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

CLASS: B. PHARMACY **SEMESTER: IV**
BRANCH: PHARMACY **SESSION: SP2022**

SUBJECT: BP402T MEDICINAL CHEMISTRY I

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. Fill in the blanks:
   (i) ……. was the first synthetic organic drug molecule.
   (ii) Thiophene and ……. are bioisosteres falling under ring analogues.
   (iii) Biosynthesis of acetylcholine starts with …….
   (iv) Synthesis of barbituric acid requires ……. and urea.

B. State Ture or False:
   (i) Ephedrine is a mixed-type sympthomimetic drug.
   (ii) Beta1 blockers with S-configuration are potent than those with R-configuration
   (iii) Pyridostigmine is a cholinesterase reactivator
   (iv) GABA is metabolized by COMT

C. Match the following

(i) Clonidine	A. General anaesthetic
(ii) Atropine	B. Cholinesterase reactivator
(iii) Methohexital	C. Centrally acting cholinolytic agent
(iv) Pralidoxime.	D. Centrally acting sympatholytic agent

D. What is Ing's Five atom rule?

E. Write the structure and IUPAC nomenclature of Albuterol

F. What are metabotropic receptors? Give an example.

G. List the therapeutic uses of alpha-adrenergic antagonists.

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

(7 x 5 = 35 Marks)

Q2. Briefly discuss Erlenmeyer bioisostere with suitable example
Q3. Explain in detail Easson-Steadman three point attachment theory
Q4. Enumerate the synthesis of terbutyline.
Q5. Enumerate the synthesis of Proparanolol.
Q6. Explain the modifications that lead to the metabolic stability of cholinomimetic drugs.
Q7. How will you synthesize Pyridostigmine?
Q8. Write the general structure for the discussion of SAR of parasympatholytic drugs. Briefly discuss the modifications favouring their central activity.
Q9. Discuss the synthesis of Dicyclomine.
Q10. Write the structure and IUPAC nomenclature of Secobarbital. List the reagents required for the synthesis

of the same.

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

(2 x 10 = 20 marks)

Q11. Write the biosynthesis and metabolism of Norepinephrine.
Q12. In detail discuss the structure activity relationship account on anticholinergic agents.
Q13. Write the structure, IUPAC nomenclature, metabolism and synthesis of Diazepam.

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