

W-3352**M.Sc. (Fourth Semester) Examination, June-2020****INDUSTRIAL CHEMISTRY****Paper - 403****Organic Chemistry-IV***Time : Three Hours**Maximum Marks : 85**Minimum Pass Marks : 29***Note :** Attempt **all** questions.**Unit-I**

- Q.1. Discuss the following: 17
- i) Nitration of paraffinic hydrocarbon.
 - ii) Kinetics and mechanism of aromatic nitration.

Unit-II

- Q.2. Give the name of important halogenating agents and discuss Kinetics and thermodynamics of halogenation. 17

Unit-III

- Q.3. Describe sulphonating agents and their applications. Explain factors affecting sulphonation. 17

Unit-IV

- Q.4. Give typical Industrial esterification reaction. Explain industrial hydrolytic reaction. 17

Unit-V

- Q.5. Explain the following: 17
- i) Catalyst used in aminating reaction.
 - ii) Kinetics of Amination.

