



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS / B.PHARM(OLD) / SEM-5 / PT-503 / 2011-12**

**2011**

**PHARMACEUTICAL CHEMISTRY  
(MEDICINAL CHEMISTRY)**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

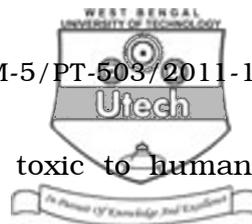
1. Choose the correct alternatives for any *ten* of the following : 10 × 1 = 10
- i) Which one of the following is a second generation H<sub>1</sub> antihistaminic ?
    - a) Dimenhydrinate
    - b) Cyclizine HCl
    - c) Cimetidine
    - d) None of these.
  - ii) To reduce CNS side effect the value of the log P should be
    - a) Less than 2
    - b) Greater than 2
    - c) Exactly 2
    - d) None of these.
  - iii) Which of the following is a quinolone derivative ?
    - a) Phenacetin
    - b) Cinchophen
    - c) Diclofenac Sodium
    - d) Ketoprofen.

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[ Turn over



- iv) Which one of the following is an anti-inflammatory drug ?
- a) Furosemide                      b) Cetrizine  
c) Allopurinol                      d) None of these.
- v) Which drug can be synthesized from diphenyl amine ?
- a) Cyproheptadine                  b) Antazoline HCl  
c) Indomethacin                      d) Promethazine HCl.
- vi) To exert maximum activity the terminal N atom of an H<sub>1</sub> blocker should be
- a) Primary amine                      b) Secondary amine  
c) Tertiary amine                      d) None of these.
- vii) Which of the following compounds is directly acting cholinomimetic ?
- a) Carbachol                          b) Bethanechol  
c) Methacholine                      d) All of these.
- viii) Trans-stibesterol is active due to
- a) the molecular weight is minimum  
b) the inter-atomic distance of two 'O' are to that of estrogen  
c) it is a steroid  
d) none of these.
- ix) Which of the following pair is isosters ?
- a) N & P                                  b) S & P  
c) P & O                                  d) S & O.



- x) Organ phosphorous insecticides are toxic to humans due to
- a) they inhibit AchE enzyme irreversibly
  - b) they inhibit ACE reversibly
  - c) they induce AchE
  - d) they induce ACE.
- xi) Curarin alkaloids are
- a) Neuromuscular junction blockers
  - b) Neuronal blockers
  - c) Muscular blockers
  - d) All of these.
- xii)  $\beta$ -receptors are blocked by
- a) Atenolol
  - b) Propanolol
  - c) Paracetamol
  - d) Both (a) and (b).

**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

2. Write the cholinergic drugs classification with structure. 5
3. Explain the constitution of Nicotinic and muscular receptors. 5
4. Write down a note on Free Wilson Analysis. 5
5. Write down a note on biosynthesis of eicosanoids. 5



**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

6. a) Write down the role of histamine in our body.  
b) Outline the synthesis of any *three* of the following :  
(i) Mepyramine maleate  
(ii) Diphenhydramine  
(iii) Antazoline HCl  
(iv) Promethazine HCl  
c) Write short note on Hammett constant.  $3 + (3 \times 3) + 3$
7. a) Write down the role of log P in drug design.  
b) Write down the chemical classification of NSAIDs.  
c) Write down the structure and IUPAC names of any four of the following drugs :  
(i) Phenyl Butazone  
(ii) Mefenamic acid  
(iii) Indomethacin  
(iv) Ibuprofen  
(v) Naproxen.  $4 + 3 + (4 \times 2)$
8. Write short notes on the following :  
a) Optical isomerism in drugs  
b) Geometrical isomerism in drugs  
c) Bio-isomerism in drugs.  $5 + 5 + 5$
9. Write the synthesis and pharmacological action of the following :  $3 \times 5$   
a) Carbachol  
b) Propranolol  
c) Decamethonium.