

Roll No.

Total Pages : 3

322306

December 2023

**B.Sc. (Chemistry) IIIrd SEMESTER
Green Chemistry (SECC-02)**

Time : 3 Hours]

[Max. Marks : 75

Instructions :

1. It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.
2. Answer any four questions from Part-B in detail.
3. Different sub-parts of a question are to be attempted adjacent to each other.

PART-A

1. (a) Draw the structure of TBTO. (1.5)
(b) What is Supercritical CO₂? (1.5)
(c) Write the acetanilide synthesis using green process approach. (1.5)
(d) What do you understand by Bio catalysis? Bio catalysis is homogenous or heterogenous? (1.5)
(e) What are fluoruous biphasic solvents? (1.5)
(f) What is the 4th principle of green chemistry? (1.5)
(g) Write any three rules for degradation as per 10th principle of green chemistry. (1.5)

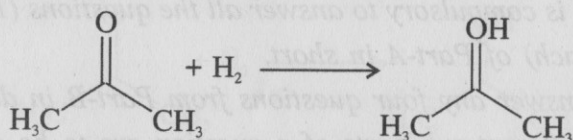
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2/6 [P.T.O.]

- (h) What do you understand by B30? (1.5)
 (i) Write an example of sonochemical simmons smith reaction. (1.5)
 (j) Comment on Bhopal Gas Tragedy. (1.5)

PART-B

2. (a) Write the traditional synthesis of Adipic Acid and Green synthesis of Adipic Acid. (10)
 (b) What is atom economy? Calculate the atom economy of the given reaction : (5)



3. (a) What are VOCs? (2)
 (b) What are ionic liquids (ILs) and how will you classify them? Explain the role of ionic liquids as reaction media by taking atleast five suitable examples. (13)
4. What is Green Chemistry? Explain the preparation and characterization of biodiesel from vegetable oil using concept of green chemistry. (15)
5. (a) Write a short note on fully recyclable carpet : Cradle to cradle carpeting. (5)
 (b) Write a note on 8th principle of green chemistry. (10)

6. (a) What are rightfit azo pigments? With respect to green chemistry, how these azo pigments superior to traditionally used inorganic based pigments? (10)
 (b) What is PERC and what are the drawbacks of PERC? Explain how carbon dioxide could be an ideal solvent to replace PERC. (5)
7. (a) Write the names of all twelve principles of green chemistry.
 (b) Explain the terms used in PPA of 1990 by US EPA :
 $R = f(h, e)$ (12+3=15)