

H-4/10/22

Roll No.

IV Semester Examination, 2022

M.Sc.

CHEMISTRY

Paper II

(Medicinal Chemistry)

Time : 3 Hours]

[Max. Marks : 80

Note : *All questions are compulsory. Question Paper comprises of 3 sections. Section **A** is objective type/multiple choice questions with no internal choice. Section **B** is short answer type with internal choice. Section **C** is long answer type with internal choice.*

SECTION A

1×8=8

(Objective Type/Multiple Choice Questions)

Choose correct answer :

1. The most common target organ to toxicity is the :

- (a) Heart
- (b) Lung
- (c) CNS (Brain & Spinal Cord)
- (d) Skin

P.T.O.

[2]

2. The LD₅₀ is best described as which of the following :

- (a) A dose at which 50% of all test animal die
- (b) The dose at which 50% of the animals demonstrate and response to the chemical
- (c) The dose at which all the test animals die
- (d) The dose at which at least one of the test animal die

3. What does pharmacokinetics includes :

- (a) Drug biotransformation in the organism
- (b) Influence of drugs on metabolic processes
- (c) Influence of drugs on genes
- (d) Complication of drug therapy

4. Pharmacodynamics involves the study of following :

- (a) Mechanism of drug action
- (b) Biotransformation of drugs in the organism
- (c) Distribution of drug in the organism
- (d) Excretion of drug from the organism

5. Antibiotics are used to treat infections by :

- (a) Virus
- (b) Bacteria

H-4/10/22

- (c) All the micro-organism
(d) None of the above
6. What is meant by antibiotic resistance ?
(a) It means our body has become resistance to the antibiotic
(b) It means that the bacteria have developed antibiotic resistance
(c) Both (a) and (b)
(d) None of the above
7. The blood vessels with venous blood proceeding from the right ventricle to the lungs are :
(a) Pulmonary veins (b) Pulmonary arteries
(c) Aorta (d) Vena cava
8. Cancer is related to :
(a) Non-malignant tumor
(b) Uncontrolled growth of tissues
(c) Controlled division of tissues
(d) None of the above

SECTION B**6×4=24****(Short Answer Type Questions)****Note :** Attempt *one* question from each unit.**H-4/10/22**

P.T.O.

Unit-I

1. How the Free-Wilson and Hansch analysis is related with each other ?

Or

Give an applications of prodrug.

Unit-II

2. Write notes on enzyme inhibitors.

Or

Explain the oxidative phase of biotransformation of drugs.

Unit-III

3. Explain the general mode of action of anti-infective drugs.

Or

Give the synthetic method, properties and uses of :

(a) Fluconazole

(b) Cephalosporin

Unit-IV

4. Write on 'origin' conduction & regulation of heart beat.

H-4/10/22

[5]

Or

Give synthesis, properties & uses of the following drugs :

- (a) Verapamil
- (b) Cyclophosphamide

SECTION C

12×4=48

(Long Answer Type Questions)

Note : Attempt *one* question from each unit.

Unit-I

- 1.** Explain with examples the structure activity relationship of drug based on the functional group present in it.

Or

Describe the different steps involved in the drug discovery process.

Unit-II

- 2.** Explain the mechanism of drug absorption under following heads :
 - (a) Passive diffusion
 - (b) Facilitated diffusion
 - (c) Active transport

H-4/10/22

P.T.O.

[6]

Or

Significance of drug metabolism in medicinal chemistry.

Unit-III

- 3.** Give methods of synthesis, properties & uses of :
 - (a) Nalidixic acid (b) Ciprofloxacin
 - (c) 4-amino furan (d) Ethambutol

Or

Synthesis, properties & uses of the following drugs :

- (a) Tetracycline
- (b) Amoxycillin
- (c) Girsulfur

Unit-IV

- 4.** Explain in detail the medical importance of E.C.G.

Or

Give a detailed account on classification of antineoplastic agents.

★ ★ ★ ★ ★ c ★ ★ ★ ★ ★

H-4/10/22

6/50