

Seat No. : _____

MD-105

March-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. Write the following :
- (i) Discuss in brief SAR and MOA. 7
 - (ii) Discuss phases of clinical trials. 7

OR

1. (i) What is Hard drug and soft drug ? Write a note on importance of physio chemical parameters like lipophilicity and partition coefficient for API (Drug). 7
- (ii) Discuss SAR of 4-amino quinoline anti-malarial agents. 7

2. Write the following :
- (i) Give synthesis and uses of: Thiopental and Novalgin. 7
 - (ii) Give synthesis and uses of: Ethambutol and Dapsone. 7

OR

2. (i) Give synthesis and uses of: Atenolol and Tolbutamide. 7
- (ii) Give synthesis and uses of: Daraprim and Mefloquine. 7

3. Write the following :
- (i) Discuss the general safety, safety during handling of chemicals and fire safety. 7
 - (ii) Write a note on factors influencing on nitration reaction with suitable examples. 7

OR

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

4. Write the following :

- (i) Discuss different types of distillations in brief. 7
- (ii) What is TLC ? Explain TLC with mobile phase and stationary phase. 7

OR

4. (i) Write a note on extraction for solid from solids and liquids using suitable reagents. 7
- (ii) Write a note on SFC and Column Chromatography. 7

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

- (1) What is MCR ? Why it is important in organic synthesis ?
 - (2) What are psychoactive drugs ? How they are useful ?
 - (3) What are QSAR and 3D-QSAR ?
 - (4) Define lipophilicity.
 - (5) Define : Cardiovascular drugs.
 - (6) What is ADMET ?
 - (7) What is antimalarial agents ?
 - (8) What is Oleum ?
 - (9) Define : One pot reaction.
 - (10) Why reaction is faster in MW than in conventional heating ?
 - (11) By using which filter media, we can remove the bad odour from water ?
 - (12) What is the main principle of HPLC ?
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