

M.Sc.(Chem.) Semester - 1 (CBCS) Examination
OCT/NOV-2025 (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) Discuss Nucleophiles & Electrophiles with examples.

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

Explain following reactive intermediate in detail:

- (1) Carbene
- (2) Benzyne
- (3) Enamine

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

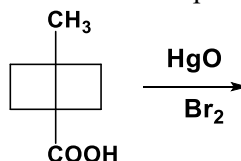
- (1) What is annelation effect? Explain with example.

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

- (1) Give four examples of each (a) aromatic compounds (b) antiaromatic compounds (c) Non-aromatic compounds.
- (2) Explain aromaticity of annulenes with two examples.
- (3) Discuss the effect of aromaticity on stability of carbocation with examples.

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

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

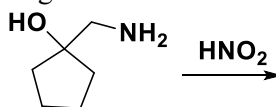
**Q.3 (B) Answer any two question out of three. (10)**

Write a note on following reaction including principle, mechanism and application:

- (1) Michael addition
- (2) Robinson annulation
- (3) Corey-fuchs

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

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

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

Describe Principle, mechanism and migration aptitude for following rearrangement:

- (1) Benzil-Benzilic acid
- (2) Schmidt
- (3) Beckmann

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

- (1) Write a note on Desmartin oxidation.

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

Write a note on following reagent:

- (1) NaIO_4
- (2) Collins reagent
- (3) Li/NH₃-liquid ammonia
