



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.PHARM/SEM-7/PT-703/2009-10**

**2009**

**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) A nalidixic acid derivatives having 1-piperazinyl moiety attached to basic skeleton is
- |                  |                 |
|------------------|-----------------|
| a) enoxacin      | b) ofloxacin    |
| c) ciprofloxacin | d) norfloxacin. |
- ii) Which of the following is not a 4-amino quinoline ?
- |                |                 |
|----------------|-----------------|
| a) Amodiaquine | b) Mefloquine   |
| c) Primaquine  | d) Chloroquine. |
- iii) Zalcitabine is an analog of
- |             |             |
|-------------|-------------|
| a) cytosine | d) guanine  |
| c) uracil   | d) adenine. |
- iv) Pro-insulin contains ..... amino acids.
- |       |        |
|-------|--------|
| a) 21 | b) 31  |
| c) 65 | d) 86. |

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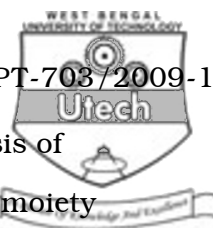
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- v)  $INF_{\alpha 2A}$  has
- a) 154 amino acids      b) 165 amino acids  
c) 86 amino acids      d) 42 amino acids.
- vi) Methotrexate contains
- a) Purine ring      b) Piperazine ring  
c) Pteridine ring      d) Indole ring.
- vii) Amantidine is used as
- a) anti HIV agents      b) antibacterial agents  
c) antiprotozoal agents      d) none of these.
- viii) The chemical name of sulphadiazine is
- a)  $N^1$ -2-pyrimidinylsulphanilamide  
b)  $N^1$ -5-methyl-3-isooxazolylsulphanilamide  
c)  $N^1$ -2-pyridylsulphanilamide  
d)  $N^1$ -acetylsulphanilamide.
- ix) The structure of biguanides contain
- a) 6 nitrogen atoms      b) 5 nitrogen atoms  
c) 3 nitrogen atoms      d) 7 nitrogen atoms.
- x) Quinine structurally
- a) (+) 8S : 9R isomer      b) (-) 8R : 9S isomer  
c) (-) 7S : 8R isomer      d) (+) 7S : 8R isomer.

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- xi) Skraup synthesis is used for the synthesis of
- a) Quinoline moiety      b) Purine moiety  
 c) Furan moiety      d) Isoxazole moiety.
- xii) Reverse  $T_3$  is
- a) 3, 5, 5' - tri-iodo - L-thyronine  
 b) 3, 5, 3', 5' - tetraiodo - L-thyronine  
 c) 3, 3' - di-iodo - L-thyronine  
 d) 3, 3', 5' - tri-iodo - L-thyronine

**GROUP - B**

( Short Answer Type Questions )

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

2. Show the chemical structure and IUPAC name of the following compounds.
- a) Methronidazole      b) Amantidine  
 c) Chlorumbucil      d) Chloroquine.
3. Discuss the utility of prodrug with proper examples.
4. Classify antimalarial drugs with example on the basis of their chemical structure.
5. Write brief notes on immunosuppressive and immunostimulants.       $2 \times 2\frac{1}{2}$
6. Discuss SAR of tetracyclines.

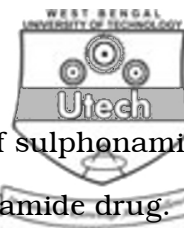
**GROUP - C**

( Long Answer Type Questions )

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

7. Describe in brief with examples the different oxidative metabolic changes in drugs and related compounds. Write short notes with examples on sulfate and amino acid conjugation.       $8 + ( 2 \times 3\frac{1}{2} )$

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8. a) Give the structure-activity relationship of sulphonamide.  
b) Give the synthesis of any two of sulphonamide drug.  
c) Write the therapeutic uses of sulphonamides. 5 + 6 + 4
9. a) What is amoebiasis ?  
b) Write the different classes of drugs used in the treatment of amoebiasis.  
c) Discuss the mode of action of 8-hydroxyquinoline classes of drugs.  
d) Give the synthesis of any two of the following :  
i) Diloxanide furoate  
ii) Tinidazole  
iii) Metronidazole. 2 + 4 + 3 + 6
10. Discuss in brief about various insulin preparations. Point out the structural differences between biguanides and diguanides. Write down the SAR of sulfonylurea derivatives as oral hypoglycemic agent. Outline the synthetic procedure for the preparation of any two oral hypoglycemic agents.  
4 + 3 + 3 + 2 ∞ 2½
11. Define antidiabetic and antithyroids with appropriate examples. Explain briefly the SAR of thiazolidinedione class of oral antihyperglycemic agent. Write synthesis, mode of action and uses of the following compounds ( any three ) :  
i) Chlorpropamide                      ii) Phenformin  
iii) Tolbutamide                        iv) Methimazole  
v) Metformin. 4 + 5 + ( 3 × 2 )

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