



RF-3557-58

M. Sc. (Part - II) Examination

April / May - 2010

Organic Chemistry : Paper - III

(Medicinal Chemistry)

Time : 3 Hours]

[Total Marks : 70

RF-3557

Instructions :

(1)

नीचे दृशविले निशाचीवाणी विगतो उत्तरवडी पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="checkbox"/> M. Sc. (Part - 2)	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="checkbox"/> Organic Chemistry : Paper - 3	<input type="text"/>
Subject Code No. : <input type="text"/> 3 <input type="text"/> 5 <input type="text"/> 5 <input type="text"/> 7	Section No. (1, 2,.....) : <input type="text"/> 1
Student's Signature	

- (2) Attempt to the **two** sections should be written in **separate** answer books.
- (3) Figures to the **right** indicate full marks of the questions.

- 1 (a) Give a brief account of drug design. Enlist various methods of drug design and discuss their importance in brief. 12
- (b) Discuss the significance of drug metabolism in medicinal chemistry. Give brief account of phase-II reactions in drug metabolism process.
- (c) How does drug absorption play a role in pharmacokinetics?

OR

- 1 (a) Give the elementary treatment of enzyme stimulation and enzyme inhibition in drug metabolism. 12
- (b) What is prodrug concept? Which factors should be considered in the design of prodrug?
- (c) Explain the usefulness of pharmacokinetics in drug development process.
- 2 (a) Explain: Broad spectrum and narrow spectrum antibiotics. Give the structures and pharmacological applications of streptomycin and gentamycin. 12

- (b) What is meant by non lactum antibiotics? Give the illustrations of antibiotics in this class.
- (c) Give synthesis of
 - (i) penicillin-V
 - (ii) chloroamphenicol.

OR

- 2 (a) How penicillins are classified according to their spectrum at 12 activity? Discuss SAR among penicillins.
 - (b) Give the structural formulae and clinical applications of Novobiocin, Norfloxacin, Nalidixic acid and Ciprofloxacin.
 - (c) Give synthesis of
 - (i) Ampicillin
 - (ii) Cephalosporin
-
- 3 (a) Define the term sedative and hypnotics. Classify barbiturates and 11 discuss structural variation among them.
 - (b) What are local anaesthetics? Discuss important local anaesthetics with reference to ester and amides derivatives.
 - (c) Give synthesis and uses of
 - (i) Chlorazepam
 - (ii) Lidocaine

OR

- 3 (a) Classify local anaesthetics and discuss the importance of their 11 functional groups. Give a brief account on their mode of action.
- (b) What are analgesics? Discuss structural variation among analgesics.
- (c) Give synthesis and uses of
 - (i) Alprazolam
 - (ii) Ibuprofen

Instructions :

(1)

नीचे दृशाविल निशानीवाणी विगतो उत्तरवडी पर अवश्य लभवी. Fillup strictly the details of signs on your answer book. Name of the Examination : M. Sc. (Part - 2) Name of the Subject : Organic Chemistry : Paper - 3 Subject Code No. : 3 5 5 8 Section No. (1, 2,.....) : 2	Seat No. : <table border="1"> <tr> <td> </td><td> </td><td> </td><td> </td><td> </td><td> </td> </tr> </table> Student's Signature						

- (2) Attempt to the **two** sections should be written in **separate** answer books.
- (3) Figures to the **right** indicate full marks of the questions.

- 4 (a) What are anti-allergenic drugs? Give classification and structural variations among them. 12
- (b) Give chemotherapy of antituberculosis agents.
- (c) Give synthesis and uses of
- Succinyl sulfathiazole
 - Antazoline

OR

- 4 (a) Discuss the SAR among thiazide antihistaminic drugs. 12
- (b) Give classification of sulphonamide according to the therapeutic uses. Give the names and structural formulae of clinically important sulphonamides.
- (c) Give synthesis and uses of
- Ethambutol
 - DDS
- 5 (a) Explain chemotherapy of malaria. Give a brief account of 9-aminoacridine and diamino pyrimidine compounds as antimalarials. 12
- (b) Discuss briefly the antineoplastic agents laying emphasis on the synthesis and clinical effectiveness of various alkylating agents.
- (c) Give synthesis and uses of
- 6-mercaptopurine
 - Mefloquine

OR

- 5 (a) Name the pathogens causing human malaria. Give a brief account of 4-amino and 8-amino quinoline derivatives as antimalarials. 12
- (b) Define the term antimetabolites. Give a brief account of antimetabolites usually employed in the treatment of cancer laying emphasis in the therapeutic uses of these drugs.
- (c) Give synthesis and uses of
- (i) Melphalan
 - (ii) Pyrimethamine
- 6 (a) What are antiarrhythmic agents? Classify them on the basis of their pharmacological action. Discuss their structural variation. 11
- (b) Give an account of antianginal drugs.
- (c) Give synthesis and uses of
- (i) Glibenclamide
 - (ii) Methyldopa

OR

- 6 (a) What are diuretics? Discuss the classification and structural variation among diuretics. Give a brief account of high ceiling diuretics. 11
- (b) What are hypoglycaemic agents? Discuss the symptoms associated with diabetic patient. Give a brief account on the role of insulin in controlling sugar.
- (c) Give synthesis and uses of
- (i) Tolbutamide
 - (ii) Hydroflumethiazide