

GUJARAT TECHNOLOGICAL UNIVERSITY
M.PHARM - SEMESTER-2 EXAMINATION – SUMMER-2019

Subject Code: MPC204T**Date: 03/06/2019****Subject Name: Pharmaceutical Process Chemistry****Time: 10:30 AM TO 01:30 PM****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|-------------|---|-----------|
| Q.1 | (a) Explain about impurities and their types found in API. | 06 |
| | (b) What is process chemistry? Explain in brief. | 05 |
| | (c) Explain in-process control and validation of large scale process. | 05 |
| Q.2 | (a) What is extraction technique? Explain counter current extraction in detail. | 06 |
| | (b) Explain theories of filtration. | 05 |
| | (c) What are type of evaporation? Explain factor affecting evaporation. | 05 |
| Q.3 | (a) Explain general methods for preparation of polymorphs. | 06 |
| | (b) What is crystallization from non-aqueous solvent? Enlist factors affecting crystallization. | 05 |
| | (c) What is nitration? Explain kinetics and mechanism of aromatic nitration. | 05 |
| Q.4 | (a) What are types of halogenation. Explain catalytic halogenation. | 06 |
| | (b) Write a short note on liquid phase oxidation with oxidizing agent. | 05 |
| | (c) Explain in brief about nonmetallic oxidizing agents. | 05 |
| Q.5 | (a) Discuss about hydrogen transfer reaction. | 06 |
| | (b) Explain fermentation method for production of vitamin B ₁₂ . | 05 |
| | (c) What are the characteristics for cost-effective routes? | 05 |
| Q. 6 | (a) Explain MSDS and PPE. | 06 |
| | (b) What are different types of fire and fire extinguisher? | 05 |
| | (c) Explain in brief about OHSAS-1800. | 05 |
| Q.7 | (a) What are green approach of effluents management? | 06 |
| | (b) Use of metal hydride in reduction. Explain. | 05 |
| | (c) Explain the importance of azeotropic distillation. | 05 |
