FATIMACOLLEGE(AUTONOMOUS),MADURAI–625018
COURSE OUTCOMES

NAME OF THE PROGRAMME: **B.Sc. ZOOLOGY** **PROGRAMMECODE:UAZO**

COURSE CODE	COURSE TITLE	COURSE OUTCOMES
19Z1CC1	**Invertebrata**	CO1. Describe the fundamental organization of animals CO2. Explain the levels of organization of animal kingdom and origin of metazoan CO3. List the general characters of animals from Phylum Protozoa to Phylum Echinodermata List the general characters of animals from Phylum Protozoa to Phylum Echinodermata CO4. Summarize the parasitic protozoans and types of nutrition in Protozoa CO5. Classify Coelenterata based on Zooids CO6. Narrate the parasitic adaptations of helminth parasites CO7. Discuss the modifications of foot in Mollusca and water vascular system in star fish

		CO8. Organize the diversity of animals from simple to complex through a chart/ model
19Z1CC2	**Cell Biology**	CO1. Explain the different types of microscopes. CO2. Distinguish between Eukaryotic and Prokaryotic cells. CO3. Describe the structure and functions of cell organelles. CO4. Outline the steps involved in cellular respiration. CO5. Discuss the structure and functions of Nucleic acids. CO6. Explain the processes of cell division by mitotic &meiotic phase. CO7. Outline the characteristics of Cancer.
19Z1CC3	**Lab In Invertebrata & Cell Biology**	CO1. Recognizes the levels of organization among Invertebrates. CO2. Illustrate the Skill of Dissection of Organisms CO3. Recalls the Structure and Functions of Cellular Organelles. CO4. Summarize the unique features of different Phyla among Invertebrates. CO5. Demonstrate skill of handling Microscopes.

19Z1NME	**Maternity and Child Health**	CO1. List male and female reproductive organs CO2. Discuss the various women health related issues CO3. Associate the hormonal secretions with the different phases of menstruation cycle CO4. Recall the warning signals, major and minor problems during pregnancy CO5. Describe the supplementary diet pattern for pregnant and lactating women and children CO6. Classify the family planning methods with examples CO7. Outline the immunization schedule CO8. Describe the causes, symptoms, diagnosis and treatment of six killer diseases and sexually transmitted diseases

19Z2CC4	**Chordata**	CO1. Recall the levels of organization among Chordates. CO2. Bring out the general characters and Classification of Chordates. CO3. Distinguish between the Classes of Chordates. CO4. Identify the Systematic Position of Animals. CO5. Evaluate the unique features of each Class of Chordates.
19Z2CC5	**Genetics**	CO1. Define the different laws of Mendel. CO2. Solve the problems related to monohybrid and dihybrid cross. CO3. Explain the mechanism of Linkage and crossing over. CO4. Outline the concept of sex-linked inheritance. CO5. Discuss the types of mutation. CO6. Explain different types of syndromes caused by chromosome abnormalities. CO7. Identify the effective ways of diminishing the chronic genetic disorders.

19Z2CC6	**Lab In Chordata & Genetics**	CO1.Recognizes the levels of organization among Chordates. CO2.Classify Chordates upto class level. CO3.Distinguish the Mendelian Traits as Dominant and Recessive. CO4.Develops the skill of dissecting organisms and displaying. CO5.Interprets the Pedigrees.
19Z2NME	**Maternity And Child Health**	CO1. List male and female reproductive organs CO2. Discuss the various women health related issues CO3. Associate the hormonal secretions with the different phases of menstruation cycle CO4. Recall the warning signals, major and minor problems during pregnancy CO5. Describe the supplementary diet pattern for pregnant and lactating women and children CO6. Classify the family planning methods with examples CO7. Outline the immunization schedule CO8. Describe the causes, symptoms, diagnosis and treatment of six

		killer diseases and sexually transmitted diseases
19Z3CC7	**HUMAN PHYSIOLOGY**	CO1. Summarize the basic components and functions of the digestive system and their disorders CO2. Organise major organs of the respiratory functions and their diseases CO3. Describe circulatory system and their functions CO4. List the male and female urinogenital system CO5. Explain the functional role of neuromuscular system CO6. Identify the physiological and biochemical role of hormones CO7. Outline the structure and mechanism of the sense organs
19Z3CC8	**ENVIRONMENTAL BIOLOGY**	CO1. Explain the structure and function of the Ecosystems CO2. Compare and contrast different types of Ecosystem CO3. List the value of soil ecosystem services CO4. Identify the nature and interactions of populations in the ecosystem

		CO5. Explain the method of population limitations CO6. Identify how a stable climax community is formed in an ecosystem CO7. Infer the importance of Biodiversity and its conservation CO8. Show the consequences of Human actions on global environment
19Z3SB1	**Vermitechnology**	CO1. Identify the different species of earthworm CO2. Explain the Biology of earthworms CO3. Classify the ecological group of earthworms CO4. Elucidate the role of earthworm in diverse applications CO5. Describe the Physical, Chemical and Biological properties of Vermicompost CO6. Distinguish between Vermicompost, Vermiwash and Vermicast CO7. Summarize the methods of Vermicomposting CO8. Analyse the economics and prospects of vermiculture as self employment avenues

19Z3CC9	**Lab In Human Physiology And Environmental Biology**	CO1. Identify the different types of zooplanktons CO2. Recall the preparation haemin crystal CO3. CO4. Estimate the dissolved O_2 and CO_2 in given water samples CO5. Infer the qualitative estimation of protein CO6. Interpret the Qualitative analysis of urea, ammonia and creatinine CO7. Demonstration on ECG, BMI Chart CO8. Interpret hormonal disorder
19Z3ACQ1	**Plant Diversity, & Pathology**	CO1. Recognize the structure and life cycle of algae and fungi CO2. Identify the plant diseases with the help of symptoms and choose the control measures CO3. Relate the role of Lichen as pollution indicators CO4. Outline the general characters of Bryophytes, Pteridophytes and Gymnosperms CO5. Infer the symbiotic relationship between plants and microbes in nitrogen fixation CO6. Identify the binomial name with the help of vernacular or common name

		CO7. Relate the various angiospermic plants to their families CO8. Make use of economically important locally available plants
19Z3ACQ2	**Lab - Plant Diversity, & Pathology**	CO1. Construct suitable micro preparations CO2. Construct sections of given plant materials with illustration and description CO3. Make use of dissection microscope to display the floral parts of Angiosperms CO4.Identify specimens and slides from Algae,Fungi,Lichens,Bryophytes, Pteridoplytes and Gymnosperms included in the syllabus
19C3ACZ1	**Animal Diversity, Physiology & Genetics**	CO1. Outline the general characters with of invertebrate and chordata with reference to organization, symmetry, body cavity. CO2. Explain the digestive system, role of enzymes, digestion and absorption of Carbohydrates, Protein and Fat in Man. CO3. Distinguish between internal and external respiration in context to the mode and transport of gas exchange. CO4. Summarize the structure and function of heart, Kidney, eye and ear

		CO5. Explain the Mendelian Laws Of Inheritance & Allelism
19C3ACZ2	**Lab In Animal Diversity, Physiology And Genetics**	CO1. Outline the Laboratory biosafety guidelines and good laboratory practices CO2. Recall the Principle of Compound microscope CO3. Dissect and mount the Body setae of Earthworm CO4. List out the features of the given spotters *Amoeba,Taenia solium*, *Nereis*, *Amphioxus* (entire), *Anguilla* (Eel), Toad (*Bufo*), Cobra, Chamaeleon, Pigeon and various Syndromes CO5. Test for the presence of carbohydrates, proteins and Lipids, Urea and Uric acid in the given sample CO6. Examine the Haemin Crystal under the microscope CO7. Recall the structure of human physiological model such as Ear, Eye and heart.

19Z4CC10	**Microbiology**	CO1. List out the importance and scope of Microbiology CO2. Explain the types of Culture media. CO3. Outline the methods of culturing bacteria CO4. Describe the ultrastructure of bacteria CO5. Discuss the gene transfer methods of bacteria. CO6. Compare the difference between DNA and RNA viruses. CO7. Summarize the microbial production in various industrial products.
19Z4CC11	**Evolution**	CO1. Recall the basic concepts of origin of life on earth CO2. Relate the evidences of evolution by observing the morphology of organisms. CO3. Summarize the theories of evolution CO4. Interpret the reason for the occurrence of variation CO5. CO6. Discuss the role of Natural selection in the origin of a new species. CO7. Explain the role of isolation in the formation of a new species CO8. Describe the stages of human evolution with reference to human

		fossils
19Z4SB2	**Mushroom Cultivation**	CO1. Recognize the scope of mushroom cultivation CO2. Compare and contrast the edible and poisonous mushrooms CO3. Explain the nutritional and medicinal values of Mushrooms CO4. Describe the spawn production methodology CO5. Develop a model for mushroom farm CO6. Apply the mushroom cultivation process CO7. Identify the diseases and competitors in mushroom cultivation CO8. List the value-added products from mushrooms
19Z4CC12	**Lab in Microbiology & Evolution**	CO1. List the working Principle and Applications of instruments CO2. Demonstration on staining techniques CO3. Plan positive and negative aspects of microbes and learning to handle them safely CO4. Demonstration on Serial dilution CO5. Organise of phylogenetic trees with suitable specimen to develop the analytical skills

		CO6. Identify the different types analogous and homologous organs CO7. Interpret the homology and analogy from suitable specimens/models/charts
19Z4ACQ3	**Developmental Botany & Plant Breeding**	CO1. Illustrate the structure of various tissues and their functions CO2. Compare and contrast the anatomical differences between the anatomical structures of Dicot and Monocot plants CO3. Recognize the mechanism of absorption of water and translocation of food in plants CO4. Summarize the mechanism of photosynthesis and respiration in plants CO5. Relate phytohormones and their role in plant growth CO6. Explain the development of male and female reproductive organs in plants and infer flower and fruit setting in plants CO7. Explain the various techniques in the crop improvement programmes CO8.Make use of techniques of vegetative propagation and gardening and construct a home garden

19Z4ACQ4	**Lab - Developmental Botany & Plant Breeding**	CO1. Illustrate the anatomy of Monocot and dicot stem , root and leaf CO2. Interpret experimental set ups in plant physiology CO3. Apply the horticultural techniques of Cuttage and layerage CO4. Make use of emasculation technique CO5. Identify specimens and slidesfrom Plant anatomy, Physiology, Embryology , Plant Breeding & Horticulture included in the syllabus.CO6.
19C4ACZ3	**Cell & Molecular Biology**	CO1. Outline the general structure and function of a prokaryotic and eukaryotic cell. CO2. Explain the various proposed models regarding the structure of Plasma membrane CO3. Explains the structure and function of Nucleus, Mitochondria and Endoplasmic reticulum CO4. Summarize the structure and type of chromosome CO5.Justify that DNA is a genetic material with the knowledge of Griffith's, Hershey and Chase experiments.

		CO6. Recall the structure and types of DNA and RNA CO7. Summarize the mechanism of translation, transcription and Lac operon concept in Prokaryotes
19C4ACZ4	**Lab In Cell & Molecular Biology**	CO1. Interpret the observation of Simple Mendelian Traits in the class CO2. List the features of the given spotters: Stages of Meiosis, Cellular organelles – Mitochondria, Endoplasmic reticulum, Golgi complex, Nucleus. CO3. Dissect and mount the Polytene Chromosomes in the Salivary gland of*Chironomus* larva. CO4. Interpret the mitotic stages from the squash preparation in Onion root tip CO5. Recall the structure of DNACO6. CO7. Recall the structure of human physiological models such as Ear, Eye and heart