

Teaching Plan

Faculty: Miss Swapnali D Jagdale

Zoology (Sem I) paper 1 and 2

Month	Week	Topics Covered	Teaching Methods
Aug	Week 1 (paper 1)	1.1 Principles of classification, Five Kingdom classification. 1.2 Binomial nomenclature. (Related practical's)	Lecture, Discussion
	Week 2 (paper 2)	1.1 Organization of prokaryotic and eukaryotic cells 1.2 Nucleus: nuclear membrane, nucleoplasm, chromatin, and nucleolus (Related practical's)	Lecture, Discussion PPT presentation
	Week 3 (paper 1)	1.3 Levels of Organizations in Kingdom Animalia. 1.4 Germ layers and coelom concept (Related practical's)	Lecture, Discussion
	Week 4 (paper 2)	1.3 Chromosome: morphology of metaphase chromosome and its organization (Solenoid model) 1.4 Cytoskeleton 2.1 Ultra-structure and functions of Plasma membrane (Fluid Mosaic Model) (Related practical's)	Lecture, Discussion PPT presentation
Sep	Week 1 (paper 1)	2.2 non-chordates concept, names of phyla with prominent characters and examples. 2.3 Chordates Characters, Names of subphyla/ classes with prominent characters and examples (Related practical's)	Lecture
	Week 2 (paper 2)	2.2 Mitochondria, Endoplasmic reticulum 2.3 Golgi complex v. Lysosome 2.4 Ribosome (Related practical's)	Lecture, Discussion

	Week 3 (paper 1)	2.4 Difference between non-chordates and chordates 3.1 Generalized body plans of a non-chordate Annelida/Arthropods) and chordate. (Related practical's)	Lecture, Discussion
	Week 4 (paper 2)	3.1 Cell cycle and its regulation 3.2 Mitosis 3.3 Meiosis (Related practical's)	Lecture, Discussion PPT presentation
Oct	Week 1 (paper 1)	3.2 Diversity concept and its importance. 3.3 Zoogeographical regions and distribution of animals throughout the world and India. 3.4 Extinct and threatened animals, Biodiversity hotspots, Biodiversity hotspots. (Related practical's)	Lecture, Discussion
	Week 29 (paper 2)	4.1 Abnormalities in cell division: Hypo proliferation (Anaemia and diabetic wound) and Hyperproliferation (Cancer) (Related practical's)	Lecture, Discussion PPT presentation
	Week 3(paper 1)	4.1 Cockroach: a representative of non-chordates. 4.2 Habit and habitat, Systematic position, Morphology. 4.3 Anatomy: Digestive system, nervous system, blood vascular system. (Related practical's)	Lecture, Discussion
Nov	Week 1 (paper 2)	Revision	Revision, Discussion
	Week 2 (paper 1)	4.4 Respiratory system, excretory system, reproductive system, receptor organs	Lecture, Discussion

	Week 3	Practical Exam	Revision
	Week 4	Written Exam	

Zoology ((Sem II) paper 3 and 4

Month	Week	Topics Covered	Teaching Methods
December	Week 1 (paper3)	1.1 Molecular Basis of Genetic Information (Central Dogma) 1.2 Mendel's work and Principles of Inheritance (Related practical's)	Lecture, Discussion
	Week 2 (paper 4)	1.1 Scope of ecology 1.2 Basic concepts in ecology: Biosphere, biome, Species, Population, Community, Niche (Related practical's)	Lecture, Discussion PPT presentation
	Week 3 (paper 3)	1.3 Test cross, back cross, and reciprocal cross. 1.4 Incomplete dominance and co-dominance (Related practical's)	Lecture, Discussion
January	Week 1 (paper 3)	2.1 Gene interaction (Epistasis): Supplementary gene interaction. Complementary gene interaction 2.2 Multiple alleles: definition, ABO blood group system, and coat colour in rabbit (Related practical's)	Lecture
	Week 2 (paper 4)	2.1 Mimicry in the Monarch butterfly and the stick insect 2.2 Camouflage in the chameleon and the Leaf insect	Lecture, Discussion

		(Related practical's)	
	Week 3 (paper 3)	2.3 Sex-linked inheritance: definition, Haemophilia, and colour blindness 2.4 Linkage and crossing over: Linkage, types of linkage, and process of crossing over, Cytological evidence of crossing over (Related practical's)	Lecture, Discussion
	Week 4 (paper 4)	2.3 Courtship behaviour in the scorpion and the weaver bird. 2.4 Social behaviour in the honeybee (Related practical's)	Lecture, Discussion PPT presentation
Feburary	Week 1 (paper 3)	3.1 Chromosomal Abnormalities 3.2 Human karyotype (Related practical's)	Lecture, Discussion
	Week 2 (paper 4)	3.1 Types of fossils, Formation and dating of fossils 3.2 Geological time scale (Related practical's)	Lecture, Discussion PPT presentation
	Week 3(paper 3)	3.3 Numerical abnormalities: Aneuploidy and Polyploidy, 3.4 Chromosomal aberrations: Deletion, Duplication, Inversion, Translocation (Related practical's)	Lecture, Discussion
	Week 4 (paper 4)	4.1 Introduction to Entomology 4.2 Brief morphology of insect 4.3 Entomophagy: Introduction, Nutritional value, economic importance, Examples. (Related practical's)	Revision, Discussion

March	Week 1 (paper 3)	4.1 Pedigree analysis 4.2 Sex determination 4.3 Chromosomal theory of sex determination, Genic balance theory, Haploidy Diploidy mechanism, Environmental sex determination. (Related practical's)	Lecture, Discussion and Revision
	Week 2 (paper 4)	4.4 Wonders in insects. i. Mud wasp ii. Praying mantis iii. Giant cockroach iv. Ladybird beetle v. Firefly vi. Parasitoids-Apanteles in Helicoverpa	Revision
	Week 3	Practical Exam	Revision
	Week 4	Written Exam	