* S B - 3 5 0 4 / 5 0 0 *

SB-3504

M. Sc. (Part - II) Examination

March / April – 2011

Organic Chemistry : Paper - III

(Medicinal Chemistry)

Time : **3** Hours] [Total Marks :70

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **M. Sc. (Part - 2)**

Name of the Subject :

☛ **Organic Chemistry-3**

☛ Subject Code No. : **3 5 0 4** ☛ Section No. (1, 2,.....) : **1&2**

Seat No. :

Student's Signature

(2) Answer to the two sections should be written in separate answer books.

(3) Figures to the right indicate full marks of the questions :

SECTION-I

1 (a) What is lead and lead modification ? Enlists various theories of drug activity and discuss the importance occupancy theory. **12**

(b) What is soft drug concept ? Which factors should be considered in the design of drug ?

(c) What is pharmacodynamics ? Discuss the significance of drug metabolism in medicinal chemistry.

OR

1 (a) What is therapeutic index ? Give the relationship between ED_{50} and LD_{50}. **12**

(b) How does the drug absorption play a role in pharmacokinetics ?

(c) What is receptor ? Name the various types of receptors. Explain rate theory for drug activity.

2 (a) What are broad spectrum antibiotics ? Give the structures and pharmacological applications of streptomycin and lincomycin. **12**

(b) What are β-lactam antibiotics ? Discuss the structural variations of any one β-lactam antibiotic.

(c) Define the terms in vivo and in vitro. Give the structures and clinical applications of non classified antibiotics.

OR

2 (a) What are macrolide antibiotics ? Give the structure activity relationship of penicillins. **12**

(b) What are broad-spectrum antibiotics ? Discuss structural variations of Tetracyclines.

(c) Give the clinical applications of aminoglycosides and give the synthesis of penicillin-V.

3 (a) What are psychoactive drugs ? Give an account on structural variation among sedative and hypnotics. **11**

(b) Classify anaesthetics and discuss their importance. Give an account of local anaesthetics.

(c) Give the synthesis and uses of;

(i) Ibuprofen

(ii) Novalgin.

OR

3 (a) What are general anaesthetics ? Discuss the important non volatile general anaesthetics. **11**

(b) Give the structural variations among pyrazolone and p-amino phenol derivatives of analgesic drugs.

(c) Give the synthesis and uses of;

(i) Thiopental

(ii) Diazepam.

SECTION - II

4 (a) What is allergy ? Discuss histamine inactivation in body. **12**

(b) Give the chemotherapy of antitubercular drugs.

(c) Give the synthesis and uses of :

(1) Sulfathiazine

(2) Sulfasuxidine.

OR

4 (a) Explain antihistamine drug action on the basis of agonists and antagonist action. **12**

(b) Discuss in brief mode of action of sulfonamides.

(c) Give the synthesis and uses of;

(i) Benadryl

(ii) Isoniazid.

5 (a) Write brief account on antineoplastic agents with chemical structures. **12**

(b) Discuss the structural variation among 4- and 8- amino derivatives of quinoline antimalarials.

(c) Give the synthesis & uses of :

(1) Primaquine

(2) Cyclophosphamide.

OR

5 (a) What is cancer chemotherapy ? Discuss alkylating agents and antimetabolites used as antineoplastic agents. **12**

(b) Discuss in brief mode of action of antimalarials.

(c) Give the synthesis and uses of;

(1) Mechlorethmine

(2) Chloroquine.

6 (a) Give the structural variation of diuretic drugs with classification. **11**

(b) Define the term antianginal drugs; give the different names of antianginal drugs with their structures and applications.

(c) Enlists the drugs which are affecting on sugar metabolism and give the structures.

OR

6 (a) What are anti arrhythmic agents ? Classify them on the basis of their different pharmacological action and discuss structural variaton. **11**

(b) What are hypoglycaemic agents ? Discuss structural variation among bigunidine derivaties.

(c) Give the synthesis of;

(1) Acetazolamide

(2) Phenformin.
