

P P SAVANI UNIVERSITY

Third Semester of B. Tech. Examination

November-December 2021

SECH2030 Unit Processes in Organic Synthesis

14.12.2021, Tuesday

Time: 09:00 a.m. To 11:30 a.m.

Maximum Marks: 60

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures with **Pencil** wherever required.
4. Use of scientific calculator is allowed.

SECTION - I

- Q - 1 (a) What is chemical kinetics and state factors affecting chemical process kinetics. [05]
Q - 1 (b) Explain kinetics and mechanism of aromatic nitration. [05]
Q - 2 (a) Explain hydrogenation of oils with recycling apparatus of hydrogenating oils. [05]
Q - 2 (b) Explain the preparation of nitrobenzene by batch nitration of benzene. [05]
Q - 3 (a) Explain oxidation of toluene with MnO_2 . [05]
Q - 3 (b) Explain manufacturing of aniline by Bechamp reduction method. [05]

OR

- Q - 3 (a) Give the process for preparation of catalyst for hydrogenation and explain any one type of catalyst. [05]
Q - 3 (b) Write in detail the oxidation of ethanol to acetic acid using Quick Vinegar Process. [05]

SECTION - II

- Q - 1 (a) Explain the classification of esterification reactions with examples and give the properties of esters in brief. [05]
Q - 1 (b) Explain different hydrolyzing agents in detail with examples. [05]
Q - 2 (a) How will you convert ethylene to ethanol using Shell process? [05]
Q - 2 (b) Explain HF as fluorinating agent with reactions. [05]
Q - 3 (a) Explain synthesis of benzene hexachloride by chlorination of benzene. [05]
Q - 3 (b) Explain SO_3 as sulfonating and sulfating agent with advantages and disadvantages. [05]

OR

- Q - 3 (a) State the properties of aminating agents. [05]
Q - 3 (b) Explain the continuous method for conversion of chlorobenzene to aniline. [05]
