

Question Paper

Exam Date & Time: 01-Dec-2017 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

MANIPAL COLLEGE OF PHARMACEUTICAL SCIENCES END SEMESTER THEORY EXAMINATIONS - NOVEMBER 2017

PROGRAM : MPHARM SEMESTER I

DATE :01-12-2017

TIME : 2:00PM - 5:00PM

Pharmacological and Toxicological Screening Methods I [PHA-MPL103T]

Marks: 50

Duration: 180 mins.

Answer the following (5 marks x 8 = 40 marks)

- 1) Discuss the characteristic features of rat and rabbit as an experimental animals. (5)
- 2) Define bioassay and explain the principles of bioassays. Write a note on multiple point bioassay. (5)
- 3) Explain any two methods for screening anti-asthmatics. (5)
- 4) Discuss the in vivo methods to screen female antifertility agents. (5)
- 5) List the various models to induce Alzheimer's disease. With a neat diagram, explain the principle and procedure of Morris water maze test. (5)
- 6) Explain the principle and procedure of actophotometer and rota-rod apparatus. (5)
- 7) List various animal models to screen anti-arrhythmic drugs. Write a short note on ouabain-induced arrhythmia. (5)
- 8) Explain the principle involved in cell viability assays to screen cytotoxic drugs. (5)

Answer the following with specific answers (2 marks x 5 = 10 marks)

- 9) What is interspecies difference? With an example explain this phenomenon. (2)
A)

- B) Mention advantages of ELISA over radio-immunoassays. (2)
- C) How does difference in basal metabolic rate contribute to the difference in drug response during extrapolation of data from animals to humans? (2)
- D) Explain the principle of 4R's related to animal experiments. (2)
- E) In pre-clinical efficacy testing, optimum activity was observed at 30 mg/kg in rats. The average weight of rats was 200 g. Calculate the human equivalent dose for an average human weight of 60 kg. (2)

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