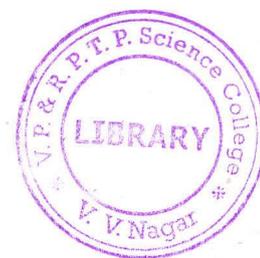


V.P& R.P.T.P SCIENCE COLLEGE
B.Sc. (Fifth semester)
INDUSTRIAL CHEMISTRY (Vocational)
01 /10/2018 [Monday]
Subject code: US05CICV02
Internal Exam



Time: 10:00 pm to 12:00 pm

Total marks: [50]

Q-1 Select the right option from among the given in following question. [08]

- Yellow phosphorus is transported under
 - Air
 - Nitrogen
 - Water
 - All of these
- Natural gas and steam react together in Haber's process to form
 - Oxygen
 - Nitrogen
 - Carbon dioxide
 - Hydrogen
- In sodium sulfate manufacturing, at which temperature salt enriched brine leaving the well is chilled?
 - 15^oF-20^oF
 - 0^oF-5^oF
 - 10^oF-15^oF
 - 20^oF-25^oF
- In the sulfate process of manufacturing TiO₂, titania ore is dissolved in sulfuric acid to produce?
 - TiCl₄
 - TiSO₄
 - TiO₂
 - TiO₂·2H₂O
- The conjugated base of oxalic acid is known as _____.
 - Oxalate
 - Dicarboxylic acid
 - Oxalyl chloride
 - None of these
- In Solvay's process, ammonium carbonate first reacts with CO₂ to form _____.
 - Ammonium bicarbonate
 - Sodium carbonate
 - Sodium bicarbonate
 - None of these
- Which of the following adsorbents has least adsorptive power on column adsorption chromatography?
 - Cellulose
 - Calcium phosphate
 - Calcium carbonate
 - Starch
- Absolute ethanol obtained by which method from ethanol-water mixture?
 - Azeotropic distillation
 - Simple distillation
 - Flash distillation
 - All of these

Q-2 Answer any **five** of the following. [10]

- Give physical & chemical properties of nitric acid.
- Draw the net flow diagram of the calcium oxide manufacturing process.
- Give the uses of sodium sulfite.
- Enlist various raw materials of bromine, iodine and fluorine.
- Write preparation Fehling solution No.1
- Write the uses of oxalic acid
- Enlist the properties of Nujol.
- Enlist various solvents used in HPLC

Q-3 Enlist various methods of manufacturing ammonia. With the help of flow diagram explain the manufacture of ammonia. Enlist its uses. [08]

OR

Q-3 Enlist various methods of manufacture of phosphoric acid. With the help of neat flow diagram brief any two methods for manufacture of phosphoric acid in detail. [08]

Q-4 a. With the help of flow diagram explain the manufacture of sodium sulfate from natural brine. [08]
b. With the help of flow diagram explain the manufacture of sodium chloride by open pan process.

OR

Q-4 a. With the help of flow diagram explain the manufacture of sodium thiosulfate. [08]
b. With the help of flow diagram explain the manufacture of fluorine.

Q-5 a. With the help of flow diagram explain the manufacture of oxalic acid. [08]
b. Write a brief note on sodium bicarbonate.

OR

Q-5 a. With the help of flow diagram explain the manufacture of lithium aluminium-hydride. [08]
b. write a short note on fehling solution.

Q-6 With the help of flow diagram explain the manufacture of methanol using catalytic hydrogenation of carbon monoxide. [08]

OR

Q-6 a. With the help of flow diagram explain the manufacture of chloroform. [08]
b. With the help of flow diagram explain the manufacture of carbon tetrachloride.

