

PE-496
(534) M.Sc. Chemistry (Fourth Semester)
Examination June 2022
Compulsory/Optional

MEDICINAL CHEMISTRY

Group-B

Paper-III

Time: Three Hours

Maximum Marks: 080

Minimum Passing Marks:

Note: Answer from both section as directed. The figures in the right-hand margin indicate marks.

SECTION-A

1. Answer the following questions:- [2 X 10 = 20]
- (a) Write one example of Acidic and basic drugs with structure.
 - (b) Define LD 50. What is the ratio LD 50 : ED 50 called.
 - (c) What do you understand by bioavailability of a drug?
 - (d) Name all categories of drug receptors.
 - (e) What are CNS depressants. Give two example.
 - (f) Write the names of semisynthetic penicillins which class of bacilli these drugs are effective against.
 - (g) Write the mode of action of Ciprofloxacin.
 - (h) Write the chemical name and draw structure of Melphalan.
 - (i) What is the name of drug given sublingually in treatment of acute original pain and draw the structure of the drug.
 - (j) Explain the term (i) First pass effect (ii) Mitotic inhibitor.

SECTION-B

[12 X 5 = 60]

2. Describe the general ways in which structure activity relation (SAR) is used to develop a drug.

Or,

Explain the procedure followed in drug design and history and development of QSAR.

3. What do you understand by term (a) Pharmacokinetics and (b) half life of a drug.

Or,

- (a) Write synthesis of Alprazolam and discuss its actions.
 - (b) Write an essay on Drug Disposition.
4. Write the role of alkylation agent and antimetabolites in treatment of cancer.

Or,

- (a) What are anti anxiety drugs? How these drugs reduce anxiety.
 - (b) Differentiate among hypnotics, sedatives and anticonvulsant by giving examples.
5. (a) Define and classify cardiovascular drugs.
(b) How drug affect the functioning of heart.

Or,

Write the synthesis of any three of the following:-

- (i) Penicillin-G (ii) Chloramphenicol (iii) Atenolol (iv) Isosorbide dinitrate (v) Diltiazem
6. Give a brief account of different types of psychoactive drugs. Write the importances of the stereochemical aspect of psychotropic drugs.

Or,

- (a) Write a note on serendipity and drug development.
- (b) Write the steps involved in synthesis of:-
 - (i) Chlorazepam
 - (ii) Glutethimide