

G-4/414/21

Roll No.

M.Sc. IV Semester Examination, 2021**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 Questions)**

- Which of the following is not an endogenous lead compound :
(a) Neurotransmitter (b) Alkaloid
(c) Hormone (d) Modulator
- Fraction of drug that reaches into the blood is :
(a) $T_{1/2}$ (b) Absorption
(c) Bioavailability (d) Elimination

P.T.O.

- Major mechanism of transport of drugs across biological membranes is by :
(a) Passive diffusion (b) Facilitated diffusion
(c) Active transport (d) Endocytosis
- Following are the phase-I reactions except :
(a) Oxidative reactions
(b) Hydrolytic reactions
(c) Reductive reactions
(d) Sulphide reactions
- The antimicrobial activity of penicillin is due to :
(a) Thiazolidine ring
(b) Betalactum ring
(c) 6-amino penicillanic acid
(d) None of these
- Which of the following antibiotics functions as cell wall bioinhibitors :
(a) Penicilline (b) Tetracycline
(c) Trimethoprim (d) Ciprofloxacin
- What is myocardial infraction ?
(a) Heart failure (b) Heart attack
(c) Cardiac arrest (d) All of the above

G-4/414/21

8. Possible methods of cancer treatment are :
- By therapies such as chemotherapy, Immunotherapy
 - By surgery and radiation
 - By anticancer drug
 - All of these

SECTION B**6×4=24****(Short Answer Type Questions)**

Note : Attempt one question from each unit.

Unit I

1. Difference between prodrug and softdrug with their importance in drug chemistry.

Or

What is lipophilicity and partition coefficient for a drug ?

Unit II

2. Define extravascular routes for absorption of drugs by giving their names of absorption mechanism. (Name only)

Or

Phase II reactions are called as true detoxication reactions. Explain.

G-4/414/21

P.T.O.

Unit III

3. Write brief notes on : 3 × 2
- Cell wall biosynthesis,
 - β-lactum ring.

Or

Give the synthesis, properties and uses of :

- Dapson,
- Primaquin.

Unit IV

4. What are the external causes and type of cancer ? Explain their symptoms also.

Or

Write a brief account of anatomy of heart.

SECTION C**12×4=48****(Long Answer Type Questions)**

Note : Attempt one question from each unit.

Unit I

1. How the activity of drug is related to its structure ? Give your explanation with examples.

Or

- Procedure followed in drug design. 6
- Concept of drug receptors. 6

G-4/414/21

Unit II

2. How the drug is absorbed in the body ? Give in detail the mechanism of absorption.

Or

What are the factors affecting the biotransformation of drugs ?

Unit III

3. Give synthesis, properties and uses of the drops :

- | | |
|---------------------------|---|
| (a) Amino salicylic acid, | 3 |
| (b) Isoniazid, | 3 |
| (c) Chloramphenicol, | 3 |
| (d) Tetracycline. | 3 |

Or

Give synthetic procedure and uses of the following drugs : 3 × 4

- | | |
|-------------------|--------------------|
| (a) Penicillin-V, | (b) Cephalosporin, |
| (c) Pyrimidin, | (d) Ethambutal. |

Unit IV

4. Classify cardiovascular diseases and give a detailed account of it.

Or

Write an account of cancer chemotherapy, combination chemotherapy and adjuvant chemotherapy.

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