

Course Outcomes – Semester I

DSC-1: Animal Diversity-I (Non-Chordata)

CO Course Outcome

- CO1** Understand general organization of unicellular and multicellular animals.
- CO2** Recognize diversity and adaptation of invertebrate animals and significance.
- CO3** Acquire deep knowledge and importance of biodiversity conservation.
- CO4** Develop the capacity to investigate pathogenicity of micro and macro fauna.

DSC-2: Practical Based on DSC-1 – Animal Diversity-I

CO Course Outcome

- CO1** Understand systemic position, habit and habitat of invertebrate animals.
- CO2** Understand the pathogenicity and life cycle of parasite and vectors.
- CO3** Develop skills to recognize surrounding animals and their importance.

SEC-1: Bee Keeping

CO Course Outcome

- CO1** The learner will be able to differentiate different types of honey bee castes.
- CO2** Learner will be able to use the artificial hive for beekeeping.
- CO3** Learner will be able to use the technique of honey purification and processing.
- CO4** Learner will be able to construct the artificial honey hive and maintain it.
- CO5** Learner, if not employed, can find own employment by doing Bee keeping.
- CO6** Learner can start own beekeeping equipment agency for farmers or beekeepers.

SEC-2: Practical Based on SEC-1 – Bee Keeping

The practical course carries the **same six COs** as the Bee Keeping theory course.

SEC-1: Animal Microtechnique

CO Course Outcome

- CO1** Understand the selection of nuclear and cytoplasmic stains.
- CO2** Understand the proper histological structure of animal tissue.
- CO3** Understand the different types of cell and learned physiological structure.
- CO4** The skilled learner will get opportunities in the field of Health Institutes, Hospitals and Pathological labs.

SEC-2: Practical Based on SEC-1 – Animal Microtechnique

The practical component reinforces the same learning outcomes through microtome handling, section cutting, processing, staining, observation and identification of permanent slides.

GE/OE-1: Vector Disease and Management

CO Course Outcome

- CO1** Develop awareness about the causative agents and control measures of many commonly vector-borne diseases.
 - CO2** Recognize the symptoms and proper identification of vectors.
 - CO3** Learn feeding mechanism and causing ideas. (*wording as printed in the syllabus*)
 - CO4** Understand the strategies for the management of vector-borne diseases by Chemical, Biological and IPM.
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5. Course Outcomes – Semester II

DSC-3: Animal Diversity-II (Chordata)

CO Course Outcome

CO1 Understand general organization of vertebrate animals.

CO2 Recognize diversity, migration and adaptive radiation of vertebrate animals.

CO3 Acquire deep knowledge and importance of biodiversity conservation.

CO4 Develop the capacity to understand biological importance and their conservation methods.

DSC-4: Practical Based on DSC-3 – Animal Diversity-II

CO Course Outcome

CO1 Understand systemic position, habit and habitat of vertebrate animals.

CO2 Understand the adaptive features of fishes and birds.

CO3 Understand the physiological and anatomical study of vertebrate animals.

CO4 Develop skills to recognize biodiversity of animals and their importance.

These outcomes are given with the practical syllabus involving museum study, dissection/demonstration, scales, identification and field-oriented biodiversity activities.

VSC-1: Poultry Farming

CO Course Outcome

CO1 Understand the status of Indian Poultry Industry.

CO2 Learn the Scientific Poultry farming.

CO3 Apply diversified Poultry practices.

CO4 Recognize the different breeds of chicken.

VSC-2: Practical Based on VSC-1 – Poultry Farming

The practical course follows the same four COs, with practical work on poultry breeds, poultry-rearing systems, feed preparation, poultry houses, breeding/incubation, hatchery management and poultry diseases.

VSC-1: Aquarium Fish Keeping

CO Course Outcome

CO1 Explore the potential of aquarium fish industry.

CO2 Familiarize the fish breeding and fish food technology.

CO3 Recognize the fish diseases for the management of fish keeping.

CO4 Understand the transportation techniques for fish market.

VSC-2: Practical Based on VSC-1 – Aquarium Fish Keeping

The practical course reinforces the four Aquarium Fish Keeping outcomes through aquarium equipment, ornamental fish identification, acclimatization, formulated feed, disease identification and aquarium plants.

GE/OE-2: Dairy Production Technology

This course is available for students of other faculties. The syllabus specifies **eight Course Outcomes**:

CO Course Outcome

CO1 Understand the pre-requisites for starting a Dairy farm.

CO2 Recognize different breeds of cows & buffaloes following safety precautions.

CO3 Prepare and give recommended feed and water for livestock.

CO4 Maintain health of livestock along with productivity.

CO5 Vaccination of cattle, nutrients requirements.

CO6 Entrepreneurship, i.e. effectively market dairy products.

CO7 Ensure safe and clean dairy farm and standard safety measures to be taken in establishing an industry.

CO8 Efficiently start and manage to establish or develop a Dairy Industry.

SEMESTER III – COURSE OUTCOMES

DSC-1: Cell Biology

Course Outcomes

CO Course Outcome

- CO1** Understand the importance of cell as a structural and functional unit of life.
 - CO2** Understand the importance of cell between prokaryotic and eukaryotic cell and their structure.
 - CO3** Understand the life to the aspect of development and organelle structure and their functions.
 - CO4** Understand the cellular mechanisms and functions depending on endo-membranes and structures.
 - CO5** Develop understanding of cell biology through microscopic study.
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DSC-2: Animal Physiology-I

CO Course Outcome

- CO1** Know mechanism of body functions and the basic knowledge of biomolecules.
 - CO2** Students can enlist various sensory receptors in human body and describe the structure and functioning of the sense organs – eye, ear, nose, tongue and skin.
 - CO3** To understand the functions of important physiological systems including the digestive, cardio-respiratory, renal, reproductive, nervous and muscular systems.
 - CO4** Analyze the life sustaining, controlling and coordinating systems.
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DSC-1 Practical: Cell Biology

CO Practical Outcome

- CO1** Develop skills in handling light microscopes and studying cells.
 - CO2** Prepare temporary and permanent slides and observe cellular structures.
 - CO3** Identify and study stages of mitosis and meiosis.
 - CO4** Identify cell organelles and demonstrate their structural features.
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DSC-2 Practical: Animal Physiology-I

CO Practical Outcome

- CO1** Develop practical skills in physiological and biochemical tests.
 - CO2** Perform investigations related to oxygen consumption, blood pressure, blood groups and haemoglobin.
 - CO3** Identify and study mammalian tissues and histological structures.
 - CO4** Develop skills in physiological observation and field-based study.
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MINOR COURSES

Fundamentals of Biochemistry

CO Course Outcome

CO1 Understand the principles of chemistry and molecular biology.

CO2 Understand the structure, chemical properties and biological significance of major biomolecules.

CO3 Apply modern instrumentation for studying biochemical problems.

CO4 Understand the structure and function of biomolecules involved in biological processes.

Value Added Course: Value Added Products of Animals

CO Course Outcome

CO1 Apply knowledge and skill to establish poultry or apiary enterprises.

CO2 Learn various products of honey bees and add value to these products.

CO3 Understand fish products and their value addition.

CO4 Understand different kinds of goat meat products and their preparation.

CO5 Understand poultry products, processing and value addition.

CO6 Understand milk processing, preservation and preparation of value-added milk products.

CO7 Develop entrepreneurial skills through value-added animal products.

4. GENERIC / OPEN ELECTIVE COURSES

Wildlife Conservation & Management

CO Course Outcome

CO1 Know the current status and conservation strategies for wildlife conservation and management.

CO2 Develop the ability to work collaboratively on team-based projects.

CO3 Gain an appreciation for the modern scope of scientific knowledge in the field of wildlife conservation management.

Environment & Public Health

CO Course Outcome

CO1 Understand environmental pollution, global warming, climate change and their effects.

CO2 Understand interrelationships between multiple factors that can impact on public health.

CO3 Develop awareness of environmental issues and associated diseases.

VOCATIONAL / SKILL COURSES

Vermicomposting

CO Course Outcome

- CO1** Understand vermicomposting as a biological waste-management process.
 - CO2** Understand the life cycle and biology of important species of earthworms used in vermiculture.
 - CO3** Acquire knowledge about the role of earthworms in making organic manure from biodegradable waste.
 - CO4** Understand the biological importance of earthworms in vermiculture.
 - CO5** Acquire skills related to vermicompost production and management.
 - CO6** Explain the benefits and problems associated with vermiculture and vermicompost.
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Sericulture

CO Course Outcome

- CO1** Understand the basic information regarding silkworm and silk production.
 - CO2** Understand the life cycle and different stages of silkworm.
 - CO3** Understand rearing techniques and management of silkworm.
 - CO4** Identify important pests and diseases of silkworm and their control.
 - CO5** Understand silk processing and post-cocoon technology.
 - CO6** Develop knowledge of the economic importance of sericulture and project-report preparation.
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Vermicomposting – Practical

CO Practical Outcome

- CO1** Prepare and maintain vermicomposting beds.
 - CO2** Collect, identify and process earthworms.
 - CO3** Demonstrate harvesting and packaging of vermicompost.
 - CO4** Develop practical knowledge through visits to vermicomposting farms.
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Sericulture – Practical

CO Practical Outcome

- CO1** Identify different stages and important species of silkworms.
 - CO2** Demonstrate the use of appliances and techniques used in silkworm rearing.
 - CO3** Develop practical skills in mulberry cultivation and silkworm rearing.
 - CO4** Identify silkworm pests and diseases and understand their management.
 - CO5** Identify silk products and demonstrate post-cocoon processes.
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SEMESTER IV – COURSE OUTCOMES

DSC-3: Genetics

CO Course Outcome

- CO1** Comprehend detailed understanding of the chemical basis of heredity.
 - CO2** Comprehend and analyze the basic biological and quantitative hereditary traits.
 - CO3** Understand Mendelian inheritance and its extensions.
 - CO4** Understand mutations, chromosomal mechanisms and extra-chromosomal inheritance.
 - CO5** Understand recombination and genetic mechanisms in bacteria, viruses, Drosophila and humans.
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DSC-4: Animal Physiology-II

CO Course Outcome

- CO1** Know mechanism of body functions and the basic knowledge of biomolecules.
 - CO2** Students can enlist various sensory receptors in human body and describe the structure and functioning of sense organs.
 - CO3** Understand the functions of important physiological systems.
 - CO4** Understand the endocrine glands, their hormones and their functions.
 - CO5** Identify major physiological disorders and understand their causes, symptoms and remedial measures.
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DSC-3 Practical: Genetics

CO Practical Outcome

- CO1** Apply Mendelian principles and analyze genetic inheritance.
 - CO2** Perform Chi-square analysis and interpret genetic data.
 - CO3** Analyze linkage, crossing over and genetic mapping.
 - CO4** Understand genetic recombination and gene transfer mechanisms.
 - CO5** Identify chromosomal abnormalities through karyotyping.
 - CO6** Study phenotypic variations and relate them to genetic mechanisms.
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DSC-4 Practical: Animal Physiology-II

CO Practical Outcome

- CO1** Demonstrate physiological responses such as muscle twitch and reflex action.
 - CO2** Study stages of gametogenesis and endocrine glands.
 - CO3** Perform blood glucose and blood-cell related investigations.
 - CO4** Understand and observe physiological parameters including ECG and sperm characteristics.
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MINOR COURSE – SEMESTER IV

Economic Zoology

CO Course Outcome

CO1 Develop an understanding of the beneficial and economic importance of organisms.

CO2 Understand the importance of aquaculture and fish culture.

CO3 Understand the economic importance of sericulture and apiculture.

CO4 Understand poultry culture and its importance.

CO5 Develop an understanding of the contribution of organisms to the welfare of society.

CO6 Develop basic knowledge of economic zoology and entrepreneurial opportunities.

Agricultural Entomology

CO Course Outcome

CO1 Understand major pests of horticultural and plantation crops.

CO2 Understand insect biology, identification and management of important crop pests.

CO3 Understand biological and chemical control methods of insect pests.

CO4 Develop knowledge of integrated pest management (IPM).

CO5 Identify important pests and understand their management in agricultural crops.

GENERIC / OPEN ELECTIVE – SEMESTER IV

Food Nutrition & Health

CO Course Outcome

CO1 Have a holistic understanding of the relationship between food, nutrition and health.

CO2 Understand the role of nutrients in promoting healthy living.

CO3 Identify nutritional deficiencies and understand their causes and prevention.

CO4 Understand lifestyle diseases and dietary modifications for their prevention and management.

CO5 Develop knowledge applicable to food safety, nutrition and public health.

Wildlife Photography & Nature Interpretation

CO Course Outcome

CO1 Opt for wildlife photography as a career course.

CO2 Engage in digital photography and post-processing.

CO3 Pursue research for effective photographic documentation.

SKILL COURSE – SEMESTER IV

Biological Techniques

CO Course Outcome

- CO1** Understand the purpose of techniques, prepare and possible modification/improvement.
 - CO2** Learn the historical basis of laboratory equipment / tools, safety hazards and precautions.
 - CO3** Understand the technique of cell and tissue culture.
 - CO4** Understand the process of preparation of buffer and the techniques of separation of amino acids, proteins and nucleic acids.
 - CO5** Understand and apply modern biological techniques.
 - CO6** Develop familiarity with specialized techniques used in biological research and data analysis.
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Biological Techniques – Practical

CO Practical Outcome

- CO1** Handle laboratory equipment and perform accurate measurements.
 - CO2** Prepare solutions of different concentrations and molarities.
 - CO3** Perform chromatography and identify amino acids.
 - CO4** Prepare and observe permanent slides using staining techniques.
 - CO5** Develop skills in microscopy, micrometry and electrophoresis.
 - CO6** Understand and demonstrate phase-contrast microscopy.
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Fish Hatchery Management

CO Course Outcome

- CO1** Understand the breeding techniques of fishes.
 - CO2** Understand fish seed production and transportation.
 - CO3** Understand fish hatcheries and their management.
 - CO4** Understand artificial breeding and induced breeding techniques.
 - CO5** Understand behaviour of spawn in relation to hydrological characters.
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Fish Hatchery Management – Practical

CO Practical Outcome

- CO1** Identify and classify important cultivable fishes.
 - CO2** Understand and demonstrate fish preservation and induced-breeding techniques.
 - CO3** Understand the functioning, principles and components of a freshwater fish hatchery.
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SEMESTER V – MAJOR COURSES

DSC – Biochemistry

CO Course Outcome

- CO1 Explain fundamental biochemical concepts related to living systems.
 - CO2 Describe the structure and biological roles of carbohydrates, proteins and lipids.
 - CO3 Understand nucleic acid structure and function.
 - CO4 Explain enzyme action and factors affecting enzyme activity.
 - CO5 Outline basic metabolic pathways and the nutritional importance of vitamins.
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DSC – Ecology

CO Course Outcome

- CO1 Explain fundamental ecological concepts and ecosystem processes.
 - CO2 Describe population characteristics and growth patterns.
 - CO3 Understand community interactions and ecological succession.
 - CO4 Appreciate the importance of conservation and environmental sustainability.
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PRACTICAL COURSES – SEMESTER V

Biochemistry Practical

CO Course Outcome

- CO1 Handle laboratory instruments and chemicals safely.
 - CO2 Identify carbohydrates, proteins and lipids by qualitative tests.
 - CO3 Prepare solutions, buffers and reagents used in biochemistry.
 - CO4 Perform simple biochemical estimations.
 - CO5 Record observations and interpret experimental results scientifically.
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Ecology Practical

CO Course Outcome

- CO1 Measure basic environmental parameters in field and laboratory.
 - CO2 Analyze ecological data related to population and community studies.
 - CO3 Identify local flora, fauna and ecological interactions.
 - CO4 Understand natural-resource management and pollution monitoring.
 - CO5 Prepare field reports and practical records scientifically.
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DISCIPLINE SPECIFIC ELECTIVES – SEMESTER V

Protozoology

CO Course Outcome

- CO1** Know the stages of life cycles of parasites and identify protozoans.
 - CO2** Understand the concept of free-living and parasitic protozoans.
 - CO3** Identify major types of protozoans and understand their life cycles.
 - CO4** Understand pathogenicity and methods of prevention and control.
 - CO5** Apply knowledge of protozoan diseases to public-health issues.
 - CO6** Understand the role of protozoan diseases in WHO, UN and public-health programmes.
 - CO7** Recognize career opportunities in parasitological laboratories and related fields.
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Fishery Science-I

CO Course Outcome

- CO1** Explain different fishery sources of India.
 - CO2** Identify important fish species and their features.
 - CO3** Apply fishery techniques and management practices.
 - CO4** Evaluate fisheries for sustainable use and economic importance.
 - CO5** Develop understanding of freshwater, estuarine and marine fisheries resources.
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General Entomology

CO Course Outcome

- CO1** Identify different insects and their morphology and physiology.
 - CO2** Understand the roles of insects in agriculture, ecology, health and forensic science.
 - CO3** Understand insect collection, preservation and diagrammatic representation.
 - CO4** Describe digestive, nervous and reproductive systems of grasshopper.
 - CO5** Classify common insects into major insect orders using diagnostic characters.
 - CO6** Recognize insects belonging to major orders such as Thysanura, Odonata, Orthoptera, Coleoptera, Lepidoptera, Diptera and Hymenoptera.
 - CO7** Prepare charts/models representing insect life cycles and metamorphosis.
 - CO8** Apply entomological knowledge in agricultural and environmental studies.
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DSE PRACTICALS – SEMESTER V

Protozoology Practical

CO Practical Outcome

- CO1** Know laboratory techniques used in protozoology.
 - CO2** Identify common free-living and parasitic protozoans.
 - CO3** Understand laboratory diagnosis of protozoan infections.
 - CO4** Apply protozoan culture techniques.
 - CO5** Prepare and examine protozoan permanent slides.
 - CO6** Understand staining and blood-film preparation techniques.
 - CO7** Study physiological processes such as osmoregulation, excretion and cyclosis.
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Fishery Science-I Practical

CO Practical Outcome

- CO1** Identify and classify freshwater, brackish-water and marine fishes.
 - CO2** Identify economically important fish species and their ecological significance.
 - CO3** Understand fish diversity and prepare fish-diversity records.
 - CO4** Identify fishing crafts and gears.
 - CO5** Understand the application of fishery techniques in different aquatic habitats.
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General Entomology Practical

CO Practical Outcome

- CO1** Collect, preserve and maintain insect specimens.
 - CO2** Identify insects based on external morphological characters.
 - CO3** Identify major insect orders.
 - CO4** Study digestive, nervous and reproductive systems of grasshopper.
 - CO5** Prepare insect life-cycle charts/models.
 - CO6** Conduct field-based insect surveys.
 - CO7** Prepare scientifically documented insect specimens.
 - CO8** Apply entomological knowledge in agricultural and environmental studies.
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MINOR COURSES – SEMESTER V

Parasitic Diseases

CO Course Outcome

CO1 Understand transmission and epidemiology of parasitic diseases.

CO2 Identify and understand the life cycles of medically important parasites.

CO3 Apply knowledge of diagnosis and control of parasitic diseases.

CO4 Suggest prevention and control measures for parasitic diseases affecting public health.

Animal Husbandry

CO Course Outcome

CO1 Identify livestock breeds.

CO2 Explain breeding techniques.

CO3 Describe feeding and housing management.

CO4 Understand livestock disease control.

CO5 Develop basic knowledge of livestock production and management.

VOCATIONAL SKILL COURSES – SEMESTER V

Fish Processing Techniques

CO Course Outcome

CO1 Explain principles of fish spoilage and preservation.

CO2 Describe traditional and modern fish-processing methods.

CO3 Apply techniques for preparation of value-added fish products.

CO4 Analyze quality-control and hygiene standards.

CO5 Evaluate economic and marketing aspects of fish processing.

Aquaculture

CO Course Outcome

CO1 Explain the fundamental concepts, scope and significance of aquaculture.

CO2 Identify economically important aquaculture organisms and freshwater/marine species.

CO3 Describe fish seed-production techniques.

CO4 Apply principles of fish nutrition and feed formulation.

CO5 Compare different aquaculture systems and their productivity.

CO6 Recognize common fish diseases and appropriate preventive/health-management measures.

CO Course Outcome

CO7 Explain harvesting, post-harvest handling, processing and preservation of aquaculture products.

Fish Processing Techniques – Practical**CO Practical Outcome**

CO1 Understand fish spoilage and preservation.

CO2 Demonstrate traditional and modern fish-preservation methods.

CO3 Prepare value-added fish products.

CO4 Apply quality-control and hygienic standards.

CO5 Develop practical skills in fish processing and packaging.

Aquaculture – Practical**CO Practical Outcome**

CO1 Identify cultivable fish species and aquaculture equipment.

CO2 Estimate important water-quality parameters.

CO3 Prepare simple fish-feed formulations and calculate FCR.

CO4 Understand hatchery layout and seed-production operations.

CO5 Identify common fish diseases and prepare aquaculture field reports.

FIELD PROJECT / COMMUNITY ENGAGEMENT – SEMESTER V**CO Outcome**

CO1 Develop scientific attitude and research skills.

CO2 Gain practical experience through field visits and community interaction.

CO3 Understand biodiversity, environmental, health and agricultural issues.

CO4 Develop data-collection and analysis skills.

CO5 Prepare scientific reports based on field observations.

CO6 Develop teamwork, communication and presentation skills.

SEMESTER VI – MAJOR COURSES

DSC – Developmental Biology

CO Course Outcome

CO1 Understand the basic concepts related to embryonic development and life of animals.

CO2 Develop analytical thinking and scientific understanding of developmental biology.

DSC – Evolution & Animal Behaviour

CO Course Outcome

CO1 Explain the concept and origin of life through scientific theories.

CO2 Describe Miller-Urey experiments and explain evolutionary theories.

CO3 Interpret evidence of evolution from homology, anatomy, embryology and fossils.

CO4 Explain Lamarckism, Darwinism, Neo-Lamarckism and Neo-Darwinism.

CO5 Explain the roles of mutation, gene flow, genetic drift, natural selection and mating patterns in evolution.

CO6 Describe allopatric and sympatric speciation with examples.

CO7 Evaluate causes and significance of extinction in evolutionary history.

CO8 Distinguish innate and learned behaviour in animals.

CO9 Explain communication, migration, mimicry, schooling and social behaviour.

CO10 Analyze reproductive strategies, courtship, parental care and sexual selection in animals.

IKS-2 – Ancient Knowledge of Animal Use in India

CO Course Outcome

CO1 Explain the role of animals in ancient Indian civilization.

CO2 Analyze traditional practices of animal husbandry and veterinary science.

CO3 Evaluate medicinal and agricultural uses of animals in ancient India.

SEMESTER VI – PRACTICAL COURSES

Developmental Biology Practical

CO Practical Outcome

CO1 Identify sperm and ovum structures of selected animals.

CO2 Identify different egg types and relate them to egg distribution.

CO3 Distinguish cleavage patterns and relate them to egg type.

CO4 Describe blastula and gastrula formation in different vertebrates.

CO5 Recognize important stages of chick embryology.

CO Practical Outcome

- CO6** Interpret whole-mount slides and sections of chick embryos.
- CO7** Explain the influence of environmental factors on embryonic development.
- CO8** Apply developmental-biological techniques in research and reproductive sciences.
- CO9** Develop skills in microscopy, practical observation, recording and reporting.
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Evolution & Animal Behaviour Practical

CO Practical Outcome

- CO1** Identify important connecting links such as *Peripatus*, *Dipnoi* and *Coelacanth*.
- CO2** Distinguish homologous and analogous organs.
- CO3** Explain adaptive features in selected animals.
- CO4** Apply Hardy-Weinberg law to population-genetic problems.
- CO5** Interpret evolutionary trends using comparative morphology and anatomy.
- CO6** Describe macroevolution using suitable examples.
- CO7** Explain evolutionary relationships using fossils and comparative evidence.
- CO8** Observe and record animal behaviour such as nesting, grooming, migration and social behaviour.
- CO9** Prepare and interpret ethograms using standard behavioural techniques.
- CO10** Conduct field-based behavioural observations and prepare scientific reports.
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DISCIPLINE SPECIFIC ELECTIVES – SEMESTER VI

Parasitology

CO Course Outcome

- CO1** Explain basic concepts of parasitism and identify major parasites and their relationships with hosts.
- CO2** Describe important parasites, their life cycles and their medical/veterinary significance.
- CO3** Understand various types of parasites and methods of diagnosis, prevention and control.
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Fishery Science-II

CO Course Outcome

- CO1** Apply fish-farm management techniques.
- CO2** Understand and differentiate different fish-culture methods.
- CO3** Perform basic fish-hatchery management and disease-control practices.
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Applied Entomology

CO Course Outcome

- CO1** Define and classify insect pests affecting different biological and economic bases.
 - CO2** Identify major insect pests of agricultural crops and stored products.
 - CO3** Explain the life cycle, mode of infestation and nature of damage caused by pests.
 - CO4** Recognize common human insect pests and their public-health importance.
 - CO5** Apply suitable control measures for insect pests.
 - CO6** Differentiate cultural, mechanical, biological and chemical pest-control methods.
 - CO7** Describe the role of predators, parasitoids, pathogens and pheromones in pest management.
 - CO8** Operate and identify commonly used plant-protection appliances and equipment.
 - CO9** Understand safety precautions and sustainable pest-management practices.
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PRACTICAL DSE COURSES – SEMESTER VI

Parasitology Practical

CO Practical Outcome

- CO1** Identify major protozoan, helminth and arthropod parasites.
 - CO2** Describe morphological features of parasites and relate them to their life stages.
 - CO3** Illustrate important parasite life cycles.
 - CO4** Perform basic parasitological techniques including slide preparation, staining and microscopic observation.
 - CO5** Apply preventive and control measures for parasitic diseases.
 - CO6** Conduct basic field surveys and collect/preparing parasite-related specimens.
 - CO7** Prepare and interpret laboratory records related to parasitology.
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Fishery Science-II Practical

CO Practical Outcome

- CO1** Identify Indian major carps, exotic carps, catfishes, plankton and fish parasites.
 - CO2** Perform water-quality analysis for fish culture.
 - CO3** Understand and demonstrate fish-breeding techniques.
 - CO4** Understand real-time fish-farm operations through field visits and practical observation.
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Applied Entomology Practical

CO Practical Outcome

- CO1** Identify major pests of field crops, vegetables, fruits and stored grains.

CO Practical Outcome

- CO2** Explain symptoms of pest infestation and economic losses caused by insects.
 - CO3** Recommend suitable cultural, biological and chemical control methods.
 - CO4** Distinguish insect mouthparts and relate them to feeding behaviour.
 - CO5** Identify vectors of diseases such as malaria, dengue and plague.
 - CO6** Use common pest-control appliances and spraying equipment.
 - CO7** Collect and preserve agriculturally important insect specimens.
 - CO8** Understand principles of organic agriculture and sustainable pest management.
 - CO9** Apply entomological knowledge to crop protection and human welfare.
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MINOR COURSES – SEMESTER VI

Avian Biology

CO Course Outcome

- CO1** Understand evolutionary origin of birds.
 - CO2** Classify birds based on morphological features.
 - CO3** Identify adaptive features of birds.
 - CO4** Explain functional anatomy of birds.
 - CO5** Understand physiological adaptations for flight.
 - CO6** Describe reproduction and development in birds.
 - CO7** Analyze behavioural patterns of birds.
 - CO8** Understand bird migration and its mechanisms.
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Pet Animal Care & Management

CO Course Outcome

- CO1** Understand principles of pet care, management and welfare.
 - CO2** Identify different pet animals and their breeds.
 - CO3** Apply proper feeding, housing and hygiene practices.
 - CO4** Handle pets safely and interpret their behaviour.
 - CO5** Recognize common pet diseases and preventive measures.
 - CO6** Demonstrate basic grooming and healthcare practices.
 - CO7** Understand vaccination and veterinary management.
 - CO8** Apply ethical and welfare standards in pet management.
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ON-JOB TRAINING / INTERNSHIP

The Third Year structure also provides an **On Job Training / Internship** component. The syllabus specifies preparation of a detailed plan, completion of training/internship, submission of a report and presentation/viva as part of assessment.

Suggested Training Outcomes

Since the document provides the **training requirements and assessment scheme rather than a separate numbered CO list**, the outcomes can be documented as:

CO Training Outcome

CO1 Apply subject knowledge in a real work environment.

CO2 Develop practical and professional skills through workplace experience.

CO3 Develop communication, teamwork and professional conduct.

CO4 Prepare and present an internship/OJT report.

CO5 Demonstrate ability to connect academic learning with professional practice.