CSS COURSE SYLLABUS

Zoology

100 marks · one paper · Group V - Society, Environment & Literature

Complete Zoology syllabus. The full official FPSC syllabus this course covers, section by section.

1 Animal Diversity-Invertebrates

- Architectural pattern of an animal, Taxonomy and phylogeny, Major subdivisions of animal kingdom.
- Animal-Like Protists: The Protozoa: evolutionary perspective, locomotion and reproduction, Protozoa of veterinary and medical importance.
- Porifera: Body wall, skeleton and water currents system. Coelenterates:
- Reproduction plan and alteration of generation (Polymorphism), Coral reefs.
- Platyhelminthes and Nematodes: Parasitic adaptations and medical importance.
- Annelids: Metamerism and ecological importance.
- Molluscs: Modification of foot, Feeding and their role in the shell fishery.
- Arthropods: Modification in their mouth parts, Role of arthropods as vectors in the transmission in microbial infection. Arthropods and their ecological importance.
- Echinoderms: Characteristics, Evolutionary perspective, Relationships to other animals; echinoderm characteristics.

2 Animal Diversity-Chordata

- Hemichordates and Invertebrate Chordates: Evolutionary Perspective: Phylogenetic Relationships and considerations.
- Fishes: Structural and functional adaptations of fishes.
- Amphibians: Movement onto land and early evolution of terrestrial vertebrates.
- Reptiles: Characteristics of reptiles, adaptations in reptilians.
- Birds: Migration and navigation, adaptations.
- Mammals: Structural and functional adaptations of mammals.

3 Principles of Animal Life

- The chemical basis of animal life: Brief introduction to bio-molecules; carbohydrates, lipids, proteins and nucleic acids.
- Cell concept and cell theory, Organization of cellular organelle (their structure and functions), Central dogma of cell biology (Transcription and Translation), Meiosis and Mitosis
- Protozoa: Reproduction pattern in protozoan, Parasitism in protozoan
- Mesozoza and Parazoa: Porifera: Cells types, body wall and skeleton and water currents system, Coelenterata: Reproduction plan and alteration of generation (Polymorphism)
- Tissues Types: epithelial, connective, muscle and nervous tissues; organs and organ systems.
- Enzymes function and factors affecting their activity, cofactors and coenzymes.
- Energy Harvesting: Aerobic and anaerobic respiration the major source of ATP.
- Mendel’s law of inheritance, Chromosomal basis of inheritance, Multiple alleles, Eukaryotic chromosomes: Mutations and chromosomal aberrations.

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- Ecological Concepts: Interactions, Concepts and components of ecosystem, Food chain, Food web, Biogeochemical cycles, Forests, Biomes, Wildlife conservation and management, Environmental pollution, Green house effect, Acid rain, Global warming and climate change.
- Evolution: Darwinian evolutionary theory based on natural selection and the evidence, Microevolution: Genetic variation and change within species, Macroevolution: Species and speciation (Allopatric, Parapatric and Sympatric speciation)

4 Animal Form and Function

- Protection, Support and Movement: Integumentary system of invertebrates and vertebrates; Animal muscles: the muscular system of invertebrates and vertebrates.
- Digestion and Nutrition: Feeding mechanism, Digestion, Organization and regional function of alimentary canal, Regulation of food intake, Nutritional requirements
- Internal Fluids and Respiration: Internal fluid environment, Composition of blood, Circulation and respiration mechanisms
- Homeostasis: Excretion, Vertebrate kidney mechanisms, Temperature regulation
- Nervous Coordination: Nervous system and Senses: Functional units of nervous system, Synapses junctions between nerves.
- Chemical Coordination: Endocrine System; Vertebrate endocrine glands and types of hormones, Mechanism of hormones action,
- Animal Behavior: Learning, Habituation, Insight learning, latent learning, classical learning: Control of Behavior; social behavior

Source: Revised Syllabi for CSS Competitive Examination, CE-2016 (updated 7 July 2015), Federal Public Service Commission.

Practise answers on this syllabus and get them marked out of 20 at **cssprep.ai**. Questions? WhatsApp **+92 323 7805323**.

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