

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: M.PHARM.
BRANCH: PHARMACOLOGY

SEMESTER: II
SESSION: SP2025

SUBJECT: MPL202T PHARMACOLOGICAL AND TOXICOLOGICAL SCREENING II

TIME: 3.00 Hours

FULL MARK: 75

INSTRUCTIONS:

1. The missing data, if any, may be assumed suitably.
 2. Before attempting the question paper, be sure that you have got the correct question paper.
 3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
 5. Answer any five questions.
-

- 1a. Differentiate between acute, subacute and chronic toxicity with respect to dose and responses with suitable examples in each case. [7]
- 1b. Enumerate the different fields of toxicology. Elaborate on the factors influencing toxicity with suitable examples in each case. [8]
- 2a. What is meant by safety pharmacology? Enumerate the criteria to be considered to design a safety pharmacology study. Illustrate all the parameters used to assess these studies. [7]
- 2b. Write explanatory notes on **any two**: (a) hERG assay (b) Core Battery tests and their limitations (c) chemical interactions involved with toxicology [8]
- 3a. What is meant by toxicokinetics. Categorize the mathematical models constructed to explain toxicokinetics. What is Haber's law and what is its importance in toxic dose calculation. [7]
- 3b. Elaborate on the transport processes involved in the uptake and disposition of a xenobiotic citing examples wherever needed. [8]
- 4a. Describe the MTT assay method and its importance. Discuss its use in the determination of alternate skin irritation tests. [7]
- 4b. Illustrate the method of drug administration according to inhalational toxicity study as per OECD guidelines. Differentiate between traditional and concentration x time protocol in determining inhalational toxicity. [8]
- 5a. Elaborate dermal irritation test method as per OECD guidelines. [7]
- 5b. Describe different segment studies used for the determination of different stages of reproductive toxicity. [8]
- 6a. Describe how the production of reversible/irreversible damage to the skin following the application of a test chemical is determined as per regulatory requirements. [7]
- 6b. Illustrate the importance of IND application from the industrial perspective. Briefly discuss the contents of IND for regulatory submission. [8]
- 7a. According to OECD guidelines, discuss the acute eye irritation/serious eye damage test. [7]
- 7b. Differentiate guinea pig maximization and Buehler tests in light of determining acute skin sensitivity in experimental animals. [8]

:::::26/04/2025 E:::::