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**BR—370—2016**

**FACULTY OF SCIENCE**

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

**OCTOBER/NOVEMBER, 2016**

**(CBCS Pattern)**

**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—75*

*N.B. :— (i) Attempt All questions.*

*(ii) Figures to the right indicate full marks.*

1. Solve any *three* of the following : 15
  - (a) What are coagulants ? Discuss structure-activity of coumarin derivatives.
  - (b) Give SAR and synthesis of cycloserine.
  - (c) What are soft drugs ? Give their properties.
  - (d) Explain oxidation and reduction in metabolism of a drug.
  - (e) What are antibiotics ? How are they classified ?
  
2. Attempt any *three* of the following : 15
  - (a) Explain the role of vitamin K and its analogues as coagulants.
  - (b) Give the concept of :
    - (i) Toxicology
    - (ii) Chemotherapy.

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- (c) Offer synthesis and SAR of 4-amino salicylic acid.
- (d) How are chain branching and homologation useful for increasing potency of drugs ?
- (e) Explain the use of Lipophilicity and electronic parameters in QSAR study.
3. (a) Discuss occupancy and rate theories of drug activity. 8

*Or*

Write notes on :

- (i) Sulfonamides
- (ii) Membrane active drugs.
- (b) How will you synthesize penicillin-V ? Give structure and activity of benzyl penicillin. 7

*Or*

Write notes on :

- (i) Structure and activity of Dihydrostreptomycin
- (ii) Multidrug therapy for treatment of leprosy.
4. (a) Explain absorption and distribution with respect to pharmacokinetics. 8

*Or*

Write a note on competitive inhibitors.

- (b) Explain SAR mode of action of chloramphenicol. 7

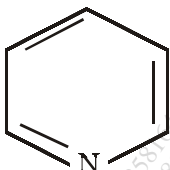
*Or*

Give the concept of combinatorial chemistry.

5. (A) Select the *correct* alternatives for the following : 5

(i) Streptose unit of streptomycin contains .....  
group.

- (a) aldehyde (b) amide  
(c) ester (d) cyano

(ii)  nucleus is present in .....

- (a) Ethionamide  
(b) Isoniazid  
(c) Both (a) and (b)  
(d) None of the above

(iii) 6-APA is .....

- (a) 6-Amino Penicillanic acid  
(b) 6-Amino Pentanoic acid  
(c) 6-Amino Palmitic acid  
(d) 6-Amino Penicillic acid

(iv) ..... disease was identified firstly by Hansch.

- (a) Leprosy (b) Cancer  
(c) Malaria (d) Tuberculosis

P.T.O.

(v) Viomycin is obtained from .....

- (a) Streptomyces griseus
- (b) Streptomyces orchidaceus
- (c) Streptomyces notatum
- (d) Streptomyces puniceus

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

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- (a) Mechanism of blood clotting
- (b) Chemical assay
- (c) Clinical pharmacology and pharmacotherapeutics.