

**R07**

**Code No: R7501**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD  
III Year B. Pharmacy II Semester Examinations, DEC.-JAN., 2011-2012  
MEDICINAL CHEMISTRY-I**

**Time: 3 hours**

**Max. Marks: 80**

**Answer any five questions  
All questions carry equal marks**

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1. a) Define the term bio-isosterism. Discuss how bio-isosterism affects biological activity of drug molecules with the help of suitable examples.  
b) Describe a method for the synthesis of Phenobarbitone and mention its mechanism of action and uses. Label each reactant and the reaction conditions required for the synthesis. [16]
2. a) Classify Local anesthetic agents with one example with chemical structure for each class. Give the mode of action and uses of local anesthetic agents.  
b) Give the synthesis, mechanism of action and uses of carbachol and dicyclomine. Label each reactant and the reaction conditions required for synthesis. [16]
3. a) Discuss the role of cytochrome P-450 and monooxygenases in biotransformation of drug molecules.  
b) Give the synthesis, mechanism of action and uses of chlorpromazine and pyridostygmine. Label each reactant and the reaction conditions required for synthesis. [16]
4. a) Classify anti-epileptic agents with one example with chemical structure for each class. Give the mode of action and uses of anti-epileptic agents.  
b) Describe a method for the synthesis of Phenytoin and salbutamol. Label each reactant and the reaction conditions required for the synthesis. [16]
5. a) Classify adrenergic agents with one example with chemical structure for each class. Give the mode of action and uses of adrenergic agents.  
b) Describe a method for the synthesis of bethanecol and Pralidoxime. Label each reactant and the reaction conditions required for the synthesis. [16]
6. a) Classify anti-psychotic agents with one example with chemical structure for each class. Give the mode of action and uses of anti-psychotic agents.  
b) Give the synthesis, mechanism of action and uses of Halothane and haloperidol. Label each reactant and the reaction conditions required for the synthesis. [16]
7. a) Classify general anesthetics with one example with chemical structure for each class. Give the mode of action and uses of general anesthetics.  
b) Give the synthesis, mechanism of action and uses of procaine and succinyl choline. Label each reactant and the reaction conditions required for the synthesis. [16]
8. Write a note on
  - a) Effect of hydrogen bonding on biological activity of drugs.
  - b) Synthesis, mode of action and uses of lignocaine.
  - c) Conjugation reactions in drug metabolism.
  - d) soft- drug and pro-dug approach in drug design. [16]

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