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BR—372—2016

FACULTY OF SCIENCE

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

OCTOBER/NOVEMBER, 2016

(Revised Course)

ORGANIC CHEMISTRY

Paper XVI (CH-534/2A)

(Medicinal Chemistry–I)

(Wednesday, 23-11-2016)

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

Time—Three Hours

Maximum Marks—50

N.B. :— (i) Attempt All questions.

(ii) Figures to the right indicate full marks.

1. Answer any *five* of the following : 10

(a) Explain hydrolysis reaction in metabolism.

(b) Write a note on biological defences.

(c) Explain the terms :

(i) Pharmacophore

(ii) Pharmaceuticals.

(d) Discuss the mechanism of blood clotting.

(e) Give SAR of sulfones.

(f) Discuss SAR of coumarin derivatives.

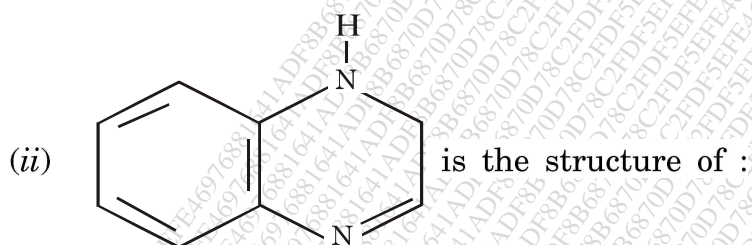
P.T.O.

- (g) Write a note on inhibition of cell wall synthesis.
- (h) How will you modify structure of drug to increase oral bioactivity using lipophilicity effect ?
2. Solve any *four* of the following : 10
- (a) How will you increase drug potency by bioisosterism ?
- (b) Explain absorption of drug with respect to pharmacokinetics.
- (c) How are drugs classified on the basis of therapeutic action ?
- (d) Write a note on chemical assay.
- (e) Offer synthesis of ethambutol.
- (f) Explain the action of anticoagulants.
3. Answer any *two* of the following : 10
- (a) Discuss occupancy and rate theories of drug activity.
- (b) Explain structure and activity of streptomycin and dihydrostreptomycin.
- (c) How are reduction and conjugation reactions involved in metabolism ?
4. Solve any *two* of the following : 10
- (a) Explain the mode of action of chloramphenicol.
- (b) Write a note on gene therapy and drug resistance.
- (c) Give the concept of prodrugs and soft drugs.

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

(i) in potency can be carried out by converting alkyl straight side chain to its cyclic analogue.

- (a) increase (b) decrease
(c) retain (d) no change



- (a) Benzimidazole (b) Benzopyrrole
(c) Imidazole (d) Benzopyran

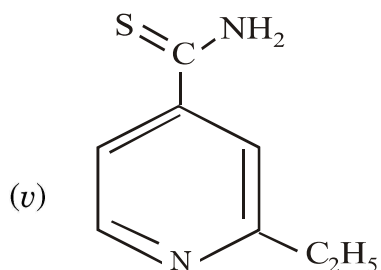
(iii) From the four stereoisomers of chloramphenicol, isomer is active as antibiotic.

- (a) L-threo (b) D-threo
(c) L-erythro (d) D-erythro

(iv) Thioacetazone is derivative.

- (a) Semi-carbazone
(b) Thiosemicarbazone
(c) Carbazide
(d) Thiazine

P.T.O.



is the drug used for the treatment of

- (a) Cardiac disease (b) Leprosy
(c) Cancer (d) Tuberculosis

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

5

- (i) β -lactum antibiotics
(ii) Drug discovery without lead
(iii) Study of sulfonamides with respect to pharmacodynamics.