MAHARAJA MANINDRA CHANDRA COLLEGE
DEPARTMENT OF ZOOLOGY
NAME OF THE PROGRAM: ZOOLOGY MULTIDISCIPLINARY COURSE (MDC)
LESSON PLAN OF SEMESTER V

Name of the Faculty	Paper Code/ Allotted Topic/Text	Sub-Topic/Lesson Plan	Time Period (Month/ Year)	Number of Lectures
Dr. Asima Das Chattopadhyay	**CC6 MZOO-MDC Chordate Structure and Function**	**Unit 2: Protochordata, Agnatha and Pisces** Protochordata and Agnatha: General characters and classification up to class (J.Z. Young, 1981); Structure of pharynx and feeding in *Branchiostoma*; Retrogressive metamorphosis in *Ascidia*; Pisces: General characters and classification of Chondrichthyes and Osteichthyes up to class (J.Z. Young, 1981); Swim bladder in fishes; Structure of gills in cartilaginous and bony fishes; Accessory respiratory organs; Olfactory apparatus in *Tilapia*; Electric organ in *Torpedo*.	1st week of November – Last week of November	8
		Unit 3: Amphibia and Reptilia Origin of Tetrapods (Evolution of terrestrial ectotherms); General characteristics and classification of Amphibia and Reptilia up to living Orders (J.Z. Young, 1981); Structure, function and derivatives of integument in amphibia; Paedomorphosis in Axolotl; Poisonous and Non-Poisonous snake; Poison apparatus and Biting mechanism in Snake.	1st week of December – 3rd week of December	7
		Unit 4: Aves and Mammalia General characteristics and classification of Aves and Mammalia up to living Sub-Classes (J.Z. Young, 1981); Exoskeleton in Birds; Air-sacs in Pigeon, Aerodynamics of flight in birds; Exoskeleton derivatives of mammals; Dentition in mammals; Ruminant stomach; Echolocation in Micro- chiropterans.	1st week of January – 3rd week of January	8
Dr. Saikat Roy	**CC6 MZOO-MDC Chordate Structure and Function**	**Unit 1: Introduction to Phylum Chordata** Theories of Origin of chordates with reference to Dipleurula concept and the Echinoderm theory; General characteristics and outline classification (J.Z. Young, 1981).	1st week of November – 2nd week of November	4
		Unit 5: Comparative Anatomy in Chordates Heart and Aortic arches; Brain with	3rd week of November – 3rd week of	10

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		reference to cerebrum & cerebellum; kidneys and urino-genital ducts.	December	
		Unit 6: Skeletal System Jaw suspension in vertebrates; A brief account of axial skeleton and appendicular skeleton: types of skulls with reference to temporal vacuities; vertebrae (structure, types based on centrum and regional specialization in mammals); structure of girdles (pectoral and pelvic girdles of Pigeon and Guinea pig) and limb bones (Toad, Pigeon and Guinea pig).	1st week of January – 3rd week of January	8
Dr. Asima Das Chattopadhyay	**CC7 MZOO-MDC Biodiversity and Conservation Biology**	**Unit 3: Wildlife Conservation. In situ Conservation** Definition of Conservation; Red data book (Extinct, Threatened, Endangered, Rare, and Vulnerable); Indian Wild life Protection Act, 1972 and Schedules I - V (mammalian examples any 2); Concept of Population Viability Analysis; Wildlife Conservation methods: In Situ Conservation; Concept and Design of Protected Areas, National Park, Wildlife Sanctuary, Biosphere reserves (with examples); Tiger Project; Elephant Project; (History, Objective, Implementation, Tiger Crisis); Concept of Corridors; Advantages and disadvantages of Wildlife corridors; Causes and consequences of Human-wildlife conflicts; Mitigation of conflict – an overview; Joint Forest Management; People's Biodiversity Register.	1st week of November – 3rd week of December	15
		Unit 4: Ex situ Conservation Captive breeding of wild animals: Concept of captive breeding; Advantages and challenges of Captive Breeding; Re-introduction.	1st week of January – 3rd week of January	7
Dr. Saikat Roy	**CC7 MZOO-MDC Biodiversity and Conservation Biology**	**Unit 1: Introduction to Biodiversity** Definition, Biodiversity Values: Direct and Indirect values, Types of Biodiversity, Depicting Species Diversity at alpha diversity, beta diversity and gamma diversity; Biodiversity indices: Shannon diversity index, Simpson's diversity indices; Genetic Diversity: significance in Biodiversity persistence, Consequences of loss of Genetic diversity; Ecosystem	1st week of November – Last week of November	10

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		diversity: Basic concept of Structural and Functional Diversity with significance; Mega-diversity countries; Concept of endemism and Biodiversity Hot spot; Indicator Species, Flagship species, Keystone species, Umbrella species (definition with examples).		
		Unit 2: Threats to Biodiversity Habitat loss, Habitat Degradation, Habitat Fragmentation and Edge effects in Ecotonal communities; Overexploitation of Natural Resource; Concept of Exotic or Invasive Species; Climate change: Cause and effects on Forest and Marine Ecosystems; Climate change effect on Indian Fauna.	1st week of December – 3rd week of December	7
		Unit 5: Wildlife Laws Convention on Biodiversity; Biodiversity Act, 2002 and Rules 2004 (Basic Concept); Wildlife trade and impacts: The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITIES) and Wildlife Trade Monitoring Network (TRAFFIC); IUCN, WWF (Basic concept).	1st week of January – 3rd week of January	7