

B. PHARM. 4th YEAR FIRST SEMESTER EXAM 2023
SUBJECT: NEWER DRUGS AND BIOTECHNOLOGICAL APPLICATIONS I

Time: 3 hours
Total marks: 100

(Answer any five taking at least one question from each group)

Group A

1. (a) Represent the molecular characteristics of dihydroorotate dehydrogenase.
(b) Represent the drug binding sites and their characteristics of dihydroorotate dehydrogenase.
2 x 10 = 20
2. (a) Write an account on the DHODase inhibitors of *Helicobacter pylori*.
(b) Write an account of the DHODase inhibitors of *Plasmodium falciparum*.
2 x 10 = 20

Group B

3. Define digestive enzymes. Give examples of some common digestive enzymes. Write down the sources and roles of diastase, pepsin, pancreatin, hemicellulose, and pancrealipase.
1 + 4 + 15 = 20
4. Explain schematically the methods of isolation of atropine, citral, and froskolin.
7 + 6 + 7 = 20

Group C

5. For prolong duration of action and enhancement in overall bioavailability, how a sustained release formulation can be developed? Describe in details with one example mainly emphasizing formulation part.
20
6. Describe one Nanocontainer mainly used for drug delivery application? Describe different instrumental techniques in details for evaluation of drug delivery devices.
5 + 15 = 20

Group D

7. (a) Write an account on mathematical relationship and objectives of QSAR.
(b) Outline a flow diagram of QSAR method.
(c) Discuss in detail about the mathematical equations related to LFER approaches of Hansch analysis.
5 + 5 + 10 = 20
8. Write in detail on various aspects of modern drug design and discovery processes.