

Loyola College, Kunkuri
Kunkuri-496225, Jashpur, Chhattisgarh

Annual report of Zoology Department 2019-2020

Department of Zoology: Loyola College, Kunkuri is counted among the top rated colleges in Chhattisgarh with an excellent academic track record. Department of Zoology was established in 2005 with an ambition to pursue to follow high level teaching like theoretical zoology and new technology. Virtual labs allow students to conduct experiments by testing formulae, clicking on icons and test tubes etc. Teachers in the college use these labs to help students visualise and understand concepts. This department has all necessary equipments which are needed for it. In our college zoology lab is available with all instruments and full facilities required for it.



Introducing about zoology lab and Zoology subject

Mission:

- To provide a strong foundation in the concepts of animal structure, function and behaviour.
- To provide practical skills and knowledge,
- To provide a strong foundation for a better understanding of current advances in zoology and its practical significance.
- To create an attractive department where students want to come and study.
- To involve the department in community-based and outreach programme, activities, whenever and wherever possible.
- To constantly improve the quality of both our teaching and research also.

Vision:

- Our department focused on to make able and confident students. From our department, students will make their future bright and will successful after studying in this college

The department has qualified, experienced, energetic faculty members who are passionate about teaching profession. In order to develop interest about zoology in students mind and to motivate them to gain the knowledge, we conducted various activities in every academic year.

NAME OF DEPARTMENT: ZOOLOGY

NAME OF INCHARGE: Mrs. RESHMA JAIN (HOD)

NAME OF OTHER MEMBERS: Mr. CHANDRASHEKHAR PRASAD

NON-TEACHING STAFF: Mr. AJAY JANGDE

1. Activities conducted:

| S. No. | Date | Activity | Details |
|--------|--|--|---|
| 1. | 1 July 2019 | Welcome of first year Students | Orientation lecture by Principal Dr. Fr. Telesphore Lakra. |
| 2. | Progressive from July to January | Unit wise test, Quarterly exam, Half yearly exam | The department had conducted "unit wise test, quarterly exam, Half yearly exam" for all year students. |
| 3. | Progressive from September to December | Seminar | The department had conducted to topic wise seminar for all students in presence of teaching staff and guest. |
| 4. | October | Parents meeting | The department had conducted parents meeting for attendance, test and another exam. |
| 5. | October | Education Tour | The department went to "Ambikapur" for educational tour. |
| 6. | November | Education Tour | The department went to "Mayali" for educational tour with life science students for environment purpose. |
| 7. | Progressive from January to February | Model exam | Department had organized model exam for all year students for their good performance in main annual exam. |
| 8. | February | Remedial Classes | The department had organized remedial classes in order to build up zoology reading, writing and English skills. |

2. Workshop/conference Attended:

1. Mrs. Reshma Jain attended two days National Seminar on "Emerging horizons of science in natural resource management" from 15/6/2020 to 16/6/2020 organized by E. Raghvendra Rao P.G. Science College, Bilaspur (C.G.).

3. Students Achievement: NIL

4. Any other Innovative practices:

- During teaching them about environment students had also participated in plantation in which contribution of staff was also valuable.

- We organized Guest lecture for zoology department in the month of December. (Asst. Prof. Rama Pathak from Duldula College and Mr. Aashis Kindo from Naveen Govt. College, Bagbahar) and students had also presented seminar by PPT.
- Students had also prepared different types of models for laboratory.

5. Faculty Profile:

| S. No. | Name of Faculty | Academic-Qualification | Teaching-Experiences | Teaching Classes |
|--------|-----------------------|------------------------|----------------------|------------------|
| 1. | Reshma Niyariya | M.Sc., M.Phil | 10 | B.Sc. I, II, III |
| 2. | Chandrashekhar Prasad | M.Sc. | 7 | B.Sc. I, II, III |
| 3. | Ajay Jangde | B.Sc. | 12 | Practical's |

6. Degree College Course:

| S. No. | Year | Paper | Title |
|--------|-------------------|--------------|---|
| 1. | First Year | First paper | Cell Biology & Invertebrates |
| 2. | First Year | Second paper | Vertebrates and Embryology |
| 3. | Second Year | First paper | Anatomy and Physiology |
| 4. | Second Year | Second paper | Vertebrate Endocrinology, Reproductive Biology Behaviour, Evolution and Applied Zoology |
| 5. | Third Year | First paper | Ecology, environmental-biology, Toxicology, Microbiology and Medical Zoology |
| 6. | Third Year | Second paper | Genetics, Cell Physiology, Biochemistry, Biotechnology and Bio techniques |
| 7. | All year students | Practical | Zoology practical for all year students related to their subject. |

- The syllabus designed by the university according to competitive exam like NET, SET, and GATE etc.
- Each paper contains five units with numerical and practical's related to the subject so that students can get deep knowledge about the theory.

7. Department Highlights:

- Total no. of Faculty members: 03
- Total no. of Students in B.Sc. First Zoo. : 67
- Total no. of Students in B.Sc. Second Zoo. : 36
- Total no. of Students in B. Sc. Third Zoo. : 60
- The department is planning to promote research in the area of sericulture, pisciculture and bee keeping etc.
- Zoology is a branch of classical biology that deals with the study of wonderful life of animals, hence also known as "Animal sciences".

8. Practical list of B.Sc. First year

Object 1. – Introduction to Zoology Laboratory.

Object 2. – Study of the Microscope: - 1. Compound Microscope
2. Dissecting Microscope
3. Binocular Microscope

Object 3. – Study of the Invertebrate Phylum:- (Protozoa, Porifera, Coelentrata, Platyhelminthes, Nematohelminthes, Annelida, Arthropoda, Mollusca,

Echinodermata)

1. Protozoa: - 1. Amoeba 2. Paramecium 3. Euglena 4. Opalina
2. Porifera: - 1. Sycon 2. Chalina 3. Spongilla 4. Leucosolenia
3. Coelenterata: - 1. Tubipora 2. Aurelia 3. Physalia 4. Hydra
4. Platyhelminthes: - 1. Taenia Solium 2. Fasciola
5. Nematohelminthes: - 1. Ascaris Male 2. Ascaris Female
6. Annelida: - 1. Aphrodite 2. Neries 3. Hirudeneria
7. Arthropoda: - 1. Limulus 2. Crab 3. Peripanta 4. Moth
8. Mollusca: - 1. Aplysia 2. Sepia 3. Octopus 4. Chiton
9. Echinodermata: - 1. Echinus 2. Antedon 3. Asterias

Object 4. - Study of the Permanent Slide of Frog embryology

1. Gastrula
2. Blastula

Object 5. – Study of the Permanent Slide of Chick embryology.

Object 6. – Study of the Permanent Slide of Mitosis and Meiosis.

Object 7. – Study of the Permanent Slide of Invertebrate.

Object 8. - Preparation and Study of Slides for Mitosis/ Meiosis using Aceto Orcein or Aceto Carmine technique from Onion Root Tips.

Object 9. – To Dissect out of the Alimentary system of Earthworm and study the various parts of Alimentary system by Dissecting.

Object 10. - To Dissect out of the Nervous System of Pila by Dissecting.

LIST OF REQUIREMENT, INSTRUMENT, CHEMICAL

| S. No. | Name of Instrument | Quantity |
|--------|-----------------------|----------|
| 1 | Compound Microscope | 07 |
| 2 | Dissecting Microscope | 05 |
| 3 | Binocular Microscope | 1pic |
| 4 | Dropper | 3 pkt |
| 5 | Dissection Box | 5 pic |
| 6 | Cotton | 1 pkt |
| 7 | Alpin | 2 pkt |
| 8 | Beaker | 1 pkt |
| 9 | Incubator | 1pic |
| 10 | Centrifuge | 1pic |
| 11 | Dissection Try | 200 |

| S. No. | Name of chemical | Quantity |
|--------|------------------|----------|
| 1 | Glycerin | 2 Bott. |
| 2 | Alcohol | 2 Bott. |
| 3 | Safranine | 4 Bott. |
| 4 | N-HCl | 2 Bott. |
| 5 | Aceto Carmine | 3 Bott. |
| 6 | Aceto Orcenine | 2 Bott. |

| S. No. | Name of Requirement | Quantity |
|--------|---------------------|----------|
|--------|---------------------|----------|

| | | |
|---|----------------------|---------------|
| 1 | Dropping Bottel | 1 Bott. |
| 2 | Staining Rack | 15 pic |
| 3 | Slide and Cover Slip | 6 pkt & 1 pkt |
| 4 | Watch Glass | 1 pkt |
| 5 | Needle | 2 pkt |
| 6 | Knife | 1 pic |
| 7 | Blade | 1 pkt |
| 8 | Spirit lamp | 20 pic |
| 9 | Machine | 1 pic |

9. Practical List of B.Sc. Second year

Object 1. Study of the Microscope: - 1. Compound Microscope
2. Dissecting Microscope
3. Binocular Microscope

Object 2. Study of the Vertebrate Phylum Chordate:-

1. Hyla Arbaren
2. Toad
3. Rana tigrina
4. Torpedo
5. Labeo
6. Tetradon
7. Exocoetus
8. Trygon
9. Hippocampus
10. Petromyzon
11. Pristis
12. Herdmania
13. Parrot
14. Squirrel
15. Bat
16. Viper
17. Rat
18. Calottes
19. Python
20. Scoliodon
21. House Lizard
22. Anabas
23. Tiger Shark

Object 3. Study of the Frog Permanent Slide:-

1. Kidney
2. Stomach
3. Skin
4. Gastrula
5. Blastula

Object 4. Study of the Mammal Permanent Slide:-

1. Stomach
2. Pancreas
3. Skin
4. Ovary
5. Liver

Object 5. Study of the Frog Bones:-

1. Pelvic girdle of frog
2. Radio ulna
3. Eight Vertebrae
4. Ninth vertebrae
5. Pectoral girdle of frog

Object 6. Study of the Rabbit Bones:-

1. Pectoarl girdle of rabbit
2. Radio ulna
3. Lower jaw
4. Humerus
5. Pelvic girdle
6. Tibio fibula

Object 7. To dissect out of the Scoliodon Cranial Nerve, Internal ear, Placoid scale by Dissecting.

LIST OF REQUIRMENT, INSTRUMENT, CHEMICAL

| S. No. | Name of Instrument | Quantity |
|--------|-----------------------|----------|
| 1 | Compound Microscope | 07 |
| 2 | Dissecting Microscope | 05 |
| 3 | Binocular Microscope | 1pic |
| 4 | Dropper | 3 pkt |
| 5 | Dissection Box | 5 pic |
| 6 | Cotton | 1 pkt |
| 7 | Alpin | 2 pkt |
| 8 | Beaker | 1 pkt |
| 9 | Incubator | 1pic |
| 10 | Centrifuge | 1pic |
| 11 | Dissection Try | 200 |
| | | |

| S. No. | Name of chemical | Quantity |
|--------|------------------|----------|
| 1 | Glycerin | 2 Bott. |
| 2 | Alcohol | 2 Bott. |
| 3 | Safranine | 4 Bott. |
| 4 | N-HCl | 2 Bott. |
| 5 | Aceto Carmine | 3 Bott. |
| 6 | Aceto Orcenine | 2 Bott. |
| | | |

| S. No. | Name of Requirement | Quantity |
|--------|----------------------|---------------|
| 1 | Dropping Bottel | 1 Bott. |
| 2 | Staining Rack | 15 pic |
| 3 | Slide and Cover Slip | 6 pkt & 1 pkt |
| 4 | Watch Glass | 1 pkt |
| 5 | Needle | 2 pkt |
| 6 | Knife | 1 pic |
| 7 | Blade | 1 pkt |
| 8 | Spirit lamp | 20 pic |
| 9 | Machine | 1 pic |

10. Practical list of B.Sc. Third Year

- Object 1.** Study of the Microscope: - 1. Compound Microscope
2. Dissecting Microscope
3. Binocular Microscope
- Object 2.** Determination of percentage *Frequency* of Animal Species by Quadrature Method.
- Object 3.** Determination of percentage *Density* of Animal Species by Quadrature Method.
- Object 4.** Determination of percentage *Abundance* of Animal Species by Quadrature Method.
- Object 5.** Identify of Human Blood Group.
- Object 6.** Staining of the Gram Negative and Gram Positive Bacteria.
- Object 7.** Find out of the Haemoglobin in Human Blood.
- Object 8.** Counting of the R.B.C. in Haemocytometer slide from Human Blood.
- Object 9.** Counting of the W.B.C. in Haemocytometer slide from Human Blood.
- Object 10.** Preparation of Haematin Crystal from Human Blood.
- Object 11.** To study the present of Carbohydrate from given sample.
- Object 12.** To study the present of Protein from given sample.
- Object 13.** To study the present of Lipid from given sample.
- Object 14.** To study of the Permanent slide of Parasites Disease.
1. Giardia
 2. Entamoeba histolytica
 3. Entamoeba coli
 4. Trypanosoma
 5. Blantidium
 6. Plasmodium
 7. Ascaries lumbricoidess
 8. Diarrhoea
- Object 15.** Preparation and study of slides for Mitosis/ Meiosis using Aceto Orecein or Aceto Carmine technique from Onion Root Tips.

LIST OF REQUIRMENT, INSTRUMENT, CHEMICAL

| S. No. | Name of Instrument | Quantity |
|--------|-----------------------|----------|
| 1 | Compound microscope | 07 |
| 2 | Dissecting microscope | 05 |
| 3 | Binocular microscope | 1 |
| 4 | Dropper | 3 pkt |
| 5 | Cotton | 1 pkt |
| 6 | Alpin | 2 pkt |

| | | |
|----|-----------------------------------|-------|
| 7 | Beaker | 1 pkt |
| 8 | Incubator | 1 pic |
| 9 | Centrifuge | 1 pic |
| 10 | Dissection tray | 200 |
| 11 | Quadrat | 8 pic |
| 12 | Haemoglobin meter | 5 pic |
| 13 | Haemocytometer | 5 pic |
| 14 | RBC Pipette | 5 pic |
| 15 | WBC Pipette | 5 pic |
| 16 | Test tube | 1 pkt |
| 17 | Glass slide with counting chamber | 5 pic |
| 18 | Dissection box | 5 pic |
| | | |

| S. No. | Name of Chemical | Quantity |
|--------|----------------------|----------|
| 1 | Glycerine | 2 bott. |
| 2 | Alcohol | 2bott. |
| 3 | Safranine stain | 4 bott. |
| 4 | N-HCL | 2 bott. |
| 5 | Aceto carmine | 3 bott. |
| 6 | Aceto orcenine | 2 bott. |
| 7 | Antiserum A, B, D | 2 pkt. |
| 8 | Crystal violet | 2 bott. |
| 9 | Gram iodine solution | 2 bott. |
| 10 | N/10 HCL | 1 bott. |
| 11 | Distilled water | 1 lit. |
| 12 | RBC diluting fluid | 2 bott. |
| 13 | WBC diluting fluid | 2 bott. |
| 14 | Spirit | 1 bott. |
| 15 | Glucose | 1 bott. |
| 16 | Sucrose | 1 pkt. |
| 17 | Molish's reagent | 1 bott. |
| 18 | Sulfuric acid | 1 bott. |
| | | |

| S. No. | Name of requirement instrument | Quantity |
|--------|--------------------------------|-----------------|
| 1 | Dropping bottle | 1 bott. |
| 2 | Staining rack | 15 pic |
| 3 | Slide and Cover slip | 6 pkt and 1 pkt |
| 4 | Watch glass | 1 pkt |
| 5 | Needle | 2 pkt |
| 6 | Knife | 1 pic |
| 7 | Blade | 1 pkt |
| 8 | Spirit lamp | 20 pic |
| 9 | Machine | 1 pic |
| 10 | | |



Guest Lecture on Zoology by Asst. Prof. Miss Rama Pathak



Students giving seminar with their power point presentation



Students giving Half yearly Exam



Cleaning lab to better improvement to lab equipment



Giving speech by Principal Dr. Fr. Telesphore Lakra in Parents Meeting



Introducing about zoology lab to Parents



Mayali Trip

