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NY—319—2023

FACULTY OF SCIENCE AND TECHNOLOGY

M.Sc. (Second Year) (Fourth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(New/CBCS Pattern)

ORGANIC CHEMISTRY

Paper XXIII, OCH-524

(Medicinal Chemistry)

(Wednesday, 13-12-2023)

Time : 2.00 p.m. to 5.00 p.m.

Time—Three Hours

Maximum Marks—75

N.B. :- (i) Attempt all questions.

(ii) Figures to the right indicate full marks.

1. Solve any *three* of the following : 15
 - (a) Discuss about storage, secretion and function of Insulin.
 - (b) Give an account of agents used to test kidney function and liver functions.
 - (c) Offer the synthesis of santoquine.
 - (d) Give the synthesis of mebendazole.
 - (e) Define Gastric antacid and give treatment of gastric hyperacidity.

2. Solve any *three* of the following : 15
 - (a) How is cancer treated by photoradiation and radiation therapy ?
 - (b) Discuss life cycle of AIDS virus.
 - (c) Write a note on 4-amino quinoline derivatives.
 - (d) Explain structure activity of cardiac glycosides.
 - (e) Offer the synthesis of phenobarbital sodium.

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3. (a) Discuss the SAR of Pyrimidine and Biguanide derivatives. Give the synthesis of pyrimethamine. 8

Or

Discuss SAR of Fluconazole. Offer the synthesis of Fluconazole and Allopurinol.

- (b) Give the structure-activity relationship of procaine. Offer the synthesis of Lidocaine. 7

Or

Give the SAR of Butyrophenone derivatives ? Offer the synthesis of Haloperidol.

4. (a) Explain the SAR of dibenzepine derivative. Offer the synthesis of Imipramine. 8

Or

Define Radiopagous Agents. Explain water soluble and water insoluble contrast media. Offer the synthesis of Ranitidine.

- (b) Discuss the SAR of piperidine and meperidin derivatives. Give the synthesis of Meperidin. 7

Or

Discuss the SAR of Aspirin. Give the synthesis of Ibuprofen and Mefenamic acid.

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5. (a) Choose the *correct* alternatives in the following : 5

(i) Mefanamic Acid is derivative.

- (a) Benzoic Acid
- (b) Salicylic Acid
- (c) Anthranilic Acid
- (d) Naphthionic Acid.

(ii) From the following pyrimidine derivative is

- (a) 5-flurouracil
- (b) Ibuprofen
- (c) Aspirin
- (d) Slovaine

(iii) 2 (diethyl amino) -2, 6'-acetoxyliidide is chemical name of

- (a) Vinethene
- (b) Lidocaine
- (c) Fluothane
- (d) Cocaine

(iv) 6-mercaptourine acts as antagonist to

- (a) Hypoxanthine
- (b) Uracil
- (c) Folic acid
- (d) None of the above

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(v) The number of asymmetric carbon atoms in morphine is

(a) 5

(b) 2

(c) 3

(d) 4

(b) Write short notes on any *two* of the following : 10

(a) Application for patents

(b) COVID-19 Drug development

(c) Life cycle of plasmodia.

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