A-071

Total Pages : 3 **Roll No. ----------**

MCH-606

Photochemistry & Stereochemistry

M.Sc. Chemistry (MSCCH)

4th Semester, Examination 2024 (June)

Time: 2:00 hrs Max. Marks: 35

Note : This paper is of Thirty five (35) marks divided into Two (02) Section 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)

Note : Section 'A' contains Five (05) long-answer-type questions of Nine and Half (9.5) marks each. Learners are required to answer any Two (02) questions only.

[2x9.5=19]

P.T.O.

Q.1. Explain photoaddition reaction as well as photo isomerisation reaction of benzene with suitable example.

Q.2. Give mechanism of norrish type II reaction. Explain why cyclopropyl ketones are the most common class of compound for Beta cleavage reactions.

Q.3. Discuss various photophysical processes in Jablonski diagram and franck condon principle.

Q.4. Discuss conformation and stability of disubstituted cyclohexane.

Q.5. What is paterno Buchi reaction discuss its mechanism along with the chemical consequences.

Section-B (Short-Answer-Type Questions)

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

[4x4=16]

Q.1. Explain fluorescence and phosphorescence with suitable example.

Q.2. What is barton reaction.

Q.3. Discuss the photochemistry of nitrites.

Q.4. Discuss briefly photolysis of hypohalites.

Q.5. What is the effect of conformation on reactivity of organic compound.

Q.6. Discuss the chemistry of photoaddition reaction of alkene.

Q.7. Explain singlet and triplet state with example.

Q.8. What is quantum yield? Give reason for low quantum yield.

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