Graphic Era HILL UNIVERSITY
Established by an Act of the State Legislature of Uttarakhand (Adhiniyam Sankhya 12 of 2011)
University under section 2(f) of UGC Act, 1956

Sessional I (Even) Semester Examination March 2025

Name of the Course and semester: B.Pharm 4th Semester **Roll no.....**

Name of the Paper: Medicinal Chemistry- I

Paper Code: BP- 402 T

Time: 1.5 hours **MM: 30**

Note: This question paper contains three sections.
All sections are compulsory.

Section- A

Multiple choice questions (attempt all questions) **(10 x 1=10 Marks)**

1. The process of bioisosterism in drug design is mainly used to: a) Enhance the solubility of a drug in water b) Modify the pharmacokinetic properties of a drug c) Replace a functional group with another to optimize the drug's pharmacological activity d) Increase the degree of ionization of a drug molecule	CO1
2. Which of the following reactions is typically associated with Phase I drug metabolism? a) Conjugation with glucuronic acid b) Hydrolysis c) Reduction d) Methylation	
3. What is the main characteristic of Phase II drug metabolism? a) Involves the addition of functional groups to the drug molecule b) Includes reactions like oxidation and reduction c) Conjugates drug molecules d) Primarily performed by cytochrome P450 enzymes	
4. Which of the following factors would most likely increase the solubility of a drug in water? a) An increase in the molecular weight of the drug b) A decrease in the ionization of the drug c) A higher degree of ionization at the physiological pH d) A higher partition coefficient	
5. What is the main effect of increasing a drug's partition coefficient (log P) value? a) Increased solubility in water b) Increased ability to cross cell membranes c) Increased ionization at physiological pH d) Decreased interaction with receptors	

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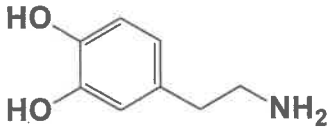
6. Which among are the precursor for the biosynthesis of catecholamine a) Phenylalanine and L-tyrosine b) Dopamine and L-tyrosine c) Phenyl epinephrine and D-tyrosine d) Epinephrine and D- tyrosine	CO2
7. Identify the structure  a) Adrenaline b) Nor-Adrenaline c) Catechol d) Dopamine	
8. Which of the following drugs is used for the treatment of asthma and acts as a selective beta-2 adrenergic agonist? a) Dobutamine b) Salbutamol c) Epinephrine d) Naphazoline	
9. Which drug is direct acting sympathomimetic agent a) Epinephrine b) Pseudoephedrine c) Hydroxyamphetamine d) Propylhexedrine	
10. Enzyme responsible for the termination of action catecholamine a) MAO b) COMT c) Isomerase d) Both a) and b)	

Section- B

Short Answer type questions (attempt any two questions) **(2 x 5=10 Marks)**

1. Write a note on drug metabolism?	CO1
2. Explain the SAR of beta-blocker?	CO2
3. Give the synthesis and therapeutic uses of Propranolol?	CO2

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Section- C

Long Answer type questions (attempt any one question) **(1 x 10=10 Marks)**

1. Discuss the history of Medicinal and development of Drug in detail?	CO1
2. Detail the biosynthesis of catecholamine?	CO2