

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

CLASS: B.PHARMACY
BRANCH: PHARMACY

SEMESTER: IV
SESSION: SP2024

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.

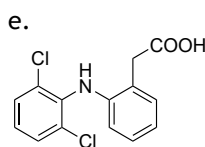
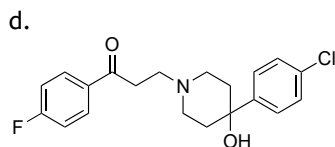
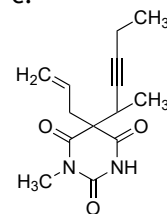
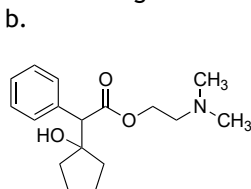
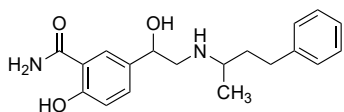
PART-I

Objective types questions (Instruction: Answer all questions)

Q1.

(10 x 2 = 20 Marks)

- A. Write the therapeutic uses for the following drugs
- a. Oxymetazoline
 - b. Prazosin
 - c. Pralidoxime
 - d. Clonazepam
 - e. Sulindac
- B. Write the mode of action for the following drugs
- a. Clonidine
 - b. Physostigmine
 - c. Chlordiazepoxide
 - d. Trimethadione
 - e. Mefenamic acid
- C. Draw the structure for the IUPAC nomenclature given below (with numbering)
- a. 2-[4-[2-hydroxy-3-(propan-2-ylamino)propoxy]phenyl]acetamide
 - b. (1-methyl-1-azoniabicyclo[2.2.2]octan-3-yl) 2-hydroxy-2,2-diphenylacetate;bromide
 - c. 8-chloro-1-methyl-6-phenyl-4H-[1,2,4]triazolo[4,3-a][1,4]benzodiazepine
 - d. 8-chloro-6-(4-methylpiperazin-1-yl)benzo[b][1,4]benzoxazepine
 - e. 6-(dimethylamino)-4,4-diphenylheptan-3-one
- D. Give the IUPAC nomenclature for the structures given below (show the numbering for the given structures)



PART-II
Short Answers
(Instruction: Answer all the questions)

(7 x 5 = 35 Marks)

- Q2. With suitable example explain the monovalent bioisosteric replacement.
- Q3. Write a note on biological function of H-bond.
- Q4. Discuss the factors determining the selectivity of phenylethylamine class of sympathomimetics.
- Q5. Enumerate the synthesis of drug which is used as bronchodilator in the treatment of asthma.
- Q6. Enumerate the synthesis of drug which is used as antispasmodic to relieve colic pain.
- Q7. Enumerate the synthesis of
- (i) Diazepam (OR)
 - (ii) Ethosuximide
- Q8. Enumerate the synthesis of
- (i) Ketamine (OR)
 - (ii) Fentanyl

PART-III
Long Answers
(Instruction: Answer all the questions)

(2 x 10 = 20 marks)

- Q9. In detail discuss the SAR of
- (i) Parasympatholytic drugs (OR)
 - (ii) Phenothiazine class of major tranquillizers.
- Q10. With suitable example explain how optical and geometrical isomers affects the drug action.

:::24/04/2024:::M