PHARMACEUTICAL CHEMISTRY (MEDICINAL CHEMISTRY)
(SEMESTER - 6)

CS/B.PHARM/SEM-6/PT-603/09

1. .....
Signature of Invigilator

2. .....
Signature of the Officer-in-Charge

Reg. No. | | | | | | | | | | | | | | |

Roll No. of the Candidate | | | | | | | | | | | | | | |

CS/B.PHARM/SEM-6/PT-603/09

ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE – 2009

PHARMACEUTICAL CHEMISTRY (MEDICINAL CHEMISTRY)
(SEMESTER - 6)

Time : 3 Hours] [Full Marks : 70

INSTRUCTIONS TO THE CANDIDATES :

1. This Booklet is a Question-cum-Answer Booklet. The Booklet consists of **32 pages**. The questions of this concerned subject commence from Page No. 3.
2. a) In **Group – A**, Questions are of Multiple Choice type. You have to write the correct choice in the box provided **against each question.**
   b) For **Groups – B** & **C** you have to answer the questions in the space provided marked 'Answer Sheet'. Questions of **Group – B** are Short answer type. Questions of **Group – C** are Long answer type. Write on both sides of the paper.
3. **Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
4. Read the instructions given inside carefully before answering.
5. You should not forget to write the corresponding question numbers while answering.
6. Do not write your name or put any special mark in the booklet that may disclose your identity, which will render you liable to disqualification. Any candidate found copying will be subject to Disciplinary Action under the relevant rules.
7. **Use of Mobile Phone and Programmable Calculator is totally prohibited in the examination hall.**
8. You should return the booklet to the invigilator at the end of the examination and should not take any page of this booklet with you outside the examination hall, **which will lead to disqualification**.
9. Rough work, if necessary is to be done in this booklet only and cross it through.

No additional sheets are to be used and no loose paper will be provided

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FOR OFFICE USE / EVALUATION ONLY

Marks Obtained

	Group – A										Group – B			Group – C				
Question Number																	***Total Marks***	***Examiner's Signature***
Marks Obtained																		

.....
Head-Examiner/Co-Ordinator/Scrutineer

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DO NOT WRITE ON THIS PAGE

ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE – 2009

PHARMACEUTICAL CHEMISTRY (MEDICINAL CHEMISTRY)

SEMESTER – 6

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GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following : $10 \times 1 = 10$

i) Midazolam, a newer hypnotic drug is formed by annelating the 1, 2 bond of ring *B* of 1, 4 benzodiazepine with

a) triazole ring b) imidazole ring

c) oxazole ring d) tetrazole ring. ☐

ii) Which of the following ring systems is present in the structure of zolpidem ?

a) Imidazopyridine b) Imidazopiperidine

c) Benzoisoquinoline d) Thienofuran. ☐

iii) Nicorandil, a novel antianginal drug activates

a) voltage dependent potassium channel

b) ATP sensitive potassium channel

c) Ca^{2+} activated potassium channel

d) none of these. ☐

iv) Ropinirole is used in

a) Alzheimer's disease b) Parkinsonism

c) Dyslexia d) None of these. ☐

v) An example of an aromatic ring containing steroid is

a) progesterone b) testosterone

c) estradiol d) cortisone. ☐

vi) Basic structure of steriods contains

a) cyclopenteneophenanthrene ring

b) cyclopentaneophenanthrene ring

c) cyclohexanophenanthrene ring

d) cyclohexene *o*-phenanthrene ring.

vii) Chemically haloperidol belongs to the class of

a) phenothiazine b) butyrophenone

c) benzodiazepine d) dibenzocycloheptane.

viii) Which one of the following is symmetrical 1,4-dihydropyridine derivative ?

a) Amlodipine b) Nifedipine

c) Felodipine d) None of these.

ix) Amitriptylene is the prototype of

a) dibenzazepine class b) dibenzocycloheptane class

c) phenothiazine class d) none of these classes.

x) Which of the following substituents of thiazides is responsible for the solubility of the drug ?

a) Sulphamoyl group b) Sulphone group

c) Both of these d) None of these.

xi) Solvent used for Benzocaine synthesis is

a) ethanol b) butanol

c) isopropyle alcohol d) none of these.

xii) Amlodipine is synthesized by which of the following methods ?

a) Skraup synthesis b) Paal-Knorr synthesis

c) Hantzsch synthesis d) None of these.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following questions. 3 × 5 = 15

2. Classify anticonvulsant drugs with examples (give *one* structure for each respective class).

3. Write shot note on Calcium channel blockers.

4. Write down the SAR of the tricyclic antidepressants with example.

5. Explain NMDA-receptor hypothesis for volatile anesthetic activity.

6. Write the role of MAO-B inhibitor in the treatment of parkinasonism.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following questions. 3 × 15 = 45

7. a) What do you mean by narcotic analgesics ?

   b) Write a short note on various opioid receptors.

   c) Discuss the SAR of semisynthetic morphine derivatives.

   d) Write down the synthesis of any *two* of the following drugs :

      i) Phensuccimide

      ii) Chlorpromazine

      iii) Cocaine

      iv) Oxazepam. 1 + 3 + 5 + 6

8. Define and classify diuretics. Explain the development of carbonic anhydrase inhibitors from sulphanilamide. Discuss the SAR of furosemide. How is furosemide synthesized starting from 2,4-dichlorobenzoic acid ? 4 + 4 + 4 + 3

9. Define and classify tricyclic antidepressants. Write the SAR of phenothiazines. Give the synthetic procedure of any *two* of the following :

   i) Amitriptyline

   ii) Diazepam

   iii) Imipramine. 4 + 5 + (2 × 3)

10. a) What do you mean by local anaesthetics ? Classify local anaesthetic agents chemically with example.

    b) Write the main structural requirement of local anaesthetics.

    c) Write the synthetic scheme of any *three* of the following :

       i) Procaine

       ii) Lignocaine

       iii) Mepivacaine

       iv) Pramoxine. 5 + 4 + (3 × 2)

11. Define and classify steroids. Write down the nomenclature and stereochemistry for steroid nucleus. Outline the synthetic procedure for the preparation of diethyl stilbesterol. 2 + 2 + 4 + 4 + 3

END