

## PHARMACOLOGY AND TOXICOLOGY PRACTICAL

EXPERIMENT NO.: 17

DATE: \_\_\_\_\_

**AIM: TO STUDY THE TIME REQUIRED FOR INDUCTION AND RECOVERY FROM VARIOUS VOLATILE GENERAL ANESTHESIA IN RAT**

**REQUIREMENT:**

Apparatus: Saturating chamber/bell jar, Cotton, Stopwatch

Animal: Rats

Drug: Chloroform, Ether

**PRINCIPLE:**

General anesthetics are often defined as compounds that induce a reversible loss of consciousness in humans righting or loss of reflex in animals. General anesthetics exert their action by acting on the plasma membrane or by the activation of inhibitory central nervous system (CNS) receptors like GABA, and the inactivation of CNS excitatory receptors. The relative role of different receptors is still under much debate, but evidence has emerged for some targets being involved with particular anesthetics. When anesthetics is given to the rat, slowly it loses righting reflex (unable to get their position when it placed on its back) loss of righting reflex is consider as a parameter of induction of anesthesia and reappearance of righting reflex is consider as a parameter for recovery.

**PROCEDURE:**

- Weigh the rats.
- Take two saturating chamber/bell jar and place the cotton swab at the bottom of each saturating chamber/bell jar and add 5 mL of chloroform in one bell jar and 5 mL of ether in other bell jar.
- Now place the rat in each bell jar and close the bell jar.
- Start the stopwatch and record the time for induction of anesthesia.
- Now open the bell jar and remove the rats from each bell jar and record the recovery time for each animal respectively.

**OBSERVATION TABLE FOR REFERENCE PURPOSE:**

Drug	Time required induction for anesthesia (Sec)	Time required for recovery (Sec)	Duration of action (Sec)
Chloroform	56	189	133
Ether	78	119	41

**OBSERVATION TABLE FOR REFERENCE PURPOSE:**

Drug	Time required induction for anesthesia (Sec)	Time required for recovery (Sec)	Duration of action (Sec)

TEACHER'S SIGNATURE