



Seat No. : _____

NI-142

November-2025

M.Sc., Sem.-III

CHE(O)-504 : Organic Chemistry (Medicinal & Industrial Chemistry)

Time : 2:30 Hours]

[Max. Marks : 70

- Instructions :** (1) All questions are compulsory.
(2) Figures to right indicate full marks.

1. (A) Discuss SAR of 4-amino quinoline anti-malarial agents. 7
1. (B) Discuss "Phase I, II and III of clinical trials" in detail. 7

OR

1. (A) Write brief note on : prodrug, soft drug, hard drug. 7
1. (B) Write synthesis of Penicillin and Chloramphenicol. 7

2. (A) Give synthesis and uses of : methyl dopa and alprazolam. 7
2. (B) Give synthesis and uses of : dapsone and daraprim. 7

OR

2. (A) Give synthesis and uses of : pethidine and furosemic acid. 7
2. (B) Give synthesis and uses of : mefloquine and tolbutamide. 7

3. (A) Write a note on Good Manufacturing Practice and Good Laboratory Practice. 7
3. (B) Write a note on various types of chlorinating agents used for chlorination with suitable examples. 7

OR

3. (A) Write a note on the patent and its importance in research and development/chemical industry. 7
3. (B) Write a note on green catalysts and name reactions associated with green chemistry. 7

4. (A) Write a note on GC, LC and SFC. 7
4. (B) Write a note on-various distillation methods. 7

OR

4. (A) What is TLC ? Explain TLC with Mobile phase and Stationary phase. 7
4. (B) Discuss different types of filtrations in brief. 7

5. Attempt any **seven** out of twelve : 14

- (1) Give/write full name of QSAR and CADD.
 - (2) Give structure and use of Ibuprofen.
 - (3) Why safety is important in the industry ?
 - (4) Define : Chromatography.
 - (5) What is Antibiotics ?
 - (6) What are Cardiovascular and diuretics drugs ?
 - (7) What is Nitration ? Give one example of nitration.
 - (8) What is extraction ?
 - (9) What are SAR and MOA ?
 - (10) Write/Draw the structure of INH and DDS.
 - (11) Why, under microwave irradiation, the reaction takes place quickly ?
 - (12) Give/write full name of HPLC and HPTLC.
-