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

CLASS: M.PHARM. **SEMESTER: I**
BRANCH: PHARMACY **SESSION: MO/2024**

SUBJECT: MPL103T PHARMACOLOGICAL AND TOXICOLOGICAL SCREENING

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. Define the following with two examples in each case: phlogistic agents, emetogens, algesics, pyretics, convulsants, ulcerogenic agents. [7]

1b. Name some local anaesthetic agents used in preclinical studies. Enlist the preclinical methods used to screen local anaesthetic activity and design a suitable experiment to evaluate infiltration anaesthesia. [8]

2a. Explain why an antiemetic study cannot be conducted in rodents. Name the species which are usually used for the screening of antiemetic activity. Design a suitable experiment to screen a compound for anticonvulsant activity using a chemical-induced method. [7]

2b. Enumerate the screening methods for antiulcer activity and illustrate a preclinical model to screen ulcerogenic activity of a substance. Explain Ulcer Index with the help of a mathematical representation [8]

3a. Define screening and bioassay and mention their types. Enumerate Irwin's test used for screening purposes. [7]

3b. Enumerate the screening methods used to check anti-inflammatory and antipyretic activity in animals. Design a suitable method to screen an unknown substance for acute inflammatory response [8]

4a. State the purpose of euthanising laboratory animals. Explain the chemicals used in euthanizing experimental animals. [7]

4b. Discuss the methods of transportation of laboratory animals in a manner that does not jeopardise their well-being or health status. [8]

5a. What do you understand by CCSEA? Describe the functions of CCSEA. [7]

5b. Describe the facilities essential to farm laboratory animals in animal husbandry. [8]

6a. Illustrate any two screening models used to evaluate the spatial learning of the experimental animals. [7]

6b. Briefly describe a method of determining digoxin from a biological matrix using a radioimmune assay. [8]

7a. State the methods of preparing transgenic animals. Explain any two of such methods with clear pictorial presentation. [7]

7b. Discuss the handling and identification process of common laboratory animals without compromising their safety. [8]

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