

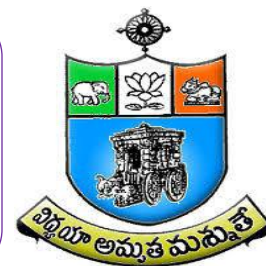


Sri Vani Degree & PG College

Affiliated to SK University

Kakkalapalli Cross, Near Sakshi Office, Ananthapuramu

Andhra Pradesh, India-515002



Department Profile: Zoology

The Department of Zoology is established in the year 1999 with an UG Course-Bi.Z.C (Biochemistry, Zoology and Chemistry).

The Department has a collection of specimens, spotters and slides. It has preserved bodies of animals like Pila, Prawn, Shark. Skeleton of Rabbit and Pigeon.

The Department provides an insight to the aspects of Animal diversity and expands their knowledge with respect to various branches of applied zoology.

Vision:

To provide a strong foundation for a better understanding of living fauna including their evolution and environments and its practical significance.

Mission:

To equip students with laboratory skills as well as field based studies to become a successful entrepreneur.

To inculcate knowledge and make successful career in Zoology.

Courses / Programs offered:

Level	Course
Under Graduate	Bi.Z.C – Biochemistry, Zoology, Chemistry.

Course Structure under CBCS:

Year	Semester	Course	Title of the Course	Internal Marks	External Marks	Total Marks
	I	I	Biology of Non-Chordates	25	75	100
			Practical – I	-	50	50

I	II	II	Biology of Chordates	25	75	100
			Practical – II	-	50	50
II	III	III	Cell biology, Genetics and Evolution	25	75	100
			Practical – III	-	50	50
	IV	IV	Embryology, Physiology and Ecology	25	75	100
			Practical – IV	-	50	50
III	V	V	Animal Biotechnology	25	75	100
			Practical – V	-	50	50
		VI	Animal Husbandry	25	75	100
			Practical – VI	-	50	50
	VI	VII-A	Immunology	25	75	100
			Practical – VII (A)	-	50	50
		VIII-C1	Principles of Aquaculture	25	75	100
			Practical – VIII: 1	-	50	50
		VIII-C2	Aquaculture Management	25	75	100
			Practical – VIII: 2	-	50	50
	VIII-C3	Postharvest Technology	25	75	100	
		Project Work	-	50	50	

Number of teaching posts:

Post	Sanctioned	Filled
Teaching	02	02

Program outcomes, Program specific outcomes & Course outcomes:

Program Outcomes	
PO1	<p>Critical thinking:</p> <p>The curriculum helps to enhance the ability and thinking power of students.</p>

PO2	Effective communication: Students acquire better communication skills through interactive seminars, presentations and also through communication classes.
PO3	Social interaction: Field work, NSS programmes in nearby local areas and project work provides the students to have a better social interaction.
PO4	Effective citizenship: Participation in various curricular activities and taking them as a challenge will be the changing need of the society.
PO5	Ethics: Students learn ethical approach of how to conserve the diversity of animal kingdom.
PO6	Environment and Sustainability: Students will understand the ecological and evolutionary significance of animal diversity and develops a positive attitude towards sustainable development.

Program specific outcomes

PSO1	To provide knowledge about various animals from primitive to highly evolved forms with advance characters present around us.
PSO2	To understand the potential of various Physiological changes in our body.
PSO3	Recognize the relationship between structure and functions at different levels of biological organization.
PSO4	Student will understand the nature and basic concepts of Cell biology, Genetics And Evolution.
PSO5	Understand various genetic disorders and the importance of genetic engineering.
PSO6	Students perform experimental procedures in Developmental biology, Physiology and Ecology.
PSO7	Analyze the relationships among animals with their Ecosystems.
PSO8	Learn and understand the applications of Zoology in Agriculture, Medicine and daily life.
PSO9	Understand the applied biological sciences such as r-DNA technology and Immunology
PSO10	Understand the importance of Poultry house and Dairy house as a small scale industry as well as in large scale industry.
PSO11	Understand the development of theoretical and practical knowledge in handling the animals and

	using them as model organism.
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Course outcomes:

SEMESTER-I

TITLE OF THE COURSE: BIOLOGY OF NON-CHORDATES

After successfully completing this course, students will:

- CO1 Study and understand the evolutionary history of Invertebrate phyla and know about the non-chordates those are present around us.
- CO2 Identify the invertebrates and classify them upto the class level with the basis of systematic organization.
- CO3 Learn and understand the type study and life history of Protozoans, Poriferans and Coelenterates.
- CO4 Know about the helminthes of parasitic nature causing diseases in human beings.
- CO5 Understand the importance of metamerism in annelids and gain knowledge about Vermiculture process.
- CO6 Understand the diversity, classification and functional aspects of different systems of phylum Arthropoda, Mollusca and Echinodermata.
- CO7 Learn the physiology of pearl formation and advanced characteristic features of Cephalopods.
- CO8 Come to know about the water vascular system and the resemblance & evolutionary significance of larval forms.

SEMESTER-II

TITLE OF THE COURSE: BIOLOGY OF CHORDATES

After successfully completing this course, students will:

- CO1 Study and understand the basic concepts of Phylum Chordata.
- CO2 Learn the general characteristics and classification of different classes from Protochordata to Mammalia.
- CO3 Gain knowledge about physiology of digestion, respiration, heart and brain in each class individually.
- CO4 Come to know about the Parental care in Amphibians in detail.
- CO5 Identify the Poisonous snakes and skull in Reptiles.
- CO6 Know about the Exoskeleton in birds.
- CO7 Gain knowledge about the Migration and Flight adaptation in birds.
- CO8 Understand the general characters & classification of mammals and know about the Dentition in detail.

SEMESTER-III

TITLE OF THE COURSE: CYTOLOGY, GENETICS & EVOLUTION

After successfully completing this course, students will:

- CO1 Understand the importance of cell and differentiate between the Prokaryotic cell and Eukaryotic cell.
- CO2 Learn the composition, structure and functions of Plasma membrane.
- CO3 Acquire knowledge about the structure and functions of various cell organelles.
- CO4 Understand the fundamentals of genetics in day to day life and inheritance of characters from parents to offsprings.
- CO5 Learn and identify the sex of an individual by sex determination and disorders by sex-linked inheritance & human karyotyping.
- CO6 Know about the Linkage groups, Crossing over and Extrachromosomal inheritance.
- CO7 Understand the origin of evolution and identify the contributions of Evolutionists by different theories.
- CO8 Understand the concepts of Gene frequency, Speciation and Macroevolution.

SEMESTER-IV

TITLE OF THE COURSE: EMBRYOLOGY, PHYSIOLOGY & ECOLOGY

After successfully completing this course, students will:

- CO1 Study and know about the formation of gametes & zygote and development of embryo.
- CO2 Understand the various developmental stages involved in frog and chicks and types of placenta.
- CO3 Acquire knowledge about the composition of food and mechanism of digestion, absorption and assimilation.
- CO4 Understand the physiology of their own body and aware about the structure and functioning of each system in the human body.
- CO5 Know about the neuromuscular coordination, endocrine glands and illustrate the reproductive cycles with hormonal control.
- CO6 Describe the nature of ecosystem, production, food webs, energy flow and biogeochemical cycles.
- CO7 Understand the abiotic factors of environment and interrelation among different communities.
- CO8 Gain knowledge about ecological adaptations and identify the different zoogeographical realms with fauna.

SEMESTER-V (PAPER-V)

TITLE OF THE COURSE: ANIMAL BIOTECHNOLOGY

After successfully completing this course, students will:

- CO1 Learn and gain knowledge about the basic tools involved in r-DNA technology.

CO2 Identify the role in gene manipulation and cloning vectors.

CO3 Understand the basics of practical aspects of simple molecular techniques.

CO4 Acquires knowledge about culturing of animal cells, established cell lines and their preservation.

CO5 Understand the concepts of Hybridoma technology, Stem cells and their applications.

CO6 Understand the Reproductive technologies and gain knowledge about the concept of Genetically Modified Organisms.

CO7 Understand the concepts of Applied Biotechnology like Fermentation and its applications in different fields of Science.

CO8 Come to know about the monoculture and polyploidy in fishes and DNA fingerprinting.

SEMESTER-V (PAPER-VI)

TITLE OF THE COURSE: ANIMAL HUSBANDRY

After successfully completing this course, students will:

CO1 Know the basic knowledge about Poultry farming.

CO2 Understand the nutritional requirements for different stages of birds and the methods of feeding.

CO3 Acquire knowledge about the different Poultry diseases and its care management.

CO4 Know the difference between fertilized and unfertilized egg by egg testing method and methods of hatching.

CO5 Identify and compares different breeds of Poultry and cattle.

CO6 Understand the basic concepts of Dairy housing, systems of breeding and housing.

CO7 Learn the concepts of Weaning, Castration, Dehorning, Deworming and Vaccination programme.

CO8 Study and acquires knowledge about Care and management methods to be taken in Poultry and Dairy houses.

SEMESTER-VI

TITLE OF THE COURSE: IMMUNOLOGY

After successfully completing this course, students will:

CO1 Get knowledge about the basic aspects of Immunology

CO2 Understand the Organs and Cells of Immune system.

CO3 Understand the concepts like Epitope, Adjuvant, Hapten and factors influencing immunogenicity.

CO4 Know the structure of Immunoglobulin and the biological importance of different classes of Immunoglobulin's.

CO5 Learn the process of monoclonal antibodies production by Hybridoma technology.

CO6 Understand the mechanism involved in Antigen processing and presentation by MHC molecules.

CO7 Learn and know about the Hypersensitivity reactions and Autoimmune disorders.

CO8 Acquires knowledge about the Vaccine and its types and also knows about the Vaccination schedule.

HoD Profile:



Name : Dr.S.Vijayalakshmi

Qualification : PhD

Experience : 16

Awards Received :

- ✚ Gold Medal for University 1st Rank in M.Sc., Zoology, S.V.University, Tirupati
- ✚ Young Scientist Award from National Environmental Science Academy, New Delhi (NESA)
- ✚ Women Scientist of the year 2001 American Bibliography Institute
- ✚ Fellow of NESA & ESI

Faculty Profile:

Name	Qualification	Designation	Specialization	Teaching Experience
Dr.S.Vijayalakshmi	PhD	Lecturer in Zoology	Neurophysiology & Clinical technology	16

Lecturer Profile:



Name : Ms.K.Bhargavi

Qualification : MSc Zoology

Experience : 04

Other Position :

- ✚ Swachhhta Action Plan Member
- ✚ Anti-Ragging Cell Coordinator

Faculty Profile:

Name	Qualification	Designation	Specialization	Teaching Experience
Ms.K.Bhargavi	MSc	Lecturer in Zoology	Zoology	04

Student-Teacher Ratio:

Level	Class	Number of Teachers	Student Teacher Ratio
UG	I BiZC	02	21:1
	II BiZC		19:1
	III BiZC		13:1

Number of Academic Staff (technical) and Administrative Staff:

	Sanctioned	Filled
Lab Assistants	01	01
Lab Attendants	01	-

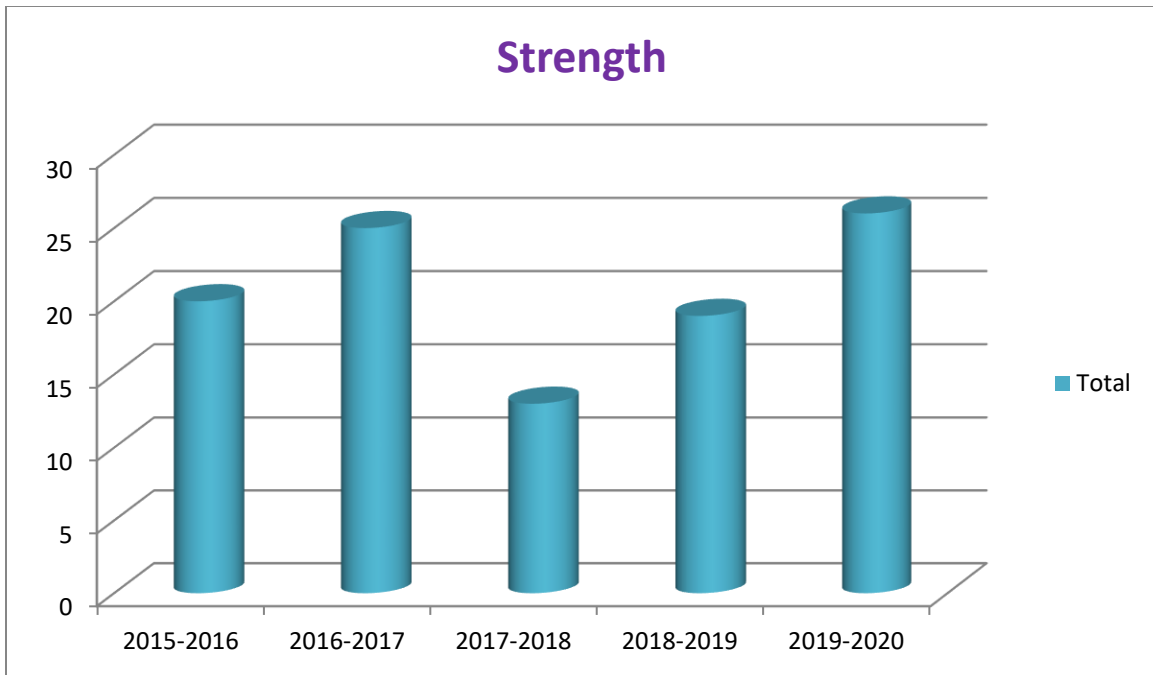
Qualification of Teaching Faculty:

PDF	PhD	M.Phil	PG with NET/SLET	PG
01	-	-	-	01

Student Profile program wise:

Name of the Course	Year	Total Seats	Enrolled		Total
			Male	Female	
BiZC	2015-2016	50	06	14	20
	2016-2017	50	03	22	25
	2017-2018	50	01	12	13
	2018-2019	50	02	17	19
	2019-2020	50	01	25	26

Strength



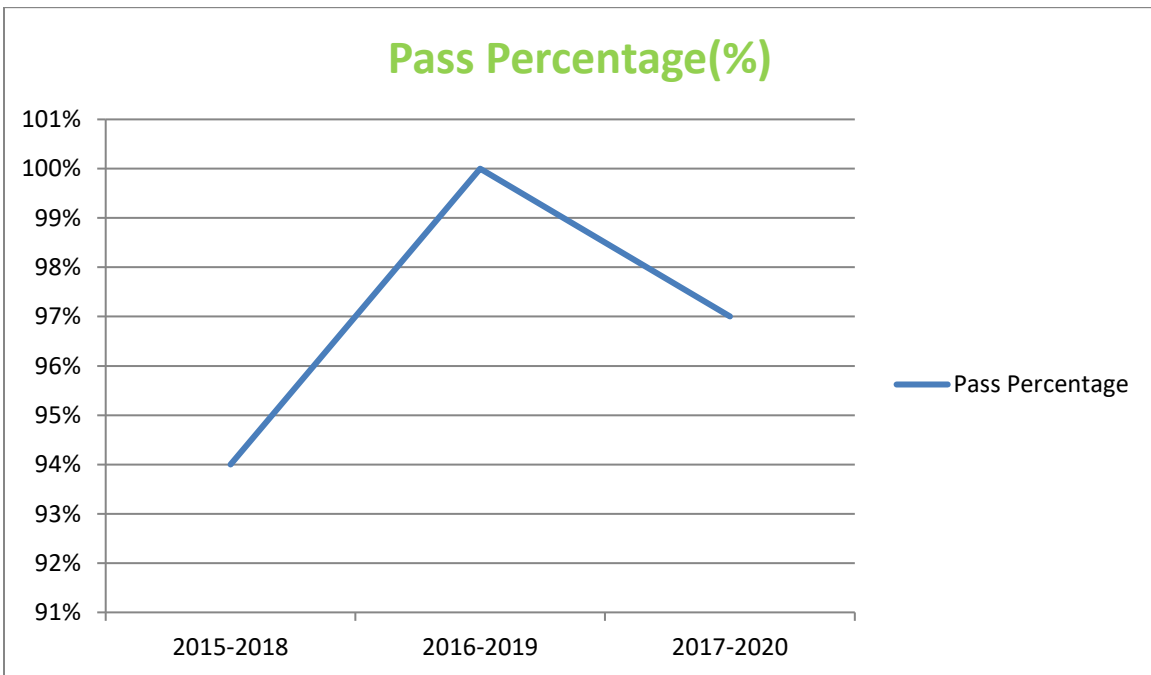
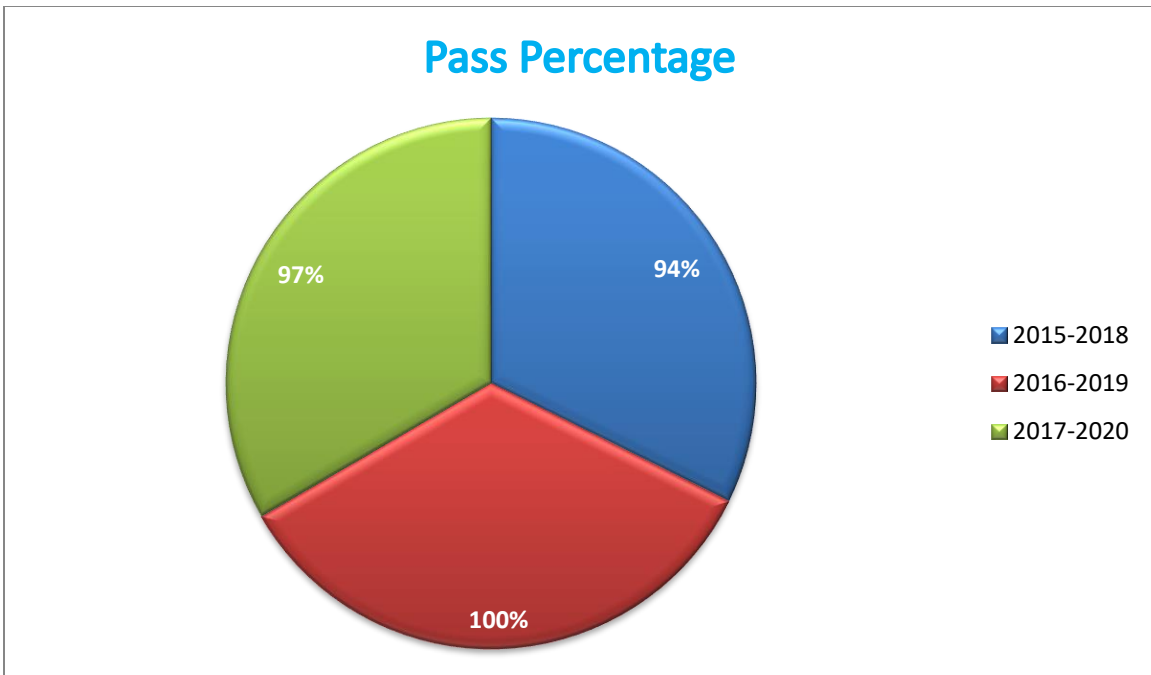
Pass Percentage:

Year	Month	Semester	Appeared		Pass		Pass Percentage
			Male	Female	Male	Female	
2015-2016	Nov/Dec	I	5	14	2	13	79%
	Mar/Apr	II	2	14	2	13	94%
2016-2017	Nov/Dec	I	2	20	2	20	100%
		III	2	13	2	12	93%
	Mar/Apr	II	2	20	2	20	100%
		IV	2	12	2	12	100%
2017-2018	Nov/Dec	I	1	16	1	14	88%
		III	2	19	2	19	100%
		V (P-5)	2	11	2	11	100%
		V (P-6)	2	11	1	11	92%
	Mar/Apr	II	1	15	1	15	100%
		IV	2	19	2	19	100%
VII (ELE)		2	11	2	11	100%	
		I	2	16	2	15	94%

2018-2019	Nov/Dec	III	1	12	1	12	100%
		V (P-5)	2	17	2	17	100%
		V (P-6)	2	17	2	17	100%
	Mar/Apr	II	2	16	2	16	100%
		IV	1	12	1	12	100%
		VII (ELE)	2	17	2	17	100%
2019-2020	Nov/Dec	I	1	18	1	15	84%
		III	2	15	1	14	88%
		V (P-5)	1	11	1	10	92%
		V (P-6)	1	11	1	11	100%
	Mar/Apr	II					
		IV					
VII (ELE)		1	12	1	12	100%	

Overall Year-wise Pass Percentage:

Year	Pass Percentage
2015-2018	94%
2016-2019	100%
2017-2020	97%



Details of Infrastructure facilities:

Library:

There is no separate Departmental library. But has a central library for the need of students and staff.

Internet facility for Staff and students:

Yes it is available only for staff members

Classroom with ICT facility:

Yes

Laboratories:

Yes, Department has a single lab.

Teaching methods adopted to improve student learning:

- Lecture
- Demonstration
- Practical
- Assignment's
- Power presentations (PPT's)
- Class Seminars
- Quiz
- Question & Answers
- Lab demo
- Question paper discussion
- Slip Test
- Science Exhibition
- Chart preparation
- Group discussion

Facilities:

- Laboratory is well equipped with instruments, specimens, spotters, slides and full fledges space.

Library books: Zoology

- ❖ A text book of Zoology
- ❖ A manual of Zoology
- ❖ Animal physiology
- ❖ A text book of Zoology
- ❖ Coelenterata
- ❖ Chordate Zoology
- ❖ Echinodermata
- ❖ First aid hygienic basic
- ❖ General Zoology
- ❖ Helminthes
- ❖ Hand book of practical
- ❖ Sericulture
- ❖ Invertebrates
- ❖ Invertebrate Zoology
- ❖ Instant notes in Ecology
- ❖ Intermediate II Zoology
- ❖ Mollusca
- ❖ Minor phyla
- ❖ Porifera
- ❖ Zoology III
- ❖ Zoology II

- ❖ Zoology I
- ❖ Unified course in Zoology
- ❖ Practical book of Zoology III
- ❖ Practical book of Zoology IV
- ❖ A text book of P-III
- ❖ Immunology
- ❖ Zoology(telugu)
- ❖ Zoology(telugu) P-III
- ❖ Zoology(telugu) P-IV
- ❖ Zoology Semester-V Paper-V
- ❖ Zoology Semester-V Paper-VI
- ❖ Zoology Semester-III
- ❖ Zoology Semester-IV
- ❖ Zoology Semester-I
- ❖ Zoology Semester-II

Slides, Specimens and Spotters:

- + Paramecium
- + Euspongia
- + Sycon
- + Physalia
- + Velella
- + Gorgonia
- + Pennatula
- + Fasciola hepatica
- + Redia
- + Cercaria
- + Ascaris- Male
- + Ascaris- Female
- + Ancylostoma duodenale
- + Nereis
- + Aphrodite
- + Leech
- + Sepia
- + Loligo
- + Octopus
- + Nautilus
- + Echinus
- + Cucumaria
- + Antedon
- + Asterias
- + Pila
- + Prawn
- + Scorpion
- + T.S of Amphioxus

- + Pristis
- + Torpedo
- + Exocoetus
- + Labeo rohita
- + Catla catla
- + Clarius
- + Anguilla
- + Placoid scale
- + Cycloid scale
- + Ctenoid scale
- + Hyla
- + Rhacophorus
- + Russeli viper
- + Naja naja
- + Bungarus
- + Enhydrina
- + Testudo
- + Trionyx
- + Different types of feathers
- + Appendicular skeletons of Pigeon
- + Appendicular skeletons of Rabbit
- + Shark
- + Mitotic slides
- + Meiotic slides
- + T.S. of Testis
- + T.S. of Ovary
- + 18 hours chick embryo
- + T.S. of Liver
- + T.S. of Kidney
- + T.S. of Cartilage

Equipment:

- + UV Spectrophotometer
- + Mini Spectrophotometer
- + Distillation plant
- + Hot air oven
- + Autoclave
- + Colorimeter
- + Centrifuge
- + Water bath
- + Laminar air flow
- + Incubator
- + Rotatory shaker
- + Fluorometer
- + Mini Spectrometer

- + Binocular microscope
- + Compound Microscopes
- + Physical Balance
- + Weighing Machine
- + TLC
- + Blood group Antisera
- + Widal kit
- + VDRL kit
- + Hb meter
- + Sphygmomanometer
- + Weight machine
- + Stethoscope
- + Syringe

Glassware:

- + Petri dishes
- + Glass chambers
- + Conical flask
- + Beakers
- + Volumetric flask
- + Vials
- + Centrifuge tubes
- + Standard flask
- + Burettes
- + Pipettes
- + Pipettes stands
- + Test tubes
- + Holders
- + Spatula
- + Test tube stands
- + Watch glass
- + Thermometer
- + Motor & pestle
- + Burettes stands
- + Whatman no.1 filter paper
- + Funnels
- + Glass slides
- + Histological slides
- + Reagent Bottles
- + Measuring jar
- + Cover slips
- + Neubar's chamber
- + Lancet
- + Inoculating Loop
- + Needles

SWOC analysis of the department and future plans:

Strength:

- Excellent teaching and providing better practical knowledge to students.
- An interdisciplinary laboratory.
- Wide range of skills, positive attitude, flexibility of technical staff.
- Ability of the members of the Department to work together.

Weakness:

- Lack of Animal house.
- Lack of research seminars.

Opportunities:

- To prepare our students for field based activities and motivate them to put on a small scale industry in the fields of Vermiculture, Aquaculture, Poultry farming and Dairy housing.
- Students are encouraged to participate in NCC and NSS units of the college.

Challenges:

- Setting up of Departmental Library and Animal house.
- Overall improvement of Departmental infrastructure.
- To develop the attitude of the students to concentrate on applied science aspects.
- To make students with responsibilities towards society and achieve relevance of their studies for the betterment.
- Giving theoretical and practical oriented knowledge to the students by involving them in seminars, clay moulds and chart preparations, debates, exhibitions, etc.