YOGODA SATSANGA PALPARA MAHAVIDYALAYA

DEPARTMENT OF ZOOLOGY

TEACHING PLAN*YEAR : 2023-2024*General					
Semester	Paper	Unit/Module	Teacher	No of Lecture	To be completed by
Semester-I	MJ-A1 Diversity of Animal World	Unit 1.Animal architecture & the Bauplan concept.	Mr.Ayan Kumar Bhunia	06	1st Month
		Unit 3. Protists.		08	1$^{st \&}$ 2nd Month
		Unit 4. Diversity in nonchordates: *General characteristics and classification upto classes: Platyhelminthes (Rupert & Barnes, 1994) *Basic organizations with reference to adaptive radiation in flatworm & roundworms *General characteristics and classification of Annelida. *Basic organization & diversity in annelids with special reference to metamerism General characteristics & affinity of Onychophora.		07	2nd &3rd Month
		Unit 5. Diversity in Hemichordata&lower Chordates		03	3rd Month
		Unit 6. Diversity in vertebrates: * Advantages of vertebrates over protochordates & amniotes over anamniotes * Classification of Amphibia upto order (Duellman & Trueb, 1986). * Emergence of land vertebrates.		06	4th Month
		Unit 2. Basics of systematics & classification.	Mr. Supravat Maiti	08	1st Month
		Unit 4. Diversity in nonchordates: * General characteristics and classification of Arthropoda. * The emergence of arthropods: Concept of haemocoel;		08	2nd Month

Semester-I	MJ-A1 Diversity of Animal World	tagmatisation& ecdysis; Adaptive radiations in Crustacea, Chelicerata &Insecta; Basic idea of fossil arthropod - Trilobita& Myriapoda (structural details and phylogeny not needed). Unit 6. Diversity in vertebrates: * Classification of Aves upto subclasses & Mammalia upto living order (Young, 1981). * Origin of Birds; Features of living running & flying birds. * Special features of Monotremes & Marsupials with evolutionary significance; Features of living primates. * Concept of aquatic, volant,arboreal, cursorial, fossorial adaptations. * Type study: Cavia.		12	3rd & 4th Month
		Unit 4. Diversity in nonchordates: * General characteristics and classification upto classes: Porifera, Cnidaria, Ctenophora, (Rupert & Barnes, 1994). *Special features & structural diversity in sponges with special reference to cell types. * Special features of cnidarians with reference to polymorphism and division of labour; Reef forming corals & coral reefs, * Affinity of Ctenophora. * General characteristics and classification of Mollusca & Echinodermata upto class (Rupert & Barnes, 1994). * Basic organization and diversity in Mollusca with reference to torsion in gastropoda Affinity of Echinodermata.	Miss. Puja Panda	15	1st & 2nd Month
		Unit 6. Diversity in vertebrates: * Classification of Chondrichthyes & Osteichthyes upto subclasses		10	3rd & 4th month

Semester-I		(Romer 1959). *General organization of Dipnoi, * Classification of Reptilia upto living order(Young, 1981. * Features of venomous & non venomous snake, distribution & type of snake venom in India.			
	MJ-A1P Diversity of Animal World (Lab)	1.Basic requirements for laboratory work: Knowledge about the parts of microscope with their function & setting of microscope	Mr. Ayan kumar Bhunia	0 6	1st Month
		2.Idea of fixatives & preservatives for preparation to study the museum specimen		03	1st Month
		3.Study of animals through identification of models, photo-graphs, slides and museum specimens in the laboratory with details on their classification Upto phylum/ class/ subclass/ order as indicated in theory, along with biogeography, adaptive features, economic/ medical/ ecological importance and diagnostic features : * Amoeba, Euglena, Paramoecium, Plasmodium, Entamoeba, Elphidium, Opalina (at least 5) * Fasciola, Teania, Ascaris (at least 2) *Nereis, Aphrodite, Leech, Tubifex, Earthworm (at least 3) * Balanoglossus, Ascidia, Branchiostoma, Myxine, Petromyzon * Uraeotyphlus, Ichthyophis, Necturus, Cryptobranchus, Tylototriton, Hyla, Rhachophorus (at least 5)		12	3rd & 4th Month
		3.Study of animals through identification of models, photo-graphs, slides and museum	Mr. Supravat Maiti	09	1st Month

Semester-I	MJ-A1P Diversity of Animal World (Lab)	specimens in the laboratory with details on their classification Upto phylum/ class/ subclass/ order as indicated in theory, along with biogeography, adaptive features, economic/ medical/ ecological importance and diagnostic features : * Carcinoscorpius, Scorpion, Balanus, Crab, Macrobrachium, Penaeus, Squilla, Eupagurus, Scolopendra, Julus, Termite queen,Silkmoth, Honey bee (three casts), Sitophilus, Tribolium, Lady bird beetle, Locust, Grasshopper, Dragon fly, Stick insect, Mosquito, Lepisma, Belostoma, Daphnia, Cyclops, Argulus, Peripatus (at least 10) * Pistaculla, Passer, Kingfisher, Spilopelia (spotted dove), Milvus (kite),Black Cormorant, Cacatua, Ploceus, Orthotomus, Copsychus (oriental magpie) Coppersmith Barbet (at least 5) * Bandicota, Hystrix, Funambulus, Pteropus, Manis, Cavia, Lemur (at least 2)			
		4. Study of animals in nature – Concept of the use of photographic device, sound recorder, GPS & binocular through demonstration or handling; Observation & records of different animals from college campus or nearby any terrestrial field (forest, grassland, hill or mountain area etc.) or water body (pond, river, lake, sea etc.) or zoological park or museum	06	2nd Month
		5. Assessment of relationship by constructing a cladogram using any five animals belonging to a clade; Comparison & weighting of	09	2nd & 3rd Month

Semester-I	MJ-A1P Diversity of Animal World (Lab)	characters of any two species of animal belonging to same genera or different genera but same family.			
		3.Study of animals through identification of models, photo-graphs, slides and museum specimens in the laboratory with details on their classification Upto phylum/ class/ subclass/ order as indicated in theory, along with biogeography, adaptive features, economic/ medical/ ecological importance and diagnostic features : * Sycon, Euspongia (bath sponge), Neptune's cup, (at least 1) * Obelia, Hydra, Aurelia, Physalia, Porpita, Coral, Sea anemone, Sea pen,Beroe (at least 5) * Chiton, Achatina, Aplysia, Dentalium, Oyster, Mussel, Sepia, Loligo, Octopus (at least 5) * Sea star, Brittle star, Antedon, Sea cucumber, Echinus (at least 2) * Scoliodon, Sphyrna, Trigon, Torpedo, Labeorohita, Catla catla, Heteropneustes, Clarias, Exocoetus, Anabas, Sucker fish, Flat fish, Hippocampus(at least 8) * Chelone, Trionyx, Hemidactylus, Varanus, Calotes, Mabuya, Gekko, Chameleo, Draco, Phrynosoma, Ophiosaurus, Bungurus, Naja,Daboia, Amphiesma, Zamenis(Ptyas), Natrix, Hydrophis, Crocodylus, Gavialis (at least 8)	Miss. Puja Panda	12	1st & 2nd Month
		3. Preparation of key for identification of venomous and non-venomous snakes; Preparation of key on any group (preferably insects, fishes & birds) of different feeding habit – all in		09	3rd Month

		form of animal album with photographs & necessary information.			
Semester-III	DSC1CT Physiology & Biochemistry	Unit 5: Cardiovascular system Unit 6: Reproduction and Endocrine Glands Unit 9: Protein metabolism	Mr. Ayan Kumar Bhunia	12 08 10	1st & 2nd Month 2nd & 3rd Month 3rd & 4th Month
		Unit 3: Respiration Unit 7: Carbohydrate Metabolism Unit 8: Lipid Metabolism	Mr. Supravat Maiti	10 14 12	1st & 2nd Month 2nd & 3rd Month 3rd & 4th Month
		Unit 1: Nerve and muscle Unit 2: Digestion Unit 4: Excretion Unit 10: Enzymes	Miss. Puja Panda	06 04 05 05	1st Month 2nd Month 3rd Month 4th Month
	DSC1CP Physiology & Biochemistry (Lab)	1.Preparation of hemin and hemochromogen crystals 2.Study of permanent histological sections of mammalian pituitary, thyroid,pancreas, adrenal gland 5.Estimation of total protein in given solutions by Lowry's method	Mr.Ayan Kumar Bhunia	07 05 06	1st Month 2nd Month 3rd Month
		4.Qualitative tests to identify functional groups of carbohydrates	Mr. Supravat Maiti	12	1st & 2nd Month
		3.Study of permanent slides of spinal cord, duodenum, liver, lung, kidney, bone,cartilage 6.Study of activity of salivary amylase under optimum conditions	Miss. Puja Panda	06 06	1st Month 2nd & 3rd Month
	SEC-1 Apiculture	Unit 1: Biology of Bees Unit 2: Rearing of Bees Unit 3: Diseases and Enemies Unit 4: Bee Economy Unit 5: Entrepreneurship in Apiculture	Miss. Puja Panda	03 04 04 03 04	1st Month 1st & 2nd Month 2nd Month 2nd & 3rd Month 4th Month
Semester-IV	DSC1DT Genetics & Evolutionary Biology	Unit 4: Mutations Unit 8: Direct Evidences of Evolution Unit 12: Extinction	Dr. Priyanka Rai	06 06 04	1st Month 1st & 2nd Month 3rd Month

		Unit	Teacher	Lectures	Month
		Unit 1: Introduction to Genetics	Mr. Ayan Kumar Bhunia	06	1st Month
		Unit 2: Mendelian Genetics and its Extension		08	2nd Month
		Unit 7: Introduction to Evolutionary Theories		07	3rd Month
		Unit 3: Linkage, Crossing Over and Chromosomal Mapping	Mr. Supravat Maiti	08	1st Month
		Unit 9: Processes of Evolutionary Change		10	2nd & 3rd Month
		Unit 5: Sex Determination	Miss. Puja Panda	04	1st Month
		Unit 6: History of Life		04	1st Month
		Unit 10: Species Concept		04	2nd Month
		Unit 11: Macro-evolution		04	3rd Month
	DSC1DP Genetics & Evolutionary Biology(Lab)	7.Visit to Natural History Museum and submission of report.	Dr. Priyanka Rai	06	2nd Month
		1. Study of Mendelian inheritance and gene interactions (Non-Mendelian inheritance) Using suitable examples. Verify the results using Chi-square test.	Mr. Ayan Kumar Bhunia	06	1st & 2nd Month
		2.Study of Linkage, recombination, gene mapping using the data.	Mr. Supravat Maiti	09	1st & 2nd Month
		3. Study of Human Karyotypes (normal and abnormal).		06	3rd Month
		4.Study of fossil evidences from plaster cast models and pictures	Mr. Puja panda	09	1st & 2nd Month
		5.Study of homology and analogy from suitable specimens/ pictures		09	3rd Month
		6.Charts: a.Phylogeny of horse with diagram b.Darwin Finches with diagram		06	4th Month
Semester-V	DSE-1T Applied Zoology	Unit 4: Parasitic Protozoa	Mr. Ayan Kumar Bhunia	09	1st Month
		Unit 5: Parasitic Helminthes		08	2nd Month
		Unit 8: Animal Husbandry		10	3rd & 4th Month
		Unit 1: Introduction to Host-parasite Relationship	Mr. Supravat Maiti	08	1st Month
		Unit 2: Epidemiology of Diseases		07	2nd Month
		Unit 3: Rickettsiae and Spirochaetes		09	3rd Month

Semester-V		Unit 9: Poultry Farming		08	4th Month
		Unit 6: Insects of Economic Importance	Mr. Puja Panda	08	1st Month
		Unit 7: Insects of Medical Importance		12	2nd & 3rd Month
		Unit 10: Fish Technology		10	3rd 74th Month
	DSE-1P Applied Zoology(Lab)	1.Study of different parasites through permanent slides	Mr. Ayan Kumar Bhunia	09	1st Month
		2.Study of arthropod vectors associated with human diseases		12	2nd & 3rd Month
		3. Study of insect damage to different plant parts/stored grains through damaged products/photographs.	Mr. Supravat Maiti	09	1st Month
		5.Visit to poultry farm or animal breeding centre		09	3rd & 4th Month
		4.Identifying feature and economic importance	Miss. Puja Panda	09	2nd Month
		6.Maintenance of freshwater aquarium		12	3rd & 4th Month
Semester-VI	DSE-2T Insect, Vector & Diseases	Unit III: Insect as Vectors	Dr. Priyanka Rai	08	1st Month
		Unit V: Siphonaptera as Disease Vectors		06	2nd Month
		Unit I: Introduction to Insects	Mr. Ayan Kumar Bhunia	06	1st Month
		Unit II: Concept of Vectors		06	2nd month
		Unit IV: Dipteran as Disease Vectors	Mr. Supravat Maiti	12	1st & 2nd Month
		Unit VI: Siphunculata as Disease Vectors	Miss. Puja Panda	06	1st Month
		Unit VII: Hemiptera as Disease Vectors		06	2nd Month
	DSE-2P Insect, Vector & Diseases(Lab)	2.Study of insect vectors through permanent slides/ photographs	Mr. Ayan Kumar Bhunia	12	1st & 2nd Month
		1.Study of different kinds of mouth parts of insects.	Mr. Supravat Maiti	06	1st & 2nd Month

Semester-VI		3.Study of different diseases transmitted by insect vectors	Miss. Puja Panda	09	2nd & 3rdMonth
		4.Submission of a project report on any one of the insect vectors and disease transmitted		09	3rd &4th Month
	SEC-4 Sericulture	Unit 1: Introduction to Sericulture	Dr. Priyanka Rai	05	1st Month
		Unit 2: Biology of Silkworm		07	2nd Month
		Unit 3: Rearing of Silkworms	Mr. Ayan Kumar Bhunia	06	2nd & 3rd Month
		Unit 4: Pests and Diseases Unit	Mr. Supravat Maiti	06	3rd & 4th Month
		5: Entrepreneurship in Sericulture	Mss. Puja Panda	05	3rd Month

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