

PROGRAMME OUTCOMES OF M. Sc. II ZOOLOGY 2024-25

After completion of M.Sc. I Zoology program the student will be able to:

PO 1: Apply the knowledge of zoology in day today life.

PO 2: Students are able to understand animals from their sub-cellular to ecosystem level.

PO 3: Gain knowledge of agro based entrepreneurship like Sericulture, aquaculture, apiculture and lac culture for providing lab-to-land benefits to Society.

PO 4: Students are able to frame hypothesis, design experiment, analyse data & generate conclusions.

PO 5: Students are able to work to work in animal cell culture lab, taxonomy, able to operate different instruments in biological sciences like toxicity studies.

PO 6: Students are able to work in different fields of biological sciences like animal cell culture, toxicology, enzymology, bio-instrumentation and taxonomy.

PO 7: Students are able to address societal issues like pollution, health awareness, pest-parasite management and biodiversity conservation.

PO 8: Students are able to gain knowledge on applied science and its application to sustainable development.

COURSE OUTCOMES (COS): GENETICS (MSU0325MML93911)

Upon successful completion of this course, students will be able to:

CO 1: Understand the basics of human chromosome and molecular basis of sex determination.

CO 2: Understand how bacteria acquire resistance against antibiotics and bacteriophages, basics of population genetics.

CO 3: Understand the molecular mechanism of mutation with suitable genetic examples.

CO 4: Able to upgrade different perspectives of Genetic counseling.

COURSE OUTCOMES (COS): ENZYMOLOGY (MSU0325MML93912)

Upon successful completion of this course, students will be able to:

CO 1: Understand the nomenclature and classification of enzymes and cofactors.

CO 2: Understand the purification techniques and enzymes structure.

CO 3: Understand the enzyme kinetics and factors affecting the kinetics.

CO 4: Understand the organization of enzymes and their industrial applications.

COURSE OUTCOMES (COS): Immunology (MSU0325MEL93911)

Upon successful completion of this course, students will be able to:

CO 1: Understand the fundamentals of immune system and role and mechanism of defense cells and organs.

CO 2: Illustrate the significance of antigens, antibodies, complements, MHCs, cytokines and chemokines in immune functions.

CO 3: Understand the different types of hypersensitivity reactions.

CO 4: Gain knowledge of mechanism of maturation, activation and differentiation of T and B cells.

COURSE OUTCOMES (COS): ANIMAL CELL CULTURE (MSU0325MML939J1)

Upon successful completion of this course, students will be able to:

CO 1: Understand the basic requirement for animal cell culture, laboratory set up and aseptic conditions.

CO 2: Illustrate growth media requirement of mammalian cell culture.

CO 3: Gain knowledge of various in vitro cytotoxicity and viability assays, growth parameters in culture.

CO 4: Understand concept of surgical manipulations of IVF, culturing of differentiated cells, preparation of feeder layer and reconstituted basement membrane rafts.

COURSE OUTCOMES (COS): TOXICOLOGY (MSU0325MML939J2)

Upon successful completion of this course, students will be able to:

CO 1: Gain knowledge of toxic compounds, its effects on health and environmental deterioration.

CO 2: Imparts knowledge of types of toxicities, toxicological tests and its application in toxicity assessments.

CO 3: Understand harmful effects and toxic kinetics of commonly used toxicants like pesticides and metal ions.

CO 4: Gain knowledge of Bioaccumulation and biotransformation of various persistent toxicants and its issue in toxicity.

COURSE OUTCOMES (COS): CELL PATHOLOGY (MSU0325MEL939J1)

Upon successful completion of this course, students will be able to:

- CO 1:** Understand cells stress response, basic mechanism of cell death by apoptosis and necrosis.
- CO 2:** Understand the basics of cancer biology.
- CO 3:** Understand the biology of aging.
- CO 4:** Impart knowledge of effect of metabolic inhibitors.