

QP CODE: 214331

Reg. No:.....

**Second Semester M. Pharm Degree Regular/Supplementary Examinations
February 2021**

M.Pharm (Pharmaceutical Chemistry)

Paper IV - Pharmaceutical Process Chemistry (MPC 204T)

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 the various stages of scale up process in detail
2. Discuss about the types of evaporators and explain the factors affecting evaporation
3. Discuss catalytic hydrogenation by citing examples. Add a note on metal hydrides

Short Notes

(9x5=45)

4. Explain counter current extraction
5. Genotoxic impurities in API
6. Describe in detail about the factors affecting crystallization
7. Describe in detail about the various nitrating agents involved in nitration
8. Discuss about ISO- 14001.
9. Discuss the significance of steam distillation
10. Elaborate the kinetics of halogenations
11. Explain the fermentation production of vitamin B₁₂
12. Personal Protection Equipment (PPE)
