

Printed Pages: 01

Paper Id: 238100

Sub Code: MPC204T

Roll No.

M PHARM
(SEM II) THEORY EXAMINATION 2022-23
PHARMACEUTICAL PROCESS CHEMISTRY

Time: 3 Hours

Total Marks: 75

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief.

2 x 10 = 20

- (a) Enlist the main impurities likely to be present in any API.
- (b) Mention the types of process validation.
- (c) Which type of substances are processed by steam distillation?
- (d) How do solvates differ from hydrates?
- (e) Which mixed acids are used for nitration?
- (f) Enumerate types of halogenations.
- (g) Name two homogenous catalysts used for reduction.
- (h) Which experimental protocols are used for kinetic studies?
- (i) Name few personal protection equipment.
- (j) Mention types of fire extinguishers.

SECTION B

2. Attempt any twoparts of the following:

10 x 2 = 20

- (a) Define and explain stages of scale up processes.
- (b) Write note on (any two)
 - (i) Aromatic nitration
 - (ii) Counter current extraction
 - (iii) Process equipment for technical nitration
- (c) Write note on (any two)
 - (i) Reagent selection
 - (ii) MSDS sheet
 - (iii) Route selection

SECTION C

3. Attempt any fiveparts of the following:

7 x 5 = 35

- (a) Explain in process control and validation of large-scale process.
- (b) Discuss types of evaporators and factor affecting evaporation.
- (c) Discuss the role of the following non-metallic oxidizing agents (any two)
 - (i) H₂O₂
 - (ii) Sodium hypochlorite
 - (iii) Oxygen gas
- (d) What are the characteristics of expedient route and cost-effective route?
- (e) Elaborate the steps involved in the production of streptomycin.
- (f) Write exhaustive account of OHSAS-1800
- (g) How effluents are managed?