

2021
M.Sc. (Applied Chemistry/Pharmaceutical)
Third Semester
Paper – 301: Medicinal Chemistry

Time allowed: 3 Hours

Max. Marks: 60

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

x-x-x

I. Attempt the following:-

- a) Give an example of a tricyclic antidepressant drug.
- b) Write an example of an antibiotic derived from sugars.
- c) What is a Prodrug? Give an example with its structure.
- d) Name a long acting barbiturate & give its clinical use.
- e) Name the neurotransmitters of adrenergic system. Give their structures.
- f) What is the structure of Dapsone & to which class of drugs does it belong?
- g) Give an example of a nitrovasodilator drug.
- h) What is the mode of action of LA's. Give one example each?
- i) Where & how is codeine metabolized and what are the metabolites?
- j) Write the name and structure of a NSAID used in ointments in rheumatic conditions.
- k) Write the structure of folic acid. Give its importance.
- l) Give the structure and use of dextromethorphan. (12x1)

UNIT – I

- II. a) Discuss drug metabolism reactions giving examples.
- b) What are sulphonamides? Classify with examples of each class. (8,4)
- III. a) What are Beta-adrenoreceptor blockers? Discuss structure, synthesis and clinical applications of the standard drug of this class.
- b) Discuss anti-leprotic drugs. (8,4)

UNIT – II

- IV. a) Classify general anesthetics giving examples. Give the MOA of anesthetics,
- b) Define antitussives and discuss types of antitussives with examples. (2x6)

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(2)

- V. a) Discuss the SAR of Morphine and its derivatives.
b) What are NSAID's? Discuss the synthesis and clinical applications of Indomethacin & Phenylbutazone (2x6)

UNIT – III

- VI. a) What are antipsychotic agents? Discuss tricyclic antipsychotic drugs?
b) Classify sedatives and hypnotics with examples. (2x6)
- VII. a) Give the synthesis and uses of (i) Pentobarbitone sodium (ii) Theophylline
b) Discuss anticonvulsant drugs and give their clinical uses, (2x6)

UNIT – IV

- VIII. a) What is the Prodrug approach to drug designing?
b) Give the structure and clinical use of (i) Salbutamol (ii) Dopamine (iii) Methacholine chloride. (2x6)
- IX. a) What are Lead compounds? How are they modified to design new drugs?
b) What is combinatorial chemistry approach in drug-designing? (2x6)

x-x-x