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AI—306—2017

FACULTY OF SCIENCE

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

MARCH/APRIL, 2017

(CBCS Pattern)

ORGANIC CHEMISTRY

Paper XVI CH-534/2A

(Medicinal Chemistry-I)

(Thursday, 27-4-2017)

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) Explain the role of reduction reaction in drug metabolism.
 - (b) Explain the terms : Metabolites and chemotherapy.
 - (c) What are soft drugs ? Give their properties.
 - (d) Write a note on inhibition of bacterial protein synthesis.
 - (e) Give synthesis and SAR of Acedapsone.
2. Attempt any *three* of the following : 15
 - (a) Give SAR of chloramphenicol.
 - (b) Write a note on lipophilicity in QSAR study.
 - (c) Discuss induced fit theory for drug activity.
 - (d) Discuss structure activity of coumarin derivatives.
 - (e) Write a note on Immunological assay.

P.T.O.

3. (a) How are homologation and chain branching useful in structural modification to increase potency and therapeutic index of drugs ? 8

Or

Explain distribution and elimination of drugs with respect to pharmacokinetics.

- (b) Discuss synthesis and SAR of 4-amino salicylic acid. 7

Or

What are β -lactam antibiotics ? How will you synthesis :

- (i) Penicillin V
 (ii) Penicillin G and
 (iii) Amoxillin from 6 APA ?

4. (a) Explain the process of structure based drug design. 8

Or

Discuss the mechanism of drug action.

- (b) Explain mechanism of action of antibiotics. 7

Or

What are lead compounds ? Explain about lead discovery.

5. (A) Select the *correct* alternative from the following : 5

(i)compounds may be formed from esters and amides by hydrolysis of any drug.

- (a) Carboxylic acid (b) Alcohol
 (c) Amine (d) All of these

(ii) Determination of the structure of protein is carried out by.....

- (a) X-ray crystallography (b) NMR spectroscopy
 (c) Mass spectroscopy (d) Both (a) and (b)

- (iii) Rifampicin is.....antibiotic.
- (a) β -lactum (b) Glycoside
(c) Macrocyclic (d) Amino acid
- (iv)drug is the derivative of Thiosemicarbazone.
- (a) Isonazid (b) Thiacetazone
(c) Cephalosporin (d) Chloromycetin
- (v) Electron withdrawing groups.....the biological activity of a drug.
- (a) increases (b) decreases
(c) no change (d) none of these

(B) Write short notes on any *two* :

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- (i) Biological defence
(ii) Clinical pharmacology
(iii) Mechanism of blood clotting.