POST GRADUATE : ZOOLOGY [M.Sc.]

PAPER : GROUPS

PGZO-1 : A(I) & A(II)

Writer

Editor

GROUP: A (I)

Units 1-5 Prof. B. N. Bhattacharya Units 6-10 Dr. Kamales Kumar Misra

Prof. B. N. Bhattacharya Prof. B. N. Bhattacharya

and

Dr. Korak Kanti Chaki

GROUP: A (II)

Units 1-4 Dr. Runu Bhattacharya

Prof. B. N. Bhattacharya

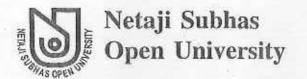
Units 5-7 Dr. Rupa Mukhopadhyay (Bose)

Prof. B. N. Bhattacharva

Notification

All rights reserved. No part of this study material may be reproduced in any form without permission in writing from Netaji Subhas Open University.

Professor (Dr.) Kajal De Registrar (Acting)



PGZO - 1 Structure and Function of Chordates & Non-chordates

Group-A (I)

Unit 1	0	Origin of Chordata	1-39
Unit 2		The Nature of Vertebrate Morphology	40-43
Unit 3		Origin and Classification of Vertebrates	44-87
Unit 4		Vertebrate Integument and its Derivative	88-116
Unit 5		General Plan of Circulation in Various	
		Groups of Vertebrates	117-151
Unit 6		Respiratory system	152-174
Unit 7		Skeletal system	175-200
Unit 8		Evolution of urinogenital system in	
		vertebrate series	201-210
Unit 9	0	Sense organs	211-225
Unit 10	O	Nervous system	226-244
Group-	A (II)	
Unit l		Organization of Coelom	247-260
Unit 2		Locomotion	261-280
Unit 3		Nutrition and Digestion	281-308
Unit 4	a	Respiration	309-330
Unit 5	0	Excretion '	331-350
Unit 6	0	Nervous System	351-367
Unit 7	0	Invertebrate Larvae	368-398

POST GRADUATE : ZOOLOGY

[M. Sc.]

Paper : Group

PGZO-1: B

Writer Editor

Part-I

Units 1-3 Dr. Tushar Mukherjee

Unit 4 Prof. Sujit Kr. Dasgupta Prof. Sujit Kr. Dasgupta

Part-II

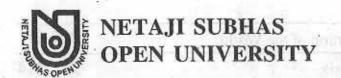
Units 5-10 Dr. Sumit Homechaudhuri

Units 11-15 Dr. Gautam Saha Prof. Sujit Kr. Dasgupta

Notification

All rights reserved. No part of this study material may be reproduced in any form without permission in writing from Netaji Subhas Open University.

Dr. Asit Baran Aich Registrar (Actg.)



PGZO - 1 Taxonomy, Biodiversity and Conservation

Contemporary Contemporary

THE INCOME AND TAKEN OF THE PARTY OF THE PAR

Group B

Part - I: TAXONOMY

Unit 1 D	Definition and Basic Concepts of Biosystematics and	
Ome 1 G	Taxonomy	7-18
Unit 2 🗅	Trends in Biosystematics – Concepts of Different Conventional and Newer Aspects	19-44
Unit 3 🗅	Dimensions of Speciation and Taxonomic Characters	45-116
Unit 4 🗅	Procedure Keys in Taxonomy	117-182
	: BIODIVERSITY AND CONSERVATION	ă.
Unit 5 🗆	The Meanings or Biodiversity	183-189
Unit 6 🗅	The Values or Biodiversity	190-193
Water and the second		7.5.70.1002302
Unit 7 🗅	Threats to Global Biodiversity	194-197

Unit 9 🗆	Biodiversity Distribution of the World	202-211
Unit 10 🗆	Theories of Biodiversity	212-214
Unit 11	Introductory Note on Conservation	215-220
Unit 12 🗆	Biomes and Wildlife: Characterisation, Faunal make up and Adaptations	221-238
Unit 13 🗆	Wildlife Conservation	239-252
Unit 14	Special Projects for Endangered Species	253-257
Unit 15	Wildlife Habitat Management with Special Reference to Sunderbans	258-268

the affect to suppose it them are quitt of at any

Per e II JUODIVERSITY AND CONSERVATION

POST GRADUATE : ZOOLOGY [M.Sc.]

PAPER : GROUP

PGZO-2 : A

Writer Editor

Part-I

Units 1-4 Prof. Susanta Chakraborty Dr. Sumit Homechaudhuri

Units 5-8 Prof. Subhas Santra -Do-

Part-II

Units 9-13 Dr. Subhra Mukherjee -Do-

Notification

All rights reserved. No Part of this Book may be reproduced in any form without permission in writing from Netaji Subhas Open University

Dr. Ashit Baran Aich Registrar (Actg.)



PGZO-2 Ecology, Environmental Biology & Toxicology

GROUP - A

Part-	1:	Eco	ology	
Unit	1	a	Ecology of Population	7-20
Unit	2	0	Population Growth	21-47
Unit	3	Q	Life History Strategies	48-89
Unit	4	o	Predation	90-119
Unit	5	o	Competition and Niche Theory	120-127
Unit	6	a	Mutualism	128-135
Unit	7	a	Population Regulation	136-139
Unit	8	0	Ecological Modeling	140-147
Part	-II	: E1	nvironmental Biology and Toxicology	
Unit	9	a	Environmental Factors	148-170
Unit	10	0	Organism-Environment Interactions	171-179
Unit	11	a	Stress Physiology	180-187
Unit	12	2 0	Environmental Health Problem	188-213
Unit	13	0	Environmental Laws and Ethics	214-232

POST-GRADUATE : ENGLISH [M.Sc.]

PGZO-2 Group-B Units 1-18

Writer

Editor

Unit 1-3	Dr. Srimanta Kr. Raut		Prof. Biswapati Dasgupta
Unit 4	Dr. Narayan Ghorai		Dr. Srimanta Kr. Raut
Unit 5	Dr. Srimanta Kr. Raut		Prof. Biswapati Dasgupta
Unit 6	Dr. Narayan Ghorai		Dr. Srimanta Kr. Raut
Unit 7	Dr. Kamal Banerjee		Dr. Srimanta Kr. Raut
Unit 8	Dr. Narayan Ghorai	1960	Dr. Srimanta Kr. Raut
Units 9-11	Dr. Narayan Ghorai		Dr. Srimanta Kr. Raut
Units 12-15	Dr. Madhumita Manna		Dr. Srimanta Kr. Raut
Units 16-18	Dr. Kamalesh Mishra		Dr. Srimanta Kr. Raut

Notification

All rights reserved. No Part of this Book may be reproduced in any form without permission in writing from Netaji Subhas Open University

Or. Ashit Baran Aich Registrar (Acting)

Hair 13 or New Barwinism PGZO-2 Open University Ethology & Evolution

Unitale 2 Concept of Speciation

Light 18 Cl. Molecular Phylogenetics

1	0	Introduction to Ethology	7
2	0	Innate Behaviour	12
3	0	Perception of the Environment	18
4	0	Neural and Hormonal Control of Behaviour	27
5	0	Genetic and Environmental Components in the Development of Behaviour	39
6	0	Communication	41
7	0	Ecological Aspects of Behaviour	52
8	0	Social Behaviour	64
9	0	Reproductive Behaviour	99
10		Biological Rhythms	123
	-		144
			156
	2 3 4 5 6 7 8 9 110	2	Innate Behaviour Perception of the Environment

o-Darwinism	161
antifying Genetic Variability	171
	176
ncept of Speciation	182
igin of Higher Categories	198
lecular Phylogenetics	211
	co-Darwinism contifying Genetic Variability collecular Population Genetics concept of Speciation cigin of Higher Categories collecular Phylogenetics

G. Neural and Hormonal Control of Behaviour

10.00

Unit 1 Aims and scope of comparative physiology

Structure

- 1.1 General physiological functions and principles
- 1.2 Validity of comparative approach
- 1.3 Organisms and cell physiology
- 1.4 Suggested questions

1.1 General physiological functions and principles

The science of physiology is the analysis of function in living organisms. Physiology is a synthesizing science which applies physical and chemical methods to biology. The term physiology originated from the greek word 'Physiologikos' which means 'discourse on natural knowledge.' French physician Jean Fernel introduced the term in 1552. Physiology is thus a branch of science that deals with normal functions of the body.

In the science of physiology, there is nothing supernatural about life. All the living processes of an organism can be explained on the basis of physico-chemical changes and structural pecularity. The progress of ancillary subjects like biology, microscopic anatomy, physics, chemistry, have been very useful in understanding the working processes of the living organisms. All physiological processes are governed by basic laws of physics and chemistry. Accordingly to the changes in the environment, functional alterations also occur and thus the survival is made possible. Hence, it is held that Physiology is a tripod science, its three legs being Anatomy, Physics and Chemistry. To know physiology, one has to study the subject with a sound basic knowledge of these three subjects. Blood flow through cardio-vascular system is governed by the 'Laws of fluid dynamics', exchange of fluids between different body compartments is regulated by hydrostatic pressure and osmotic pressure; transfer of information signal involving transaction and development of action potential; exchange of gases, and solutes obey the laws of diffusion. A study of all these physical phenomenon in the body comes under the head Biophysics. Biochemistry is the branch of science that explains the functions of the body on a chemical basis. All biochemical reactions including energetics are all governed by chemical laws and principles of thermodynamics. A study of structure of an animal comes under the study of Anatomy. The study of gross structure is called macroscopic anatomy, while the study of fine structures is called microscopic anatomy. Histology, cytology, histochemistry and cytochemistry all come under the study of microscopic anatomy. Medical statistics is a branch of science that deals with evaluation of experimental

POST GRADUATE ZOOLOGY [M.Sc]

PAPER : GROUP

PGZO-3 : B

	Writer	Editor
Part-I	而	
Units 1-4	Dr. Kamalesh Mishra	22 23
Units 5-8	Prof. Chandrasekhar Chakraborty	Prof. Chandrasekhar Chakraborty
Units 9-12	Prof. Anil Kumar Saha	
Part-II		
Units 1-8	Dr. Sanjib Kumar Das	Dr. Subir Chandra Dasgupta

Notification

All rights reserved. No part of this book may be reproduced in any form without permission in writing from Netaji Subhas Open University.

C. R. Musib Registrar



PGZO-3 Cytogenetics

GROUP B(I)

Part-I: Cytogenetics

Unit 1	Biology of Chromosomes	9-33
Unit 2	Sex Chromosomes, Sex Determination	
	and Dosage Compensation	34-48
Unit 3	Imprinting of Genes, Chromosomes an	d
	Genomes	49-53
Unit 4	Somatic Cell Genetics	54-61
Unit 5	Human Cytogenetics	62-111
Unit 6	Cytogenetic Implications and Conseque	ences
	of Structural Changes and Numerical	
	Alterations of Chromosomes	112-117
Unit 7	Microbial Genetics	118-141
Unit 8	Cytogenetic Effects of Ionizing and	
	Non-ionizing Radiations	142-143
Unit 9	Molecular Cytogenetic Techniques	144-152
Unit 10	Genome Analysis	153-161
Unit 11	Linkage Map, Cytogenetic Mapping	162-169
Unit 12	Genetics of Cell Cycle	170-181

GROUP B(II) Molecular Biology

Unit 1	History and Scope of Molecular Biology	185 - 188
Unit 2	DNA Replication	189-218
Unit 3	Prokaryotic Transcription	219 - 244
Unit 4	Post Transcriptional Modification of RN	A 245 - 263
Unit 5	Translation	264 - 286
Unit 6	Antisense and Riobozyme Technology	287 - 303
Unit 7	Recombination and Repair	304 - 320
Unit 8	Molecular Mapping of Genome	321 - 339

POST GRADUATE ZOOLOGY [M. Sc]

PAPER : GROUP PGZO+4 : A

Writer Edicor

Unzi-U Prof. Manotosh Dusgupta Prof. Manotosh Dasgupta Di. Dibhas Gulia Dt. Biblias Gulia

Linds-2-5 Prof. Kons al Minkheijee — Prof. Monoresh Desgrido

Notification

A rights reserved. We profiled the study material tray he reproduced in large δ in without per lesson in which global Natopi Suches δ to δ interest γ

Dy Order



PGAO - 4 Basic Physical and Chemical Principles

Group

<u>.4</u>

Pole i	□ Energeties	1 – 9
Unit 2	☐ Chemical Thermodynamics	10 – 25
Poit 3	Li Idea of Chemical Bund	30 43
Vult 4	☐ Nuclear Hazarda	44 – 50
Unit 5	☐ Ionic Product	60 – 65

POST GRADUATE ZOOLOGY [M.Sc]

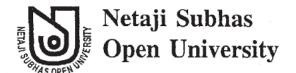
PAPER : GROUP PGZO - 5 : A

Writer & Editor
Dr. Sumit Homechaudhuri

Notification

All rights reserved. No part of this book may be reproduced in any form without permission in writing from Netaji Subhas Open University.

Professor (Dr.) Debesh Roy Registrar



PGZO-5 Laboratory Course-5

Group

\mathbf{A}

Unit 1	0	Identification and Analysis of Common soil (terrestrial) Micro Arthropods	7- 15
Unit 2	0	Estimation of Primary Productivity of an Aquatic System	16 - 18
Unit 3	0	Estimation of Dissolved Oxygen, Dissolved CO ₂ , Alkalinity and Hardness of Water Bodies	19 - 25
Unit 4	٥	Measurement of Soil pH and Organic Carbon	26 - 27
Unit 5	0	Toxicity Tests—LC ₅₀ /LD ₅₀ Determination	28

POST GRADUATE ZOOLOGY

[M. Sc.]

Paper : Group

PGZO-5: B

Writer

Dr. Subir Chandra Dasgupta

Editor

Prof. Buddhadeb Manna

Notification

All rights reserved. No part of this study material may be reproduced in any form without permission in writing from Netaji Subhas Open University.

Dr. Asit Baran Aich Registrar (Actg.)

Group B

Unit 1	O	Handling of Drosophila, Chromosome Mapping, Genetic Crosses	7-18
Unit 2	0	Preparation of Polytene Chromosome	19-21
Unit 3	O	Protein Estimation	22-24
Unit 4	0	Determination of Specific Activity of Enzyme	25-26
Unit 5	□	Genomic DNA Extraction and Evaluation	27-29
Unit 6	0	Isolation of DNA from Goat Liver	30-32
Unit 7	o	Colorimetric Estimation of DNA	33-34
Unit 8	0	Colorimetric Estimation of RNA	35-36
1.0.0			

POST GRADUATE ZOOLOGY [M.Sc]

PAPER : PGZO-6

GROUP: A(I)

Writer & Editor
Prof. Debajyoti Das

PAPER : PGZO-6

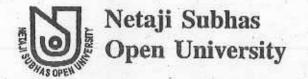
GROUP : A (II)

	Writer			Edito	r
Unit 1	Dr. Jana Chakrabarti	1		Prof. S. K.	Dey
Unit 2	Dr. Suman Das	14.4	100	do	
Unit 3	Dr. Suman Das			do	
Unit 4	Dr. Subir Ch. Dasgupta			do	*
Unit 5	Dr. Subir Ch. Dasgupta			do	
Unit 6	Dr. Jana Chakrabarti			do	\$\$°
Unit 7	Dr. Jana Chakrabarti			do	
Unit 8	Dr. Jana Chakrabarti	7		do	
Unit 9	Dr. Suman Das			. do	
Unit 10	Dr. Subir Ch. Dasgupta	*		do	10

Notification

All rights reserved. No part of this book may be reproduced in any form without permission in writing from Netaji Subhas Open University.

Mohan Kumar Chottopadhaya Registrar



PGZO-6 Quantitative Biology & Biotechnology, Immunology & Microbiology

Group A(I) Quantitative Biology

Unit 1	٥	Basic Mathematics	7-22
Unit 2	O	Biostatistics: General Principles	23-39
Unit 3	0	Presentation of Data and Probability Distributions	40-66
Unit 4	0	Statistical Inference and Hypothesis Testing	67-89
Unit 5	0	Analysis of Variance	90-113
Unit 6	O	Correlation and Regression	114-141
Unit 7	0	Probability Theory	142-148
	1	Appendix	149-150

Group A(II) Biotechnology

Unit 1	0	Principles of Assay of DNA, RNA, Western, Southern, Northern Blotting	153-168
Unit 2	a	Spectrophotometer, Colorimeter, Radioactivity, NMR & Raman Sprectroscopy	169-195
Unit 3	Ö	Fluorescence Microscopy, Confocal Microscopy, Electron Microscopy	196-208
Unit 4	0	Biosensor-Nature & Application	209-212
Unit 5	0	Detection of Apoptotic cell	213-228
Unit 6		Elementary Idea of Cryopreservation	229-244
Unit 7	0	Molecular Separation Techniques	245-283
Unit 8	0	Immunological Techniques	284-303
Unit 9	0	Fluorochrome and Immunofluorescence	304-309
Unit 10	0	Elementary Idea of Bioinformatics	310-319

POST GRADUATE ZOOLOGY [M.Sc]

PAPER : GROUP

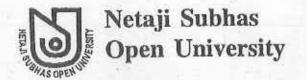
PGZO-6: B

Writer & Editor Prof. Amal Bhattacharya

Notification

All rights reserved. No part of this book may be reproduced in any form without permission in writing from Netaji Subhas Open University.

Mohan Kumar Chottopadhaya Registrar



PGZO-6 Quantitative Biology & Biotechnology, Immunology & Microbiology

Group - B Immunology & Microbiology

Unit 1	1	0	Overview of Immune System, Component of Immunity, Innate and Adaptive Immunity		7-13
Unit 2	2	0	Cells and Organs of the Immune System		14-23
Unit :	3	0	Antigenicity and Immunogenicity, Immunogen properties, adjuvant, epitope, hapten		24-30
Unit	4	o	Complement System, MAC Mediated Lysis	NI.	31-37
Unit	5	٥	Structure of MHC (elementary idea)		38-42
Unit	6	0	Structural Diversity of Immunoglobulin		43-50
Unit	7	О	Hypersensitivity		51-59
Unit	8	0	Elementary Concept of Invertebrate Immunity	14	60-65
Unit	9	0	Epidemiology of Microbe Related Diseases		66-70
Unit	1(0 0	Host Microbe Interaction-Immune Response to Protozoa, Bacteria and Virus		71-76

POST GRADUATE ZOOLOGY [M.Sc]

PAPER : GROUP

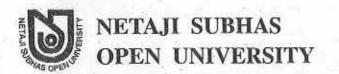
PGZO - 7 : A

	Writer	Editor
Unit 1	Prof. Dipak Ray	Prof. Rupendu Ray
Unit 2	Prof. Rupendu Ray	Dr. Bibhas Guha
Unit 3	Prof. Dipak Ray	Prof. Rupendu Ray
Unit 4	Prof. Rupendu Ray	Dr. Bibhas Guha
Unit 5	Prof. C.R. Sahu	Prof. Rupendu Ray
Unit 6	Prof. C.R. Sahu	Do
Unit 7	Prof. C.R. Sahu	Do
Unit 8	Prof. C.R. Sahu	Do
Unit 9	Prof. C.R. Sahu	Do
Unit 10	Prof. Dipak Ray	Do
Unit 11	Prof. Dipak Ray	Do
Omi II	rior, Dipak Ray	100

Notification

All rights reserved. No part of this book may be reproduced in any form without permission in writing from Netaji Subhas Open University.

Professor (Dr.) Debesh Roy Registrar



PGZO - 7
Developmental
Biology and
Endocrinology, Cell &
Tissue structure,
Function

Group

Developmental Biology

Unit 1		Differentiation of primordial germ cell & structure of mature gamete in <i>Drosophila</i> . Role of poleplasm, effect of grandchildness mutation and influence of oskar gene	7–18
Unit 2		Composition of semen, seminal protein, accessory reproductive structure of mammals	19–22
Unit 3	۵	In vitro & in vivo capacitation of mammalian sperm and role of fertilizin & ZP protein in fertilization	23–37
Unit 4	۵	Role of nurse cell & follicular cell in yolk production in <i>Drosophila</i>	38-40
Unit 5	ū	Teratogenesis-genetic and induced by drug thalidomide	41-49
Unit 6		Immunocontraception — an overview	50-52
Unit 7	u	Role of thyroxin in metamorphosis in amphibians	53-57
Unit 8		Role of juvenile hormone and ecdysone in insect metamorphosis	58-64
Unit 9	0	Significance of totipotency and pleuropotency of cells during animal development	65-69
Unit 10		Role of maternal effect gene, segment polarity gene, zygotic gene, homeotic gene in development of Drosophila	70-79
Unit 11	u	Elementary idea of stem cell and its importance	80-90

POST GRADUATE: ZOOLOGY

[M.Sc]

PAPER: GROUP

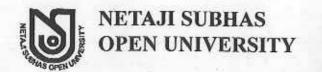
PGZO-7: B

		Writer	Editor
Units	1-2	Dr. Samiran Saha	
Unit	3	Prof. C. K. Manna	
Units	4-5	Dr. Samiran Saha	Prof. Biswaranjan Maity
Unit	6	Dr. Bibhas Guha	
Units	7-12	Prof. Dilip Mukherjee	

Notification

All rights reserved. No part of this Book may be reproduced in any form without permission in writing from Netaji Subhas Open University.

Dr. Ashit Baran Aich Registrar (Actg.)



PGZO - 7 Endocrinology, Cell and Tissue Structure, function

Group - B

	Hormone as Messenger and their Role in Metabolic Regulation	7-18
۵	Thyroid Biosynthesis and Function	19-40
	Anterior Pituitary Structure, Hormone and Function	41-54
	Adrenal Cortical Hormone, Biosynthesis and Function	55-70
	Norepinephrine and Epinephrine : Hormones of the Adrenal Medulla	71-75
O.	Biosynthesis of Sex Steroids	· 76-89
	Gastrointestinal Hormones	90-100
۵	Biomembrane	101-109
	Basic Mechanism of Cell Signaling Pathway	110-112
0	Cell Surface Receptors, Second Messenger System, MAP kinase pathway	113-129
	Apoptosis	130-139
٥	Synthesis, Sorting, Trafficking of Protein hormone	140-147
		in Metabolic Regulation Thyroid Biosynthesis and Function Anterior Pituitary Structure, Hormone and Function Adrenal Cortical Hormone, Biosynthesis and Function Norepinephrine and Epinephrine: Hormones of the Adrenal Medulla Biosynthesis of Sex Steroids Gastrointestinal Hormones Biomembrane Basic Mechanism of Cell Signaling Pathway Cell Surface Receptors, Second Messenger System, MAP kinase pathway Apoptosis Synthesis, Sorting, Trafficking of Protein

POST GRADUATE ZOOLOGY [M. Sc]

PAPER : PGZO-8 GROUP : A(I)

Writer

Editor

. Units 1-5

Prof. D.P. Halder

Prof. Buddhadeb Manna

Notification

All rights reserved. No part of this book may be reproduced in any form without permission in writing from Netaji Subhas Open University.

Professor (Dr.) Debesh Roy Registrar



Group A (I)

Unit 1	☐ Introduction : public health and parasites	7-7
Unit 2	☐ Vectors and their importance in transmission of parasi	te 8-9
Unit 3	☐ Biology and importance of a few parasites	10-44
Unit 4	☐ Epidemiology : classification, epidemiology of malaria , kala azar, filariasis	45-54
Unit 5	☐ Zoonosis and its significance	55-62

Unit 1 Diversity, structure and function of insects with reference to their pest status

Structure

- 1.1 Introduction
- 1.2 Major insect orders of agricultural importance
- 1.3 External structures
- 1.4 Anatomy: cuticle and sensory system

1.1 Introduction

Insects appeared about 200 million years ago during the course of evolution of life on earth, during the carboniferous epoch, but man came on the scene only half a million years ago. It seems that insects have utilized every possible opportunity to colonize almost all habitats available on the earth, and now they exhibit the greatest diversity of all life forms. From an anthropocentric interest the amazing diversity of insect species is generally categorized into *Beneficial*, *Harmful and Neutral groups*. This categorization is made broadly considering their economic importance.

The common examples of beneficial insects are the silkworms, honeybees, lac insects etc, although a great range of other groups of beneficial insects, from species of natural enemies like predators and parasitoids of pest insects to those insects that provide important clues to forensic scientists, are also known. The examples of harmful insects that are often cited are the agricultural and household pests, forest pests, insects of medical importance (mosquitoes, flies, ectoparasites etc) and other such groups. However, considering the unfathomable diversity of insects, most of the insect species fall within the Neutral group of this rather artificial categorization, that is, they are neither beneficial, nor harmful from an economic point of view.

In this unit a very basic discussion on some aspects of insect structure and function has been made.

1.2 Major Insect orders of agricultural importance

For this part please consult unit 2 of this paper.

POST GRADUATE ZOOLOGY [M. Sc]

PAPER: PGZO-9

GROUP : B

Writer

Editor

Units 1-5

Dr. Kamales Kr. Misra

Dr. Bibhas Guha

Notification

All rights reserved. No part of this book may be repoduced in any form without permission in writing from Netaji Subhas Open University.

Mohan Kumar Chattopadhyay Registrar



Group B

Developmental Biology & Immunology

☐ Studies of activated chick egg of different hours	7-11
☐ Studies of egg & sperm of mice or grasshopper	12-14
☐ Macrophage isolation from potential fluid of mice	15-17
☐ Identification of thymus, bursa and spleen	18-22
☐ Antigen-antibody reaction by blood group test	23-24
	□ Studies of egg & sperm of mice or grasshopper □ Macrophage isolation from potential fluid of mice □ Identification of thymus, bursa and spleen

POST GRADUATE: ZOOLOGY

[M.Sc.]

Paper

Group

PGZO 10

A

Writer

Units: 1 - 4: Dr. Kamales Kr. Misra

Editor Prof. Buddhadeb Manna

Notification

All rights reserved. No part of this book may be reproduced in any form without permission in writing from Netaji Subhas Open University.

Mohan Kumar Chattopadhyay Registrar

PGZO - 10 Laboratory Course

Group - A

Endocrinology, Cell & Tissue Structure

Unit-1 🗇	Staining and Identification of different Endocrine Glands	7-14
Unit-2 □	Identification of stages of oestrous-cycle in rat	15
Unit -3 🏻	Identification of neurosecretory cells in cerebral ganglia (cockroach), demonstration of neurosecretory centre	16-18
Unit- 4 🛛	Identification of blood cell types	19-22
Unit- 5 □	Suggestive questions	23

Post Graduate Zoology [M. Sc.]

PAPER: PGZO 10

GROUP: B

Writer

Editor

Units 1-4:

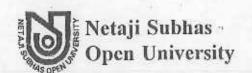
Dr. Kamales Kr. Misra

Prof. Buddhadeb Manna

Notification

All rights reserved. No part of this Book may be reproduced in any form without permission in writing from Netaji Subhas Open University.

Professor (Dr.) Debesh Roy Registrar



Group B Quantitative Biology & Biotechnology

UNIT	1		Correlation, regression, ANOVA	7
UNIT	2	П	Gel electrophoresis of serum protein	19
UNIT	3	0	Analysis & interpretation of southern, northern & western blotting from gel photograph	25
UNIT	4	П	Data (protein & gene) bank analysis	32
UNIT	5	0	Suggestive questions	38