M.Sc. (Part–II) Semester—IV (CBCS) Examination
PHARMACEUTICAL CHEMISTRY
Paper—4SA3
(Drug Development Analysis)

Time : Three Hours] [Maximum Marks : 80

Note :—(1) **ALL** questions carry equal marks.
(2) All questions are compulsory.

1. (a) Explain the different approaches for lead discovery. 8
   (b) Explain Electronic, Steric and Hydrophobic constants regulating the efficacy of the drug. 8

OR

   (p) Discuss the objectives and economic aspects of drug designing. 8
   (q) Explain in detail the significance of Craig plot and Toplis operational scheme in drug design. 8

2. (a) Discuss the perturbation theory of drug action. 8
   (b) Explain the molecular orbital approach in drug design with suitable examples. 8

OR

   (p) Explain with suitable examples, how the conformation of drug affects its action ? 8
   (q) Discuss the Pullman's dipositive bond theory of drug action. 8

3. (a) Explain stereo chemical and conformational aspects of drug action. 8
   (b) Discuss with suitable examples the designing of antagonists as therapeutic agent. 8

OR

   (p) Explain the drug receptor binding as a tool for designing of biologically active steroids. 8
   (q) Discuss the applications of oligonucleotides in antivirals and anticancer chemotherapy. 8

4. (a) Explain with examples different biochemical processes of prodrug activation. 8
   (b) Discuss the different chemical and enzymatic metabolic reactions involved in activation of prodrugs. 8

OR

   (p) Explain, with examples, how prodrug approach can alter the solubility and stability of the drug. 8
   (q) Discuss the prodrug approach for reducing the toxicity and altering drug metabolism. 8

5. (a) Explain the different descriptors in computer aided drug design. 8
   (b) Discuss the Hardware and Software requirements for computer aided drug design. 8

OR

   (p) Explain logico structural approach in drug discovery. 8
   (q) Discuss with suitable examples the limitations of computational approach in drug discovery. 8