

UNITIZATION OF SYLLABUS

Department of Zoology

Bankura Christian College

ACADEMIC YEAR 2023-24 (Semester 5th Hons)

(July to December)

Name of the Faculty: Dr Anupam Ghosh

Unit 4: Sex Determination

1. Mechanisms of sex determination in *Drosophila*, Genic balance theory
2. Sex determination in human
3. Dosage compensation in *Drosophila* & Human
4. Environmental factors and sex determination

(DSE 1)

Unit 2: Patterns of Behaviour

Stereotyped Behaviours (Orientation, Reflexes); Individual Behavioural patterns; Instinct vs. Learned Behaviour; Associative learning, classical - and operant conditioning, Habituation, Imprinting.

(DSE-2)

Unit 6: Insect Plant Interaction

Theory of co-evolution; role of allelochemicals in host plant mediation; Host-plant selection by phytophagous insects

Unit 7: Insects as Vectors

Brief discussion on Diptera as a carrier of disease and control

Practical

1. Demonstration of techniques of handling *Drosophila*, identifying males and females; observing wild type and mutant flies (slide/photograph), and setting up cultures
2. Identification of life cycle of Mosquito
3. Identification of any three major insect pests of paddy (*Scirpophaga*, *Leptocoriza*, and *Hispa*) and their damages
4. Identification of Mulberry silk moth (life cycle stages)

MONTH/YEAR	WEEK	PORTIONS	Practical
August 2023	5	Genic balance theory	Identification of Mulberry silk moth (life cycle stages)
MONTH/YEAR	WEEK	PORTIONS	
September 2023	1	Mechanisms of sex determination in <i>Drosophila</i>	Demonstration of techniques of handling <i>Drosophila</i> , identifying males and females; observing wild type and mutant flies

			(slide/photograph),
	2	Dosage compensation in <i>Drosophila</i>	Setting of culture
	3	Sex determination in human	Setting of culture
	4	Dosage compensation in Human	Identification of life cycle of Mosquito
	5	Class Test	Identification of life cycle of Mosquito
MONTH/YEAR	WEEK	PORTIONS	
October 2023	1	Theory of co-evolution	Identification of any three major insect pests of paddy (<i>Scirpophaga</i> , <i>Leptocoriza</i> , and <i>Hispa</i>) and their damages.
	2	role of allelochemicals in host plant mediation	Identification of any three major insect pests of paddy (<i>Scirpophaga</i> , <i>Leptocoriza</i> , and <i>Hispa</i>) and their damages.
	3	Host-plant selection by phytophagous insects	Collection of life stages of mosquito
MONTH/YEAR	WEEK	PORTIONS	
November 2023	1	Patterns of Behaviour Stereotyped Behaviours (Orientation, Reflexes Individual Behavioural patterns)	Revision
	2	Patterns of Behaviour Stereotyped Behaviours (Orientation, Reflexes Individual Behavioural patterns)	Revision
	3	Instinct vs. Learned Behaviour; Associative learning classical - and operant conditioning	Revision
	4	Habituation, Imprinting	Revision
MONTH/YEAR	WEEK	PORTIONS	
December 2023	1	Brief discussion on Diptera as a carrier of disease and control	Class test
	2	Revision and Class test	Class test
	3	Study Leave	Class test