

UNIT-IV

- 13 Concepts of basic microbiology and its significance, work of Anton von Leeuwenhoek, theory of spontaneous generation, gram theory of fermentation and disease, work of Louis Pasteur.

- 14 General account of classification, structural organisation, physiology and multiplication of bacteria.

- 15 Brief idea of bacteria and human welfare.

UNIT-V

- 16 DNA and RNA viruses

- 17 AIDS

- (i) The causal agents: HIV subtypes and their structures.
- (ii) Transmission of HIV
- (iii) Pathogenicity of HIV
- (iv) Prevention of HIV
- (v) Laboratory diagnosis of HIV infections and treatment

SECOND YEAR TDC SCIENCE,**2008-09****ZOOLOGY - PRACTICAL****Duration : 5 Hrs.****M.M. : 75**

S.No.	Exercise	Regular	Ex-Students
1	Major dissection	18	25
2	Minor dissection/	09	12
3	Mounting/Applied Zoology exercise	08	08
4	Spots	20	20
5	Viva-voce	10	10
6	Record	10	—
Total:		75	75

General survey of Vertebrates (Museum specimens)

A	Urochordata	:	Ciona, Pyrosoma, Dolioium, Salpa, Herdmania
B	Cephalochordata	:	Amphioxus
C	Agnatha	:	Petromyzon, Ammocoete larva
D	Pisces	:	Echeneis, Sphyrna, Torpedo, Pristis, Labeo, Clarias, Anabas, Hippocampus (male and female), Chimaera,

	Anguilla, Protopterus, Lepidosiren, Neoceratodus.	3 Amphibia	: V.S. of skin, T.S. of testis, T.S. of kidney and T.S. of liver.
E Amphibia	: Ichthyophis, Axolotl larva, Salamander, Bufo, Rana, Hyla, Pipa, Amphiura, Alytes.	4 Reptilia	: V.S. of skin and T.S. of stomach.
F Reptilia	: Testudo, Trionyx, Hemidactylus, Draco, Calotes, Chamaeleon, Varanus, Phrynosoma, Crocodilus, Gavialis, Uromastix, Heloderma, Naja, Vipera, Typhlops, Bungarus, Hydrophis, Natrix, Eryx, Python, models of Dinosaurs.	5 Aves	: T.S. of intestine, T.S. of liver, T.S. of ovary, filoplume W.M.
G Aves	: Columba, Psittacula, Passer, Bubo, model of Archaeopteryx.	6 Mammalia	: T.S. of pancreas, T.S. of thyroid gland, L.S. of pituitary gland, T.S. of stomach, T.S. of intestine, L.S. of kidney, T.S. of testis and ovary and V.S. of skin, T.S. of lung.
H Mammalia	: Pteropus, Rhinopoma, Felis, Erinaceous, Hystrix Caudata, Manis.	PERMANENT PREPARATIONS :	Unstained placoid scales, spicules of <i>Herdmania</i> .
PREPARED SLIDES :		DISSECTIONS:	
1 Cephalochordata	: <i>Amphioxus</i> : T.S. through buccal region, T.S. through pharynx showing gonads, T.S. through caudal region.	Herdmania	: Neural complex.
2 Pisces	: Placoid, cycloid and ctenoid scales, V.S. of skin.	Scoliodon	: Alimentary canal, scroll valve <i>in situ</i> , afferent and efferent branchial arteries, eye, muscles, internal ear.
		Rattus	: Arterial, venous and urino-genital systems.

OSTEOLOGY :

Identification of disarticulated skeleton of *Rana*, *Varanus*, *Gallus* and *Oryctolagus*. Palates of birds.

GENETICS:

Drosophila : Life cycle and its culture. Identification of wild and mutant *Drosophila*.

APPLIED ZOOLOGY:

- 1 Identification of different stages (from egg to adult) of silkworm.
- 2 Dissection of silk worm to study the internal anatomy and silk glands.
- 3 Tools used in silk worm rearing.
- 4 Visit to a rearing and reeling unit.
- 5 Identification of bee colony and honey bee castes.
- 6 Mounting of mouth parts and sting apparatus of honey bee.
- 7 Identification of tools used in Apiary.
- 8 Identification of cultivable varieties of shell fish and fin fish.

9 Preparation of media and culture of micro organisms.

10 Gram staining of microbes.

REFERENCE BOOKS (LATEST EDITIONS):**LIFE AND DIVERSITY OF ANIMALS (VERTEBRATES)**

- 1 Ayyar, E.K. and T.N. Ananthakrishnan : Manual of Zoology, Vol.II (Chordata), S.Viswanathan (Printers and Publishers) Pvt. Ltd. , Madras.
- 2 Jordan, E.L. and P.S.Verma : Chordate Zoology and Elements of Animal Physiology, S. Chand & Co. Ltd., Ram Nagar, New Delhi (English and Hindi Editions).
- 3 Parker and Haswell : Text Book of Zoology, Vol.II (Chordata), A.Z.T.B.S. Publishers and Distributors, New Delhi- 110051.
- 4 Waterman, Allyn J. et.al. : Chordate Structure and Function, Mac Millan and Co., New York.
- 5 Kotpal, RL : Modern Text Book of Zoology- Vertebrates, Rastogi Publications, Meerut (English and Hindi Editions).
- 6 Ganguly, BB, Sinha, AK and Adhikari, S : Biology of Animals, Vol.II, New Central Book Agency (P) Ltd. Kolkatta.