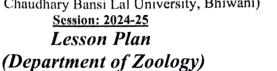


SMRJ Government College, Siwani (Bhiwani)

(Affiliated to Chaudhary Bansi Lal University, Bhiwani)





Teacher: Dr. Pooja Rani

Class

: B.Sc. I

: 1st

Semester **Internal Assessment Marks: 20** Course Type & Title Course Code

: CC-1, MCC-1, Animal Diversity of Non-Chordates : B23-ZOO-101 (Theory)

Credits/ Max. Marks

: 3 (Theory)/70

End Term Exam Marks

Course Outcomes:

After completing this course, the learner will be able to:

- ✓ Understand the importance of taxonomy and structural organization of animals from Protozoa to Hemichordata living in varied habitats.
- ✓ Meticulously analyze the complexity and characteristic features of non-chordates by familiarization with the morphology and anatomy of representatives of various animal phyla.
- ✓ Comprehend the evolutionary history and relationships of different non-chordates functional and structural affinities.
- ✓ Realize the economic importance of non-chordates, their interaction with the environment and role in the ecosystem.
- ✓ Know the significance the diverse habitats, including marine, freshwater and terrestrial.
- ✓ Understand similarities and differences in life functions among various non-chordates.

Sr. No.	Week/Month, 2024	Unit/ Topic/ Chapter to be covered	Assignment/Test/ Remarks, if any
1	22.07.2024 – 27.07.2024	Phylum Protozoa: General Characters & classification up to class level	;
2	29.07.2024 - 03.08.2024	Type study of <i>Plasmodium</i> , Phylum Porifera: General Characters & classification up to class level	,
3	05.08.2024 - 10.08.2024	Type study of Sycon	Seminar
4	12.08.2024 - 17.08.2024	Phylum Coelenterata: General Characters & classification up to class level, Type study of <i>Obelia</i>	
5	19.08.2024 - 24.08.2024	Phylum Platyhelminthes & Aschelminthes: General Characters & classification up to class level, Type study of <i>Fasciola hepatica</i>	Quiz
6	26.08.2024 - 31.08.2024	Phylum Annelida: General Characters & classification up to class level, Type study Earthworm	Test
7	02.09.2024 - 07.09.2024	Type study Earthworm continues	
8	09.09.2024 - 14.09.2024	Phylum Arthropoda: General Characters & classification up to class level, Type study Cockroach	,
9	16.09.2024 – 21.09.2024	Type study Cockroach continues	

10	23.09.2024 - 28.09.2024	Phylum Mollusca: General Characters & classification up to class level, Type study Pila	Assignment
11	30.09.2024 - 05.10.2024	Type study Pila continues	
12	07.10.2024 – 12.10.2024	Phylum Echinodermata: General Characters & classification up to class level, Type study Sea Star	Mid Term Exam
13	14.10.2024 - 19.10.2024	Type study Sea Star continues	
14	21.10.2024 - 26.10.2024	Phylum Hemichordata: General Characters with examples.	
15	04.11.2024 - 09.11.2024	Revision	2
16	11.11.2024 – 16.11.2024	Revision	Revision Test
17	18.11.2024 – 23.11.2024	Revision	Revision Test

Recommended Books:

- ✓ Barnes, R.D. (2006). Invertebrate Zoology, VII Edition, Cengage Learning, India.
- ✓ Pechenik, J. A. (2015). Biology of the Invertebrates. VII Edition, McGraw-Hill Education
- ✓ Ruppert, E.E., Fox, R.S., Barnes, R. D. (2003). Invertebrate Zoology: A Functional Evolutionary Approach. VII Edition, Cengage Learning, India
- ✓ Barnes, R.S.K., Calow, P., Olive, P.J.W., Golding, D.W. and Spicer, J.I. (2002). The Invertebrates: A New Synthesis. III Edition, Blackwell Science
- ✓ Barrington, E.J.W. (2012). Invertebrate Structure and Functions. II Edition, EWP Publishers

✓ Kotpal, R.L. (2021). Zoology Invertebrate, Rastogi Publications, Meerut.

(Dr. Pooja Rani)

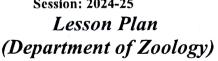
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SMRJ Government College, Siwani (Bhiwani)

(Affiliated to Chaudhary Bansi Lal University, Bhiwani)

Session: 2024-25





Teacher: Dr. Pooja Rani Class : B.Sc. II

Semester

: 3rd

Internal Assessment Marks: 10+10

Course Type & Title

Course Code

Credits/ Max. Marks

End Term Exam Marks

:Animal Physiology & Animal Biochemistry :20UZOO301 & 20UZOO302 (Paper I & II)

:4 (Theory) /50+50

:40+40

Course Outcomes: The core course 'Animal Physiology and Biochemistry' aims at providing the following critical learning outcomes:

- Comprehend and analyze problem-based questions.
- ✓ Develop investigative, communicative, analytical and personal skills with respect to the subject.
- ✓ Recognize and explain how all physiological systems work in unison to maintain homeostasis in the body and feedback loops control the same.
- ✓ Synthesize ideas to make connection between knowledge of physiology and real world situations, including healthy life style decisions and homeostatic imbalances i.e. how physiological mechanisms adapt in response to various external and internal stimuli in order to maintain health.
- ✓ Know the role of regulatory systems viz. endocrine and nervous systems and their amalgamation in maintaining various physiological processes.
- ✓ Understand the concepts of biochemistry and interaction of biomolecules with each other to bring about life processes.
- ✓ Learn control of enzyme activity, its mechanism of action and how a drug might inhibit the enzyme.

Sr.	Week/Month, 2024	Unit/ Topic/ Chapter to be covered	Assignment/Test/
No.	,	•	Remarks, if any
1	22.07.2024 – 27.07.2024	Physiology of digestion in alimentary canal, Absorption of Carbohydrates	
2	29.07.2024 - 03.08.2024	Absorption of proteins & lipids, Pulmonary ventilation	
3	05.08.2024 – 10.08.2024	Respiratory volumes & capacities, Transport of oxygen & carbon dioxide in blood, Composition of blood, Homeostasis	Assignment
4	12.08.2024 - 17.08.2024	Structure of heart, Origin & conduction of cardiac impulse, Cardiac cycle	
5	19.08.2024 – 24.08.2024	Structure of nephron, Physiology of excretion, Structure of Neuron, Resting membrane potential, graded potential	Test
6	26.08.2024 - 31.08.2024	Origin of action potential & propagation in myelinated & non-myelinated nerve fibers, Ultrastructure of skeleton muscle	Seminar
7	02.09.2024 - 07.09.2024	Molecular & chemical basis of muscle contraction, Physiology of male reproduction, Hormonal control of spermatogenesis	

	09.09.2024 - 14.09.2024	Physiology of female reproduction, Hormonal control of menstrual cycle in human, Structure and function of	Test
8	0,10,7	aituitary	
	2024	Generature and function of thyroid, parathyroid, pancreas	
9	16.09.2024 - 21.09.2024	and adrenal gland, Structure & biological importance of	
,		1 - Invidentes	,
	20.00.2024	Glycolysis, Kreb's cycle and Electron transport chain	
10	23.09.2024 - 28.09.2024		
	30.09.2024 - 05.10.2024	Lipids & their metabolism	
11	30.09.2024 - 05.10.2021		Assignment
	07.10.2024 - 12.10.2024	Structure, classification, function & properties of	Assignment
12	07.10.2024 = 12.10.20	proteins, Nomenclature, classification & mechanisms	
		fangyme	
	14.10.2024 - 19.10.2024	Transport through bio-membranes, Buffers	\$
13	14.10.202	· ·	Seminar
14	21.10.2024 - 26.10.2024	Structure, function & types of DNA, RNA & their	
14		components	
15	04.11.2024 - 09.11.2024	Central dogma	
13			Revision Test
16	11.11.2024 - 16.11.2024	Revision	
- 0	18.11.2024 – 23.11.2024	Revision	Revision Test
			1

Recommended Books/ E resources:

- Tortora, G.J. and Derrickson, B.H. (2009) Principles of Anatomy and Physiology, XII Edition, John
- ✓ Widmaier, E.P., Raff, H. and Strang, K.T. (2008) Vander 's Human Physiology, XI Edition., McGraw
- ✓ Berg, J. M., Tymoczko, J. L. and Stryer, L. (2006) Biochemistry. VI Edition. W.H Freeman and Co.
- ✓ Nelson, D. L., Cox, M. M. and Lehninger, A.L. (2009). Principles of Biochemistry. IV Edition. W.H.
- ✓ Murray, R.K., Granner, D.K., Mayes, P.A. and Rodwell, V.W. (2009). Harper's Illustrated Biochemistry. XXVIII Edition. Lange Medical Books/Mc Graw3Hill.
- ✓ Guyton, A.C. and Hall, J.E. (2011). Textbook of Medical Physiology, XII Edition, Harcourt Asia Pvt. Ltd/ W.B. Saunders Company
- ✓ https://swayam.gov.in/courses/5371-jan-2019-animal-physiology
- ✓ https://swayam.gov.in/course/3712-animal-physiology
- ✓ https://swayam.gov.in/courses/5366-jan-2019-biochemistry
- ✓ https://swayam.gov.in/course/1405-biochemistry
- ✓ https://swayam.gov.in/courses/5638-biochemistry
- ✓ https://vle.du.ac.in

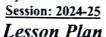
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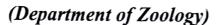
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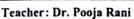


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Class

: B.Sc. III r : 5th

Semester: 5th
Internal Assessment Marks: 10+10

Course Type & Title
Course Code

: Aquaculture & Economic Zoology

: 20UZOO504 & 20UZOO505 (Paper I & II)

Credits/ Max. Marks : 4/50+50 End Term Exam Marks : 40+40

Course Outcomes- Students will be able to:

- ✓ Learn about the concept of pest and pest status.
- ✓ Understand the difference between various types of pests and extent of damage caused by them.
- ✓ Gain knowledge about important pests of crops, fruits, vegetables, stored grains and insects of medical importance.
- ✓ Analysis of varied types of control measures for management of pest populations and list suitable control measures, specific for every pest.
- ✓ Preservation and artificial insemination in cattle; Induction of early puberty and synchronization of estrus in cattle.
- ✓ General idea about poultry farming.
- ✓ Acquired sufficient skills and knowledge in aquaculture reproduction, hatchery management
- ✓ Employ scientific techniques, practical skills and management strategies aimed at improving culture resource management Skilled to analyze the quality assessment and post-harvest technology to manage live fish and fishery products.
- ✓ Ability to diagnose aquaculture related diseases and manage health and safety issues in aquaculture ventures
- ✓ Exploit and utilize wisely fisheries resources using appropriate and innovative fishing methods.
- ✓ Apply post-harvest practices that are compliant to international standards for food safety and quality

Sr. No.	Week/Month, 2024	Unit/ Topic/ Chapter to be covered	Assignment/Test/ Remarks, if any
1	22.07.2024 – 27.07.2024	Life history, control & damage caused by Helicoverpa armigera, Pyrilla perpusilla, Papilio demoleus, Callosobruchus chinensis	
2	29.07.2024 - 03.08.2024	Life history, control & damage caused by Sitophilus oryzae and Tribolium castaneum, Lac culture	
3	05.08.2024 - 10.08.2024	Life history, medical importance & control of Pediculus humanus corporis, Anopheles, Culex, Aedes and Xenopsylla cheopsis	Assignment
4	12.08.2024 - 17.08.2024	Sericulture, Preservation & artificial insemination in cattle, Induction of early puberty & synchronization of estrus in cattle	

5	19.08.2024 - 24.08.2024	Piggery, Poultry farming, Principles of poultry breeding,	Test
6	26.08.2024 - 31.08.2024	Management of breeding stock and broilers, Processing and preservation of eggs	
7	02.09.2024 - 07.09.2024	General description of fish, habitat, habits & reproduction in fishes, Types of fins & their modifications	Seminar
8	09.09.2024 - 14.09.2024	Types of scales, Use of scales in classification & age determination in fishes, Gills & gas exchange	
9	16.09.2024 - 21.09.2024	Swim bladder, buoyancy, milt, spawn, fry, fingerlings, brood fishes	
10	23.09.2024 - 28.09.2024	Electric organs, Bioluminescence, Mechanoreceptors, Schooling, Parental care, Migration	Assignment
11	30.09.2024 - 05.10.2024	Inland & marine fisheries, Fish diseases, Fishing crafts & gears	
12	07.10.2024 - 12.10.2024	Depletion of fisheries resources, sustainable aquaculture, Prawn culture	Test
13	14.10.2024 - 19.10.2024	Pearl culture, Pen & Cage culture, Polyculture	
14	21.10.2024 - 26.10.2024	Composite fish culture, Brood stock management	Seminar
15	04.11.2024 - 09.11.2024	Induced breeding of fish	
16	11.11.2024 – 16.11.2024	Revision	Revision Test
17	18.11.2024 - 23.11.2024	Revision	Revision Test

Recommended Books/ E resources:

- ✓ Park, K. (2007). Preventive and Social Medicine. XVI Edition. B.B Publishers.
- ✓ Arora, D.R. and Arora, B. (2001). Medical Parasitology. H Edition. CBS Publications and Distributors.
- ✓ Atwal, A.S. (1986). Agricultural Pests of India and South East Asia, Kalyani Publishers.
- ✓ Hafez, E. S. E. (1962). Reproduction in Farm Animals. Lea & Fabiger Publisher
- ✓ Dunham R.A. (2004). Aquaculture and Fisheries Biotechnology Genetic Approaches. CABI publications, U.K.
- ✓ Pedigo, L.P. (2002). Entomology and Pest Management, Prentice Hall.
- ✓ Fish & Fisheries of India by Jhingran, V.G., Hindustan Publishing Corporation, New Delhi, 1991.
- ✓ C.B.L. Srivastava, Fish Biology, Narendra Publishing House.
- ✓ J.R. Norman, A History of Fishes, Hills and Wang Publishers.

(Dr. Pooja Rani)

Signature of the teacher concerned