Question Paper

Exam Date & Time: 27-Nov-2023 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

Pharmacological and Toxicological Screening Methods I [PHA-MPL103T]

Marks: 75 **Duration: 180 mins.**

SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

1)	Describe the recommended specifications of laboratory animal facilities as per the regulatory guidelines.	(10)
2)	Summarize recent theories explaining Alzheimer's disorders. Propose animal models for drug screening aligned with these theories. Detail one transgenic model displaying Alzheimer's features, discussing its advantages and disadvantages.	(10)
3)	List the methods to screen antifertility agents. Describe any two methods to select a potential antifertility agent.	(10)
4)	Develop a diet-induced animal model for screening the antidiabetic activity of a newly developed DPP-IV inhibitor, which has shown significant inhibition in enzyme assays. Outline the key components of your experimental design, and discuss how this model can be used to assess the drug's efficacy against type II diabetes and associated complications	(10)
5)	Describe one preclinical method each for testing anti-anaphylactic and immunomodulating compounds.	(10)

SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

6)	You are assigned with evaluating the locomotor activity of a new chemical entity. Propose an instrument for this purpose, detailing its underlying principle and explaining how it would be applied in your assessment.	(5)
7)	Explain the principle, procedure and evaluation criteria of acetic acid-induced pain in animals.	(5)
8)	Which cell viability assay is preferred for assessing Phyto molecules in HeLa cell line cytotoxicity assays? Provide the principle and rationale for your choice	(5)
9)	Discuss non-competitive ELISA methods.	(5)
10)	Calculate the equivalent dose of a test compound (TC) for rats and humans if it was found effective in mice at a dose of 25 mg/kg orally.	(5)

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