



A Charutar Vidya Mandal's Institution
V.P. & R.P.T.P. SCIENCE COLLEGE
 (AUTONOMOUS) (Grant-in-Aid)
 Affiliated to Sardar Patel University
 VALLABH VIDYANAGAR-388120



Bachelor of Science (Semester-3) External Examination October- 2025

US03MAICV02 – INTRODUCTION TO ORGANIC CHEMISTRY

Date: 07/10/2025, Tuesday

Time: 02:00 PM to 04:30 PM

Total marks: 50

NOTE: Figure to the right indicate full marks of the questions.

Q-1 Write the answer of following multiple-choice questions. (All are compulsory) [10]

1. Williamson ether synthesis involves the reaction of an alkoxide ion with an alkyl halide to form...

(a) alcohols	(c) carboxylic acids
(b) ethers	(d) alkynes
2. Isopropyl alcohol (i-PrOH) reacts with hydrobromic acid (HBr) to form...

(a) isopropyl bromide	(c) propane
(b) isobutyl bromide	(d) butane
3. Aldehydes are prepared by the oxidation of ...

(a) Primary alcohol	(c) Tertiary alcohol
(b) Secondary alcohol	(d) Methyl halide
4. What is Grignard reagent formula?

(a) Na-Hg-X	(c) R-Cu-X
(b) R ₂ -Li-X	(d) R-Mg-X
5. The IUPAC name of CH₃-CO-CH₃.

(a) Prop-2-enal	(c) Butanal
(b) Propanone	(d) Propanol
6. Amines behave as...

(a) Lewis acids	(c) Aprotic acids
(b) Lewis bases	(a) Amphoteric compounds
7. The most suitable temperature for the diazotization reaction, which forms diazonium salts, is ...

(a) 0-5 °C	(c) 22-30 °C
(b) 10-15 °C	(d) 50-90 °C
8. Isomers which are non- superimposable mirror images of each other are known as...

(a) Enantiomers	(c) Diastereomers
(b) Geometric isomers	(d) Chain isomers
9. How many chiral carbon presents in 2-bromobutane structure?

(a) 0	(c) 1
(b) 2	(d) 3
10. Which instrument is used to determine optical activity of any compound?

(a) Oscillator	(c) pH meter
(b) Refractometer	(d) Polarimeter



- Q-2 (A) Discuss acidity of phenol. [5]
(B) Write a note on acid catalyzed cleavage of epoxide. [5]

OR

- Q-2 (A) Write a note on 'Williamson's ether synthesis'. [5]
(B) Explain 'Oxymercuration-demercuration of Alkenes'. [5]

- Q-3 (A) Write a note on the Hell-Volhard-Zelinsky reaction in detail. [5]
(B) Discuss addition of Grignard reagents in Aldehydes and ketones. [5]

OR

- Q-3 (A) Write a note on preparation of aldehydes and ketones. [5]
(B) Explain Reimer-Tiemann reaction and Fritsch-Craft reaction. [5]

- Q-4 (A) Write a note on Reductive amination. [5]
(B) Discuss the reactions of Amine with Nitrous acid. [5]

OR

- Q-4 (A) Write a note on 'Direct method of Diazotization'. [5]
(B) Write a note on preparation of amines. [5]

- Q-5 What is stereochemistry? Write a note on Polarimeter in detail. [10]

OR

- Q-5 (A) Discuss R and S nomenclature for an optically active compound in stereochemistry. [5]
(B) Discuss in detail about Racemic modification. [5]


