

Vitthalbhai Patel & Rajratna P. T. Patel Science College,
Vallabh Vidyanagar
B. Sc. (Semester-VI)
Subject : INORGANIC CHEMISTRY (US06CCHE03)

Date : 08-03-2019

Internal Test

Marks : 50

Day : Friday

Time : 10.00 a.m. to 12.00 Noon

Note: (i) All questions are to be attempted.

(ii) Figures to the right indicate marks.

Q.1 Choose the correct option for the following :

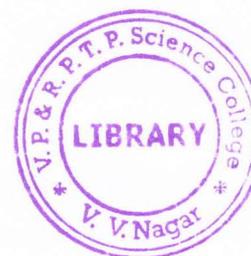
[08]

- (i) Most commonly used reducing agent for synthesis of organometallic compound is
- (a) CO_2 (b) CO (c) MnO_2 (d) SO_2
- (ii) Cyclopentadiene is a compound.
- (a) acidic (b) basic (c) weakly acidic (d) weakly basic
- (iii) Oxygen carrying molecule in lower level animals like Crab and Snails is
- (a) hemoglobin (b) ferredoxin (c) haemocynin (d) chlorophyll
- (iv) Carboxy peptidase enzyme consists of which metal ?
- (a) Pb (b) Mo (c) Zn (d) Mn
- (v) Silica gel is prepared from the of silicates to produce $\text{Si}(\text{OH})_4$.
- (a) crystallization (b) absorption (c) addition (d) acidification
- (vi) The substance that retard the rate of reaction is known as
- (a) negative catalyst (b) turnover frequency (c) catalytic cycle (d) selective catalyst
- (vii) Wrought iron contains % of carbon.
- (a) 0.25-2.0 (b) 2-3 (c) 0.12-0.25 (d) 3.0-4.50
- (viii) Which of the following is white lead ?
- (a) $2[\text{PbCO}_3 \cdot \text{Pb}(\text{OH})_2]$ (b) $\text{Pb}(\text{COOH})_2$ (c) PbCO_3 (d) PbO

Q:2 Answer the following (Attempt any Five) :

[10]

- (i) Explain the term : Organometallic compounds
- (ii) Give Friedal-Crafts acylation reaction of ferrocene.
- (iii) Give four components of vitamin B₁₂.
- (iv) Explain carboxy peptidase.
- (v) Give the four requirements of a successful catalytic process.
- (vi) Define catalytic efficiency.
- (vii) Define : Calcination and Roasting
- (viii) Give the name and formulae of chief ores of silver.



Q:3 Answer the following:

[08]

- (a) Give the general methods of preparation of organometallic compounds.
- (b) Explain the structure and bonding in metal-olefin (alkene) complexes.

OR

Q:3 Answer the following:

[08]

- (a) Explain the structure and bonding in Ferrocene.
- (b) Write short note on organometallic compounds of Aluminium and Magnesium.

- Q:4 Answer the following: [08]
(a) Give the brief account on hemoglobin.
(b) Write notes on Ferredoxin and Rubredoxin.

OR

- Q:4 Answer the following: [08]
(a) Discuss the important role of metallic elements in biochemistry.
(b) Give the brief account on chlorophyll.

- Q:5 Answer the following: [08]
(a) Discuss hydroformylation reaction catalyzed by dicobaltoctacarbonyl catalyst.
(b) Give the brief account on alkene polymerization.

OR

- Q:5 Answer the following: [08]
(a) Give the brief account on interconversion of aromatics using zeolites.
(b) Give an account of Monsanto acetic acid synthesis.

- Q:6 Answer the following: [08]
(a) Describe the extraction of copper and give its uses.
(b) Write notes on Froth flotation process and Magnetic separation process for the concentration of ores.

OR

- Q:6 Answer the following: [08]
(a) Describe Orford's process for extraction of Nickel.
(b) Write notes on silvering of mirror.

