1 Answer any three of the following. 18

(a) Define the term “Receptors”. Discuss the non-catalytic protein receptor giving examples of agonist and antagonist drugs.

(b) What are phase-I reactions? Discuss how they affect drug metabolism process.

(c) Giving examples discuss the important pharmacokinetic parameters in drug deposition process.

(d) Explain Soft drug concept. Give its classification and discuss their advantages.

2 Answer any three of the following. 18

(a) How do general anaesthetics differ from local anaesthetics? Discuss volatile and non-volatile general anaesthetics.

(b) Giving definition of sedative and hypnotics, discuss SAR of barbiturates laying stress on acidity value and lipid water solubility value.

(c) What is CNS depressant? Give a brief account on selective serotonin reuptake inhibitors used as anti-depressants.
(d) Give the synthesis and uses of
   (i) Diazepam
   (ii) Nikethemide
   (iii) Alprazolam
   (iv) Thiopental

3  Answer any three of the following. 18

(a) What are diuretics? Write the SAR of carbonic anhydrase inhibitors.
(b) Why anti arrhythmic drugs are also known as anti-fibrillatory drugs?
    Classify antiarrhythmic agents. Explain sodium and calcium channel
    blockers with suitable examples.
(c) Discuss the role of insulin secretogogues and DPP4 inhibitors in
    maintenance of blood sugar. Give two examples of each.
(d) Give synthesis and uses of
   (i) Ethacrynic acid
   (ii) Chlorothiazide
   (iii) Chlorporpamide
   (iv) Atenolol

4  Answer any three of the following. 16

(a) Give The Chemical Classification of Narcotic Analgesics. Discuss the
    structure variation in morphine derivatives.
(b) What is solvation? Discuss the role of polar and non-polar solutes affecting
    the solubility behaviour of drug.
(c) Aldosteron inhibitors and xanthines are useful as diuretics. Explain.
(d) Why β-blockers are the most prescribed drugs in hypertension? Discuss the
    structure variation in β-blockers.