

A-068

Total Pages : 3

Roll No.

MSCCH-604

M.Sc. CHEMISTRY (MSCCH)

(Photo Chemistry and Allied Chemistry)

3rd Semester Examination, 2024 (June)

Time : 2:00 Hrs.

Max. Marks : 70

Note :- This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

Section-A

(Long Answer Type Questions) 2×19=38

Note :- Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

A-068/MSCCH-604 (1)

P.T.O.

1. Write notes on the following :
 - (a) Beer-lambert's law
 - (b) Non radiative processes and radiative processes
 - (c) Quantum yield
2. Explain the Norrish type-I and Norrish type-II photochemical reaction occurs in the carbonyl compounds.
3. What is a green reagent ? Write down the preparation and properties of at least one green reagent ?
4. Give the mechanism of following reactions :
 - (a) Barton reaction
 - (b) Hoffmann-Loefler-freytog reaction
5. Discuss the mechanism of 1, 2-shift by benzvalene and 1, 2 and 1, 3 alkyl shift through prismane intermediate.

Section-B

(Short Answer Type Questions) 4×8=32

Note :- Section 'B' contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

A-068/MSCH-604 (2)

1. Discuss the photochemistry of conjugated dienes.
2. Explain rearrangement of 1, 4- and 1, 5-dienes with mechanism.
3. Explain the photochemical substitution reaction of aromatic compounds.
4. How we prepare polymer support green reagents ? Explain its silent feature also.
5. What is Paterno-Buchi reaction ? Discuss its mechanism along with the stereochemical consequences ?
6. Write a short notes on solid phase organic synthesis in dry state on the following
 - (a) Michael addition
 - (b) Aromatic substitution reactions
7. What is ionic liquid ? Write its properties and application.
8. Explain the laws of photochemistry.
