Manmohan Technical University Office of the Controller of Examinations **Exam Year: 2082, Poush (Model Question)**	**Exam Roll:** …… Exam Roll in words: ……	
School: School of Medicine and Allied Health Sciences	Level: Bachelor	Invigilator's Sign: ……
Program: B.Pharmacy	Year/Part: III/I	Superintendent's Sign: ……
Subject: Medicinal Chemistry – III (BP505)		Code No. ……

GROUP A *(Multiple-Choice Questions)* | **[10x1=10]** | **Time: 20 Minutes**

i. *This group contains 10 multiple-choice questions (MCQs).*
ii. *Answers must be marked on the MCQ Answer Sheet.*
iii. *You may use the main answer sheet for rough work.*
iv. *Marks will not be awarded for answers with cutting, erasing, overwriting, or multiple shaded options.*
v. *The MCQ question paper must be returned along with the MCQ answer sheet.*

Code No.:

1. Hansch equation is used in:
   a) Chemical stability of drugs
   b) Quantitative Structure Activity Relationship
   c) Drug metabolism
   d) Drug solubility

2. Halothane contains:
   a) Ether linkage
   b) Trifluoromethyl group
   c) Aromatic ring
   d) Sulfur group

3. Benzodiazepines act mainly by enhancing:
   a) Dopamine
   b) Serotonin
   c) GABAergic transmission
   d) Histamine

4. Chlorpromazine is chemically classified as:
   a) Phenothiazine
   b) Butyrophenone
   c) Thioxanthene
   d) Benzodiazepine

5. Carbamazepine belongs to:
   a) Barbiturates
   b) Hydantoins
   c) Iminostilbenes
   d) Succinimides

6. Morphine SAR indicates which position modification enhances potency?
   a) N-alkyl substitution
   b) Carboxyl reduction
   c) 3-OH esterification
   d) A-ring opening

7. Penicillin G loses activity in:
   a) Acidic pH
   b) Neutral pH
   c) Cold storage
   d) Presence of sodium salts

8. Ciprofloxacin belongs to which generation of fluoroquinolone?
   a) 1st
   b) 2nd
   c) 3rd
   d) 4th

9. Chloroquine acts by inhibiting:
   a) Ergosterol synthesis
   b) Hemozoin formation
   c) Cell wall synthesis
   d) DNA gyrase

10. Acyclovir is structurally a:
    a) Purine nucleoside analog
    b) Pyrimidine analog
    c) Macrolide
    d) Lipopeptide

Multiple Choice Questions' Answer Sheet

Marks Secured: _____

In Words: _____

Examiner's Sign: _____ Date: _____

Scrutinizer's Marks: _____

In Words: _____

Corrected Fill
Ⓐ ● Ⓒ Ⓓ
Incorrected Fill
⊗ Ⓑ ● Ⓓ

1.	Ⓐ Ⓑ Ⓒ Ⓓ		6.	Ⓐ Ⓑ Ⓒ Ⓓ	
2.	Ⓐ Ⓑ Ⓒ Ⓓ		7.	Ⓐ Ⓑ Ⓒ Ⓓ	
3.	Ⓐ Ⓑ Ⓒ Ⓓ		8.	Ⓐ Ⓑ Ⓒ Ⓓ	
4.	Ⓐ Ⓑ Ⓒ Ⓓ		9.	Ⓐ Ⓑ Ⓒ Ⓓ	
5.	Ⓐ Ⓑ Ⓒ Ⓓ		10.	Ⓐ Ⓑ Ⓒ Ⓓ	

Manmohan Technical University
Office of the Controller of Examinations
Exam Year: 2082, Mansir (Model Question)

School: School of Medicine and Allied Health Sciences	Level: Bachelor	Time: 3 Hours
Program: B. Pharmacy	Year/Part: III/I	Full Marks: 50
Subject: Medicinal Chemistry – III (BP505)		Pass Marks: 25

- ✓ *Candidates are required to give their answers in their own words as far as practicable.*
- ✓ *The figures in the margin indicate **Full Marks**.*
- ✓ *Assume suitable data if necessary.*

GROUP A *(Multiple-Choice Questions are provided on separate sheet)* **[10×1=10]**

GROUP B ***(****Problem Based Question****)*** **[1×10=10]**

1. A new derivative of lidocaine was developed by replacing the diethylamino group with a dimethyl amino group and converting the acetanilide moiety to propionanilide. Answer the following:

   a) Predict changes in lipid solubility, potency, and duration of action based on SAR principles. [3]
   b) Discuss how steric factors may influence metabolic stability. [3]
   c) Explain whether this compound is likely to show higher or lower CNS toxicity and why. [4]

GROUP C *(Long Answer Questions - **Attempt Any Four**)* **[4×5=20]**

1. Explain QSAR parameters with suitable examples (Hydrophobic, Electronic & Steric parameters).
2. Discuss SAR of Local anesthetics. Outline the synthesis of Lignocaine.
3. Describe classification and SAR of morphine analogs. Add note on narcotic antagonists.
4. Write the SAR of Penicillin G. Describe modification for β-lactamase resistant derivatives.
5. Discuss mechanism of action, SAR and therapeutic uses of Ciprofloxacin.
6. Describe classification and mechanism of action of Antitubercular drugs. Explain synthesis of INH.

GROUP D ***(****Short Answer Questions - **Attempt Any Five****)*** **[5×2=10]**

1. Define CADD and mention its applications.
2. Give classifications of Anesthetics and the ideal properties of an inhalation anesthetic.
3. What is eutectic mixture? Give example of pharmaceutical eutectic mixture used for therapeutic purposes.
4. Provide SAR features of barbiturates.
5. Write the mechanism of action of penicillin and therapeutic application.
6. List any four antifungal drugs with their chemical class and mechanism action of Fluconazole.

∞∞ All The best ∞∞