



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



Bachelor of Science (Semester-3) Internal Theory Examination - 2025

US03MAICV01: UNIT PROCESSES IN ORGANIC SYNTHESIS – 1

Date: 23-09-2025, Tuesday

Time: 02:45 PM to 04:15 PM

Total marks: 30

Q-1 Write the answer of following multiple-choice questions. (All are compulsory) [6]

1. Nitration is the process of introduction of ...
(a) Nitro groups (c) Amine group
(b) Alkyl group (d) Halogen group
2. Nitrating Agent is ...
(a) $\text{HNO}_3 + \text{H}_2\text{SO}_4$ (c) $\text{HCl} + \text{H}_2\text{SO}_4$
(b) $\text{Cl}_2 + \text{H}_2\text{SO}_4$ (d) $\text{NaNO}_2 + \text{HCl}$
3. Amination by reduction involve the synthesis of ...
(a) Alcohol (c) Amines
(b) Phenol (d) Ester
4. Bechamp reduction doing in presence of ...
(a) Iron and Acid (c) Iron and Phenol
(b) Iron and Base (d) Acid and Base
5. Halogenation may be define as are introduced
(a) Nitrogen atom (c) Halogen atoms
(b) Pb atom (d) Sulphur atom
6. Oxidizing Agent as...
(a) Permanganates (c) Acetone
(b) Water (d) NaOH

Q-2 Define term nitration and give mechanism of aromatic nitration [6]
OR

Q-2 Write batch vs continuous nitration

Q-3 Define amination by reduction and enlist the method of reduction [6]
OR

Q-3 Give Miscellaneous reduction

Q-4 Write halogenations reaction and with suitable example [6]
OR

Q-4 Write brief note on halogenating agent

Q-5 Write a note on Types of oxidation reaction [6]
OR

Q-5 Brief note on Oxidizing Agent





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Bachelor of Science (Semester – III) Internal Examination – 2025

QUIZ TEST

US03MAICV01:UNIT PROCESSES IN ORGANIC SYNTHESIS-1

Date: 23rd September 2025,
Day: TUESDAY

Time: 02:45 PM to 04:15 PM
Total Marks: 15 Marks

Examiner's Signature: _____ Obtained Marks: _____ Roll No.: _____

Note: The figure to the right indicates full marks of the questions.

Q-1 Fill in the blanks with the appropriate answer given in the bracket [8 Marks]

1. _____ used as Nitrating Agent ($\text{H}_3\text{PO}_4/\text{HNO}_3$)
2. Nitration reaction serves to introduce _____ (Nitro group, ketone group).
3. Synthesis of Amine with the help of _____. (Amination by reduction/ Amination by oxidation)
4. Br_2 is used as _____. (Halogenating agent/Oxidizing agent)
5. HCl is used as _____ (Chlorinating agent/Brominating agent)
6. In Iodination, _____ by replacement of hydrogen. (Chlorine/Iodine)
7. The principal _____ used as oxidizing agent. (Peroxides/ Phenol)
8. _____ reaction is violent and constitutes an explosion hazard. (Fluorination/Oxidation)

Q-2 State whether the following statement is true or false. [Write your answer in the box] [7 Marks]

1. Nitration is unit operation
2. Amination by reduction is unit process.
3. Oxidation is unit process.
4. Nitro compounds find applications as explosives.
5. Amines are not used in agricultural chemicals.
6. Amination by reduction involve synthesis of amines.
7. Chromic acid solution used as oxidizing Agent.

