

QP CODE: 214331

Reg. No:.....

**Second Semester M. Pharm Degree Regular/Supplementary Examinations
November 2025**

**M.Pharm (Pharmaceutical Chemistry)
Paper IV - Pharmaceutical Process Chemistry (MPC 204T)
(Common for 2019 and 2024 Scheme)**

Time: 3 Hours

Total Marks: 75

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Essays

(3x10=30)

1. Discuss on the impurities in API, types and their sources including genotoxic impurities
2. Elaborate the types of oxidative reactions, Liquid phase oxidation with oxidizing agents also on nonmetallic Oxidizing agents
3. Describe the kinetics and mechanism of aromatic nitration and process equipment for technical nitration

Short Notes

(9x5=45)

4. Brief out on fire hazards and its management
5. Give an account on azeotropic and steam distillation
6. Write a note on aerobic and anaerobic fermentation
7. Write notes on counter current extraction
8. Enumerate briefly a case study on industrial reduction process
9. Write a note on OHSAS-1800 and ISO-14001(Environmental Management System)
10. Brief on halogenation with emphasis on catalytic halogenation
11. Explain the principle and general methods of preparation of polymorphs and amorphous APIs.
12. Describe briefly on ozonolysis and its applications
