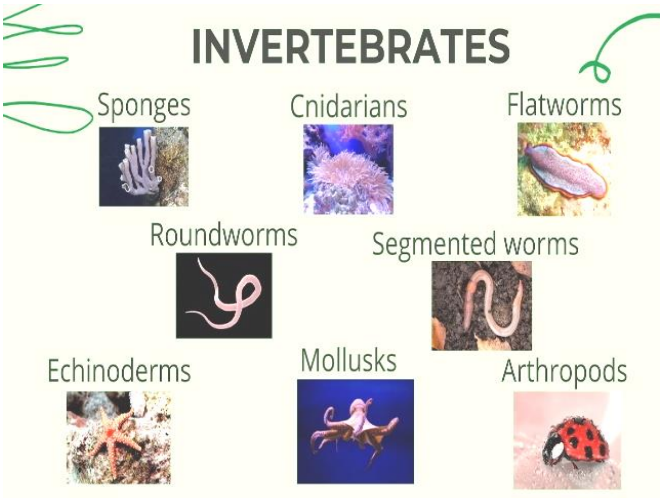
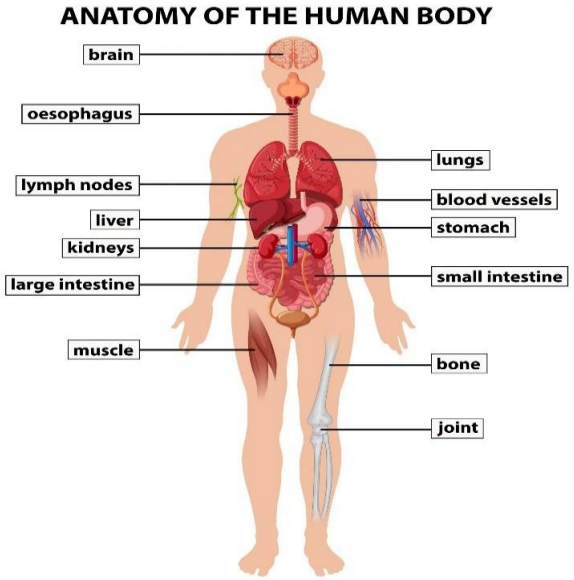
TELANGANA TRIBAL WELFARE RESIDENTIAL DEGREE COLLEGE (GIRLS) , ASIFABAD.

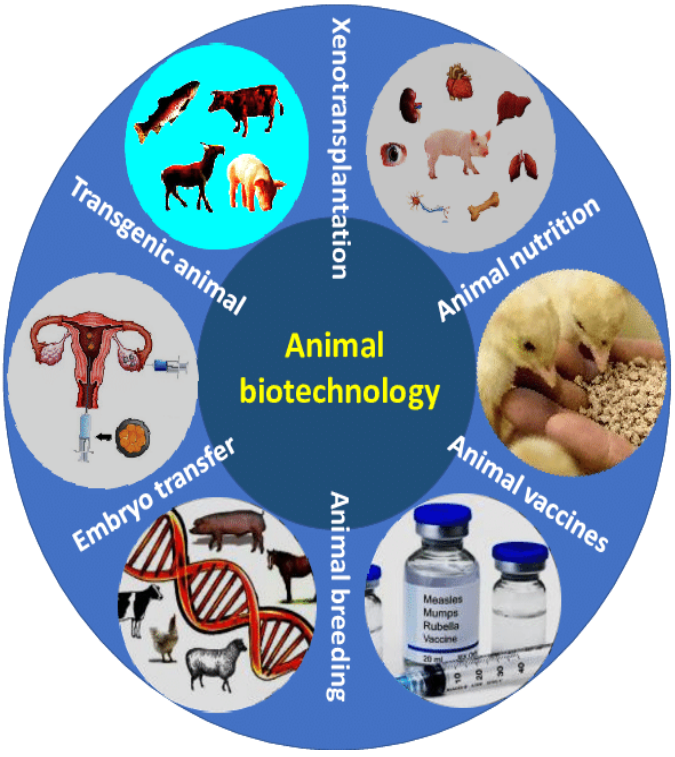
DEPARTMENTAL PROFILE

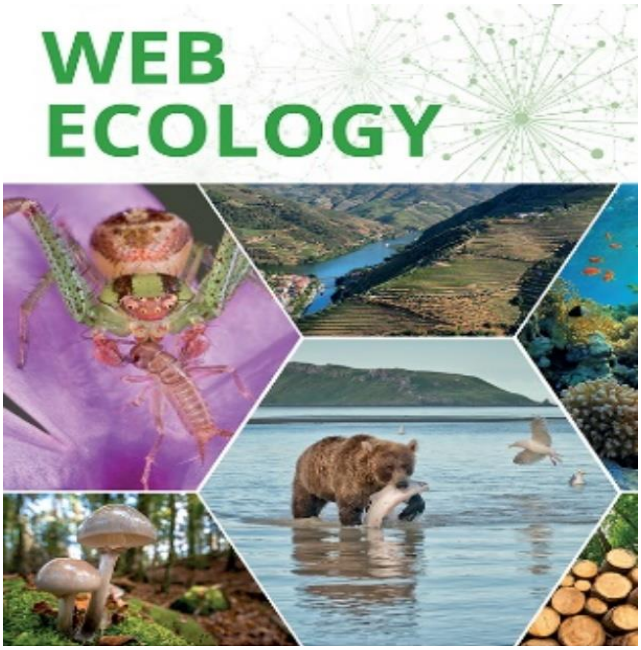
DEPARTMENT OF ZOOLOGY


INVERTEBRATES
Sponges
Cnidarians
Flatworms
Roundworms
Segmented worms
Echinoderms
Mollusks
Arthropods


VISUAL DICTIONARY
VERTEBRATES
ELEPHANTS
GIRAFFES
LEOPARD
DOGS
CAT
DEER
WOLVES
WHALE
SHARK
DOLPHIN
SNAKE
GOLDFISH
SALMON
TROUT
MANTA RAY
FROG
TOAD
LIZARD
OWLS
EAGLE
FLAMINGO
OSTRICH
BATS
KOALA BEARS
7ESL.COM


ANATOMY OF THE HUMAN BODY
brain
oesophagus
lymph nodes
liver
kidneys
large intestine
muscle
lungs
blood vessels
stomach
small intestine
bone
joint


Animal biotechnology
Xenotransplantation
Animal nutrition
Animal vaccines
Animal breeding
Embryo transfer
Transgenic animal
Measles
Mumps
Rubella
Vaccine


WEB
ECOLOGY

ABOUT THE DEPARTMENT

SUCCESSIONLIST OF INCHARGES OF THE DEPARTMENT

VISION:

The department promote the discovery and broad knowledge about the biology of animals, evolution and their environments. The holistic development of the student and make them able to contribute effectively for their welfare and society in this dynamic era.

MISSION:

Our mission is to offer high quality education dedicated to building minds with social and moral responsibility. We are committed to educating the students beyond the confines of a class room to make them better individuals and develop their personalities, enabling them to face the challenges of the modern world .

Programs and courses offered:

Programs offered: B.Sc. Life Science

Courses Offered:

B.Sc. (B.Z.C)and E/M for Academic year 2017
B.Sc. (M.Z.C)and E/M for Academic year 2018

Sanctioned strength: 40 in each section

Duration: CBCS System (Six Semesters)

Eligibility Criteria at Entry Level: For admission into B. Sc. B.Z.C.and MZC the candidate should have passed Bi. P.C/ MLT/ or any other equivalent qualification, with life science as one of the subjects at Intermediate level

At Present the Following combinations are offered in this college as ZOOLOGY one of the Elective subjects.

Programme	Group	Medium	Combinations Offered
B.Sc.BZC.I,II,III	B.Sc.BZC	ENGLISH	Botany with Zoology and chemistry .
	B.Sc.MBZC	ENGLISH	Micro-biology,with Zoology and chemistry.

Particular Students Strength 2017,2018,2019,2020,2021,2022,2023.

B.sc.B.Z.CI,II,III

	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
BZCI	39	35	32	31	31	26
BZCII	0	39	35	32	31	31
BZC III	0	0	39	35	32	31
TOTAL	39	**74**	**96**	**98**	**94**	**88**

Particular Students Strength 2017,2018,2019,2020,2021,2022,2023.

B.sc.M.B.Z.CI,II,III

	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
M.BZCI	0	22	23	24	28	22
M.BZCII	0	0	22	23	24	28
M.BZC III	0	0	0	22	23	24
TOTAL	0	**22**	**45**	**71**	**75**	**74**

Number of Teaching posts

	sanction	filled
Degree lecturer	3	3

Details of qualification of teaching faculty

Name of the faculty	Qualification	Designation	Experience
PANDILLA SHARADHA	M. Sc., B.Ed, SET	Lecturer	2
ADAMALA ARCHANA	M. Sc., B.Ed.	Lecturer	5
JUMIDI HIMALAYA DEVI	M. Sc. B.Ed.	Lecturer	5

INDIVIDUAL PROFILE OF THE FACULTY MEMBER

Name : Pandilla Sharadha

Father Name : pandilla Rajaiah
Date of birth : 16/01/1986
Qualification : Msc zoology , B.ED, SET .
Designation : Lecturer in zoology
Place of work : TGTWRDC (G) ASIFABAD
Date of appointment : 24/07/2024
Experience : 2 years
Date of working in the present College: 24/07/2024
Address : power house colony , godavarikhani]
Dist : peddapalli
Mobile No ; 9573902031
EMAIL : pandillasharadha803@gmail.com

Declaration

I declare that the particulars furnished above are true to the best of my knowledge and belief. I am liable for the authenticity of each and every bit of this information and indemnify the college administration that I take full responsibility in this regard.

Signature

P Sharada

INDIVIDUAL PROFILE OF THE FACULTY MEMBER

Name : Adamala Archana

Father Name : Adamala srinivas

Date of birth : 11/02/1996
Qualification : Msc zoology , B.ED,
Designation : Lecturer in zoology
Place of work : TGTWRDC (G) ASIFABAD
Date of appointment : 18/09/2019
Experience : 5 years
Date of working in the present College: 18/09/2019
Address : Dharmapuri , at ramaiah pally
Dist : Jagityal
Mobile No ; 8790603874
EMAIL : adamalaarchana@gmail.com

Declaration

I declare that the particulars furnished above are true to the best of my knowledge and belief. I am liable for the authenticity of each and every bit of this information and indemnify the college administration that I take full responsibility in this regard.

Signature

A Archana

NDIVIDUAL PROFILE OF THE FACULTY MEMBER

Name : Jumidi Himalayadevi

Father Name : Jumidi Thirupathi

Date of birth : 08/09/1996
Qualification : Msc zoology , B.ED,
Designation : Lecturer in zoology
Place of work : TGTWRDC (G) ASIFABAD
Date of appointment : 16/10/2019
Experience : 5 years
Date of working in the present College: 04/09/2020
Address : Thungeda , Rebbena
Dist : Komaram Bheem asifabad
Mobile No ; 9618919745
EMAIL : himalayahmly@gmail.com

Declaration

I declare that the particulars furnished above are true to the best of my knowledge and belief. I am liable for the authenticity of each and every bit of this information and indemnify the college administration that I take full responsibility in this regard.

Signature

J Himalayadevi

TEACHING LEARNING PROCESS

- Department prepares Action Plan at the beginning of every academic year.
- Annual Curricular Plan is prepared at the beginning of the Academic Year.
- Departmental Meetings are conducted under the chairmanship of the Principal.
- Besides Curricular Activities, Co-curricular Activities are planned and implemented.
- Feedback of the Lecturer is taken by the Department and analyzed and reviewed the analysis and accordingly plan the next year Teaching Strategies.

TEACHING METHODS

- Conventional Black Board method
- Discussion Method
- Study projects, Assignments.
- Lecture Method.
- Audio Visual Aids.
- Class Room Seminars.
- Guest Lectures
- Group Discussions.
- SLIP TESTS

DEPARTMENT OF BZC ZOOLOGY

TIME TABLE

DAY	I	II	III		IV	V	VI
	9:00-10:00	10:00-11;00	11:10-12;10		12;10-1:1:10	2.30-3.30	3.30-4.30
MON	Immunology and animal biotechnology	Animal physiology, Behaviour			Animal diversity and invertebrates	EVS	
TUE	Immunology and animal biotechnology	Animal physiology, Behaviour			Animal diversity and invertebrates	EVS	
WED	Immunology and animal biotechnology	Animal physiology, Behaviour			Animal diversity and invertebrate	Water resources and management	
THU	Immunology and animal biotechnology	Animal physiology, Behaviour			Animal diversity and invertebrate	Water resources and management	
FRI	Practical	Practical			Practical	Water resources and Management	
SAT	Practical	Practical			Practical	Water resources and management	

BSC MBZC TIME TABLE ZOOLOGY

DAY	I	II	III		IV	V	VI
	9:00-10:00	10:00-11;00	11:10-12;10		12;10-1:1:10	2.30-3.30	3.30-4.30
MON	Immunology and animal biotechnology	Animal physiology, Behaviour			Animal diversity and invertebrates	EVS	
TUE	Immunology and animal biotechnology	Animal physiology, Behaviour			Animal diversity and invertebrates	EVS	
WED	Immunology and animal biotechnology	Animal physiology, Behaviour			Animal diversity and invertebrates	Water resources and management	
THU	Immunology and animal biotechnology	Animal physiology, Behaviour			Animal diversity and invertebrates	Water resources and Management	
FRI	Practical	Practical			Practical	Water resources and Management	
SAT	Practical	Practical			Practical	Water resources and Management	

Workload Details

	Course & Year	Workload of Theory Classes in Hrs per week	Practical	Total Workload in Hrs per week	INTERNAL SUBJECTS
1	BSC. BZC & MBZC	04+04=8	2X3=6, 6+6=12	20	02+02=04
2	BSC.BZC & MBZC	04+04=8	2X3=6, 6+6=12	20	00
3	BSC.BZC & MBZC	04+04=8	2X3=6, 6+6=12	20	04
	TOTAL	24	36	60	08

TOTALWORKLOAD/WEEK=24+36=60

SANCTIONEDPOSTS&NUMBEROFLECTURERS=03& 03

YETTOBESANCTIONEDANDNO.OFLECTURERSREQUIRED=NIL

SYLLABUS DESIGNED

The College is affiliated to Kakatiya University and the syllabus is approved by the Board of studies of the Kakatiya University and adopted by all Affiliated Colleges of the University

KAKATIYA UNIVERSITY

Under Graduate Courses (Under CBCS 2019 - 2022)

B.Sc. ZOOLOGY I Year

SEMESTER – I

ANIMAL DIVERSITY – INVERTEBRATES

(Core Paper –I)

Theory	4 Hours/Week	4 Credit	Internal marks = 20
Practical	3 Hours/Week	1 Credit	External Marks = 80

UNIT – I

1.1 Protozoa

1.1.1 General Characters and Classification of Protozoa up to Orders with examples
1.1.2 Type Study –***Elphidium***
1.1.3 Locomotion and Reproduction
1.1.4 Epidemiology of Protozoan diseases – Amoebiasis, Giardiasis, Leishmaniasis, Malaria

1.2 Porifera

1.2.1 General characters and Classification of Porifera up to Orders with examples
1.2.2 Type study - ***Sycon***
1.2.3 Canal system in Sponges
1.2.4 Types of Cells and Spicules in Porifera.

UNIT – II

2.1 Cnidaria

2.1.1General characters and Classification of Cnidaria up to classes with examples
2.1.2 Type study -***Obelia***
2.1.3 Polymorphism in Cnidarians with examples
2.1.4 Corals and Coral Reef formation

2.2 Helminthes

2.2.1 General characters and Classification of **Platyhelminthes** up to classes with examples
2.2.2 Type study -***Schistosoma***
2.2.3 General characters and Classification of **Nemathelminthes** up to classes with examples
2.2.4 Type study –***Dracanculus;*** Parasitic Adaptations in Helminthes

UNIT– III

3.1 Annelida

3.1.1 General characters and Classification of Annelida up to classes with examples
3.1.2 Type study – ***Hirudinaria granulosa***
3.1.3 Evolutionary significance of Coelome and Coelomoducts and Metamerism
3.1.4 Economic Importance of Annelida (Polychaeta, Oligochaeta and Hirudinea)

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3.2Arthropoda

3.2.1 General characters; Classification of Arthropoda upto classes with examples
3.2.2Type study –***Palaemon***(Prawn*)*
3.2.3Crustacean Larvae; Insect metamorphosis; Useful and Harmful Insects
3.2.4***Peripatus***- Structure and affinities

UNIT – IV

4.1 Mollusca

4.1.1 General characters; Classification of Mollusca upto classes with examples
4.1.2Type study -***Pila*** *(*Snail*)*
4.1.3 Pearl formation; Torsion and Detorsion in Gastropods
4.1.4 Molluscs as Bio-indicators, Vectors and Pests; Economic importance

4.2 Echinodermata

4.2.1 General characters and Classification of Echinodermata upto classes with examples
4.2.2 Type study- ***Star Fish***
4.2.3Echinoderm larvae and their evolutionary significance
4.2.4 Autotomy, Regeneration and Symmetry of Echinoderms

Suggested Readings:

1. **L.H. Hyman** '*The Invertebrates' Vol I, II and V.* – M.C. Graw Hill Company Ltd.
2. **Kotpal, R.L. 1988 - 1992** Protozoa, Porifera, Coelenterata, Helminthes, Arthropoda, Mollusca, Echinodermata. Rastogi Publications, Meerut.
3. **E.L. Jordan and P.S.** Verma'*Invertebrate Zoology'* S. Chand and Company.
4. **R.D. Barnes** '*Invertebrate Zoology'* by: W.B. Saunders CO., 1986.
5. **Barrington. E.J.W.**, '*Invertebrate structure and Function'* by ELBS.
6. **P.S. Dhami and J.K. Dhami.**Invertebrate Zoology. S. Chand and Co. New Delhi.
7. **Parker, T.J. and Haswell**'*A text book of Zoology'* by, W.A., Mac Millan Co. London.
8. **Barnes, R.D. (1982).***Invertebrate Zoology*, V Edition"

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KAKATIYA UNIVERSITY

Under Graduate Courses (Under CBCS 2019 - 2022)

B.Sc. ZOOLOGY I Year

SEMESTER – I

ANIMAL DIVERSITY - INVERTEBRATES (PRACTICAL)

Instruction: 3 hrs per week
No. of Credits: 1

1. Study of museum slides / specimens/models (Classification of animals up to orders)

i) **Protozoa:***Amoeba, Paramoecium, Paramoecium Binary fission and Conjugation, Vorticella, Entamoebahistolytica, Plasmodium vivax*

ii) **Porifera**:*Sycon, Spongilla,Euspongia, Sycon*- T.S &L.S, Spicules, Gemmule

iii) **Coelenterata:** *Obelia – Colony & Medusa, Aurelia, Physalia, Velella, Corallium, Gorgonia, Pennatula*

iv) **Platyhelminthes:***Planaria, Fasciolahepatica, Fasciola*larval forms – Miracidium, Redia, Cercaria, *Echinococcusgranulosus, Taeniasolium, Schistosomahaematobium*

v) **Nemathelminthes:***Ascaris(Male & Female), Drancunculus, Ancylostoma,Wuchereria*

vi) **Annelida:** *Nereis, Aphrodite, Chaetopteurs, Hirudinaria,* Trochophore larva

vii) **Arthropoda:** *Cancer, Palaemon,* Scorpion, *Scolopendra, Sacculina, Limulus, Peripatus,* Larvae -Nauplius, Mysis,Zoea,Mouth parts of male & female *Anopheles* and *Culex,* Mouthparts of Housefly and Butterfly.

viii) **Mollusca:** *Chiton, Pila, Unio, Pteredo, Murex, Sepia, Loligo, Octopus, Nautilus,* Glochidium larva

ix) **Echinodermata:** *Asterias, Ophiothrix, Echinus, Clypeaster, Cucumaria,Antedon,* Bipinnaria larva

2. Demonstration of dissection / dissected / virtual dissection:
Prawn: Appendages, Digestive system, Nervous system, Mounting of Statocyst

3. Laboratory Record work shall be submitted at the time of practical examination

4. An **"Animal album"** containing photographs, cut outs, with appropriate write up about the abovementioned taxa. Different taxa/ topics may be given to different sets of students for this purpose.

5. Computer aided techniques should be adopted as per UGC guide lines.

Suggested manuals:

1. Practical Zoology- Invertebrates by S.S.Lal
2. Practical Zoology – Invertebrates by P.S.Verma
3. Practical Zoology –Invertebrates by K.P.Kurl

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KAKATIYA UNIVERSITY

Under Graduate Courses (Under CBCS 2019 - 2022)

B.Sc. ZOOLOGY I Year

SEMESTER – II

ANIMAL DIVERSITY – VERTEBRATES

(Core Paper – II)

Theory	4 Hours/Week	4 Credit	Internal marks = 20
Practical	3 Hours/Week	1 Credit	External Marks = 80

UNIT – I

1.1 Hemichordata

1.1.1 General characters and Classification of Hemichordates upto classes with examples
1.1.2*Balanoglossus*- Structure and affinities
1.1.3. Larval Significance (Tornaria)

1.2. Protochordata

1.2.1 General Characters and Classification of Chordates up to orders with examples
1.2.2 Salient features of Urochordata; Retrogressive metamorphosis in Urochordata
1.2.3 Salient features and affinities of Cephalochordata
1.2.4 General Characters of Cyclostomata; Comparison of *Petromyzon*and *Myxine*

UNIT – II

2.1 Pisces

2.1.1 General characters of and Classification of Pisces up to orders with examples
2.1.3*Scoliodon*- Digestive,Respiratory, Circulatory and Nervous system
2.1.4 Types of Scales, Types of Fins
2.1.5 Migration in Fishes

2.2 Amphibia

2.2.1 General characters and Classification of Amphibians up to orders with examples.
2.2.2***Rana tigrina***- Respiratory, Circulatory and Nervous systems
2.2.3 Parental care in Amphibians; Neoteny and Paedogenesis
2.2.4 Metamorphosis in Amphibians and its hormonal control

Unit – III

3.1 Reptilia

3.1.1 General characters and Classification of Reptilia up to orders with examples
3.1.2***Calotes***–Digestive,Respiratory, Circulatory and Nervous systems
3.1.3 Temporal fossa in Reptiles and its evolutionary importance
3.1.4 Distinguished characters of Poisonous and Non-poisonous snakes

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3.2 Aves

3.2.1 General characters and Classification of Aves upto orders with examples.
3.2.2***Columba livia***- Digestive, Respiratory,Circulatory and Nervous systems
3.2.3 Migration in Birds
3.2.4 Flight adaptation in Birds

Unit – IV

4.1 Mammalia

4.1.1 General characters and Classification of Mammalia upto orders with examples
4.1.2***Rabbit***- Digestive, Respiratory,Circulatory and Nervous systems
4.1.3Dentition in Mammals
4.1.4 Aquatic adaptations in Mammals

Suggested Readings:

1. **E.L.Jordan and P.S. Verma**'*Chordate Zoology*' -. S. Chand Publications.

2. **Mohan P.Arora**. '*Chordata – I*, Himalaya Publishing House Pvt.Ltd.

3. **Marshal, Parker and Haswell**'*Text book of Vertebrates*'. ELBS and McMillan, England.

4. **Alfred Sherwood Romer**. Thomas S. Pearson '*The Vertebrate Body*, Sixth edition, CBS CollegePublishing, Saunders College Publishing

5. **George C. Kent, Robert K. Carr**. *Comparative Anatomy of the Vertebrates*, 9th ed. McGrawHill.

6. **Kenneth Kardong***Vertebrates: Comparative Anatomy, Function and Evolution*, 4th ed,'McGraw Hill.

7. **J.W. Young**, *The Life of Vertebrates*, 3rd ed, Oxford University press.

8. **Harvey Pough F, Christine M. Janis, B. Heiser,** *Vertebrate Life,* Pearson, 6th ed, Pearson Education Inc.2002.

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KAKATIYA UNIVERSITY

Under Graduate Courses (Under CBCS 2019 - 2022)

B.Sc. ZOOLOGY I Year

SEMESTER – II

ANIMAL DIVERSITY - VERTEBRATES (PRACTICAL)

Instruction: 3 hrs per week
No. of Credits: 1

I. Study of museum slides / specimens / models (Classification of animals up to orders)

1. **Hemichordata:** *Balanoglossus, Tornmaria larva*
2. **Protochordata:** *Amphioxus, Amphioxus* T.S. through pharynx
3. **Cyclostomata:** *Petromyzon, Myxine, Ammocoetus larva*
4. **Pisces:** *Sphyrna, Pristis, Torpedo, Channa, Pleuronectes, Hippocampus, Exocoetus, Echieneis, Labeo, Catla, Clarius, Auguilla, Protopterus,* Scales: Placoid, Cycloid, Ctenoid
5. **Amphibia:** *Ichthyophis, Amblystoma, Siren,Hyla, Rachophous,Bufo, Rana,* Axolotal larva
6. **Reptilia :** *Draco, Chemaeleon, Gecko, Uromastix, Vipera russeli, Naja, Bungarus, Enhydrina, Typhlops, Ptyas, Testudo, Trionyx, Crocodilus*
7. **Aves:** Archaeopteryx**,** *Passer, Psittacula, Bubo, Alcedo, Columba, Corvus, Pavo* ,Collection and study of different types of feathers: Quill, Contour, Filoplume, Down
8. **Mammalia:** *Ornithorthynchus, Tachyglossus, Pteropus, Funambulus, Manis, Loris,* Hedgehog;
9. **Histology:**T.S. of Liver, Pancreas, Kidney, Stomach, Intestine, Lung, Artery, Vein, Bone T.S, Spinal Cord. T.S.

II. Osteology:
Rabbit – Axial Skeleton (Bones of Skull and Vertebral Column),
Varanus, Pigeon and Rabbit - Appendicular skeleton (Bones of Limbs and Girdles

III. Demonstration of dissection / dissected / virtual dissection: Labeo / Tilapia
1. Digestive system 2. Brain, Weberian Oscicles3. V, VII, IX, X cranial nerves

IV. Laboratory Record work shall be submitted at the time of practical examination

V. An **"Animal album"** containing photographs, cut outs, with appropriate write up about the above mentioned taxa. Different taxa/ topics may be given to different sets of students for this purpose.

VI. Computer aided techniques should be adopted as per UGC guide lines.

Suggested manuals:

1. **S.S.Lal,** Practical Zoology – Vertebrata
2. **P.S.Verma,** A manual of Practical Zoology– Chordata

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KAKATIYA UNIVERSITY

Under Graduate Courses (Under CBCS 2019 - 2022)

B.Sc. ZOOLOGY II Year SEMESTER – III

ANIMAL PHYSIOLOGY AND ANIMAL BEHAVIOUR

UNIT – I

Digestion

Enzymes: Definition, Classification, Inhibition, Regulation

Digestion of Carbohydrates, Proteins, Lipids and Cellulose 1.1.3Absorption and Assimilation of digested food

1.1.4 Role of Gastrointestinal hormones in digestion

Excretion, Homeostasis and Osmoregulation

Classification of Animals on the basis of excretory products: Ammonotelic, Ureotelic, and Uricotelic; Structure and function of Nephron

Urine formation and Counter current mechanism

Concept and Mechanism of Homeostasis

Hormone regulation of Blood Glucose levels in Human being

Water and Ionic Regulation by Marine and Fresh water Animals

Thermo regulation in Human being

1.2.4. Osmoregulation in Marine, Fresh and Brackish water Animals

UNIT – II

Respiration

Definition of Respiration, Respiration mechanism, External, Internal and Cellular Respiration.

Respiratory Pigments; Transport of Oxygen, Oxygen dissociation curves, and Bohr's Effect; Transport of Carbon dioxide, Chloride shift

Regulation of Respiration; Nervous and Chemical Mechanism

2.Circulation

Types of Circulation Open and Closed; Structure of Mammalian Heart

Types of Hearts: Myogenic and Neurogenic

Heart functions - Conduction and Regulation of Heart beat, Regulation of Heart rate; ECG

Tachycardia and Bradycardia; Blood Clotting mechanism

UNIT– III

Muscle Contraction

Types of Muscles

Ultra structure of skeletal muscle fibre

Mechanism and Chemical changes during Muscle Contraction (Sliding filament theory)

Twitch Tetanus summation and Treppe fatigue

Nerve Impulse

Structure of Neuron

Nerve impulse - Resting potential, Threshold potential and Action potential, Conduction of Nerve impulse

Transmission of Nerve impulse

Synapse and Synaptic transmission; Neurotransmitters-EPSP, IPSP

Endocrine System
Endocrine glands - Structure, secretions and functions of Pituitary gland
Thyroid, Parathyroid, Adrenal glands and Pancreas
Hormone action and Concept of Secondary messengers
Male and Female Hormones; Hormonal control of Menstrual cycle in human beings

UNIT – IV

Animal Behaviour
Types of Behaviour- Innate and Acquired; Instinctive and Motivated behaviour
Taxes, Reflexes, Tropisms
Learning and Memory
Types of Learning: Trial and Error Learning, Imprinting, Habituation
Conditioning: Classical Conditioning; Instrumental conditioning, Examples of Conditioning, Pavlov's Experiment
Social Behaviour and Communication
Social behaviour of insects (Dance language of honey bees)Colonial Existence of Bees and Termites; Pheromones
Biological Rhythms
Biological Clocks, Circadian Rhythms; solar and lunar Rhythms; Circannual Rhythms

Suggested Readings:

Gerard J. Tortora and Sandra Reynolds Garbowski *Principles of Anatomy and Physiology*, Tenth Ed., John Wiley & Sons
Arthur C. Guyton MD, *A Text Book of Medical Physiology*, Eleventh ed., JohnE. Hall, Harcourt Asia Ltd.
William F. Ganong, *A Review of Medical Physiology*, 22 ed, McGraw Hill, 2005
Sherwood, Klandrof, Yanc, Animal *Physiology*, Thompson Brooks/Coole, 2005.
Sherwood, Klandrof, Yanc, *Human Physiology*, Thompson Brooks/Coole, 2005.
Knut Scmidt-Nielson, *Animal Physiology***,** 5th edition, Cambridge Low Price Edition.
Roger Eckert and Randal, *Animal Physiology***,** 4th ed, Freeman Co, New York**.**
Singh. H.R, Text Book of Animal Physiology and Biochemistry
Nagabhushanam, Comparative Animal Physiology
Veer Bal Rastogi, Text Book of Animal Physiology

Dasmann, "Wild Life Biology"

ReenaMathur, "Animal Behaviour"

Alocock, "Animal Behaviour- an Evolutionary Approach

KAKATIYA UNIVERSITY

Under Graduate Courses (Under CBCS 2019 - 2022)

B.Sc. ZOOLOGY II Year SEMESTER – III

ANIMAL PHYSIOLOGY AND ANIMAL BEHAVIOUR

(PRACTICAL)

Instruction: 3 hrs per week No. of Credits: 1

Qualitative tests for identification of carbohydrates, proteins and fats

Qualitative tests for identification of ammonia, urea and uric acid (Nitrogenous excretory products)

Zonation of gut in Cockroaches

Study on effect of pH and Temperature on salivary amylase activity

Study of permanent histological sections of mammalian endocrinal glands: Pituitary, Thyroid, Pancreas, Adrenal gland

Estimation of Haemoglobin by Sahli's method

Estimation of Blood Clotting time

Estimation of total protein by Biuret's method

Estimation of unit metabolism of fish

Laboratory Record work shall be submitted at the time of practical examination
Computer aided techniques should be adopted as per UGC guide lines.
Suggested manuals:

Tortora, G.J. and Derrickson, B.H. (2009).*Principles of Anatomy and Physiology*, XII Edition, John Wiley & Sons, Inc.

Widmaier, E.P., Raff, H. and Strang, K.T. (2008) *Vander's Human Physiology*, XI Edition., McGraw Hill

Guyton, A.C. and Hall, J.E. (2011). T*extbook of Medical Physiology*, XII Edition, Harcourt Asia Pvt. Ltd/ W.B. Saunders Company

Berg, J. M., Tymoczko, J. L. and Stryer, L. (2006).*Biochemistry*.VI Edition. W.H Freeman and Co.

Nelson, D. L., Cox, M. M. and Lehninger, A.L. (2009).*Principles of Biochemistry*. IV Edition. W.H. Freeman and Co.

Murray, R.K., Granner, D.K., Mayes, P.A. and Rodwell, V.W. (2009).
Harper'sIllustrated Biochemistry. XXVIII Edition.Lange Medical Books/Mc Graw3Hill.

KAKATIYA UNIVERSITY

Under Graduate Courses (Under CBCS 2019 - 2022)

B.Sc. ZOOLOGY II Year

SEMESTER – IV

CELL BIOLOGY, GENETICS & DEVELOPMENTAL BIOLOGY

Theory	4 Hours/Week	4 Credit	Internal marks = 20
Practical	3 Hours/Week	1 Credit	External Marks = 80

UNIT – I

1.1 Cell Biology

1.1.1 Ultra structure of Animal cell
1.1.2 Structure (Fluid mosaic model) and Functions of Plasma membrane
1.1.3 Structure and functions of cell organelles – Endoplasmic reticulum, Golgi complex, Ribosomes, Lysosomes, Mitochondria and Nucleus
1.1.4 Chromosomes - Structure, types, Cell Division- Mitosis, Meiosis, Cell Cycle and its regulation.

UNIT – II

2.1 Molecular Biology

2.1.1 DNA (Deoxyribo Nucleic Acid) –Structure-RNA (Ribo Nucleic Acid)-Structure, types, DNA Replication
2.1.2 Protein Synthesis – Transcription, Translation.
2.1.3 Gene Expression - Genetic Code, Operon concept.
2.1.4 Molecular Biology Techniques – Polymerase Chain Reaction (PCR), Electrophoresis.

UNIT – III

3.1 Genetics

3.1.1 Mendel's laws of Inheritance and Non-Mendelian Inheritance , Linkage and Crossing over.
3.1.2 .Sex determination and Sex-linked inheritance.
3.1.3 Chromosomal Mutations- Deletion, Duplication, Inversion, Translocation; Aneuploidy and Polyploidy; Gene mutations- Induced versus Spontaneous mutations
3.1.4 Inborn errors of metabolism.

UNIT – IV

4.1 Developmental Biology

4.1.1 Gametogenesis (Spermatogenesis and Oogenesis), Fertilization, Types of eggs, Types of cleavages
4.1.2 Development of Frog upto the formation of primary germ layers
4.1.3 Formation of Foetal membrane in chick embryo and their functions
4.1.4 Types and functions of Placenta in Mammals,Regeneration in Turbellarians and Lizards

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Suggested Readings:

1. **Lodish, Berk, Zipursky, Matsudaria, Baltimore, Darnell** *'Molecular Cell Biology'* W.H. Free man and company New York.

2. **Gardner, E.J., Simmons, M.J., Snustad, D.P. (2008).** *Principles of Genetics.* VIII Edition. Wiley India.

3 Snustad, D.P., Simmons, M.J. (2009). *Principles of Genetics.* V Edition. John Wiley and Sons Inc.

4 Klug, W.S., Cummings, M.R., Spencer, C.A. (2012). *Concepts of Genetics.* X Edition. Benjamin Cummings.

5. **Russell, P. J. (2009).** *Genetics- A Molecular Approach.* III Edition. Benjamin Cummings.

6. **Griffiths, A.J.F., Wessler, S.R., Lewontin, R.C. and Carroll, S.B.** *Introduction to Genetic Analysis.* IX Edition.W. H. Freeman and Co.

7. **Ridley, M. (2004).** *Evolution.* III Edition. Blackwell Publishing

8.**Campbell, N. A. and Reece J. B. (2011).** *Biology.* IX Edition, Pearson, Benjamin, Cummings.

9.**James D. Watson, Nancy H. Hopkins** '*Molecular Biology of the Gene'*

10. **Gupta P.K.**, 'Genetics'

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KAKATIYA UNIVERSITY

Under Graduate Courses (Under CBCS 2019 - 2022)

B.Sc. ZOOLOGY II Year

SEMESTER – IV

CELL BIOLOGY, GENETICS & DEVELOPMENTAL BIOLOGY PRACTICAL

Instruction: 3 hrs per week
No. of Credits: 1

I. Cytology

1. Preparation and Identification of slides of Mitotic divisions with onion root tips
2. Preparation and Identification of different stages of Meiosis in Grasshopper Testes
3. Identification and study of the following slides

i). Different stages of Mitosis and Meiosis

ii) Lamp brush and polytene chromosomes

II. Genetics

1. Problems on Genetics - Mendelian inheritance, Linkage and Crossing over, Sex linked inheritance

III. Embryology

1. Study of T.S. of Testis and Ovary of a mammal
2. Study of different stages of cleavages (2, 4, 8, 16 cell stages); Morula, Blastula
3. Study of chick embryos of 18 hours, 24 hours, 33 hours and 48 hours of incubation

IV. Laboratory Record work shall be submitted at the time of practical examination

V. An **"Album"** containing photographs, cut outs, with appropriate write-up about Genetics and Embryology

- **Computer aided techniques should be adopted as per UGCguide lines.**

Suggested manuals:

1. Manual of laboratory experiments in Cell Biology by **Edward, G.**
2. Freeman and Bracegirdle – An Atlas of Embryology.

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KAKATIYA UNIVERSITY

Under Graduate Courses (Under CBCS 2019 - 2022)

B.Sc. ZOOLOGY III Year

SEMESTER – V

IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY

Theory	4 Hours/Week	4 Credit	Internal marks = 20
Practical	3 Hours/Week	1 Credit	External Marks = 80

UNIT – I

1.1 Basics of Immune system

1.1.1 Cells of the Immune system and the Lymphoid organs (Primary and Secondary)

1.1.2 First line of defences-physical and chemical barriers; second line of defences – inflammation and phagocytosis.

1.1.3 Types of Immunity- Inherent (Active and Passive) and Acquired Immunity (Active and Passive) Humoral and Cell mediated immunity.

1.1.4 Major Histocompatibility complex (MHC)- structure and function of class I and Class II proteins. Significance of MHC in organ transplantation; MHC restriction

UNIT – II

2.1 Antibodies and Antigens and Immune system diseases

2.1.1 Antibodies(Immunoglobulins) – Structure, functions and classification, antibody diversity, Monoclonal antibodies and applications

2.1.2 Antigens structure, antigenic determinants/epitopes, haptens, adjuvants and antigenicity.

2.1.3 Antigen-antibody reactions; Agglutination; Precipitation, Opsonization, Cytotoxicity

2.1.4 Hypersensitivity reactions.
Autoimmunity and Immunodeficiency diseases.

Unit – III

3.1 Animal Biotechnology and Genetically modified organisms

3.1.1 Concept and Scope of Animal Biotechnology

3.1.2 Recombinant DNA Technology and its applications.

3.1.3 Cloning Vectors- Plasmids, Cosmids and shuttle vectors, Cloning methods(Cell, Animal and Gene cloning); Restriction enzymes and Ligases

3.1.4 Transgenesis – Methods of Transgenesis
Production of Transgenic animals- Sheep and Fish

Unit – IV

4.1 Applications of Biotechnology

4.1.1 In vitro fertilization and embryo transfer

4.1.2 Hybridoma technology – concepts and applications

4.1.3 Stem cells- Types and their applications

4.1.4 Recombinant insulin and human growth hormone; Polymerase Chain Reaction (PCR)
Animal Bioreactors- Concepts and Applications.

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Suggested Readings:

1. Text Book of Immunology – Ivan Riott
2. Text Book of Immunology – C.V.Rao
3. Text Book of Immunology – Nandinin Shetty
4. Text Book of Immunology – Kubey
5. Culture of Animal Cells – R. Ian Freshney, Wiley Liss
6. Biotechnology – S. Mitra
7. Animal Cell Culture - Practical Approach – Ed. John. RW. Masters, Oxford
8. Biotechnology – B.D.Singh
9. Brown, T.A. (1998). *Molecular Biology Labfax II: Gene Cloning and DNAAnalysis*. II Edition, Academic Press, California, USA.
10. Glick, B.R. and Pasternak, J.J. (2009). *Molecular Biotechnology - Principles and Applications of Recombinant DNA*. IV Edition, ASM press, Washington, USA.

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B.Sc. ZOOLOGY III Year

SEMESTER – V

IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY PRACTICAL

Instruction: 3 hrs per week
No. of Credits: 1

I. Immunology

1. Identification of Blood grouping (Demonstration of Agglutination) using kit.
2. Demonstration of Precipitation (VDRL/RPR) using kit.
3. Histological study of Lymphoid organs -Spleen, Thymus, Lymph node, Bone marrow (through prepared slides).
4. Enumeration of Total RBC from a given blood sample.
5. Enumeration of Total WBC from a given blood sample.
6. Enumeration of Differential count of WBC from a given blood sample.

II. Animal Biotechnology

1. Study the following techniques through Photographs / Virtual Lab

a) Identification of Vectors
b) Identification of Transgenic animals
c) DNA sequencing (Sanger's method)
d) DNA finger printing
e) Southern blotting
f) Western blotting

2. PCR (demonstration) on site or of site demonstration.

- **Laboratory Record work shall be submitted at the time of practical examination**
- **Computer aided techniques should be adopted as per UGC guide lines.**

Suggested manuals:

1. A Hand Book of Practical Immunology – **Ivan Riott**
2. Animal Biotechnology – **P.K. Gupta.**
3. Immunology, VI Edition. W.H. Freeman and Company **Kindt, T. J., Goldsby, R.A., Osborne, B. A. and Kuby, J (2006).**
4. Immunology, VII Edition, Mosby, Elsevier Publication **David, M., Jonathan, B., David, R. B. and Ivan R. (2006).**
5. Cellular and Molecular Immunology. V Edition. Saunders Publication, **Abbas, K. Abul and Lechtman H. Andrew (2003.)**

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KAKATIYA UNIVERSITY

Under Graduate Courses (Under CBCS 2019 - 2022)

B.Sc. ZOOLOGY III Year

SEMESTER – VI

ECOLOGY, ZOOGEOGRAPHY AND EVOLUTION

Theory	4 Hours/Week	4 Credit	Internal marks = 20
Practical	3 Hours/Week	1 Credit	External Marks = 80

UNIT – I

1.1 Ecology- I

1.1.1 Ecosystem Structure and Functions; Types of Ecosystems – Aquatic and Terrestrial
1.1.2 Bio-geo chemical nutrient cycles - Nitrogen, Carbon, Phosphorus and Water
1.1.3 Energy flow in ecosystem
1.1.4 Food chain, food web and ecological pyramids
1.1.5 Animal Associations-Mutualism; Commensalism;Parasitism; Competition, Predation

UNIT – II

2.1 Ecology – II

2.1.1 Concept of Species, Population dynamics and Growth curves
2.1.2 Community Structure and dynamics and Ecological Succession
2.1.3 Ecological Adaptations
2.1.4 Environmental Pollution- Sources, Effect and Control measures of Air, Water, Soiland Noise Pollution
2.1.5 Wildlife conservation - National Parks and Sanctuaries of India, Endangered species; Biodiversity and Hotspots of Biodiversity in India.

UNIT – III

3.1 Zoogeography

3.1.1 Zoogeographical regions
3.1.2 Climatic and faunal peculiarities of Palaearctic, Nearctic, Neotropical, Oriental, Australian and Ethiopian regions
3.1.3 Wallace line, Discontinuous distribution
3.1.4 Continental Drift

Unit – IV

4.1. Evolution

4.1.1 Theories of Evolution – Lamarckism, Neo-Lamarckism, Darwinism, Neo-Darwinism, Modern synthetic theory, Evidences of Evolution.
4.1.2 Forces of Evolution–Natural Selection, Genetic drift, Gene flow, Genetic load, Organic variations,Hardy Weinberg Equilibrium.
4.1.3. Isolation –Premating and post mating isolating mechanisms.
4.1.4 Speciation: Methods of Speciation - Allopatric and Sympatric; Causes and Role of Extinction in Evolution.

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Suggested Readings:

1. Ecology – Himalaya Publising company – M.P Arora
2. Environmental Biology – P.D. Sharma
3. Environmental Ecology – P.R. Trivedi and Gurdeep Raj
4. Indian Wildlife Threats and Prervation – Buddhadev Sharma and Te Kumar
5. Ecology-Principles and Application II Edn. Cambridge Univ Press, London, Champan. JL and Re.iss MJ.
6. Environmental Studies, TATA McGraw Hill Com. New Delhi, Benny Joseph.
7. Fundamentals of Ecology Third Edn., Nataraj Publishers, Dehradun, Eugene.P. Odum.
8. Ecology and Animal Distribution, Veea Bala Rastogi.
9. Text Book of Ecology and Environment, P.K. Gupta.
10. Ecology and Wildlife Biology, Bhatnagar and Bansal.
11. Evolution 3rd Edn. Blackwell Publishing, Ridley, M (2004).
12. Evolutionary Biology, Addison –Wesley; Minkoff,E(1983).
13. *Evolution.* Cold Spring, Harbour Laboratory Press Barton, N. H., Briggs, D. E. G., Eisen, J. A., Goldstein, D. B. and Patel, N. H. (2007).
14. *Evolution.* IV Edition. Jones and Bartlett Publishers; Hall, B. K. and Hallgrimsson, B. (2008).
15. *Evolution*, 2nd Edn, Oxford and IBH Publishing Co., New Delhi, Jan M. Savage.

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Under Graduate Courses (Under CBCS 2019 - 2022)
B.Sc. ZOOLOGY III Year
SEMESTER – VI

ECOLOGY, ZOOGEOGRAPHY AND EVOLUTION PRACTICAL

Instruction: 3 hrs per week
No. of Credits: 1

Ecology

1. Determination of pH of Soil and Water.
2. Estimation of Salinity (Chlorides) of water in given samples.
3. Estimation of Carbonates and Bicarbonates in the given water samples.
4. Estimation of dissolved Oxygen of Pond water, sewage, effluents.
5. Identification of Zooplankton from different water bodies.
6. Study of Pond Ecosystem / Local polluted site – Report submission.

Zoogeography

1. Study of at least 3 endangered or threatened wild animals of India through photographs/specimens/models
2. Field visit to Zoo Park to study the management, behavior and enumeration of wild animals.
3. Identification of Zoogeographical realms from the Map and identify specific fauna of respective regions.

Evolution

1. Museum Study of fossil animals: **Peripatus; Coelacanth fish, Dipnoi fishes; Sphenodon; Archaeopteryx.**
2. Study of homology and analogy from suitable specimens and pictures
3. Problems on Hardy-Weinberg Law
4. Macroevolution using Darwin finches (pictures)

- **Laboratory Record work shall be submitted at the time of practical examination**
- **Computer aided techniques should be adopted as per UGC guide lines.**

Suggested manuals:

1. Ecology Student Lab Manual, Biology Labs – Robert Desharnais, JeffreyBell.
2. Ecology Lab manual – Darrell S Vodopich.

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STUDENT CENTRIC LEARNING

Teaching through PPTs.
Regular Co-curricular Activities.
The Department has provided study material.
Project Works are given to the students.

CAREER GUIDELINES

The Department of ZOOLOGY encourage the out going students for their future careers. The faculty is the incharge guided for PG Courses and other job oriented programmes. The regular students are also enlighten with job opportunities and other career prospects.

EFFORTS TO IMPROVE RESULTS

Assignments on different topics, Question banks,
Previous Question papers supply and faculty maintain their studies.
Written material supply.
Encourage every student in studies before exams.

ACTIVITIES FOR THE STUDENTS

Assignments on different topics, Question banks, Previous Question papers supply and faculty maintain their studies.
Written material supply.
Encourage every student in studies before exams.

LEARNING RESOURCES

The Department of ZOOLOGY regularly recommends the college library to purchased latest books and journals published in ZOOLOGY .

Every year new books are added and since last five years books written by the best authors were procured.

EXTENSION LECTURES

Year	Name of the Guest Lecture	Designation	No. of Students attended
2018-19	K Srilatha	Lecturer in zoology	25
2019-20	B Swapna	Lecturer in zoology	20
2021-2022	S Jyothi	Lecturer in zoology	30
2022-23	R Srinivas	Lecturer in zoology	32

LIST OF CLASSROOM SEMINARS

STUDENT SEMINARS -2018-2019

S.No	Academic Year	Name of the Department	Name of the Student	Date	Topic Name
1	2018-2019	ZOOLOGY	R.Urmila	01/08/2018	Sycon
2			B.Mounika	12/09/2018	Blood circulation

STUDENT SEMINARS-2019-2020

S. no	Academic Year	Name of the Department	Name of the Student	Date	Topic Name
1	2019-2020	ZOOLOGY	M.Madhavi	14/11/2019	Canal system in sponges
2			J.Nandana	26/12/2019	Types of synapse

STUDENTSEMINARS-2020-2021

S. no	Academic Year	Name of the Department	Name of the Student	Date	Topic Name
1	2020-2021	ZOOLOGY	A.Sandhya	24/08/2020	Hybridoma technology
2			B.Shailaja	08/09/2020	Nerve impulses

STUDENTSEMINARS-2021-2022

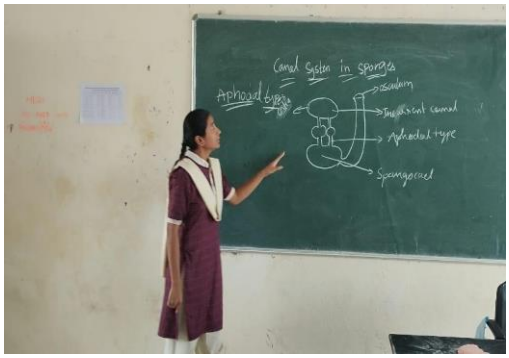
S. no	Academic Year	Name of the Department	Name of the Student	Date	Topic Name
1	2021-2022	ZOOLOGY	S.Manjula	18/02/2022	Mitochondria
2			A.Lavanya	16/03/2022	Dracunculus

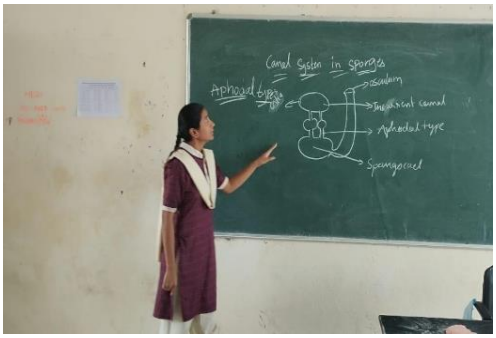
STUDENTSEMINARS-2022-2023

S. no	Academic Year	Name of the Departmen t	Name of the Student	Date	Topic Name
1	2022-2023	ZOOLOGY	B.Vaishnavi	19/08/2022	Respiratory system
2			K.Krishnaveni	15/09/2022	Endocrinology

STUDENTSEMINARS-2023-2024

S.no	Academic Year	Name of the Department	Name of the Student	Date	Topic Name
1	2023-2024	ZOOLOGY	A.Nagavaishnavi	10/10/2023	Water vascular system
2			Y.Pooja	14/10/2023	Types of muscles


Canal System in Sponges
Asconoid type
Aphodal type
Spongocoel


Canal System in Sponges
Asconoid type
Aphodal type
Spongocoel

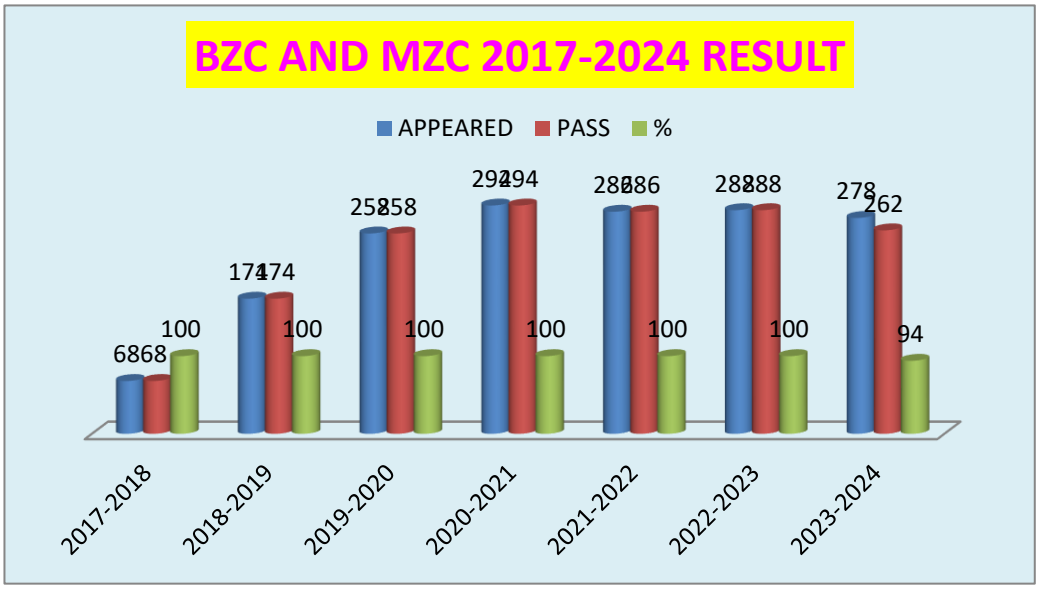

Schematic diagram of the principle of hybridoma technology
Tumor cells
Plasma cells
Monoclonal Antibodies


Mitochondria

CO-CURRICULAR ACTIVITIES

BZC AND MZC 2017-2024 RESULT

YEAR	APPEARED	PASS	%
2017-2018	68	68	100
2018-2019	174	174	100
2019-2020	258	258	100
2020-2021	294	294	100
2021-2022	286	286	100
2022-2023	288	288	100
2023-2024	278	262	94



FIELD TRIP

SNO	GROUP	PLACE	TOPIC	LECTURER NAME
1	BZC AND MZC	karigam, Asifabad	2018-2019	JOHN BARNABOSS
2	BZC AND MZC	Asifabad surrounding areas	2019-2020	A ARCHANA AND J HIMALAYADEVI
3	BZC AND MZC	Hyderabad	2021-2022	A ARCHANA AND J HIMALAYADEVI
4	BZC AND MZC	Gangapoor	2022-2023	A ARCHANA AND J HIMALAYADEVI
5	BZC AND MZC	ASIFABAD	2023-2024	J HIMALAYADVI AND R URMILA

DEBATES

SNO	ACADEMIC YEAR	GROUP	TOPIC	SUPERWISED BY
1	2018-2019	BZC AND MZC	BIOCHEMISTRY	JOHN BARNABOSS
2	2019-2020	BZC AND MZC	ANIMAL BIOTECHNOLOGY	A ARCHANA
3	2021-2022	BZC AND MZC	CIRCULATION	A ARCHANA AND J HIMALAYADEVI
4	2022-2023	BZC AND MZC	STEM CELLS	A ARCHANA AND J HIMALAYADEVI
5	2023-2024	BZC AND MZC	ECOLOGY	A ARCHANA AND J HIMALAYADEVI

QUIZ ACTIVITY

SNO	ACADEMIC YEAR	GROUP	TOPIC	SUPERWISED BY
1	2018-2019	BZC AND MZC	CANCER	JOHN BARNABOSS
2	2019-2020	BZC AND MZC	IMMUNOLOGY	A ARCHANA
3	2021-2022	BZC AND MZC	ECOLOGY	A ARCHANA AND J HIMALAYADEVI
4	2022-2023	BZC AND MZC	STEM CELLS	A ARCHANA AND J HIMALAYADEVI
5	2023-2024	BZC AND MZC	ECOLOGY	A ARCHANA AND J HIMALAYADEVI

POSTER PRESENTATION

A REPORT ON BEST PRACTICES
BEST PRACTICE –I(2021-2022)

Title of the Practice : swachcha Gurukulam programme

Objectives of the Practices : Specially we are used chats on paint to awareness a path of swachh bharat

The Context : context of chats was also utility it also reduces the financial burden and they are trained to prepare different creative skills

The Practice: with the help of chats available at college . students prepared different creative chats .

Evidence of Success: Many of guests who visited our institution have appreciated our students for their work and encouraged us to do many more activities

Problem Encountered and Requirement of Resources :

many people unaware of our students talent because of chats is not the correct way to connect the common people

providing required materials to the students as a part of swachh gurukula

BEST PRACTICE –II (2022-2023)

Date: 10/09/2022

Title of the Practice : Hemoglobin testing camp and awareness on prevention of anemia in adolescent girls

Objectives of the Practices :

Too improve the health of adolescent girls

To reduce instance of Anemia from society within adolescent girls and women

The department of Chemistry has conducted Hb testing camp for girl students and women staff of our institution on 06/09/2022 For this we invited **GOVERNMENT HOSPITAL MEDICAL LAB** of komaram bheem Asifabad team, they tested the Hb quantity in grams with the help of Hemoglobinometer then examined the iron deficiency symptoms among girls.

Later an awareness programme was conducted in which they were suggested to take nutritious food that can prevent anemia in girls.

Besides this the department in collaboration with the department of mess because our institution had a residential system specially focused on anemic students we are providing healthy food to them. Like green leaf vegetables, milk , wheat food, pallybatti, non-veg etc……

Evidence of Success:

Girl students and women staff realized the problems of anemia and how they can improve their health by eating good nutritious food . They were benefitted of this health check up camp. Hence we are trying our best to abolish anemia among adolescent girls and women of this area.

BEST PRACTICES
2023-2024

The faculty of bzc and mzc have organizing vermicompost preparation in our college to give awareness on composting technique.

Vermicomposting is a composting technique, which turns the organic debris into a humus-like product by employing earthworms. “Vermicompost" is the compost produced by the vermicomposting unit

The vermicompost merely refers to the earthworm’s excrement, which provides essential nutrients, aeration, porosity, structure, fertility and water-holding capacity to the soil and plant body.
The vermicomposting method requires an average temperature between 15-25 degrees Celsius, tropical climate and green wastes. It prevalently uses Eisenia fetida to degrade the organic green wastes due to their best appetites and breeding ability.

PROJECT WORK
TOPIC: HONEY BEE KEEPING
ACADEMIC YEAR :2022-2023

Indian agriculture needs to be diversified so as to generate more income for farmers. Considering this aspect Khadi and Village Industries Board is promoting Bee-Keeping industry from years together in the country.
Honey and Bees have been known to mankind since times immemorial.
Honey is a nutritious fluid collected by Honey Bees which is good for human health. Honey has been used by mankind since a very ancient period as food , medicine etc.
The Bee-Keeping industry also plays an important role in increasing the yield of crops through pollination. This industry plays an important role in creating employment opportunities among the rural mass.
The Government is implementing various programs to promote this industry to a large extent.

Manufacturing Process:-

The preparation of good quality honey starts at the bee yard. Bee-keeping activity should ideally be located where there are minimum movements of human-beings with very little noise.
Forest area is, therefore, suited with many flowering plants naturally grown. Movable wooden frames with boxes are placed at such locations and these boxes are spread with honey spice to attract more and more honey-bees.
These bees leave fresh honey sucked from flowers in the cells of honey-comb provided in the boxes to eat bee feed.
When these cells are full of honey, they are hermetically sealed by capping with wax and then honey is extracted from these cells.
Freshly extracted honey is warm and easy to bottle.
Honey should be stored in dry places as it readily absorbs moisture.

CELEBRATIONS OF NATIONAL AND INTERNATIONAL COMMEMORATIVE DAYS

WORLD AIDS DAY

Activity :- World AIDS Day

Date :- 1/12/2019

Introduction:
TTWRDC womens degree college Department of Zoology in collaboration with Microbiology and Botany commemorated World AIDS Day on December 1st, with a series of events aimed at raising awareness and promoting understanding of HIV/AIDS among students and faculty members.

Activities Undertaken by Students:
Awareness Campaigns:- Students organized awareness campaigns throughout the campus, distributing informational pamphlets, posters, and brochures to educate their peers about HIV/AIDS transmission, prevention, and stigma reduction

Interactive Sessions: - Several interactive sessions were conducted, where students engaged in discussions, quizzes, and role-plays to deepen their understanding of HIV/AIDS-related issues and challenges.

Volunteer Initiatives: Many students volunteered at local HIV/AIDS organizations, offering support services, counseling, and HIV testing assistance to those in need, demonstrating their commitment to making a positive difference in the fight against HIV/AIDS.

Outcomes: Increased Awareness: The AIDS Day celebrations successfully raised awareness about HIV/AIDS among students, fostering a more informed and compassionate campus community. Conclusion:
The AIDS Day celebration in the degree college was a meaningful and impactful event, empowering students to take proactive steps towards combating HIV/AIDS and promoting a culture of empathy, understanding, and solidarity within the campus community.

WORLD ENVIRONMENTAL DAY

Title: World Environment Day **Date**: 05/06/2022

Introduction:

World Environment Day, celebrated by department of zoology in collaboration with department of Botany on June 5th, is a global initiative aimed at raising awareness and promoting action for the protection of our environment. Degree College, a hub of academic excellence, embraced this occasion with enthusiasm, organizing a series of events and activities to engage students and faculty in environmental stewardship.

Event Highlights:

Tree Plantation Drive:-

A symbolic gesture towards greening the campus and mitigating carbon emissions, a tree plantation drive was organized. Students and faculty actively participated in planting saplings of native tree species, thereby contributing to biodiversity preservation and ecological balance.

WORLD MOSQUITO DAY

Activity:- World Mosquito day

Title: World Mosquito Day Awareness Programme
Date:- 20/08/2022

A typical World Mosquito Day awareness program involves a range of activities aimed at educating communities about the dangers of mosquito-borne diseases and promoting prevention measures. Mosquito day was celebrated by dept of zoology in collaboration with microbiology.

Objectives:

Outline the specific goals of the program, such as raising awareness, distributing mosquito nets, or conducting educational sessions.

Activities Conducted:

Provide a detailed description of the activities organized during the program, including:

Educational seminars on mosquito-borne diseases and prevention methods.
Community clean-up drives to eliminate mosquito breeding sites.
Health screenings for mosquito-borne diseases.
Interactive workshops or demonstrations on mosquito control measures.

Participation and Engagement:

Describe the level of participation from the community members, local authorities, and other stakeholders.
Highlight any notable engagement or feedback received during the program.

WORLD OZONE DAY CELEBRATION

Activity - Ozone day

Title: “Ozone Day Awareness Programme ”

Date: September 16, 2022

Introduction:
Department of Zoology in collaboration with Microbiology and Botany celebrated World Ozone Day to raise awareness in people and educate peaople to protect Ozone layer.

On September 16, 2022, degree students organized a rally in honor of Ozone Day, aiming to raise awareness about the importance of preserving the ozone layer and combating ozone depletion. The rally aimed to educate the public about the detrimental effects of ozone depletion and promote sustainable practices to protect the ozone layer.

Objectives:

Raise awareness about the significance of the ozone layer in protecting life on Earth.

Educate the public about the causes and consequences of ozone depletion.

Promote sustainable actions to mitigate ozone depletion, such as reducing emissions of ozone-depleting substances.

Mobilize support for environmental protection initiatives within the community.

PNEUMONIA DAY

Activity – Pneumonia day

Title: “Pneumonia Day Awareness Programme ”

Date: November 12 , 2022

Introduction :

world pneumonia day is an annual event on November 12th that raises awereness about pneumonia , a potentially life – threatening lung infection . the day also aims to encourage action to prevent ,that , and protect against pneumonia

OBJECTIVES :

The objectives of pneumonia treatment are to cure the infection and prevent complications. This can be achieved by:

Identifying the type of pneumonia: The type of pneumonia determines the initial treatment.
Providing respiratory support: This can include oxygen therapy and airway clearance techniques.
Administering antibiotics: If the pneumonia is bacterial, antibiotics will be prescribed.
Assessing the severity of the disease: This can help determine the need for hospitalization and isolation.
Following the treatment plan: It's important to take all medications as prescribed by a doctor until fully recovered.
Improving communication and coordination: This can help enhance the outcomes for patients.

ACTIVITY:

Activities that can help with pneumonia include:
Resting: Get plenty of rest and sleep. You might need to stay in bed for a while.
Drinking fluids: Drink lots of water, juice, or weak tea to help loosen mucus in your lungs.
Taking medication: Take all of the prescribed medication, including antibiotics, as directed by your doctor.
Breathing exercises: Take a few deep breaths every hour to help open your lungs.
Chest tapping: Gently tap your chest a few times a day while lying down to help bring up mucus.
Light physical activity: Try a short walk each day to help speed up your recovery.
Using a humidifier: Fill a humidifier with warm water and breathe in the warm mist.
Using a warm washcloth: Place a warm, wet washcloth loosely near your nose and mouth.

NATIONAL SCIENCE DAY

Activity –National science day

Title: “National science Day Awareness Programme ”

Date: Feb 28 , 2022

INTRODUCTION:

National Science Day is celebrated in India on February 28th each year to commemorate the discovery of the "Raman Effect" by Indian physicist Sir C.V. Raman on the same date in 1928, serving as a platform to promote scientific awareness, innovation, and a culture of research among the public, particularly focusing on inspiring young minds to pursue careers in science and technology.
Key points about National Science Day:
Date: February 28th
Commemoration: Discovery of the Raman Effect by Sir C.V. Raman
Objective: To encourage scientific temper and highlight the importance of science in daily life
Celebrations: Various events like science exhibitions, seminars, workshops, debates, and public lectures are organized across the country

ACTIVITY:

National Science Day is celebrated in India to promote science and technology. Activities for National Science Day include:
Science fairs: Participate in or plan science fairs
Science experiments: Conduct experiments like making lava lamps, balloon rockets, or growing plants
Science clubs: Participate in science club activities like growing mold, making sensory balls, or creating soda bottle ecosystems
Science competitions: Participate in speech competitions, poster making competitions, or online quizzes
Science lectures: Attend lectures or debates
Science exhibitions: Visit science model exhibitions or space science exhibitions
Science awareness: Raise awareness about science in your local community
Science projects: Create science projects using everyday materials
Science demonstrations: Attend science demonstrations or watch space science movies on TV or radio

NATIONAL CANCER AWARENESS DAY

Activity –National Cancer awareness day

Title: “National Cancer Day Awareness Programme ”

Date: November 7 , 2022

INTRODUCTION:

National Cancer Awareness Day is observed on November 7th each year in India. The day aims to increase awareness about cancer, its symptoms, and how to prevent it.
What is the purpose of National Cancer Awareness Day?
To educate the public about cancer and its risk factors
To encourage early detection and treatment
To promote healthy lifestyle choices
To reduce the impact of cancer on society

ACTIVITY :

some ways to reduce the risk of cancer
Eat well: Eat a balanced diet with lots of fruits, vegetables, whole grains, and lean proteins
Exercise: Try to get at least 150 minutes of moderate exercise each week
Quit smoking: Smoking is a leading cause of lung cancer and other cancers
Limit alcohol: Drinking too much alcohol can increase the risk of liver, mouth, and breast cancers
Protect your skin: Wear sunscreen and protective clothing to prevent skin cancer
Get vaccinated: Vaccines like HPV and hepatitis B can help prevent some cancers
Get regular check-ups: Regular screenings can help catch cancer early