

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

CLASS: M.PHARM.  
BRANCH: PHARMACOLOGY

SEMESTER: II  
SESSION: SP23

SUBJECT: MPL202T PHARMA. & TOXICOLOGICAL SCREENING METHODS - 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.
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- 1a. Define xenobiotics. Elaborate on the factors influencing toxicity with suitable examples in each case. [7]
- 1b. Justify the statement: "all substances are poisons" with suitable examples Explain the types of interactions occurring amongst xenobiotics to give altered effects [8]
- 2a. What is meant by safety pharmacology. Enumerate the criteria to be considered to design a safety pharmacology study. Illustrate the parameters used to assess these studies. [7]
- 2b. Write explanatory notes on: (a) hERG assay (b) Core Battery tests and their limitations [8]
- 3a. What is Haber's law and what is its importance in toxic dose calculation. Explain NOAEL, LOAEL, safety factor, MOS and therapeutic index with illustrations or examples. [7]
- 3b. What is meant by toxicokinetics. Explain elimination and biotransformation in the light of toxicokinetics. [8]
- 4a. Enumerate the different fields of toxicology. Differentiate between acute, subacute and chronic toxicity with respect to dose and responses with suitable examples in each case. [7]
- 4b. Briefly discuss the observation parameters of carcinogenicity studies. [8]
- 5a. Illustrate the method of sighting study in acute fixed-dose oral toxicity study as per OECD guidelines. [7]
- 5b. Write notes on Ames test for determination of genotoxicity and MTT assay for determination of cell viability. [8]
- 6a. Describe the alternative ocular irritation test performed on isolated bovine cornea. [7]
- 6b. Define and explain the importance of IND. Schematically present the process of IND application to approval. [8]
- 7a. Explain the segment II studies for embryotoxicity and teratogenicity test. [7]
- 7b. Elaborate dermal irritation test method as per OECD guidelines. [8]

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