

UKA TARSADIA UNIVERSITY

B.Pharm. (5th Semester)

Subject :030020502-Medicinal Chemistry I

Time : 10:00 am to 1:00 pm

Duration : 3 Hours

Date : 30/11/2013

Max. Marks : 70.

Instructions:

1. Attempt all questions.
2. Write each section in a separate answer book.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks allocated to that question.
5. Draw diagrams/figures whenever necessary.

SECTION - 1

Q-1 (A) Do as directed.

[07]

- I) Define Bioisosterism.
- II) Enlist different types of receptors.
- III) What are components of biomembrane?
- IV) Define hard drug with example.
- V) Write structure and use of bromhexine.
- VI) Give example of any drug in which geometrical isomerism affects biological activity.
- VII) Write name of any drug which does not cross blood brain barrier.

Q-1 (B) Answer the following in brief. (Any 4)

[08]

- I) Distinguish between Log P and Log D.
- II) Explain Ferguson principle.
- III) Define expectorants with examples.
- IV) Define soft drug and give its applications.
- V) Enlist factors affecting drug absorption.
- VI) Write synthesis of salbutamol.

Q-2 Answer the following.

[10]

- A) Explain different phases of metabolism with suitable example

OR

- A) Describe different forces involved in drug receptor interactions and factors affecting these interactions.
B) Explain different mediators of biological response with special emphasis of intracellular cyclic nucleotides

OR

- B) Write different type of proteins involved in drug receptor interaction and factors affecting it.

Q-3 Answer the following in detail. (Any 2)

[10]

- A) Define and Classify Mucolytics with suitable example from each class.
- B) Describe different physicochemical properties affecting action with suitable justification.
- C) Classify Antitussive and outline synthesis of Dextromethorphan.

SECTION - 2

Q-4 (A) Do as directed.

[07]

- I) Define Neurotransmitter.
- II) How many carbons does an eicosanoid contain?
- III) Which enzyme is responsible for metabolism of Acetylcholine?

- IV) What are prokinetics?
- V) Write any two functions of histamine.
- VI) Draw structure and give use of Diphenhydramine.
- VII) Give example of eicosanoid approved for human clinical use.

Q-4 (B) Answer the following in brief. (Any 4)

[08]

- I) Write synthesis of Neostigmine.
- II) Write in brief about drug used in Parkinson's disease.
- III) Enlist serotonergic agonist and antagonist used therapeutically.
- IV) Write a note on Cox-II inhibitors.
- V) Write SAR of H₂-receptor antagonist
- VI) Classify Adrenergic agonist.

Q-5 Answer the following.

[10]

- A) Classify with suitable example cholinergic agonist and write synthesis of Carbachol.

OR

- A) Write SAR of H₁-antihistamines.
- B) Classify laxatives and give mechanism of action of each class

OR

- B) Classify adrenergic antagonist; give one example from each class and write synthesis of propranolol.

Q-6 Answer the following in detail. (Any 2)

[10]

- A) Classify antacid; give mechanism of action and importance of combination of salts to be used as antacid.
- B) Write SAR of anticholinergics.
- C) Classify H₁ receptor antagonist with suitable examples.