B.M.S. COLLEGE FOR WOMEN, AUTONOMOUS
BENGALURU – 560004
SEMESTER END EXAMINATION – SEPT/OCT 2023

M.Sc. in Chemistry-4th Semester

INDUSTRIAL ORGANIC CHEMISTRY

Course Code: MCH403T   **QP Code: 14013**
**Time: 3 Hours**   **Max.Marks:70**

Instruction: Answer Question No. 1 and any FIVE of the remaining.

1**. Answer any *TEN* questions**   **(2X10=20)**

a) What are fluorescent brightening agents?

b) Illustrate structural features responsible for the colour of a dye.

c) Why reactive dyes are best choice for dyeing at home, art studios and in printing?

d) Formulate a method for the synthesis of azirines.

e) Outline any two method of synthesis of phosphole.

f) Why electrophilic attacks position two in benzofuran but not in position three?

g) Predict products and propose mechanism for the following reactions
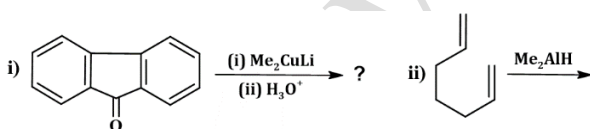
h) Illustrate Reformatsky reaction with suitable example.

i) Sketch oxymercuration and demercurartion reactions.

j) Give the mechanism of cationic polymerization reaction.

k) Draw the structure of three stereochemically distinct forms of polypropylene.

l) How do you prepare a nylon with greater moisture resistance than nylon 6, 6?

2**.** a) Describe the chemistry involved in green colour development in a colour film

   b) Discuss the two modern theories that explain the relation between colour and constitution.

                                                                    (5+5=10)

3. a) Suggest any two synthesis of benzimidazoles.

   b) Formulate any two methods each for the synthesis of 6-membered heterocyclic

   compounds containing As and Bi as hetero atoms   **(5+5=10)**

4. a) Discuss Barton decarboxylation and Barton-McCombie deoxygenation reactions with examples.

  b) How alkylaluminiums are prepared industrially? Explain how they cause hydro-alumination and carboalumination reactions with example. **(5+5=10)**

5. a) Describe the addition-growth polymerization with suitable example

  b) Write a note on phenol formaldehyde resins. **(5+5=10)**

6. a) Discuss the synthesis and applications of i) p-rosaniline   ii) crystal violet.
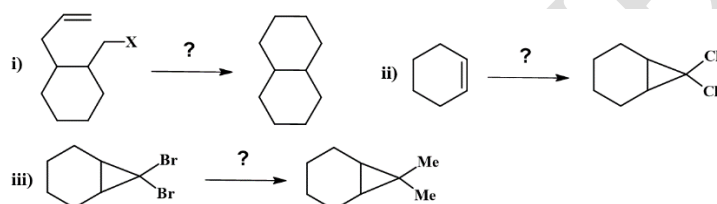
  b) Write a note on application of dyes in visual displays.

  c) Sketch the synthesis of tetrazines and thiazines. **(4+3+3=10)**

7. a) How are meso ionic compounds classified? Explain with examples in each category?

  b) Discuss base and acid catalysed Peterson olefination reaction

  c) Propose reagents for the following transformations:

(4+3+3=10)

8. a) Write a note on bulk and emulsion-polymerization techniques

  b) Discuss the industrial importance of polyamides.

  c) Give the applications of dyes in photography. **(4+3+3=10)**

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