



M.V.R. DEGREE COLLEGE

(UG And PG Courses)

(Affiliated to Andhra University)

An Institution of Priyadarshini Educational Academy)

NAAC ACCREDITED COLLEGE

Dr.V.Rama Rao, M.A.,Ph.D.,
Secretary & Correspondent

Dr.A.Balakrishna, M.Sc.,Ph.D.,
Principal

Department of Zoology

Bachelor of Science(B.Sc:CBZ)

w.e.f.2015-16

Course Outcomes Of Zoology

Course Code	Course Title	Course Outcomes
Course 1 (TH)	ANIMAL DIVERSITY NON – CHORDATES	CO1.Know about the general characters and classification up to orders from phylum protozoa to hemichordate. CO2. Gain knowledge about some of the important and common protozoans, helminthes, arthropods of parasitic in nature. CO3. Understand about the morphology of Earthworm and economic importance of vermin compost. CO4. Understand about Pearl formation in pelecypoda ,Water vascular system in star fish. CO5. Identify the various invertebrate larval forms.
Course 1 (PR)	ANIMAL DIVERSITY- NON CHORDATES	CO1. To understand the importance of preservation of different non-chordate species. CO2. To identify the animals based on the special identifying characters. CO3. To understand the different organs system through demo or virtual dissections. CO4. To maintain a neat ,labelled record of the identified preserved species.
Course2 (TH)	ANIMAL DIVERSITY -CHORDATES	CO1.Know about distinct features and distribution of Chordates, Origin of Chordates. CO2. Know about general characters and classification ofProtochordates,Cyclostomes,Fishes,Amphibia,R eptilia,Aves and Mammals. CO3.Structure and life history ofHerdmaria (Retrogressive Metamorphosis). CO4. Gain knowledge about the types of scales in fishes,Migration ofFishes ,Flight adaptations in birds. CO5. Acquire knowledge on the Dentition in



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		Mammals.
Course2 (PR)	ANIMAL DIVERSITY – CHORDATES(PRACTIC AL) PAPER - II	CO1.To understand the importance and other methods of preservation of chordates. CO2. To identify chordates species based on special identifying characters. CO3. To understand the internal anatomy of animals through demo or virtual dissections. CO4. To maintain neat, labelled record of identified preserved specimens.
Course3 (TH)	CELL BIOLOGY ,GENETICS AND EVOLUTION	CO1. Gain knowledge on the basic unit of living organisms and to differentiate the organisms by their cell structure. CO2. Know about the structure and function of plasma membrane and different cell organelles of eukaryotic cell. CO3. To understand the branch of genetics, gain knowledge on heredity, interaction of genes ,various types of inheritance of patterns existing in animals. CO4. Acquiring knowledge on various of aspects of genetics involved in sex determination, human karyotyping and mutations of chromosomes resulting in various disorders. CO5. Know about the origin of life, theories ,forces of evolution, role of variations and mutations and macroevolution of organisms.
Course3 (PR)	CELL BIOLOGY,GENETICS AND EVOLUTION	CO1. Experience on different phases of cell division by experimentation. CO2. Develop skills on human karyotyping and identification of chromosomal disorders. CO3. Know about mendilian laws and the concept of inheritance. CO4. To get familiar with phylogeny and geological history of origin & evolution of animals. CO5. Identify the Darwin finches.
Course4 (TH)	EMBRYOLOGY,PHYSIO LOGY AND ECOLOGY	CO1. Gain knowledge on the early embryonic development starting from the formation of gametes upto gastrulation and formation of primary germ layers.



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		CO2. Understand the functions of important animal physiological system including digestion ,respiration and excretion. CO3. Understand the muscule system and neuro-endocrine glands and harmone control of reproductive system. CO4. Know about the meaning and scope of ecology, important biotic factors, food web ,energy flow and nutrient cycles. CO5.Community ,zoogeography regions, study of physical and faunal peculiar, orientation ,Australian and Ethiopian regions.
Course4 (PR)	EMBRYOLOGY,PHYSIOLOGY AND ECOLOGY .	CO1. Identification of different stages of early embryonic development in animals. CO2. Identification of various quantitative methods ,carbohydrates, proteins, ammonia, uric acid . CO3. Study of different prepared slides T.S of duodenum lung, kidney , bone marrow. CO4. Estimation of dissolved oxygen, total alkalinity and salinity.
Course5 (TH)	ANIMAL biotechnology .	CO1. Understand the tools of recombinant DNA (r DNA) technology , cloning vectors . CO2. Techniques of recombinant DNA technology. CO3. Learning Animal cell technology,cell culture ,hybridoma technology. CO4. Gain knowledge about reproductive technologies &trasngeneic animals. CO5: Understand about the applied biotechnology industry.
Course5 (PR)	ANIMAL biotechnology	CO1. Understand the isolation of plasmid DNA from E. Coli , preparation of genomic DNA , electrophoresis. CO2. Gain knowledge about techniques – western, southern, hybridization, DNA finger printing , PCR. CO3. Understand about the packing & sterilization of glass & plastic wires for cell culture , preparation of culture media.
Course6	ANIMAL HUSBANDRY	CO1. Understand about the poultry farming,



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(TH)		management of chicks, growers, layers & broilers. CO2. Gain knowledge about principles of feeding-poultry diseases- viral, bacterial, fungal & parasitic. CO3. Understand about the selection of care, & handling of hatching eggs. CO4. Learn about the various types of breeds of both indigenous and exotic breeds, weaning of calf, types of breeding, deworming ,vaccination , records maintainence in dairy farm. CO5. Knowing about the care & management of calf, heifer, milchanimal , pregnant animal, bulls & bullocks.
Course6 (PR)	ANIMAL HUSBANDRY	CO1. Study of various breeds of layers & broilers. CO2. Gain knowledge on disease identification as per theory . CO3. Study of anatomy of poultry birds. CO4. Learn about the various types of cattle breeds
Course7(T H)	IMMUNOLOGY (ELECTIVE)	CO1. Understand about overview of immune system, innate & adaptive immunity, cells & organs systems. CO2. Know about basic principles of antigens, B & T cells epitopes, haptens& adjuvants, factors influencing immunogenicity. CO3. Know about the structure of antibody , classes & functions of antibodies ,monoclonal antibodies. . CO4. Learn about the structure & functions of major histocompatibility complex, exogenes , & endogens pathways. CO5. Know about the care & management of calf, heifer,milch animal, pregnant animal, bulls &.bullocks.
Course7 (PR)	IMMUNOLOGY (ELECTIVE)	CO1. Able to gain knowledge on demonstration of lymphoid organs. CO2. They able to acquire knowledge on observing the histological slides of spleen , thymus, & lymph nodes. CO3. Know about to determine the blood grouping.



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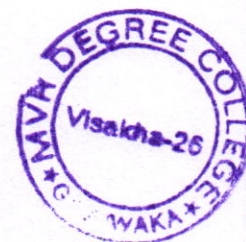
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		CO4. Learn about the demonstration of ELISA & immune electrophoresis.
Course 8B1 (TH)	PRINCIPLES OF AQUACULTURE PAPER VIII B1	CO1. Gain an overview of the fishery & aquaculture industry in the world. CO2. Gain knowledge about the various fishes like major, minor, food & exotic fishes. CO3. Understand to design a pond, its layout ,design & construction using theoretical knowledge. CO4. Understand the culture practice & traditional intensive & procurement of seed management of carp. CO5. Demonstrate critical thinking in providing the nutritional requirements according to the age of fish, shrimp & prawn.
Course 8B1 (PR)	PRINCIPLES OF AQUACULTURE PAPER VIII B1	CO1. Identify important edible fishes, crustaceans ,and aquarium fishes. CO2. They able acquire knowledge on the descriptive ,morpho metric & meristic characters. CO3. Gain knowledge about the fish & shrimp diseases. CO4. Understand about various studied on pond management.
Course 8B2 (TH)	AQUACULTURAL MANAGEMENT PAPER VIII B2	CO1. Gain knowledge about various breeding & hatchery management. CO2. Understand the importance of water quality management. CO3. Study about feed management, live foods, and their shrimp larval nutrition. CO4. Gain knowledge insight about disease management ,health management & prophylaxis. CO5. They able to apply knowledge on economics and marketing , fisheries, extension & fish genetics.
Course 8B2 (PR)	AQUACULTURAL MANAGEMENT PAPER VIII B2	CO1. Observe and identify the various live food organisms. CO2. Able to formulate fish feed from diverse ingredients.



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		CO3. Gain knowledge on the fish products. CO4. Developing flow charts and exercises in identification of hazards, procedures in processing fish.
Course 8B3 (TH)	POST HARVEST TECHNOLOGY (THEORY) PAPER VIII B3	CO1. Gain knowledge about handling & principles of fish preservation. CO2. Understand the methods of fish preservation both traditional & artificial methods. CO3. Able to gain knowledge on preservation of fish products & fish – by products. CO4. Acquire knowledge on uses of sea weeds ,disease treatment & preparation of therapeutic drugs. CO5. Sanitation & quality control and learn various principles of HACCP.
Course 8B3 (PR)	POST HARVEST TECHNOLOGY PAPER VIII B3	CO1. Project work to visit to a fish breeding unit. CO2. They able to gain knowledge on the shrimp hatchery and do a project work.



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Shramika Nagar, Gajuwaka,
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