

M.Sc.(Chem.) Semester - 2 (CBCS) Examination
March/April – 2024 (As Per Syllabus Year-2018)
Organic Chemistry (CORE)

Time: 02:30 Hours

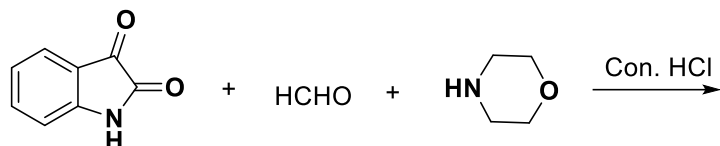
Marks: 70

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Q.1 (A) Answer the following**(04)**

- (1) Identify the following reaction and write its mechanism:

**Q.1 (B) Answer any two question out of three.****(10)**

Explain the mechanism and give three applications of the following reaction:

- (1) Ugi reaction
- (2) Biginelli reaction
- (3) Passireni reaction

Q.2 (A) Answer the following**(04)**

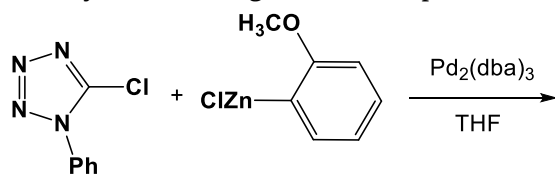
- (1) What is conjugate addition? Discuss various factors affecting [1,4] conjugate addition reaction.

Q.2 (B) Answer any two question out of three.**(10)**

- (1) Discuss regioselectivity and stereoselectivity for Simmon-Smith cyclopropanation reaction with examples.
- (2) Write a note on Bayliss Hillman reaction.
- (3) Explain principle, mechanism and three applications of Julia olefination reaction

Q.3 (A) Answer the following**(04)**

- (1) Identify the following reaction and provide its mechanism.

**Q.3 (B) Answer any two question out of three.****(10)**

Write appropriate product for the following reaction and explain its catalytic cycle:

- (1)
- (2)
- (3)

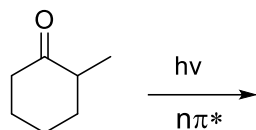
Q.4 (A) Answer the following (04)

(1) Draw Jablonski diagram and explain briefly.

Q.4 (B) Answer any two question out of three. (10)

(1) Discuss any one example of intramolecular Paterno-Buchi reaction with mechanism

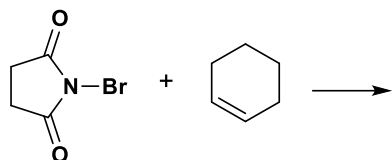
(2) Write Primary and Secondary photochemical process for the following reaction:



(3) Give two example of Norrish Type-I reaction and write its mechanism.

Q.5 (A) Answer the following (04)

(1) Complete the following reaction sequence and write its mechanism:



(2) Write the structure and synthesis of following: (a) TBTH (b) AIBN

Q.5 (B) Answer any two question out of three. (10)

Describe chemical structure, mechanism and at least three applications of following reagent:

(1) DDQ

(2) DCC

(3) TEMPO
