

**SUPPLEMENTARY**  
**MASTER OF PHARMACY (M. PHARM.) (CBCS-2019 COURSE)**  
**M.Pharm. Sem-II PHARMACEUTICAL CHEMISTRY :SUMMER- 2022**  
**SUBJECT : PHARMACEUTICAL PROCESS CHEMISTRY**

Day : Wednesday

Time : 10:00 AM-01:00 PM

Date : 21-09-2022

**S-20795-2022**

Max. Marks : 75

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**N.B.**

- 1) Question I and 5 **COMPULSORY**. Out of remaining answer any **TWO** Questions from each section.
  - 2) Answer the both section should be written in **SEPARATE** answer books.
  - 3) Figure to the **RIGHT** indicate **FULL** marks.
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**SECTION-I**

- Q.1** What is the Fermentation? Explain different production method used for antibiotics. **(08)**
- Q.2** a) Explain in detail different Nitrating agents used in nitration unit process. **(08)**  
b) Describe halogenation unit process with suitable case study. **(07)**
- Q.3** Write a note on oxidizing agents used in reactions involved in oxidation process using suitable case study. **(15)**
- Q.4** Write notes any **TWO** of the following. **(15)**
- a) Aromatic Nitration
  - b) Case study on industrial nitration process
  - c) Fermentation process of Vit. B2 and Vit.B12

**SECTION-II**

- Q.5** Discuss Pilot and Large-scale production process of API. **(07)**
- Q.6** What are API Impurities? Explain with suitable examples about different sources of impurities in API manufacturing. **(15)**
- Q.7** Discuss the role of evaporators in API manufacturing. Discuss various factors affecting evaporation. **(15)**
- Q.8** Write notes any **TWO** of the following. **(15)**
- a) Polymorphs in API process
  - b) Genotoxic impurities
  - c) MSDS

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