

GOUR MAHAVIDYALAYA

ACCREDITED BY NAAC (2nd Cycle) B+

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I do hereby certify that the documents submitted by the Department of Zoology for Course Outcome are true to the best of our knowledge. The department has diligently complied with the requirements and standards set forth for the evaluation of course outcomes.

Principal
A. K. sarkar
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COURSE OUTCOME DEPARTMENT OF ZOOLOGY

The Programme Specific Outcomes for the Subject are as follows

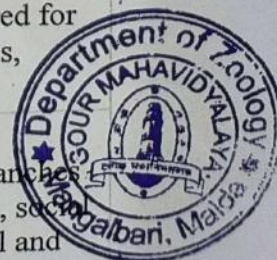
1. Demonstrate a fundamental understanding of the academic field of Zoology, its different learning areas and applications, and its link with related disciplinary areas/subjects; provides awareness on the divisions in Animal Kingdom, their distribution, relationship among them and with the environment.
2. Show Procedural knowledge in various professions related to the subject in different fields inclusive of research and development, teaching, government and public services with the help of practical tests in different branches; Use it to analyse complex interactions among the various animals of different phyla, their distribution and their relationship with the environment.
3. Exhibit Skills in areas related to their individual specialization like genetic engineering, in relation to current developments and related fields in the domain; helps to apply the knowledge of internal structure of cell, its functions in control of various metabolic functions of organisms.
4. Able to communicate the concepts, constructs and techniques involved in with ease and in a clear manner based on the animal evolution, animal behaviour, animal development and animal ecology topics.
5. Techniques and Methodologies discussed in the vital topics like Cell Biology, Genetics, Molecular Biology manifest the knowledge in research specific areas and studies by correlating the physiological processes of animals and relationship with cellular structure.
6. Understand the environmental conservation processes and its importance, pollution control, protection of endangered species, Wildlife Management, Climatic changes and Global Management are discussed as a paper to improvise the subject knowledge for identifying any problems related and in helping the impacted environment and biodiversity.
7. Helps advancement in job, trades, and employment with the help of knowledge about of Agro-based Small Scale industries like sericulture, fish farming, butterfly farming and vermicompost preparation and helps create various opportunities in the educational, research and developmental, social entrepreneurial sectors related to the same.
8. Should be able to create a contextual contents and examples in the real time world based on the applications and discussions carried out in all the subjects like combining clinical laboratory techniques studied as part of Medical Parasitology and behaviours of the microbes studied as part of the Microbiology.
9. Improve the observational, computational, and analytical ethical skills required for the research and development fields discussed for evolving trends in Genetics, molecular biology, micro-biology, cell biology, etc..
10. Apply Zoology discipline helps in adding Benefit by provisioning in-depth information regarding the socio-economic, bio-economic and economical branches to use the underlying concepts and core knowledge in enabling the industrial, social and environment benefits; enhances the ethical skills to cater the professional and industrial needs

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Course Outcome for Honours

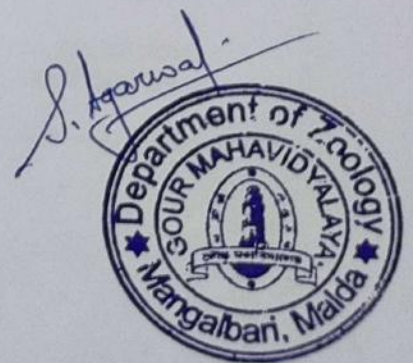
SEMESTER	PAPER CODE	OUTCOME
I	ZOOL-H-DC1-T ZOOL-H-DC1-P ZOOL-H-DC2-T ZOOL-H-DC2-P	<p>After completion of course module ZOOL-H-DC1-T & ZOOL-H-DC1-P, students will understand the ontogeny and other physiological processes with respect to Protozoa, Porifera, Cnidaria, Ctenophora, Platyhelminthes, Nematelminthes.</p> <p>After completion of course module ZOOL-H-DC2-T & ZOOL-H-DC2-P, students will understand the ontogeny and other physiological processes with respect to Coelomate, Annelida, Onychophora, Mollusca, Echinodermata, Hemichordata.</p>
II	ZOOL-H-DC3-T ZOOL-H-DC3-P ZOOL-H-DC4-T ZOOL-H-DC4-P	<p>After completion of course module ZOOL-H-DC3-T & ZOOL-H-DC3-P, students will understand the ontogeny and other physiological processes with respect to all chordates.</p> <p>After completion of course module ZOOL-H-DC4-T & ZOOL-H-DC4-P, students will understand the ontogeny and other sub-topics of Comparative anatomy. To understand evolution and increasing complexity of physiological systems in higher groups of animals.</p>
III	ZOOL-H-DC5-T ZOOL-H-DC5-P ZOOL-H-DC6-T ZOOL-H-DC6-P ZOOL-H-DC7-T ZOOL-H-DC7-P	<p>After completion of course module ZOOL-H-DC5-T & ZOOL-H-DC5-P, students will understand the all mechanism of Cell Biology and the fundamentals of genetics.</p> <p>After completion of course module ZOOL-H-DC6-T & ZOOL-H-DC6-P, students will understand the various aspects of Ecology.</p> <p>Module ZOOL-H-DC7-T & ZOOL-H-DC7-P will aid to understand the development of embryo, various organs, organ-systems, placentation, implantation, IVF, ageing and regeneration etc. Further it will help to understand reproduction and reproductive organs.</p>
IV	ZOOL-H-DC8-T ZOOL-H-DC8-P ZOOL-H-DC9-T ZOOL-H-DC9-P ZOOL-H-DC10-T ZOOL-H-DC10-P	<p>ZOOL-H-DC8-T & ZOOL-H-DC8-P will help the students to envisage the structure and functions of bio/macromolecules of life and intermediary metabolism.</p> <p>After completion of course module ZOOL-H-DC9-T & ZOOL-H-DC9-P, students will understand the mechanisms of Physiology of life Sustaining Systems. Students will also understand the functioning of various physiological systems of vertebrates including human beings and abnormalities related to these systems.</p> <p>After completion of course module ZOOL-H-DC10-T & ZOOL-H-DC10-P, students will understand the basics of taxonomy, Binomial nomenclature, i.e.- systematic as a whole. Further this paper delivers the idea of organic evolution, Darwinism, species concept and other topics pertaining to evolution.</p>

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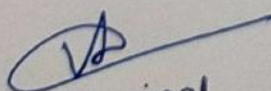
V	<p>ZOOL-H- DC11-T ZOOL-H- DC11-P ZOOL-H-DC12-T ZOOL-H-DC12-P</p> <p>ZOOL-H-DSE1-T-A/B ZOOL-H-DSE1-P-A/B ZOOL-H-DSE2-T-A/B</p>	<p>ZOOL-H- DC11-T & ZOOL-H- DC11-P deals with two topics and it is designed to provide ideas on i) the histo-architecture of different organs and systems; ii) the mechanisms related to Endocrinology .</p> <p>ZOOL-H-DC12-T & ZOOL-H-DC12-P deals with the practical applications of zoological sciences, Life cycle of important parasites/pests, Understand pest control.</p> <p>ZOOL-H-DSE1-T-A/B</p> <p>A) Animal Biotechnology: Biotechnology with an understanding of the applications in human life. B) Microbiology: Provide idea on general microorganisms, pathogenicity of Microorganisms and its effect on human life.</p> <p>ZOOL-H-DSE2-T-A/B</p> <p>A) Biostatistics : Designed to deal with basics of biostatistics</p> <p>B) Bioinformatics: Provide idea on computers, computer coding, proteomics and various common useful tools associated with bioinformatics.</p>
		<p>ZOOL-H-DC13-T & ZOOL-H-DC13-P deals with two topics i) to understand the morphology and life cycle of important insect vectors and diseases transmitted by them, understand different types of host, host - parasite interactions, epidemiology, pathogenicity, treatment and prophylaxis of these diseases ; ii) To understand various components (cells and organs) of immune system. Functioning of immune system, to understand complement system, MHC, hypersensitivity, anaphylactic reactions and vaccines</p> <p>ZOOL-H-DC14-T & ZOOL-H-DC14-P deals with modern techniques and instruments for biochemical estimation, Molecular aspect of cell signaling.</p> <p>ZOOL-H-DSE3-T-A/B</p> <p>A) Animal Behaviour: Introduces with history of ethology, patterns of behaviour and biological rhythm,</p> <p>B) Toxicology, Environmental Biology and Public Health: Deals with Outline of Toxicology, pollution, waste management technologies and effects of toxicants on public health.</p> <p>ZOOL-H-DSE4: Biology of insects</p> <p>Deals with insect taxonomy, physiology of insects and its role as vector of diseases.</p>
	<p>ZOOL-H-DC13-T ZOOL-H-DC13-P ZOOL-H-DC14-T ZOOL-H-DC14-P ZOOL-H-DSE3-T-A/B ZOOL-H- DSE3-P-A/B ZOOL-H-DSE4-T/DP</p>	

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Course Outcome for General

SEMESTER	PAPER CODE	OUTCOME
I	(A1)ZOOLOG-DC1-T ZOOLOG-DC1-P	After completion of course module students will gain knowledge on the Animal Diversity starting from Protozoa to Mammals. Further this module deals with various aspects of Ecology.
II	(A2) -ZOOLOG-G-DC4-T (A2) -ZOOLOG-G-DC4-P	After completion of course module students will understand the ontogeny and other sub-topics of Comparative anatomy, students will also gain understanding of basic developmental biology
III	(A3)-ZOOLOG-G-DC7-T (A3)-ZOOLOG-G-DC7-P	After completion of course module, students will understand the basics of physiology and the importance of biochemistry in the physiology of an animal.
IV	(A4) ZOOLOG-DC 10 -T (A4) ZOOLOG-DC 10 -P	After completion of course module students will understand the fundamentals of genetics. Further this paper delivers the idea of organic evolution, Darwinism, species concept and other topics pertaining to evolution.
V	(A1) - ZOOLOG-G- DSE1-A/B/C-T (A1) - ZOOLOG-G- DSE1-A/B/C-P	(A) Cell Biology and Animal biotechnology : This chapter aims to deliver idea on the applications of biotechnology in human life. (B) Immunology : students will understand the mechanisms related to Immunology (C) Reproductive biology : It will help to understand the process of reproduction and reproductive organs.
VI	(A2) -ZOOLOG-G-DSE4 A/B/C-T (A2) -ZOOLOG-G-DSE4 A/B/C-P	(A) Aquatic biology: Provide idea on Aquatic biome, fresh water, marine biology (B) Applied Zoology: Deals with various Scope of Applied Zoology and also informs about commercial aspect of Zoology (C) Insects, Vectors and Diseases: Deals with insect taxonomy, physiology of insects and its role as vector of diseases.


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