Na}$ is

- (a) Ethyl methyl sodium
- (b) Diethyl sodium
- (c) Ethyl sodium
- (d) Sodium ethyl

7. Organo lithium and formaldehyde interacts to give

- (a) Primary alcohol
- (b) Secondary alcohol
- (c) Tertiary alcohol
- (d) All of these

8. The role of myoglobin in biosystem is
- (a) Transport oxygen
 - (b) Store oxygen
 - (c) Store CO₂
 - (d) None
9. In thin Layer chromatography, stationary phase is
- (a) Solid
 - (b) Liquid
 - (c) Gas
 - (d) Both a & b
10. In Nitrogen Fixation, enzyme acting as catalyst is
- (a) Nitrogenase
 - (b) Amalyse
 - (c) Ferrioxidase
 - (d) None.