UNIVERSITY OF JAFFNA, SRI LANKA
FACULTY OF ALLIED HEALTH SCIENCES
FOURTH YEAR SECOND SEMESTER EXAMINATION IN BPharmHons- 2021
PHADD 4223 DRUG DISCOVERY AND DEVELOPMENT

Date: 16/08/2023 **Time: 03 Hours**

Answer All Questions

1.

1.1 Define the following terms.
- **1.1.1** Hit molecule **(10 Marks)**
- **1.1.2** Lead compound **(10 Marks)**
- **1.1.3** Candidate molecule **(10 Marks)**
- **1.1.4** Investigational new drug **(10 Marks)**

1.2 Write a short note on
- **1.2.1** Molecular docking. **(20 Marks)**
- **1.2.2** High through put screen. **(20 Marks)**
- **1.2.3** Cell based assay. **(20 Marks)**

2.

2.1 Define "Orphan drug". **(10 Marks)**

2.2 Explain how pharmaceutical companies are encouraged for discovery of drugs for orphan disease. **(30 Marks)**

2.3 Explain the different levels of target selection. **(30 Marks)**

2.4 Discuss the difference in the drug discovery process in pharmaceutical industry and academia. **(30 Marks)**

3.

3.1 What is target validation? **(10 Marks)**

3.2 Discuss the importance of
- **3.2.1** drug target selection. **(40 Marks)**
- **3.2.2** targeting of drugs to specific organs and tissues. **(20 Marks)**

3.4 Briefly explain the genetic approach in target validation. **(30 Marks)**

4.

4.1 What is lead optimization? **(20 Marks)**

4.2 List different types of lead optimization. **(20 Marks)**

4.3 Briefly explain on *in-vitro* pharmacological profiling in isolated tissues. **(60 Marks)**

5.

5.1 List the desired receptor binding criteria in binding assays. **(20 Marks)**

5.2 Explain the general steps involved in filtration assay. **(35 Marks)**

5.3 Discuss the advantages and disadvantages of filtration assay. **(45 Marks)**

6.

6.1 Write down the physico-chemical characterizations performed during preformulation studies. **(35 Marks)**

6.2 Explain the two steps followed before conducting clinical trial. **(65 Marks)**