



Name :

Roll No. :

Invigilator's Signature :

CS/B.PHARM/SEP.SUPPLE/SEM-7/PT-703/2012

2012

**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) Identify the antineoplastic agent that is intercalating and Topoisomerase-II poison.
- | | |
|----------------|------------------|
| a) Doxorubicin | b) Mitomycin |
| c) Etoposide | d) Camptothecin. |
- ii) Introduction of methoxy group at C-7 position of cephalosporin generates
- | | |
|---------------|-----------------|
| a) cefpirome | b) cefoxitin |
| c) cefuroxime | d) ceftazidime. |
- iii) In vivo, prontosil is converted to
- | | |
|-------------------|--------------------|
| a) sulphanilamide | b) sulphacetamide |
| c) sulphadiazine | d) sulphathiazole. |

SS-306

[Turn over



- iv) Which of the following moieties is present in the structure of acyclovir ?
- a) Adenine b) Cytosine
c) Guanine d) Thymine.
- v) The structure of biguanides contain
- a) 6 nitrogen atoms b) 5 nitrogen atoms
c) 3 nitrogen atoms d) 7 nitrogen atoms.
- vi) Lente insulin consists of
- a) 70% ultralente insulin + 30% semilente insulin
b) 70% semilente insulin + 30% ultralente insulin
c) 50% semilente insulin + 50% NPH insulin
d) 40% regular insulin + 60% NPH insulin.
- vii) The only structural difference between teniposide and etoposide in
- a) Ethyl & Thiophenyl b) Propyl & Benzyl
c) Phenyl & Methyl d) Thiophenyl & Methyl.
- viii) Insulin is well stabilized at a pH range of
- a) 1.5 – 2.5 b) 2.5 – 10
c) 3.5 – 4.5 d) 0 – 2.
- ix) Mebendazole, an anthelmintic drug, has one group at 5 position in the benzimidazole structure. It is
- a) $-\text{S}-\text{CH}_2-\text{CH}_2-\text{CH}_3$
b) $-\text{S}-\text{Ph}-$
c) $\text{Ph}-\text{SO}_2-$
d) $\text{PH}-\text{COO}-$



- b) Write a note on classification and spectrum of activity of β -lactam antibiotics.
- c) Show the structure of the following compounds : benzyl penicillin, amoxycillin, cephalixin, ampicillin. 5 + 5 + 5
8. a) Define antivirals. Classify them with appropriate examples.
- b) Write briefly the stages of replication of a DNA virus.
- c) Show the synthesis, mechanism of action and therapeutic uses of the following compounds (any *two*) : methisazone, azidothymidine, rimantadine. 4 + 3 + 8
9. Write briefly about the structure, activity, relationship and therapeutic uses of sulphonamides. Show the synthesis of any two sulphonamides. 5 + 4 + 6
10. a) Explain the SAR, mode of action and route of synthesis of the following antitubercular drugs (any *three*) :
(i) Isoniazid (ii) Pyrazinamide (iii) Ethambutol (iv) PAS.
- b) Write the name of organism responsible for Leprosy. Classify antileprotic drugs with suitable example. (1½ + 1 + 1½) × 3 + (1 + 2)
11. Define antidiabetic and antithyroid 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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