

[A-76]

SARDAR PATEL UNIVERSITY
Sixth Semester - B.Sc. EXAMINATION (CBCS)
US06CCHE03 Inorganic Chemistry

No. of printed pages: 02

Date: 1-04-15, Friday
Time: 2.30 to 5.30pm

Maximum Marks: 70

Q-1 Multiple Choice Questions.

10

- 1 The colour of ferrocenium is _____
(a) Yellow (b) Purple (c) Yellow-green (d) Blue-green
- 2 Organometallic compounds do not include which type of compounds given below?
(a) Carbides (b) Carbonates of metals (c) Hydrocarbon derivatives (d) None of them
- 3 Which metal is important for transfer of oxygen in blood?
(a) Fe (b) Cu (c) Co (d) Pb
- 4 Which protein transfers iron from stomach to various parts of the body?
(a) transferrin (b) ferrichromes (c) ferrioxaminos (d) all given
- 5 Urease enzyme contains which metal?
(a) Zn (b) Mg (c) Cu (d) Ni
- 6 Which of the following shuttle operates within the Wacker oxidation cycle?
(a) Co(III)-Co(II) (b) Mn(III)-Mn(II) (c) Cu(II)-Cu(0) (d) Pd(II)-Pd(0)
- 7 catalytic efficiency is expressed in terms of _____.
(a) turnover efficiency (b) catalytic cycle (c) catalytic poisons (d) none of these
- 8 Which of the following metals are available in free/native state?
(a) Ag, Au, Pt (b) Ca, Mg, Al (c) Cu, Ni, Fe (d) Pb, U, Be
- 9 Which of the following is white lead?
(a) $2[PbCO_3 \cdot Pb(OH)_2]$ (b) $Pb(COOH)_2$ (c) $PbCO_3$ (d) PbO
- 10 The process of depositing a thin uniform layer of silver on a clean glass surface is called _____.
(a) Printing of silver (b) silvering of mirrors (c) fixing of silver (d) developing of silver

Q-2 Answer the following in short. (ANY TEN)

20

- 1 Explain on: Organometallic Compounds.
- 2 Give synthesis of magnesium containing compounds using Grignard reagent.
- 3 What is metallation and give example.
- 4 Explain role of sodium and potassium in short.
- 5 Give structure of ATP.
- 6 Explain macronutrient and micronutrients.
- 7 Explain role of sodium and potassium in short.
- 8 Write in brief mechanism of hydrocarbonylation.
- 9 Define chemisorption and physisorption.
- 10 Explain specific gravity method for concentration of ores.
- 11 What is gangue?
- 12 Write the ores of iron.

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Q-3
(a) Discuss all the possible types of reactions by which organometallic compounds can be prepared. 10

OR

Q-3
(a) Discuss preparation, properties and structure of ferrocene. 10

Q-4
(a) Write a short note on: Ferredoxis. 05
(b) Discuss on: Metalloenzyme. 05

OR

Q-4
(a) Write a short note on: Chlorophyll. 05
(b) Discuss on Hemoglobin and Myoglobin. 05

Q-5
(a) Give an account of homogeneous hydrogenation of alkenes using rhodium based catalyst. 05
(b) Describe the Wacker's oxidation of alkenes. 05

OR

Q-5
(a) Discuss ammonia synthesis. 05
(b) Write a note on hydroformylation reaction catalyzed by dicobaltoctacarbonyl catalyst. 05

Q-6
(a) Describe manufacturing of cast iron. 05
(b) Discuss the Mond's process and Orford's process for extraction of Nickel. 05

OR

Q-6
(a) Describe the extraction of silver by silver cyanide process. 05
(b) Give the comparison of Bessemer and open-hearth process for manufacturing of steel. 05

ALL THE BEST