



Name :

Roll No. :

Invigilator's Signature :

CS/B.PHARM/SEM-5/PT-503/2009-10

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)

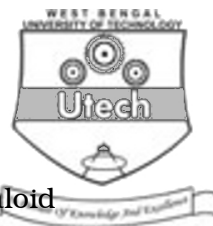
1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

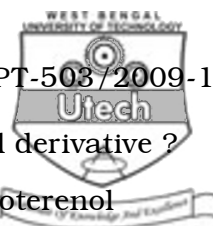
- i) Thiazazole ring containing anti-ulcer drug is
- a) rantidine b) omeprazole
- c) famotidine d) cimetidine.
- ii) Which phenylethanolamine derivative drug contains tertiary group in the side chain ?
- a) Ritodrine b) Salbutamol
- c) Metaproterenol d) Isoprenaline.
- iii) All prostaglandins are derivatives of
- a) arachidonic acid
- d) prostanoic acid
- c) peptides
- d) none of essential fatty acids.

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[Turn over



- iv) Muscarine is
- a) a glycoside b) an alkaloid
c) a polypeptide d) none of these.
- v) Which of the following drug is not having catechol nucleus ?
- a) Adrenaline b) Norepinephrine
c) Ephedrine d) Isoprenaline.
- vi) Sulindac contains which of the following chemical ring ?
- a) Imidazole b) Indole
c) Isoindene d) Indene.
- vii) Taft's steric factor (E_s) is related to
- a) CADD
b) combinatorial chemistry
c) qualitative structure activity relationship
d) quantitative structure activity relationship.
- viii) In mepyramine maleate the methoxy group ($-OCH_3$) present in
- a) *o*-position of the phenyl ring
b) *p*-position of the phenyl ring
c) *m*-position of the phenyl ring
d) *p*-position of the pyridine ring.
- ix) Acetyl choline is biosynthesized from
- a) Serine b) Threonine
c) Glycine d) Cysteine.
- x) Which form of Diethyl stilbesterol is biologically active ?
- a) Trans b) Cis
c) Threo d) Erythro.



- xi) Which one of the following is a resorcinol derivative ?
- a) Adrenaline b) Metaproterenol
 c) Terbutalene d) Both (b) and (c).
- xii) Prazosin contain which one of the following ring system ?
- a) Piperidine and quinazoline
 b) Piperazine and quinazoline
 c) Piperazine and quinazoline
 d) none of these.

GROUP - B

(Short Answer Type Questions)

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

2. a) Give chemical structure and name of one compound belonging to $3 \times 1 = 3$
- i) antispasmodic drug
 ii) H_2 antagonist antiulcer drug
 iii) proton pump inhibitor antiulcer drug.
- b) How does proton pump inhibitors function ? 2
3. Explain the role of optical isomerism on drug activity with proper example. 5
4. Write the synthesis of
- a) Mepyramine maleate
 b) Salbutamol. $2 \times 2\frac{1}{2}$
5. a) What do you mean by eicosonords ?
 b) Describe schematically the cyclooxygenase pathway. 1 + 4

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6. a) Define bioisostere. 1 + 4
b) Write a note on classical bioisosterism.

GROUP – C

(Long Answer Type Questions)

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

7. Give synthesis and use of any two cholinergic and any one adrenergic agonists. 3 × 5
8. Write short notes on :
- a) IP3-DAG pathway of G protein couple receptor.
- b) Nuclear receptor transducer pathway. 2 × 7½
9. Write any *three* synthesis of the following : 3 × 5
- a) Indomethacin
- b) Atropine
- c) Dicyclomine
- d) Phenorybenzamine.
10. a) Write in brief about CADD.
- b) Write in brief about the various descriptors used in 2D QSAR studies.
- c) What is the hypothesis of Free-Wilson analysis ? 4 + 8 + 3
11. a) Name the antidote used in pesticide poisoning and give the mechanism by which it can retrieve the original form of the enzyme.
- b) Write in detail about parasympathomimetic drug. 7 + 8

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