SLR-DM-30

Seat No.	

Set P

B.Sc. (Semester - III) (CBCS) Examination Oct/Nov-2019
Entrepreneurship
Industrial Chemistry (Paper – V)
ANALYTICAL & INDUSTRIAL ASPECTS OF INORGANIC CHEMISTRY

Day & Date: Wednesday, 09-10-2019 Max. Marks: 70
Time: 03:00 PM To 05:30 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat labeled diagrams wherever necessary.

Q.1 Fill in the blanks by choosing correct alternatives given below. 14

1) Oxid film theory of passivity was experimentally provided by _____.
   a) Faraday b) Whitney
   c) Evan d) Oswald

2) The solution of known strength is known as _____.
   a) Normal b) Standard
   c) Molar d) Molal

3) A biological catalyst is _____.
   a) Amino acid b) N_2
   c) Zymase d) $C_6H_{12}O_6$

4) During the process of precipitation, impurities become incorporated into precipitate, hence it is called as _____.
   a) Exclusion b) Post-precipitation
   c) Digestion d) Co-precipitation

5) Catalyst used in _____ Process is V_2O_5.
   a) Haber b) Solvay
   c) Contact d) All of these

6) _____ is an example of weak acid.
   a) HC1 b) H_2SO_4
   c) CH_3COOH d) HNO_3

7) A substance which poisons the activity of catalyst is _____.
   a) Promoter b) Inhibitor
   c) Auto-catalyst d) Induced catalyst

8) $Al(OH)_3$ is a _____ Precipitate.
   a) Gelatinous b) Amorphous
   c) Crystalline d) Curdy

9) In Haber process forward reaction is favored by _____.
   a) High pressure b) Atmospheric corrosion
   c) Low pressure d) Moderate pressure

10) Which catalyst is used in hydrogenation of oils?
   a) Pt b) Pd
   c) Ni d) V_2O_5

11) The colour change property of an acid-base indicator depends on _____.
   a) PH of the solution b) Structural rearrangement
   c) Ionization of indicator d) All of these

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12) Self stifling _____ corrosion.
   a) Prevent b) Promotes
   c) Decreases d) All of these

13) Contact process is developed by _____.
   a) Philips b) Carl Bosch & Haber
   c) Solvay d) Ostwald

14) Particle size of the crystalline precipitate is _____.
   a) 0.1 to 1 micron b) 0.02 to 0.1 micron
   c) Less than 0.02 micron d) None of these

Q.2 A) Answer the following questions. (Any Four) 08

1) What is mean by co-precipitation?
2) Mention various methods for production of ammonia on large scale.
3) Define chemical passivity.
4) Give the P^H range of methyl orange.
5) What is negative catalysis?

B) Write Short Notes on (Any Two) 06

1) Post Precipitation
2) Quinoid theory
3) Heavy chemicals

Q.3 A) Answer the following questions. (Any Two) 08

1) Explain adsorption theory of catalysis.
2) Explain colour – change interval of acid-base indicator.
3) Write condition for good precipitation.

B) Answer the following questions. (Any One) 06

1) Explain manufacture plant & process for contact process.
2) Write application of catalysis in industrial process.

Q.4 A) Answer the following questions. (Any Two) 10

1) Explain electrochemical theory of corrosion.
2) Write characteristics of catalyst.
3) Draw neat labeled diagram for manufacture for ammonia.

B) Answer the following questions. (Any One) 04

1) Write application of passivity.
2) Draw structural rearrangement of pholphthalein.

Q.5 Answer the following questions. (Any Two) 14

a) Discuss the method for protection of metal from corrosion.
b) Discuss the mechanism of precipitate formation.
c) With the help of neutralization curve, explain the choice of indicator for the titration of weak acid with strong base.

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