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Sub. Code: 4262

(LE 4262)

**THIRD YEAR B.PHARM. EXAM  
PAPER II – MEDICAL CHEMISTRY -I  
Q.P. Code: 564262**

**Time: Three Hours**

**Maximum: 100 marks**

**I. Elaborate on: (2X20=40)**

1. a) Classify local anaesthetics with examples. Write the synthesis for procaine and dibucaine.  
b) Explain the structure activity relationship of barbiturates.
2. a) What is prodrug. Explain the various applications of prodrug design with suitable Examples.  
b) Explain the following physicochemical properties relation to biological activity of drugs.
  - I. Chelation
  - II. Hydrogen bonding

**II. Write notes on: (8X5=40)**

1. Write a brief note on phase II biotransformation pathway.
2. Outline the synthesis and mechanism of action of acetazolamide.
3. Describe the synthesis and clinical uses of diphenhydramine hydrochloride, promethazine hydrochloride.
4. Classify general anaesthetics with examples and write the synthesis of ketamine.
5. Explain the adnergic blocking agents and give the synthesis of propranolol.
6. Explain isosterism and steric effect.
7. Write the synthetic route for anyone narcotic analgesic compound
8. Write the structure and mechanism of action of carbamazepine and primidone.

**III. Short Answers on: (10X2=20)**

1. Prostaglandins
2. Define anti-tussive agent with examples.
3. Enumerate the biosynthesis of nor adrenaline.
4. Write the structure and use of salbutamol and ephedrine.
5. Loop diuretics.
6. H<sub>2</sub> receptor antagonist.
7. Give the structure and use of gallamine triethiodide.
8. Write the structure for carbachol, tropicamide.
9. CNS stimulants.
10. Mechanism of action of methohexitol.

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