



Name :

Roll No. :

Invigilator's Signature :

CS / B.PHARM (OLD) / SEM-6 / PT-603 / 2011

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)**

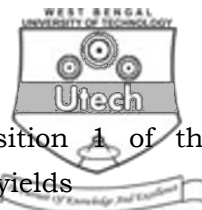
1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

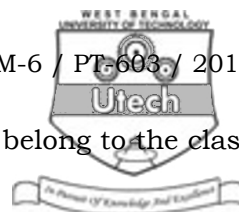
- i) Which of the following is not an oral anticoagulant ?
 - a) Dicoumarol
 - b) Dipyridamole
 - c) Warfarin sodium
 - d) Phenindione.
- ii) All of the following are class IC antiarrhythmic agent, *except*
 - a) moricizine
 - b) propafenone
 - c) flecainide
 - d) tocainide.
- iii) In benzothiazides, reduction of double bond between position 3 and 4 give rise to compounds with
 - a) decreased diuretic activity
 - b) increased diuretic activity
 - c) no diuretic activity
 - d) no change in diuretic activity.

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[Turn over



- iv) Replacement of the NH-group at position 1 of the Hydantoin system with an oxygen atom yields
- a) Succinamides b) Oxazolidine-2, 4-dione
c) Barbiturate d) Semicarbozone.
- v) Dihydropyridine ring containing calcium channel blocker (CCB) is
- a) Verapamil b) Diltiazem
c) Nifedipine d) Bepridil.
- vi) Introduction of OH group at 3-position in benzodiazepine causes
- a) increased activity b) loss in activity
c) lowering of activity d) none of these.
- vii) The anticoagulant Heparin is obtained from
- a) Sheep lung b) Dog's kidney
c) Rabbit's heart d) Rat's uterus.
- viii) Iminostilbene ring is present in the drug
- a) Haloperidol b) Vigabatrin
c) Ethacrynic acid d) Carbamazepine.
- ix) How much potent (S)-warfarin is than (R)-warfarin ?
- a) Four times b) Two times
c) Three times d) Ten times.
- x) The steroidal nucleus cholestane contains
- a) 21 C atoms b) 27 C atoms
c) 19 C atoms d) 17 C atoms.
- xi) Meperidine comes under, which one of the following classes ?
- a) Benzomorphan b) 4-phenyl piperidine
c) N-methyl morphinan d) methadone.



xii) Haloperidol is a major tranquilizer. It belongs to the class of

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|-------------------|--------------------|
| a) Carbamates | b) Propanediol |
| c) Butyrophenones | d) Phenothiazines. |

GROUP – B

(Short Answer Type Questions)

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

2. Briefly discuss the nomenclature of steroidal drugs.
3. Define anticoagulants. Classify them with suitable examples.
4. Explain briefly the SAR of ethacrynic acid derivative diuretics.
5. Write a short note on antitussives.
6. Write down the synthesis of (i) Levodopa (ii) Nifedipine.

GROUP – C

(Long Answer Type Questions)

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

7. a) Define and classify local anesthetic according to their chemical structure. 4
- b) Write briefly mode of action of general anesthetics. 6
- c) Describe SAR local anesthetics. 5
8. a) Define sedatives and hypnotics. Classify them with suitable examples. 4
- b) Write shortly on SAR of Benzodiazepines derivatives. 5
- c) Give synthesis of any *two* of the following compounds : 2 × 3

- | | |
|-----------------|--------------------|
| i) Diazepam | ii) Phenobarbitone |
| iii) Imipramine | iv) Haloperidol. |



9. a) What do you mean by angina pectoris & antianginals ? 2
- b) Which compounds are used as antianginals ? 2
- c) How potassium channel openers act as antianginals ?
Explain with examples. 3
- d) Write the synthesis and therapeutic uses of the
following compounds (any *two*) : 8
- i) Propranolol
- ii) Erithrityl tetranitrate
- iii) Procainamide.
10. a) Explain the mode of action of barbiturates. 5
- b) Introduction of two similar allyl functions at C-5 in the
barbituric acid yields an intermediate acting
barbiturate. Name the product and give its synthesis. 5
- c) Give the chemical name, structure, use and synthesis of
a non-barbiturate drug having piperidine nucleus. 5
11. a) Classify the drugs used for convulsive seizures. Give the
structure, chemical name and use of one important
compound from each class. 6
- b) Succinimides afford better-tolerated and less toxic
anticonvulsant. Justify the statement with the help of a
detailed account of one of the compounds belonging to
this category. Give its synthesis. 7
- c) Describe the mode of action of Primidone. 2

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