



MANIPAL

ACADEMY of HIGHER EDUCATION

(Institution of Eminence Deemed to be University)

EXPERIMENTAL AND COMPUTATIONAL ELUCIDATION OF THE DIURETIC ACTION OF *Tribulus terrestris*: AN INTEGRATED IN VIVO AND IN SILICO APPROACH

A THESIS SUBMITTED TO
MANIPAL ACADEMY OF HIGHER EDUCATION
FOR FULFILLMENT OF THE REQUIREMENT FOR THE
AWARD OF THE DEGREE
OF

DOCTOR OF PHILOSOPHY

BY

AMRUTH KIRAN

REG NO: 196600001

UNDER THE GUIDANCE OF

DR. ARUL AMUTHAN L

ASSOCIATE PROFESSOR
DIVISION OF PHARMACOLOGY
DEPARTMENT OF BASIC MEDICAL SCIENCES
HEAD, DIVISION OF SIDDHA
CENTRE FOR INTEGRATIVE MEDICINE AND RESEARCH
MANIPAL ACADEMY OF HIGHER EDUCATION
MANIPAL, KARNATAKA, INDIA-576104

UNDER THE CO-GUIDANCE OF

DR. VASUDEV R PAI

ASSOCIATE PROFESSOR
DEPARTMENT OF PHARMACOGNOSY
MANIPAL COLLEGE OF PHARMACEUTICAL SCIENCES
MANIPAL ACADEMY OF HIGHER EDUCATION
MANIPAL, KARNATAKA, INDIA-576104

**DEPARTMENT OF BASIC MEDICAL SCIENCES
MANIPAL ACADEMY OF HIGHER EDUCATION
MANIPAL – 576104, KARNATAKA, INDIA**

MARCH-2026