

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(END SEMESTER EXAMINATION)

CLASS: B. PHARMACY  
BRANCH: PHARMACY

SEMESTER: V  
SESSION: MO2022

SUBJECT: BP501T MEDICINAL CHEMISTRY II

TIME: 3.00 Hours

FULL MARK: 75

INSTRUCTIONS:

1. The missing data, if any, may be assumed suitably.
2. Before attempting the question paper, be sure that you have got the correct question paper.
3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
4. This question paper consists of (03) three parts. Read the part wise instructions before attempting the questions.

PART-I

Objective types questions (Instruction: Answer all questions)

Q1.

(10 x 2 = 20 Marks)

A. Write the name and structure for the product of Histidine decarboxylase enzyme.
B. A second generation antihistamine which is a metabolite of hydroxazine. Write its structure and IUPAC nomenclature.
C. Write the structure and name of starting material(s) required for the synthesis of (i) Diphenhydramine and (ii) Promethazine
D. Write the structure and nomenclature for (i) Nifedipine and (ii) Diltiazem
E. Write the mode of action for (i) Chorthiazide and (ii) Ethacrynic acid
F. List the therapeutic uses of Minoxidil.
G. From the list of drugs identify the one being repurposed for Covid-19 and provide its structure (i) Losartan (ii) Lisinopril (iii) Reserpine (iv) Verapamil
H. From the list of drugs identify the one being used to treat MDR-TB and provide its structure (i) Losartan (ii) Lisinopril (iii) Reserpine (iv) Verapamil
I. Warfarin is an acronym, provide its expansion.
J. Name the antidote for heparin overdose.

**PART-II**  
**Short Answers**  
**(Instruction: Answer seven out of nine questions)**

(7 x 5 = 35 Marks)

Q2.	Discuss the synthesis of Triprolidine.
Q3.	Write a brief SAR on H <sub>2</sub> -receptor antagonists.
Q4.	Elaborate the synthesis of cimetidine.
Q5.	Discuss the biochemical pathway leading to vasodilation. Identify the site of action for various classes of drugs.
Q6.	Write a brief SAR on thiazide class of diuretics.
Q7.	How will you synthesize Furosemide?
Q8.	Briefly explain the mode of action of Lovastatin.
Q9.	Write a note on preparations of Heparin.
Q10.	Briefly discuss the SAR of coumarin class of anticoagulants.

**PART-III**  
**Long Answers**  
**(Instruction: Answer two out of three questions)**

(2 x 10 = 20 marks)

Q11.	Discuss in detail the mode of action of PPI with structure of omeprazole, its biotransformation and covalent interaction with PPI. List the therapeutic uses of PPI.
Q12.	Discuss the SAR of ACE inhibitors and providing structure of drugs supporting the statements.
Q13.	With suitable example classify antiarrhythmic agents. Discuss the mode of action and synthesis of Disopyramide.

:21/11/2022 M: