

(3 Hours)

[Total Marks: 80]

- N.B.** 1) Q.No. 1 is **compulsory**.  
 2) Attempt any **3** questions from Q.No. 2 to 6.  
 3) **All** questions carry **equal** marks

- Q1. Answer the following:- [20]  
 a. Write a note on Classification of drugs  
 b. Explain the role of carbohydrates as drug targets  
 c. Write short note on Antisense therapy  
 Discuss the production of Hormones as biopharmaceutical agents
- Q2. a. Which molecules in the body can act as drug targets? Explain in detail about [10]  
 different drug targets  
 b. Give details of drug metabolism in the *in vivo* system [10]
- Q3. a. Describe anticancer drugs used as Antimetabolites [10]  
 b. Describe antiviral drugs used against RNA viruses [10]
- Q4. a. Write a note on Patenting and regulatory affairs related to drug discovery and [10]  
 development  
 b. Write a detailed note on clinical trials in drug development [10]
- Q5. a. What are Opioids? Describe the features of Opioid Analgesics [10]  
 b. Explain the mechanism of Drug resistance [10]
- Q6. a. Describe the production of Hormones and Cytokines as biopharmaceutical [10]  
 agents [10]  
 b. Describe the role of Biopharmaceuticals in treatment of various health [10]  
 diseases with examples