

QP CODE: 214331

Reg. No:.....

**Second Semester M. Pharm Degree Supplementary Examinations
December 2023**

**M.Pharm (Pharmaceutical Chemistry)
Paper IV - Pharmaceutical Process Chemistry (MPC 204T)
(Common for 2017 and 2019 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. Explain the types of impurities and their sources including genotoxic impurities in API.
2. Explain the factors affecting crystallization and nucleation.
3. Explain the aerobic and anaerobic fermentation.

Short Notes

(9x5=45)

4. Explain the need of material safety data sheet.
5. Explain steam distillation with a neat diagram.
6. Explain the production of statins.
7. Nonmetallic oxidizing agents.
8. Write about environmental management system.
9. Explain the different effluents and its management system.
10. Discuss catalytic halogenation with an example.
11. Classify different types of oxidative reactions.
12. Discuss validation of large scale process.
