

ACADEMIC PLANNER & UNITIZATION OF SYLLABUS

Department of Zoology

Bankura Christian College

ACADEMIC YEAR 2023-24 (**Semester 5th**)

5th Semester (July to December)

Name: Sri Avisek Patra

Hons:

Theory

C-12

Unit 5: Extra-chromosomal Inheritance

1. Criteria for extra chromosomal inheritance, Antibiotic resistance in *Chlamydomonas*,
2. Kappa particle in *Paramecium*
3. Shell spiralling in snail

Unit 6: Recombination in Bacteria and Viruses

Conjugation, Transformation, Transduction, Complementation test in Bacteriophage

Unit 7: Transposable Genetic Elements

Transposons in bacteria, Ac-Ds elements in maize, LINE, SINE, Alu elements in humans

DSE-2

Unit 4: Physiology of Insects

1. Structure and physiology of Insect - Integumentary, digestive, excretory, circulatory, respiratory, endocrine, reproductive, and nervous system
2. Photoreceptors: Types, Structure and Function
3. Types of metamorphosis along with neuroendocrine control

Practical

DSE-1

1. Study of nests and nesting habits of the birds and social insects.
2. Study of the behavioural responses of wood lice to dry and humid conditions.
3. Study of geotaxis behaviour in earthworm.
4. Study of the phototaxis behaviour in insect larvae.
5. Study of circadian functions in humans (daily eating, sleep and temperature patterns).
6. Visit to Forest/ Wild life Sanctuary/Biodiversity Park/Zoological Park to study behavioural activities of animals and prepare a short report

THEORY

MONTH/ YEAR	WEEK	PORTIONS (DSE-2)	PORTIONS (C12)
		Class 1	Class 2
August 2023	5	Structure and physiology of Insect – Integument	
MONTH/ YEAR	WEEK	PORTIONS	PORTIONS
September 2023	1	Digestive system of Insect	Transposons Structure and Function

	2	Excretory system of Insect	Types of Transposons
	3	Circulatory system of Insect	Transposons in Bacteria
	4	Respiratory system of Insect	Ac-Ds elements in Maize
	5	Endocrine system of Insect	LINE, SINE, Alu elements in Humans
MONTH/ YEAR	WEEK	PORTIONS	PORTIONS
October 2023	1	Male Reproductive system of Insect	Class Test
	2	Female Reproductive system of Insect	Criteria for extra chromosomal inheritance Shell spiraling in Snail
MONTH/ YEAR	WEEK	PORTIONS	PORTIONS
November 2023	1	Excursion	Excursion
	2	Nervous system of Insect	Kappa particle in <i>Paramecium</i>
	3	Photoreceptors: Types, Structure and Function	Antibiotic resistance in <i>Chlamydomonas</i>
	4	Types of metamorphosis	Introduction to Bacterial Genetics
	5	Neuroendocrine control of Metamorphosis	Conjugation, Transformation, Transduction
MONTH/ YEAR	WEEK	PORTIONS	PORTIONS
December 2023	1	Questioning and Concept check	Complementation test in Bacteriophage
	2	Class Test	Final Class Test
	3	Result and Discussion	Result, Discussion and Doubt Clearing

DSE-1 PRACTICAL

MONTH/YEAR	WEEK	PORTIONS
August 2023	5	Introduction to nests and nesting habits of Birds & social insects
MONTH/YEAR	WEEK	PORTIONS
September 2023	1	Study of geotaxis behaviour in Earthworm.
	2	Practice of Study of geotaxis behaviour in Earthworm
	3	Study of the phototaxis behaviour in insect larvae
	4	Practice of Study of the phototaxis behaviour in insect larvae
	5	Study of circadian functions in humans (daily eating, sleep and temperature patterns).
MONTH/YEAR	WEEK	PORTIONS
October 2023	1	Data collection of circadian functions in humans
	2	Data collection of circadian functions in humans
MONTH/YEAR	WEEK	PORTIONS
November 2023	1	Writing of project report on Bird nest
	2	Visit to Forest/ Wild life Sanctuary/Biodiversity Park/Zoological Park to study behavioural activities of animals and prepare a short report
	3	Preparation of field project report on Educational tour
	4	Preparation of field project report on Educational tour
	5	Laboratory notebook check
MONTH/YEAR	WEEK	PORTIONS
December 2023	1	Final Check and sign of Bird nest Project
	2	Final Check and sign of field project report on Educational tour
	3	Demo Test of Practical Examination