647510 **MSCorgCC1020** **Seat No :_____**

M.Sc.(Chem.) Semester - 1 (*CBCS*) Examination
OCT/NOV-2024 (AS PER SYLLABUS YEAR JUNE-2018)
ORGANIC CHEMISTRY (CORE)

Time: 2:30 Hours **Marks: 70**

Instructions:

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

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

(1) Explain the following effect with example:

a. Inductive (+I & -I)

b. Resonance (+R & -R)

c. Hyperconjugation (+H & -H)

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

Write a note on the following including structure, hybridization, generation and reactivity:

(1) Carbocation (2) Carbene (3) Enamine

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

(1) What are quasi-aromatic compounds? Discuss with example.

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

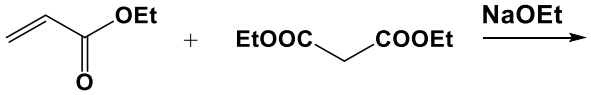
(1) Give Huckel's rule for aromatic and anti-aromatic compounds and explain with examples.

(2) Explain aromaticity of: (a) 10π electron system and (b) 14π electron system.

(3) What is annelation effect? Explain with example.

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

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



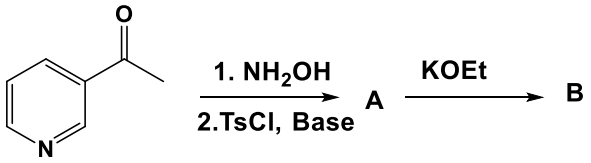
Q.3 (B) **Answer any two question out of three.** **(10)**

Discuss principal, mechanism and three application of following reaction:

(1) Corey-fuchs (2) Robinson Annulation (3) Mitsunobu

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

(1) Identify the following rearrangement and write its product with mechanism.



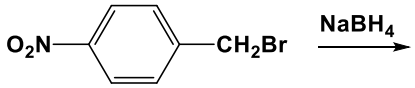
Q.4 (B) **Answer any two question out of three.** **(10)**

Describe Principle, mechanism and migration aptitude for following rearrangement:

(1) Pinacol-pinacolone (2) Beckmann (3) Bayear-villiger

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

(1) What product will form in the following reaction? Discuss with mechanism.



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

Write a note on following reagent:

(1) Jones reagent (2) Collins reagent (3) LAH

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