

S.NO: 22N1-PCH

Course Code: PGQE3

A.D.M.COLLEGE FOR WOMEN, NAGAPATTINAM

(AUTONOMOUS)

M. Sc. (Chemistry) Degree Examination

III Semester – November – 2022

EC III – GREEN CHEMISTRY

Time: 3 hours

Maximum Marks: 75

Section –A

10X2=20

Answer ALL the Questions:

1. What is Green chemistry?
2. What are the reagents used in Green chemistry?
3. What are the specific effects of microwave?
4. Write any two advantages of microwave exposure .
5. Explain the physical properties of ionic liquids.
6. What is Phase transfer catalyst ? Give an example.
7. What are Bio catalysts? Give an example
8. What is the pH required for the production of Baker's yeast?
9. Mention the disadvantages of supercritical carbon dioxide.
- 10.Explain Friedel- crafts reaction.

Section -B

5X5=25

Answer **ALL** the Questions:

11. a) Explain the relevance and goals of green chemistry

(or)

b) Describe the tools of green chemistry

12. a) Give a note on solid support reaction with suitable examples.

(or)

b) Explain microwave mediated multi-component reaction.

13. a) Explain in detail about the synthesis of ionic liquids

(or)

b) Give a brief account on the use of ionic liquids in Knoevenagel condensations reactions.

14. a) Give any five applications of phase transfer catalysis.

(or)

b) Write short notes on microbial polyester synthesis

15. a) Explain the utility of super critical CO₂ in synthetic organic chemistry

(or)

b) Write a note on dimethyl carbonate as a methylating agent.

Section -C

3 X 10 = 30

Answer any **THREE** Questions:

16. Discuss the Anasta's twelve principles of green chemistry
17. Explain microwave assisted functional group transformation and condensation reactions
18. How are following reactions carried out using ionic liquids
 - i) Wittig reaction
 - ii) Diels – alder reactions
19. Write briefly on
 - i) Baker's yeast mediated biotransformation
 - ii) Modified biocatalyst
20. Explain the design and applications of green oxidant.