



UNIVERSITY OF KOTA

Semester-I

PGDiplomain Reptilian Science

(Tentative Syllabus-2024-25)

RS101: Origin, Evolution and Taxonomy of Reptiles

MinPass Marks:40

Duration-3hrs.

Max Marks: 100

UNIT-I

Origin & Evolution of Reptiles: Origin and Evolution; The First Reptiles; Rise of Dinosaurs; Permian Reptiles, Mesozoic Reptiles, Cenozoic Reptiles; Anapsids, Synapsids, Diapsids and Sauropsids.

UNIT-II

Classification and Phylogeny: Phylogeny and Modern Definition; General classification of extinct and living reptiles up to family, focusing on major groups.

UNIT-III

General Characteristics of Reptiles: General Characteristics of Four orders of Reptilia: Testudines, Sphenodontia, Squamata, Crocodylia.

UNIT-IV

Extinct Reptiles: General Distinguishing features; Pre-scientific History, Research on Extinct reptiles, "Dinosaur Renaissance" and beyond; Classification; Paleobiology; Extinction.

UNIT-V

Distribution and Diversity: Living Reptiles of India with special reference to Rajasthan; (Chelonia, Squamata, Crocodylia).

RS:102 Morphology, Anatomy and Physiology of Reptiles

MinPass Marks:40

Duration-3hrs.

Max Marks: 100

UNIT-I

General Account of Reptiles:Habitats of reptilian species.(Testudines,Sphenodontia, Squamata, Crocodilia)

UNIT-II

Morphology of Reptiles:Size;Shape;Basic Morphological Characters of Reptiles.

UNIT-III

General Idea of Anatomy of Reptiles : Integument and integumentary derivatives, molting process; Musco-skeletal system; Gastrointestinal Tract and accessory digestive glands with special reference to poison gland; Respiratory system; Cardio-vascular System; Nervous system; Anatomy of eye and ear; Sensorial Organ; Urino-genital system .

UNIT-IV

Physiology of Reptiles: Thermo-regulation; Perception; Mechanism of Digestion; Blood Circulation; Endocrine and Exocrine Glands; Immune-system; Hearing and sensations.

UNIT-V

Breeding Biology of Reptiles:Reproduction inTestudines, Sphenodontia, Squamata, Crocodilia and Parental care in Reptiles.

RS: 103 Cytogenetics, Pathology and Care guidelines of Reptiles

Min Pass Marks : 40

Duration -3 hrs.

MaxMarks:100

UNIT-I

Cytology of Reptiles: Chromosome Structure; Chromosome aberrations.

UNIT-II

Molecular Biology of Reptiles: Molecular Adaptations for Sensing and Securing Prey/Prey relocation; Molecular basis *for* extreme adaptation.

Genetics of Reptiles: Sex determination; Genetic Mutations in Reptiles.

UNIT-III

Major Reptilian Diseases and their treatment: Ophidiomycosis; Infectious stomatitis (mouth rot); Parasitic infection (cryptosporidiosis), Skin Infections, inclusion body disease, respiratory disease, and septicaemia.

UNIT-IV

Indian Government initiative to protect and conserve reptiles: Crocodile conservation project, Turtle Project. Zoological gardens and Museum, Red Data Book, Captive breeding.

UNIT-V

Captivity Care of Reptiles (in reference to Wild Life Conservation Rules & Regulations):

Pet Reptiles; Care Guidelines; Snake Charming in India; Ethics of reptilian keeping.

RS:104 Laboratory Practical and Casestudies

Min Pass Marks: 50

Max Marks-100

1. Museum Specimens	- 20
2. Animal Preservation Techniques	- 20
3. Case Studies	-15
4. Presentation	-15
5. Viva-Voice	-15
6. Record	-15

RS-105 Practical

Min PassMarks:50

Max Marks: 100

Visit to National Parks/Sanctuary/any Natural Habitats

A detailed report of visit of National park/sanctuary/any Natural Habitatshastobe prepared submitted and presented.

√ Chart Making	-20
√ Visitto Chambal Crocodile/Gharial Sanctuary	-20
√ Presentation	-20
√ Viva-Voice	-20
√ Record	-20

SEMESTER-II

(Tentative Syllabus 2024–2025)

RS:206 Ethology and Poisonous bite of Animal Kingdom

UNIT-I

Ethology of Reptile: Hibernation and Estivation; Brumation, Feeding; Locomotion; Territory formation.

UNIT-II

Reptile versus Bees and Wasps: Characteristics; Social behavior; Ecology; Relationship with Human.

Reptile versus Myriapods: Description; Life Cycle; Ecology.

UNIT-III

Reptile versus spiders: Ecology and Behaviour of Spiders; Web formation; Human Interaction; Spiders in culture.

Reptile versus Scorpion: Geographical distribution; Morphology; Relationship with humans.

UNIT-IV

Reptile versus Frogs and Toads: Poisonous anurans; Recreational ingestion of their toxins.

UNIT-V

Snakes and Lizards: Venomous and non-venomous snakes; hooding and spitting; snake bite (sign and symptoms).

Gila monster: Distribution; Habitat; Ecology; Life Cycle; Relationship with Humans.

RS:207 Toxicology

MinMarks:40

Duration -3hrs.

MaxMarks:100

UnitI

Preliminary idea about Poisons: Metallic Poison (Arsenic, Lead, Iron); Deliriant poisons(*Datura, Cannabis, Cocaine*).

UnitII

Agriculturalpoisons-Organo-phosphorous,Organo-chlorine.Classification and description of common insecticides and pesticides used in India.

UnitIII

Animal Poison:Principalanimalpoisons and their toxiceffectson Animal and Human.

UnitIV

Venom:Bio-chemistry;Toxins and Immunologicalaspects of Animal Venom.

UnitV

Anti-venom:Poison versus Venom;Introduction to Anti-venom.

RS:208 Management and Conservation

MinPassMarks: 40

Duration-3 hrs.

MaxMarks:100

UnitI

Ecosystem of Ophio-fauna: Importance of snakes in ecosystem, awareness among the people about importance of snakes, Conservation: Illegal Trades and trafficking; Interaction with Human; Myths & Facts.

UnitII

Man-Animal Conflicts; Risk analysis; Rescue, handling and rehabilitation; Animals in relation to Human Health.

UnitIII

Animal conservation laws and Constitutional provisions: Article 48(A) Article 51(A) Wildlife protection act 1972; The Indian forest Act 1927; Forest conservation Act 1980; Environmental Protection Act 1986

UnitIV

Wildlife Management in India: Wildlife Sanctuaries, National Parks, Biosphere Reserves, Briefidea of important organizations-CZAI,NTCA, IBWL,ZSI,BSI,IUCN,WTI, WWF,BNHS,WII, FRI,WLCCB,NBI,CITES.

UnitV

Treatment of animalbite: Firstaidin reference to *Mahobia Technique*; Traditional Treatments.

RS: 209 First Aid, Training & (Project Practical)

Min Pass Marks:- 50

MaxMarks:-100 Marks,

Training project and case study

1.Firstaid Practical training.	-20
2.Basic handling and rescue training of reptiles.	-20
3.Photography of reptiles	-15
4.Presentation	-15
5.Viva-voice	-15
6.Record	-15

RS:210

MinPass Marks:-50

Max Marks:-100

Dissertation

√ Internal	30Marks
√ External	30Marks
√ Presentation	20Marks
√ Viva-voice	20Marks