

ALLIED ZOOLOGY (II B.Sc., Chemistry)

Semester	Subject Code	Category	Lecture		Theory		Practical	Credits
			Hrs/ week	Total Hours/ Semester	Hrs/ week	Total Hours/ Semester		
IV	21CAZO4A	Allied Zoology-II	4	60	4	60	Nil	3

COURSE OBJECTIVE:

- To study the various branches of Zoology such as Cell Biology, Genetics, Developmental Biology and Human Physiology, Environmental Biology, Evolution, Biotechnology, Bio-Informatics and Medical Microbiology.
- To study the communicable and non communicable diseases of man., and their preventive measures

COURSE OUTCOMES (CO)

On the successful completion of the course, students will be able to:

CO Number	CO Statement	Knowledge Level (K1-K4)
CO1	Students will be able to understand the basic molecular structure of cells.	K2
CO2	Students will get an awareness on nutrition and digestion, formation of sperm and ovum in man	K2, K3
CO3	Students will apply their knowledge in protecting their environment and evolution of man.	K3, K4
CO4	students can apply their knowledge of Biotechnology and Bioinformatics in modern science and research.	K3, K4
CO5	Students can apply their knowledge in preventing from various diseases.	K3, K4

Knowledge Level: K1- Remember; K2 – Understand; K3 – Apply; K4 – Analyze.

MAPPING WITH PROGRAMME OUTCOMES

COS	PO1	PO2	PO3	PO4	PO5
CO1	S	S	M	S	S
CO2	S	S	S	M	S
CO3	M	S	S	S	S
CO4	S	S	S	S	M
CO5	S	M	S	S	S

S- Strong; M – Medium; L- Low

Distribution of Marks: Theory 100% and Problems Nil %

UNIT-I (12 Hours)**Cell Biology:** Ultra Structure and Functions of Organelles of an Animal Cell.**Genetics:** Genetic material- Structure of DNA (Watson and Crick's model) and RNA (mRNA, tRNA and rRNA), Molecular Structure of Genes- Gene Function.**UNIT-II (12 Hours)****Human Physiology:** Nutrition- Micronutrition (Carbohydrates, Proteins, Lipids) and Micronutrients (Minerals and vitamins). Mechanism of Digestion. Excretion: structure of kidney- mechanism of urine formation.**Developmental Biology:** Gametogenesis- Spermatogenesis- Oogenesis.**UNIT-III (12 Hours)****Environmental Biology:** Components of Ecosystem-Biotic and abiotic factors- Food Chain and Food web, Ecological Pyramids Wild Life Conservation, Environmental Degradation.**Evolution:** Inheritance of acquired characters-Lamarckism and Natural Selection-Darwinism,**UNIT-IV (12 Hours)****Biotechnology:** Genetic Engineering- rDNA Technology- Tools and Application of Biotechnology - Gene therapy.**Immunology:** Study of Immune cells- T-Lymphocytes and B-Lymphocytes and immune organs- Thymus, Bone marrow, Lymph node and Spleen.**UNIT-V (12 Hours)****Medical Microbiology:** Introduction to Medical Microbiology- study of Communicable diseases- Dengue, Swine flu and Covid-19, Non- communicable diseases- Diabetics, Hypertension and Obesity of Man-Causes and their preventive measures.**TEXT BOOKS**

S. No.	Authors	Title of the Book	Publishers	Year of Publication
1.	Verma P.S., Agarwal., V.K.	Cytology Reprint Edition	S. Chand and Company	2012
2.	Arumugam, N.	Cell Biology, Genetics, Embryology	S. Chand and Company	2012
3.	Arumugam, N	Cell Biology, Genetics and Evolution Volume-3.	Saras Publication0	1999
4.	Verma P.S. and Tyagi B.S.	Animal Physiology,	S. Chand and Company	2012
5.	Verma. P.S. and Agarwal. V.K.	Chordate Embryology	S. Chand and .Ltd., New Delhi	1998

REFERENCE BOOKS

S. No.	Authors	Title of the Book	Publishers	Year of Publication
1.	Berry,A.K.	A Text Book of Animal Physiology with related Biochemistry,	Emkay Publications	1993
2.	Sarada Subrahmanyam., Madhavan Kutty ,K., and Singh H.D.	Text Book of Human Physiology, Reprint	S. Chand and Co,	2012
3.	De Rebertis EDP and De Robertis EMF.	Cell and Molecular Biology. 8 th Ed.	BI Wauerly Pvt. Ltd, New Delhi.	1996
4.	Berrill, N.J.	Developmental Biology	McGraw Hill, New Delhi.	1986
5.	Bodmer, Modern Embryology, Hold Rinefiar and Winston N.Y. Balinsky,	Introduction to Embryology International student edition, 3 rd Edition	Saunders Philadelphia.	1981

WEB SOURCES:

www.sciencedirect.co.

www.pebmed.com

www.khansacademy.com

www.epatsala.com

www.swayam.com

TEACHING METHODOLOGY

- Class room teaching
- Charts/ Models
- Power point Presentations
- Discussions
- Assignments
- Home test

SYLLABUS DESIGNERS

- Dr. D. Sasikala, Assistant Professor and HOD
- Dr. V. Kiruthiga, Assistant Professor
- Dr. V. Rekha, Assistant Professor
- Dr. A. Vinodhini, Assistant Professor
- Dr. G. Vidhya, Assistant Professor