

D. B. G. GOVT. COLLEGE, PANIPAT

Session 2023-2024 (EVEN SEMESTER)

NAME OF PROFESSOR: Seema

DESIGNATION: Assistant Professor in Zoology

SUBJECT/PAPER: Aquaculture and Pest Management-I, Aquaculture and Pest Management-II

CLASS- B.Sc. III (Medical)

SR. NO.	MONTH	TOPICS TO BE COVERED	REMARKS IF ANY
1.	1ST jan -15TH jan 16 jan – 31 Jan	<p>Introduction to world fisheries: Production, utilization and demand, Fresh Water fishes of India: River system, reservoir, pond, tank fisheries; captive and culture fisheries, cold water fisheries, Fishing crafts and gears, Fin fishes, Crustaceans, Molluscs and their culture.</p> <p>Study of important insect pests of crops and vegetables, Sugercane: (a) Sugercane leaf-hopper (<i>Pyrilla perpusilla</i>) (b) Sugercane Whitefly (<i>Aleurolobus barodensis</i>) (c) Sugercane top borer (<i>Sciropophaga nivella</i>) (d) Sugercane root borer (<i>Emmalocera depresella</i>) (e) Gurdaspur borer (<i>Bissetia steniellus</i>)</p>	
2.	1 Feb to 15 Feb 16 Feb -29 Feb	<p>Cotton: (a) Pink bollworm (<i>Pestiphora gossypifolia</i>) (b) Red cotton bug (<i>Dysdercus Cingulatus</i>) (c) Cotton grey weevil (<i>Myllocerus undecimpustulatus</i>) (d) Cotton Jassid (<i>Amrasca devastans</i>), Wheat stem borer (<i>Sesamia inferens</i>) with its systematics position, habits, nature of damage caused. Life cycle and control.</p> <p>8. Paddy: (a) Gundhi bug (<i>Leptocorisa acuta</i>) (b) Rice grasshopper (<i>Hieroglyphus banian</i>) (c) Rice stem borer (<i>Scirpophaga incertullus</i>) (d) Rice Hispa (<i>Diceladispera armigera</i>), Vegetables: (a) <i>Raphidopalpa faveicollis</i> – The Red pumpkin beetle. (b) <i>Dacus cucurbitas</i> – The pumpkin fruit fly. (c) <i>Tetranychus tecarius</i> – The vegetable mite. (d) <i>Epilachna</i> – The Hadda beetle, Seed production: Natural seed resources – its assessment, collection, Hatchery production, Nutrition: Sources of food (Natural, Artificial)</p>	Assignment 1+Test

		and feed composition. {23-03-2024-TO 31 03-2024 (Holi vacations)}	
3.	1 Mar- 15 Mar 16 Mar-31 Mar	Field Culture: Ponds-running water, recycled water, cage, culture; poly culture,Culture technology: Biotechnology, gene manipulation and cryopreservation of gametes, Stored grains: (a) Pulse beetle (Callosobruchus maculatus) (b) Rice weevil (Sitophilus oryzae) (c) Wheat weevil (Trogoderma granarium) (d) Rust Red Flour beetles (Tribolium castaneum) (e) Lesser grain borer (Rhizopertha dominica) (f) Grain & Flour moth (Sitotroga cerealella), Insect control: Biological control, its history, requirement and precautions and feasibility of biological agents for control,Chemical control: History, Categories of pesticides. Important pesticides from each category to pests against which they can be used.	Assignment 2+ Test
4.	1Apr- 15 Apr 16 Apr – 30 Apr	Insect repellants and attractants, Integrated pest management, Important bird and rodent pests of agriculture & their management. Revision	

TWO ASSIGNMENTS AND ONE UNIT TEST WILL BE TAKEN AS PER SCHEDULE.

Signature of Assistant Professor

D. B. G. GOVT. COLLEGE, PANIPAT

Session 2023-2024 (EVEN SEMESTER)

NAME OF PROFESSOR: Seema

DESIGNATION: Assistant Professor in Zoology

SUBJECT/PAPER: Animal Diversity of Chordates

CLASS- B.Sc. I (Medical)

SR. NO.	MONTH	TOPICS TO BE COVERED	REMARKS IF ANY
1.	1ST jan -15TH jan 16 jan – 31 Jan	Chordates: Salient features of chordates; Principles of classification; Protochordates: Urochordata: Systematic position, distribution, ecology, morphology and affinities . Urochordata: Type Study of Herdmania.	
2.	1 Feb to 15 Feb 16 Feb -29 Feb	Pisces: General characters and classification up to classes with examples emphasizing their biodiversity, Scales & Fins. Type study of Labeo {23-03-2024-TO 31 03-2024 (Holi vacations)}	Assignment 1+Test
3.	1 Mar- 15 Mar 16 Mar-31 Mar	Amphibia: General characters and Classification upto class level; Type study of frog, Parental Care and Neoteny in Amphibia Reptilia: General characters and Classification upto classes	Assignment 2+ Test
4.	1Apr- 15 Apr	Aves: General characters and Classifications upto classes. Flight/Aerial adaptation in birds, Archaeopteryx as missing link.	

	16 Apr – 30 Apr	Mammals: General characters and classification up to classes ;. Type study of Rat.	
5	1 May- 15 May	Revision	

TWO ASSIGNMENTS AND ONE UNIT TEST WILL BE TAKEN AS PER SCHEDULE.

Signature of Assistant Professor

D. B. G. GOVT. COLLEGE, PANIPAT

Session 2023-2024 (EVEN SEMESTER)

NAME OF PROFESSOR: Seema

DESIGNATION: Assistant Professor in Zoology

SUBJECT/PAPER: Environmental Studies

CLASS- B.com. I

SR. NO.	MONTH	TOPICS TO BE COVERED	REMARKS IF ANY
1.	1ST jan -31 Jan	Introduction to environmental studies: Multidisciplinary nature of environmental studies; Scope and importance; Concept of sustainability and sustainable development. Ecosystems: Definition, structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs, Major ecosystems types: Forest ecosystem, Grassland ecosystem, Desert ecosystem and Aquatic ecosystem (lakes, rivers, oceans).	
2.	1 Feb -29 Feb	Natural resources: Renewable and Non- renewable Resources Land resources: Land degradation and soil erosion. Forest resources: Importance of forests, deforestation: causes and impacts on environment. Water resources: Use and over- exploitation of surface and ground water. Energy resources: Renewable and non- renewable energy sources. Biodiversity and Conservation: Definition and its types, Endangered and endemic species of India. Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation o biodiversity: In-situ and Ex-situ conservation of biodiversity. Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and informational values.	Assignment 1+Test
3.	1 Mar-31 Mar	Environmental pollution Environmental pollution: types, causes, effects and controls; Air, water, soil and noise pollution. Solid waste management: Sources, methods of disposal: Landfill, incineration and composting. Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture. Environmental Policies & Practices Environmental laws: Environment	

		(Protection) Act, 1986, Air (Prevention & Control of Pollution) Act, 1981, Water (Prevention and control of Pollution) Act, 1974	
4.	1Apr- 30 Apr	Human Communities and the Environment: Human population growth: Impacts on environment, human health and welfare. Resettlement and rehabilitation of project affected person. Disaster management: floods, earthquake, cyclones, landslides and drought. Environmental ethics: Role of Indian and other religions and cultures in environmental conservation.	
5	1 May- 15 May	Revision	

ONE ASSIGNMENTS AND ONE UNIT TEST WILL BE TAKEN AS PER SCHEDULE

Signature of Assistant Professor

D. B. G. GOVT. COLLEGE, PANIPAT

Session 2023-2024 (ODD SEMESTER)

NAME OF PROFESSOR: Seema

DESIGNATION: Assistant Professor in Zoology

SUBJECT/PAPER: Animal Diversity of Non-Chordates

CLASS- B.Sc. I (Medical)

SR. NO.	MONTH	TOPICS TO BE COVERED	REMARKS IF ANY
1.	August	Phylum Protozoa: General characters and classification up to class level Type study of Plasmodium Phylum Porifera: General characters and classification up to class level, Type study of Sycon	
2.	September	Phylum – Coelentrata: General characters and classification up to class level Type Study of Obelia Phylum – Platyhelminthes and Aschelminthes: General characters and classification up to class level, Type study of Liver Fluke, Fasciola hepatica	Assignment 1+Test
3.	October	Phylum – Annelida: General characters and classification up to class level, Type study of Earthworm, Pheretima posthuma (Habitat, habits, metamerism, digestive System, circulatory system, nervous system, reproductive system) Phylum – Arthropoda: General characters and classification up to class level, Type study of Cockroach, Periplaneta americana (Habitat, habits, external morphology, digestive system, respiratory system, excretory system, reproductive system)	Assignment 2+ Test
4.	November	Phylum - Mollusca: General characters and classification up to class level, Type study of Pila Phylum – Echinodermata: General characters and classification up to class level, Type study of Asterias (Sea Star) (Habitat, habits, external morphology, water vascular system, Circulatory System) Phylum Hemichordata: General characters of Hemichordates with examples.	

5	December	Revision	
----------	----------	----------	--

TWO ASSIGNMENTS AND ONE UNIT TEST WILL BE TAKEN AS PER SCHEDULE.

Signature of Assistant Professor

D. B. G. GOVT. COLLEGE, PANIPAT

Session 2023-2024 (ODD SEMESTER)

NAME OF PROFESSOR: Seema

DESIGNATION: Assistant Professor in Zoology

SUBJECT/PAPER: Environmental Biology, Evolution and Developmental Biology

CLASS- B.Sc. III (Medical)

SR. NO.	TOPICS TO BE COVERED	REMARKS IF ANY
1.	Basic concepts of ecology: Definition, signification. Concepts of habitat and ecological niche, Factors affecting environment: Abiotic factors (light-intensity, quality and duration), temperature, humidity, topography; edaphic factors; Biotic factors, Introduction to major ecosystem of the world, Ecosystem: Concept, components, properties and functions; Ecological energetic and energy flow-food chain, food web, trophic structure; ecological pyramids concept of productivity.	
2.	Biogeochemical cycles: Concept, reservoir pool, gaseous cycles and sedimentary cycles. Population: Growth and regulation, Concept of biodiversity and conservation of natural resources. Migration in fishes and birds, Parental care in animal, Population interactions: Competition, predation, parasitism, commensalisms and mutualism	Assignment 1+Test
3.	Environmental Pollution: Air, water, soil and management strategies, Origin of life, Concept and evidences of organic evolution, Theories of organic evolution, Concept of micro, macro-and mega-evolution, Concept of species, Phylogeny of horse.	Assignment 2+ Test

4.	<p>Evolution of man, Historical perspectives, aims and scope of developmental biology, Generalized structure of mammalian ovum & sperm, spermatogenesis and Oogenesis, fertilization, parthenogenesis, different types of eggs and patterns of cleavage, Process of blastulation and fate-map construction in frog and chick, Gastrulation in frog and chick up to the formation of three germinal layers, Elementary knowledge of primary organizers, Elementary knowledge of extra embryonic membranes, Concepts of competence, determination and differentiation, Concept of regeneration.</p>	
5	Revision	

TWO ASSIGNMENTS AND ONE UNIT TEST WILL BE TAKEN AS PER SCHEDULE.

Signature of Assistant Professor

D. B. G. GOVT. COLLEGE, PANIPAT

Session 2023-2024 (ODD SEMESTER)

NAME OF PROFESSOR: Seema

DESIGNATION: Assistant Professor in Zoology

SUBJECT/PAPER :Environmental Studies

CLASS- B.A. I,B.Sc (M,N,M)

SR. NO.	MONTH	TOPICS TO BE COVERED	REMARKS IF ANY
1.	AUGUST	Introduction to environmental studies: Multidisciplinary nature of environmental studies; Scope and importance; Concept of sustainability and sustainable development. Ecosystems: Definition, structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs, Major ecosystems types: Forest ecosystem, Grassland ecosystem, Desert ecosystem and Aquatic ecosystem (lakes, rivers, oceans).	
2.	SEPTEMBER	Natural resources: Renewable and Non- renewable Resources Land resources: Land degradation and soil erosion. Forest resources: Importance of forests, deforestation: causes and impacts on environment. Water resources: Use and over- exploitation of surface and ground water. Energy resources: Renewable and non- renewable energy sources. Biodiversity and Conservation: Definition and its types, Endangered and endemic species of India. Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation o biodiversity: In-situ and Ex-situ conservation of biodiversity. Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and informational values.	Assignment 1+Test
3.	OCTOBER	Environmental pollution Environmental pollution: types, causes, effects and controls; Air, water, soil and noise pollution. Solid waste management: Sources, methods of disposal: Landfill, incineration and composting. Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture. Environmental Policies & Practices Environmental laws: Environment (Protection) Act, 1986, Air (Prevention & Control of Pollution) Act, 1981, Water (Prevention and control of	

		Pollution) Act, 1974	
4.	NOVEMBER	Human Communities and the Environment: Human population growth: Impacts on environment, human health and welfare. Resettlement and rehabilitation of project affected person. Disaster management: floods, earthquake, cyclones, landslides and drought. Environmental ethics: Role of Indian and other religions and cultures in environmental conservation.	
5	DECEMBER	Revision	

ONE ASSIGNMENTS AND ONE UNIT TEST WILL BE TAKEN AS PER SCHEDULE

Signature of Assistant Professor