

Name :
Roll No. :
Invigilator's Signature :

CS/B.PHARM(NEW)/SEM-6/PT-603/2012

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) Example of an ACE inhibitor antihypertensive drug is
- a) Valsarthan b) Enalapril
- c) Procainamide d) Amlodipine.
- ii) Amlodipine is synthesized by which of the following methods ?
- a) Skraup synthesis b) Paal-Knor synthesis
- c) Hantzsch synthesis d) None of these.

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[Turn over



iii) Which of the following drugs is used in doping ?

- a) Nandrolone b) Cortisone
- c) Estradiol d) Dihydrotestosterone.

iv) Cardiac glycosides have which of the following configuration in the aglycone part of the steroid nucleus ?

- a) $5\alpha, 14\beta$ b) $-5\alpha, 14\beta -$
- c) $5\beta, 14\alpha$ d) $5\beta, 14\beta$.

v) Tigabain acts as anti-convulsant agent by inhibiting

- a) GABA Transporter
- b) GABA transaminase
- c) neuronal uptake of GABA
- d) T-currents.

vi) Propene chain is present in

- a) Trimethadione b) Paramethadione
- c) Aloxidione d) Phenytoin.



- vii) A calcium channel blocker containing benzothiazepine ring is
- a) Verapamil b) Diltiazem
- c) Nifedipine d) Amiodarone.
- viii) An example of an angiotensin receptor blocker is
- a) Enalapril b) Lisinopril
- c) both of these d) none of these.
- ix) Felodipine is synthesized by
- a) Skraup synthesis b) Paal-Knorr synthesis
- c) Mannich reaction d) Hantzsch synthesis.
- x) $-\text{SO}_2\text{NH}_2$ group is essential for diuretic activity and it present in all the following diuretics, *except*
- a) Methazolamide b) Furosemide
- c) Ethacrynic Acid d) Metolazone.
- xi) Selective MAO-B inhibitor is
- a) phenelgine b) tranylcypromine
- c) clorgilline d) selegilline.



xii) Four sets of intermediates are listed below. Choose the correct set for the synthesis of BUPIVACAINE IP.

- a) α -Picolinic Acid Chloride with 2, 6-Diethyl Aniline
- b) β -Picolinic Acid Chloride with 2, 6-Diethyl Aniline
- c) α -Picolinic Acid Chloride with Aniline Hydrochloride
- d) α -Picolinic Acid Chloride with 2, 6-Dimethyl Aniline.

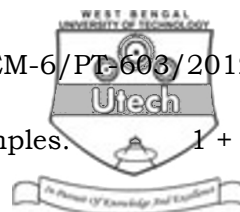
GROUP – B

(Short Answer Type Questions)

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

- 2. Describe the structure activity relationships of TCA drugs.
- 3. Outline the synthesis of any two of the following : $2 \times 2\frac{1}{2}$
 - a) Haloperidol
 - b) Chlorpromazine
 - c) Levodopa.

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4. What is Alkaloid ? Classify them with examples. 1 + 4
5. Classify antihyperlipidemic drugs with examples. Synthesize one vasodilator drug used in hypertension. 3 + 2
6. Draw the following steroid nucleus : 5 × 1
- a) betamethasone
 - b) prednisolone
 - c) cortisone
 - d) beclomethasone
 - e) aldosterone.
7. Write down the SAR of Benzodiazepine derivatives.

GROUP – C

(Long Answer Type Questions)

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

8. a) Describe the nomenclature and stereochemistry of steroid nucleus. 5 + 10
- b) Write a note on anabolic steroid.
9. a) Write down the SAR of Fluorobutyrophenones as central nervous system depressant.

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b) Write down the SAR of Phenothizine derivatives as antipsychotic.

c) Classify general anaesthetics with structural examples for each class. 3 + 6 + 6

10. Write down the synthetic pathway of any *five* of the following drugs : 5 × 3

- a) sotalol
- b) diltiazem
- c) verapamil
- d) diethyl stibesterol
- e) hydrocholthiazide
- f) furosemide.

11. a) Give the synthetic procedure and uses of Procainamide and Isosorbide di-nitrate.

b) Write a brief explanatory note on any *two* of the following :

- i) Glucocorticoids
- ii) Antiplatelet agents
- iii) Tropane alkaloid
- iv) Mode of action of antiparkinsonism drugs. 6 + 9

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12. a) Differentiate the following (pharmacological category & chemical structure) :

- i) Procaine and procainamide
 - ii) Warfarin sodium & phenytoin sodium.
- b) Write the synthetic route of any *two* of the following :
- i) Benzocaine
 - ii) Lidocaine
 - iii) Mepivacaine.
- c) Describe the SAR of local anesthetics. (Show the possible structure wherever possible) (2 + 2) + 5 + 6

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