

Pre-requisites: Pharmacology-I Lab

Objective:

- To study the effects of various drugs and their antagonists in presence or absence of each other in animals.

Course Assessment:

Mid Term Practical Exam	50
Final Practical Exam	50
Total	100

Course Outcomes:

After performing experiments, mostly on software, students would gain enough knowledge to understand the mechanism of drug action and effects of drugs on different organs in rodents, which would help them to design the drugs to reduce the side effects associated with different drugs.

Topics Covered:

1. To find out the actions of a few drugs on the blood pressure (BP) and heart rate (HR) of dog (using suitable software system).
2. To identify the nature of the given drug (unknown) by observing its action on the BP and HR in an anesthetized dog and its interaction with other (known) drugs (using suitable software system).
3. To obtain a graded dose response curve of histamine and determine the concentration of the same in a solution (unknown concentration) by matching bioassay using guinea pig ileum (expharm software).
4. To find out effect of drugs on the isolated frog heart (using expharm software).
5. The effect of adrenaline, acetylcholine, atropine and adrenaline on atropinized ground on arterial pressure.
6. To demonstrate the effect of anaesthetic substances and low temperature on action potential.
7. To find out the the effect of hydrostatic pressure, osmotic pressure and diameter of afferent and efferent arterioles on urine flow.
8. To demonstrate the influence of aldosterone and anti diuretic hormone on the urine flow.
9. To demonstrate the influence of glucose on the urine flow.
10. To demonstrate the effect of insulin and alloxan on blood glucose.
11. To demonstrate the effect of thyroxine, TSH and propylthiouracil on metabolism.
12. To demonstrate the effect of pancreatic lipase in the presence and absence of bile.

Text Books

1. Medhi B, Prakash A. Practical Manual of Experimental and Clinical Pharmacology. Jaypee Brothers Medical Publishers (P) Ltd 2010.
2. Ghosh MN. Fundamentals of Experimental Pharmacology. Hilton & Company, Calcutta, 5th edition, 2011.
3. Kulkarni SK. Hand Book of Experimental Pharmacology. Vallabh Prakashan, Delhi, 3rd edition, 2009.
4. Turner R. Screening Methods in Pharmacology. Academic Press. Vol. I & II, Indian Reprint 2011.

Reference books

1. Gupta SK. Drug Screening Methods (Preclinical evaluation of new drugs). Jaypee brothers medical publishers (P) Ltd. 2nd edition, 2009.
2. Vogel H. Drug Discovery and Evaluation: pharmacological assay. Springer-Verlag Berlin Heidelberg New York, 3rd edition, 2007.