

Total No. of printed pages = 2

**MPC 204T**

Bina Chowdhury Central Library  
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Hatkhowapara, Azara, Ghy-17

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**2023**

**M.Pharm. 2<sup>nd</sup> Semester End-Term Examination**

**Pharmaceutical Chemistry**

**PHARMACEUTICAL PROCESS CHEMISTRY**

Full Marks – 75

Time – Three hours

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The figures in the margin indicate full marks  
for the questions.

1. Answer the following questions : (10 × 2 = 20)
- (a) Aerobic and anaerobic fermentation
  - (b) Azeotropic and steam distillation
  - (c) Bench and pilot scale
  - (d) Ozonolysis
  - (e) Streamlining reaction steps
  - (f) Synthetic strategy
  - (g) Effluents and its management
  - (h) Personal protection equipment
  - (i) Pressure and vacuum filtration
  - (j) Liquid phase oxidation
2. Write notes on any seven : (7 × 5 = 35)
- (a) Material safety data sheet
  - (b) Hazard labels of chemicals
  - (c) Kinetics of halogenations.
  - (d) Types of evaporators and factors affecting evaporation
  - (e) Write the procedure for the production of lovastatin

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- (f) Crystallization from aqueous and non aqueous solutions.
- (g) Heterogeneous and homogeneous catalyst
- (h) Production of penicillin
- (i) Case study of industrial reduction process.

3. Answer any two questions : (2 × 10 = 20)

- (a) Explain in details about the impurities in API, types and their sources including genotoxic impurities.
  - (b) (i) Write in details about fire hazards, types of fire and fire extinguishers.  
(ii) Explain the principle and general methods of preparation of polymorphs.
  - (c) Discuss elaborately about nitrating agents, aromatic nitration with kinetics and mechanism and mixed acid for nitration.
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