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**ST—459—2022**

**FACULTY OF SCIENCE**

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

**MAY/JUNE, 2022**

**(New/CBCS Pattern)**

**ORGANIC CHEMISTRY**

**Paper XXIII**

**OCH-524-A**

**(Medicinal Chemistry)**

**(Wednesday, 6-7-2022)**

**Time : 2.00 p.m. to 5.45 p.m.**

*Time— 3.45 Hours*

*Maximum Marks—75*

*N.B. :— (i) Attempt all questions.*

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

1. Solve any *three* of the following : 15
  - (a) Discuss structure activity of 1, 4 dihydrophyridines and Dipyridamol.
  - (b) Offer synthesis and uses of Allopurinol.
  - (c) How are drugs used for testing gastric function.
  - (d) What are antiviral agents ? How are they classified ? Give SAR of amantadine.
  - (e) What are different ways to treat cancer.

P.T.O.

2. Attempt any *three* of the following : 15

- (a) Discuss SAR and mechanism of action of sulphonyl urea.
- (b) Discuss structure and life cycle of AIDS virus. Explain azidothymidine derivatives.
- (c) Give synthesis and SAR of procaine.
- (d) Offer synthesis of Mebendazole and Rantidine.
- (e) Discuss genome structure and life cycle of Covid-19.

3. (a) Discuss synthesis and SAR of meperidine and fluconazole. 8

Or

What are antiarrhythmic drugs ? Give synthesis and SAR of guanidine and propranolol.

(b) Offer synthesis of : 7

- (i) Halopyridol
- (ii) Imipramine and
- (iii) Diazepam.

Or

Discuss SAR of 4-aminoquinoline and pyrimidine derivatives.

4. (a) What are sedatives and hypnotics ? Discuss : 8

- (i) Structure and activity of substituted barbiturates
- (ii) SAR of butyrophenone derivatives.

Or

Discuss about myocardial cell, cardiovascular diseases and structure activity of cardiac glycosides.

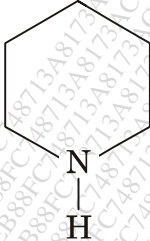
(b) What are antiinflammatory agents ? Discuss SAR of : 7

- (i) Mefanamic acid
- (ii) Naproxen
- (iii) Celecoxib.

Or

What is the role of alkylating agents in the treatment of cancer ? Give synthesis and structure activity of 6-mercaptopurine and 5-fluorouracil.

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

(i)  nucleus is present in .....

- (a) Mepivacaine
- (b) Procaine
- (c) Aspirin
- (d) Lidocaine

(ii) Which of the following is non-systemic antacid ?

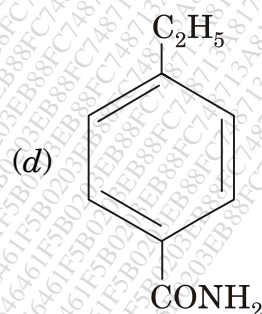
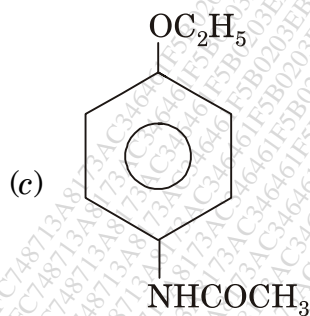
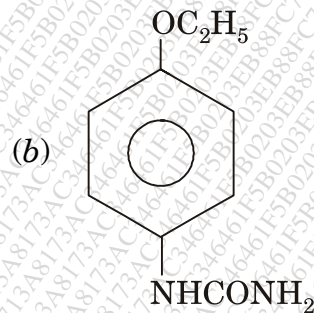
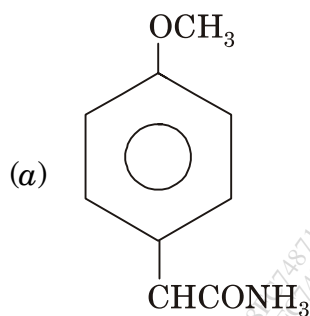
- (a) Magnesium hydroxide
- (b) Calcium carbonate
- (c) Aluminium hydroxide
- (d) All of these

(iii) The owner of a patent can grant liscence to .....

- (a) any one
- (b) individuals only
- (c) registered companies only
- (d) none of the above

P.T.O.

(iv) ..... is the structure of Dulcin.



(v) Which of the following is active form of Insuline ?

- (a) Monomer (b) Dimer  
(c) Trimer (d) Polymer

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

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- (a) SAR of dibenzepine derivatives  
(b) Chemotherapy of malaria  
(c) Patent application under PCT.