



RAMA DEVI WOMEN'S UNIVERSITY, VIDYA VIHAR
BHUBANESWAR-22

Proceeding of the meeting of the Board of Studies in ZOOLOGY
held on 25.04.2023 at 11 A.M / P.M. in the University Office,
Bhoi Nagar, Bhubaneswar-22.

Members Present :

1. Mr. Prakash chandra Bhatta
2. Dr. Subas Chandro Das.
3. Dr. Panti pragyam Ray
4. Narayan Mohanty
5. Subinita Mishra
- 6.
- 7.
- 8.

Prof. Dr. Prakash chandra Bhatta is selected as Chairman of the Board for the Academic year 2023-24

The recommendations of the Board in respect of the Regulations, Detailed Syllabus, Text Books and other items are appended the prescribed form.

Signature of the Members:-


CHAIRMAN 25.4.23

1. Prakash ch Bhatta 25.4.23
2. Subas Chandro Das. 25.4.2023
3. Subinita Mishra 25.4.23
4. Panti pragyam Ray 25/4/23
5. Narayan Mohanty 25/04/23
6. Subinita Mishra. 25.04.23
- 7.
- 8.

Proceedings of the Board of Studies meeting in Zoology (UG) held on
dt.25.04.23

1. In unit 2 of core paper I (non-chordates I:Protista to Pseudocoelomates), **Life history of *Obelia*** is added.
2. In Core paper II (Principles of ecology), **Ecology in wildlife conservation and management** is deleted from **Unit 1** and **wildlife conservation and management** included in **Unit 3**. **Unit 3** is renamed as **Community & Wildlife**.
3. Second unit of all papers are for self study as per the directives of the Higher Education department.
4. The chairman of the Board of studies is authorised to incorporate changes if necessary with the prior approval of the Controller of Examinations, RDWU.

25/4/23

25/4/23

25/4/23
(An.S.C. Secy)

Mohanty
25/04/23

Narayan Mohanty

Suresh
25.04.23

SYLLABUS FOR UNDER GRADUATE
COURSE IN
ZOOLOGY

(Bachelor of Science Examination)
2023-24



RAMA DEVI WOMEN'S UNIVERSITY
VIDYA VIHAR, BHUBANESWAR-22

UNDER CHOICE BASED CREDIT
SYSTEM

25/04/23
(P.C. Barua)

25/4/2023
(Dr. S.C. Das)

Smishra
25.04.23

25/04/23
(N. Mohanty)

25/4/23

Course Structure of U.G. Zoology Honours				
Semester	Course	Course Name	Credit	Total marks
Semester-I	AECC 1	AECC 1	4	100
	Core I (Theory)	Non-chordates I: Protista to Pseudocoelomates	4	75
	Core I (Practical)	Non-chordates I: Protista to Pseudocoelomates	2	25
	Core II (Theory)	Principles of Ecology	4	75
	Core II (Practical)	Principles of Ecology	2	25
	GE I (Theory)	GE I (Theory)	4	75
	GE I (Practical)	GE I (Practical)	2	25
Semester-II	AECC 2	AECC 2	4	100
	Core III (Theory)	Non-chordates II: Coelomates	4	75
	Core III (Practical)	Non-chordates II: Coelomates	2	25
	Core IV (Theory)	Cell biology	4	75
	Core IV (Practical)	Cell biology	2	25
	GE II (Theory)	GE II (Theory)	4	75
	GE II (Practical)	GE II (Practical)	2	25
Semester-III	Core V (Theory)	Diversity of Chordates	4	75
	Core V (Practical)	Diversity of Chordates	2	25
	Core VI (Theory)	Physiology: Controlling and Coordinating systems	4	75
	Core VI (Practical)	Physiology: Controlling and Coordinating systems	2	25
	Core VII (Theory)	Fundamentals of Biochemistry	4	75
	Core VII (Practical)	Fundamentals of Biochemistry	2	25
	SEC 1	SEC 1	4	100
Semester-IV	GE III (Theory)	GE III (Theory)	4	75
	GE III (Practical)	GE III (Practical)	2	25
	Core VIII (Theory)	Comparative anatomy of Vertebrates	4	75
	Core VIII	Comparative anatomy of	2	25

25/4/23
25/4/23

25/4/23

25/4/23

25/4/23

	(Practical)	Vertebrates		
	Core IX (Theory)	Physiology: Life Sustaining Systems	4	75
	Core IX (Practical)	Physiology: Life Sustaining Systems	2	25
	Core X (Theory)	Biochemistry of Metabolic Processes	4	75
	Core X (Practical)	Biochemistry of Metabolic Processes	2	25
	SEC 2	SEC 2	4	100
	GE IV (Theory)	GE IV (Theory)	4	75
	GE IV (Practical)	GE IV (Practical)	2	25
Semester-V	Core XI (Theory)	Molecular Biology	4	75
	Core XI (Practical)	Molecular Biology	2	25
	Core XII (Theory)	Principles of Genetics	4	75
	Core XII (Practical)	Principles of Genetics	2	25
	DSE I (Theory)	DSE I	4	75
	DSE I (Practical)	DSE I	2	25
	DSE II (Theory)	DSE II	4	75
	DSE II (Practical)	DSE II	2	25
Semester-VI	Core XIII (Theory)	Developmental Biology	4	75
	Core XIII (Practical)	Developmental Biology	2	25
	Core XIV (Theory)	Evolutionary Biology	4	75
	Core XIV (Practical)	Evolutionary Biology	2	25
	DSE III (Theory)	DSE III	4	75
	DSE III (Practical)	DSE III	2	25
	DSE IV (Theory with Practical /Project)	Project/ Economic Zoology	6	100
Total			148	2600

25/4/23

25/4/23

25/4/23

25.04.23

25/04/23



RAMA DEVI WOMEN'S UNIVERSITY, VIDYA VIHAR
BHUBANESWAR-22

Proceeding of the meeting of the Board of Studies in Zoology
held on 07.05.22 at 11.30 A.M. P.M. in the University Office,
Bhoi Nagar, Bhubaneswar-22.

Members Present :

1. Sri Prakash Chandra Parichha, HOD, Zoology, R.D.W.U.
2. Prof. Navayon Mohanty, Retd., Reader.
3. Dr. ~~Prati~~ Priti P. Ray, HOD, Sri Women's College, Ctr.
4. Dr. Subhas Chandra Das, Retd. Principal.
5. Subinita Mishra, H.O.D. K.N.W. college, ~~Bhub~~
- 6.
- 7.
- 8.

Prof. Dr. Prakash Ch. Parichha is selected as Chairman of the Board for the Academic year 2022-23

1. The recommendations of the Board in respect of the Regulations, Detailed Syllabus, Text Books and other items are appended the prescribed form. The chairman has authorized to make any change in case of exigency. There has been no change in the CBCS (UG) syllabus.

Prakash Ch. Parichha
CHAIRMAN 7.5.22

1. Prakash Ch. Parichha, 7.5.22
2. Navayon Mohanty - 7.5.22
3. Priti Pragnyan Ray 7.5.22
4. Subhas Chandra Das, 7.5.22
5. Subinita Mishra, 7.5.22
- 6.
- 7.
- 8.

SYLLABUS FOR UNDER GRADUATE COURSE IN ZOOLOGY

(Bachelor of Science Examination)

For Session,
2022-23



[Signature]
7/5/22
C. S. C. AB
07.5.22
CPG - Parasara
Meharaj
07/05/22
(N. Meharaj)

[Signature]
7.5.22
(Subinita Mishra)

[Signature]
7/5/22
(Dr. P. P. Ray)

RAMA DEVI WOMEN'S UNIVERSITY
VIDYA VIHAR, BHUBANESWAR-22

Approved for 2021-22

[Signature]
13.7.21
(Prof. Dr. S. K. Mishra)

UNDER CHOICE BASED CREDIT
SYSTEM

Approved for 2020-21

[Signature]
25.8.20
(Prof. Dr. S. K. Mishra)

[Signature]
25.08.20
(Subinita Mishra)

[Signature]
25/08/20
(Dr. N. Nayak)

[Signature]
25/08/20
(Prof. Dr. S. K. Mishra)

[Signature]
13/02/2021
(Dr. K. V. Nayak)

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Course Structure of U.G. Zoology Honours				
Semester	Course	Course Name	Credit	Total marks
Semester-I	AECC I	AECC I	4	100
	Core I (Theory)	Non-chordates I: Protista to Pseudocoelomates	4	75
	Core I (Practical)	Non-chordates I: Protista to Pseudocoelomates	2	25
	Core II (Theory)	Principles of Ecology	4	75
	Core II (Practical)	Principles of Ecology	2	25
	GE I (Theory)	GE I (Theory)	4	75
	GE I (Practical)	GE I (Practical)	2	25
Semester-II	AECC 2	AECC 2	4	100
	Core III (Theory)	Non chordates II: Coelomates	4	75
	Core III (Practical)	Non chordates II: Coelomates	2	25
	Core IV (Theory)	Cell biology	4	75
	Core IV (Practical)	Cell biology	2	25
	GE II (Theory)	GE II (Theory)	4	75
	GE II (Practical)	GE II (Practical)	2	25
Semester-III	Core V (Theory)	Diversity of Chordates	4	75
	Core V (Practical)	Diversity of Chordates	2	25
	Core VI (Theory)	Physiology: Controlling and Coordinating systems	4	75
	Core VI (Practical)	Physiology: Controlling and Coordinating systems	2	25
	Core VII (Theory)	Fundamentals of Biochemistry	4	75
	Core VII (Practical)	Fundamentals of Biochemistry	2	25
	SEC I	SEC I	4	100
	GE III (Theory)	GE III (Theory)	4	75
Semester-IV	GE III (Practical)	GE III (Practical)	2	25
	Core VIII (Theory)	Comparative anatomy of Vertebrates	4	75
	Core VIII	Comparative anatomy of	2	25

[Signature]
07/5/22

[Signature]
07/5/22
(Dr. S. C. Das)

[Signature]
07/5/22

[Signature]
07/5/22
7/5/22

	(Practical)	Vertebrates		
	Core IX (Theory)	Physiology: Life Sustaining Systems	4	75
	Core IX (Practical)	Physiology: Life Sustaining Systems	2	25
	Core X (Theory)	Biochemistry of Metabolic Processes	4	75
	Core X (Practical)	Biochemistry of Metabolic Processes	2	25
	SEC 2	SEC 2	4	100
	GE IV (Theory)	GE IV (Theory)	4	75
	GE IV (Practical)	GE IV (Practical)	2	25
Semester-V	Core XI (Theory)	Molecular Biology	4	75
	Core XI (Practical)	Molecular Biology	2	25
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	Core XII (Practical)	Principles of Genetics	2	25
	DSE I (Theory)	DSE I	4	75
	DSE I (Practical)	DSE I	2	25
	DSE II (Theory)	DSE II	4	75
	DSE II (Practical)	DSE II	2	25
Semester-VI	Core XIII (Theory)	Developmental Biology	4	75
	Core XIII (Practical)	Developmental Biology	2	25
	Core XIV (Theory)	Evolutionary Biology	4	75
	Core XIV (Practical)	Evolutionary Biology	2	25
	DSE III (Theory)	DSE III	4	75
	DSE III (Practical)	DSE III	2	25
	DSE IV (Theory with Practical Project)	Project Economic Zoology	6	100
		Total		148

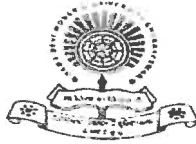
4/5/22
07-5-22

7/5/22
07-5-22

7/5/22

2/8/22

7/5/22



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RAMA DEVI WOMEN'S UNIVERSITY, VIDYA VIHAR
BHUBANESWAR-22

Proceeding of the meeting of the Board of Studies Zoology

held on ... 13.07.21 at ... 12:30 A.M / P.M. in the University Office,
Bhoi Nagar, Bhubaneswar-22.

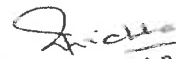
Members Present :

1. Dr. Ashok Kumar Nayak ,
2. Sr. Prakash chandra Parichha
3. Prof. Narayan Mohanty (attended online)
4. Smt. Subineta Mishra (attended online).
- 5.
- 7.
- 8.

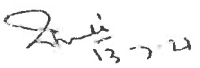
Prof./ Dr. Prakash ... Chandra ... Parichha is selected as Chairman of the Board for the Academic year 20.21:- 22

The recommendations of the Board in respect of the Regulations, Detailed Syllabus, Text Books and other items are appended the prescribed form. The chairman BOS is authorised to make any changes in case of exigency.

Signature of the Members:-


CHAIRMAN 13.7.21


13/7/2021


13.7.21

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List of instruments/equipments

SL No	Name of the equipment
1	Students' Compound Microscope
2	Stereo Microscope
3	Haemocytometer
4	pH Meter
5	UV-Visible Spectrometer
6	Bench Top Centrifuge
8	Paper Chromatography Unit
9	Digital Weighing balance
10	Laminar Airflow
11	BOD Incubator
12	Refrigerator
13	Hot Air Oven
14	Autoclave
15	Magnetic Stirrer with Hot Plate
16	Microtome
17	Gel electrophoresis unit with accessories
18	Trans illuminator
19	Water bath

13/5/2021
 (Anok K. Nagak)

Shella
 13.7.21
 (Pankaj C. Parshala)

22
 25/8/2020

25.8.20
 (Pankaj C. Parshala)

Shobha
 25.08.20
 (Subinika Mishra)



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RAMA DEVI WOMEN'S UNIVERSITY, VIDYA VIHAR BHUBANESWAR-22

Proceeding of the meeting of the Board of Studies for Zoology
held on 25.8.20 at U A.M / P.M. in the University Office,
Bhoi Nagar, Bhubaneswar-22.


Members Present :

1. Prakash Chandra Parida
2. ^{Prof (Dr)} Profulla Kumar Mohanty
3. Subinita Mishra
4. ^{Kumar} Dr. Abha K. Nayak
- 5.
- 6.
- 7.
- 8.

Prof/ Dr. Prakash Chandra Parida is selected as Chairman of the Board for the Academic year 20-21. He is authorised to make any changes in case of exigencies.

The recommendations of the Board in respect of the Regulations, Detailed Syllabus, Text Books and other items are appended the prescribed form.

Signature of the Members :-


CHAIRMAN

1. Prakash Chandra Parida
2. Profulla Kumar Mohanty
3. Subinita Mishra
4. Dr. Abha K. Nayak
- 5.
- 6.
- 7.
- 8.

RESOLUTIONS OF B.O.S MEETING (2001)

278

The revised CBCS Syllabus effective from 2019-20 (students taking admission in 2019-20 & 2020-21), the entire second unit (i.e. 25% of total four units) of each paper & subject (Core & GE) is earmarked for student self study.

The 25% Guided self-study mode of teaching is approved by the Board of Studies.

Sanku
25-8-20
(Professor of Panthe)

R.P.S
25th August, 2020
(Prof. K. Venkatesh)

A.K.
25/8/2020
(A.K. Nayak)



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RAMA DEVI WOMEN'S UNIVERSITY,
VIDYA VIHAR, BHUBANESWAR-22

Proceeding of the meeting of the Board of Studies Zoology.....

held on 27.8.19..... at 11..... A.M / P.M. in the University Office,
Bhoi Nagar, Bhubaneswar-22.

Members Present :

1. Prof. Narayana Mohanty
2. Sri Prakesh Ch. Panigrahi
3. Smt. Subinita Mishra
- 4.
- 5.
- 6.
- 7.
- 8.

Prof./ Dr. Prakesh Ch. Panigrahi..... is selected as Chairman of the
Board for the Academic year 2019-20

The recommendations of the Board in respect of the Regulations, Detailed Syllabus, Text
Books and other items are appended the prescribed form.

Signature of the Members :-


CHAIRMAN

1. Narayan Mohanty
2. Subinita Mishra
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

9)

SUGGESTIONS ON THE CBSE SYLLABUS FOR
 UNDERGRADUATE ^{COURSE} IN ZOOLOGY PASS AND HONOURS

These suggestions are as per the special Board of Studies meeting held on 16th April, 2019 Tuesday at 3.00 PM in the Department of Zoology, RD University, Bhubaneswar.

SUGGESTIONS

- ① The pattern of question need to be reflected in the guidelines specifically. The uniformity ^{in question pattern} must be followed throughout the state.
- ② The 75% of attendance need to be applicable for each semester.

SUGGESTIONS ON THE CONTENTS.

<u>Sl. NO.</u>	<u>Page NO</u>	<u>Correction to be made</u>
1.	1 to last	All the biological names must be italicized.
2.	1 & last	Typographical corrections need to undertaken.
3.	1 to last	All the references in ^{each} paper must be uniformly and alphabetically arranged.
4.	05, unit II	Subheading population need to replaced by Population Ecology.
5.	19, unit III	Species concept and speciation be replaced by species and Speciation.

GENERAL SUGGESTION

1. For each paper of BSE, there should be two options
2. For BSE I, Entomology paper in page no 22 may be deleted
3. For BSE II, Basis of nomenclature in page no 23 may be deleted
4. For BSE III, Fish and Fisheries in page no 27 may be deleted
5. Immunology in page no 26, BSE II may be included as a core paper in place of comparative anatomy, page no 12
6. Microbiology may be included as one of the BSE papers

Dr. P. K. Mishra (Chairman)

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SYLLABUS FOR UNDERGRADUATE COURSE IN ZOOLOGY

(Bachelor of Science Examination)

(1998-2019-20)

Approved with suggestions

Approved

16th April 2019

(Prof. Dr. Manoj K. Mishra)

1998-2019-20

UNDER

CHOICE BASED CREDIT SYSTEM



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RAMA DEVI WOMEN'S UNIVERSITY, BHUBANESWAR

Proceeding of the meeting of the ^{Special} Board of Studies ...in... Zoology.....

held on 16.04.2019 at 01.00 P.M. in the University Office, Bhoingar, Bhubaneswar-22.


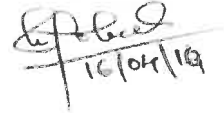
Members Present :

1. Sri Prakash Chandra Parichha, Head, Zoology, RD Univ., Bhubaneswar
2. Sri Prof. K. K. Mishra, Retd. Professor of Zoology, Bhubaneswar
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.

The recommendations of the Board in respect of the +3 Degree Regulations, Detailed Common Syllabus, Text Books and other items for +3 Degree Course are appended with the prescribed form effective from the year 2019-20.

Signature of the Members :-


CHAIRMAN

1. 
16.4.19
2. 
16/04/19
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Proceeding of the meeting of the Board of Studiesin.....ZOOLOGY.....
held on03/08/18..... at11:30.....A.M / P.M. in the University Office,
Bhoinagar, Bhubaneswar-22.

Members Present :

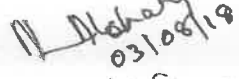

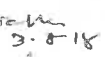
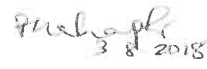
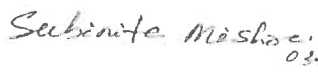
1. NARAYAN MOHANTY
2. PRAFULLA KUMAR MOHANTY
3. PRAKASH CHANDRA PARICHHA H.O.D
4. Dr. PRAVATI KUMARI MAHAPATRA
5. SUBINITA MISHRA.
- 6.
- 7.
- 8.
- 9.
- 10.

Prof./ Dr. Prakash chandra Parichha..... is selected Chairman of the Board for the Academic year 2018-19

The recommendations of the Board in respect of the Regulations, Detailed Syllabus, Text Books and other items are appended the prescribed form.

Signature of the Members :-


CHAIRMAN

1. Narayan Mohanty  03/08/18
2.  (Prafulla Kumar Mohanty)
- 3.
4. Prakash C. Parichha  3.8.18
5. Pravati Kumari Mahapatra  3.8.2018
6. Subinita Mishra  03.8.18
- 7.
- 8.
- 9.
- 10.

Course Structure of U.G. Zoology Honours

Semester	Course	Course name	Credit	Total marks
Semester-I	AECC I	AECC I	4	100
	Core I (Theory)	Non-chordates I:Protista to Pseudocoelomates	4	75
	Core I (Practical)	Non-chordates I:Protista to Pseudocoelomates	2	25
	Core II (Theory)	Principles of Ecology	4	75
	Core II (Practical)	Principles of Ecology	2	25
	GE 1(Theory)	GE 1(Theory)	4	75
	GE 1(Practical)	GE 1(Practical)	2	25
Semester-II	AECC 2	AECC-2	4	100
	Core III (Theory)	Non chordates II:Coelomates	4	75
	Core III (Practical)	Non chordates II:Coelomates	2	25
	Core IV(Theory)	Cell Biology	4	75
	Core IV(Practical)	Cell Biology	2	25
	GE II (Theory)	GE II (Theory)	4	75
	GE II(Practical)	GE II(Practical)	2	25
Semester III	Core V(Theory)	Diversity of Chordates	4	75
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	SEC 1	SEC 1	4	100
	GE III(Theory)	GE III(Theory)	4	75
	GE III(Practical)	GE III(Practical)	2	25
	Semester-IV	Core VIII(Theory)	Comparative anatomy of Vertebrates	4

	Core VIII(Practical)	Comparative anatomy of Vertebrates	2	25
	Core IX (Theory)	Physiology:Life Sustaining Systems	4	75
	Core IX (Practical)	Physiology:Life Sustaining Systems	2	25
	Core X (Theory)	Biochemistry of Metabolic Processes	4	75
	Core X (Practical)	Biochemistry of Metabolic Processes	2	25
	SEC 2	SEC 2	4	100
	GE IV(Theory)	GE IV(Theory)	4	75
	GE IV(Practical)	GE IV(Practical)	2	25
Semester- V	Core XI (Theory)	Molecular Biology	4	75
	Core XI (Practical)	Molecular Biology	2	25
	Core XII (Theory)	Principles of Genetics	4	75
	Core X II(Practical)	Principles of Genetics	2	25
	DSE I (Theory)	DSE I	4	75
	DSE I (Practical)	DSE I	2	25
	DSE II (Theory)	DSE II	4	75
	DSE II (Practical)	DSE II	2	25
Semester- VI	Core XIII (Theory)	Developmental Biology	4	75
	Core XIII (Practical)	Developmental Biology	2	25
	Core XIV(Theory)	Evolutionary Biology	4	75
	Core XIV(Practical)	Evolutionary Biology	2	25
	DSE III (Theory)	DSE III	4	75
	DSE III (Practical)	DSE III	2	25

	DSE IV(Theory with Practical/Project)	Project/Economic Zoology	6	100
Total			148	2600

Program Outcomes

After completion of B.Sc Zoology program offered by the Department of Zoology, RDWU, the students will be able to:

PO 1: Disciplinary Knowledge: Demonstrate comprehensive knowledge and skills in areas related to Animal Kingdom, Ecology, Cell biology, Physiology, Biochemistry, Comparative Anatomy, Molecular Biology, Genetics, Developmental Biology, Evolution, Immunology, Animal Behaviour, Chronobiology, Fisheries, Economic Zoology and Nutritional Biology.

PO 2: Communication Skills: Various research and seminar themes of Zoology conducted during the Bachelor's degree helps to communicate and publish the results of studies undertaken in the field(s) of accurately in a range of different contexts using the main concepts, constructs and techniques of the subject(s).

PO 3: Critical Thinking and Problem solving: Students are trained in various specialized subjects from the first semester onwards for evidence-based evaluation of practices, policies and theories using well-defined scientific approach to knowledge development.

PO 4: Analytical Reasoning: Students are trained to improve the ability to evaluate the reliability and relevance of evidence, identify logical flaws in the arguments of others, analyse and synthesize data from a variety of sources, and draw valid conclusions.

PO 5: Research related skills: Students are trained to demonstrate a sense of inquiry and capability for asking relevant/appropriate questions; the ability to recognise cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyse, interpret and draw conclusions from data; plan, execute and report the results of an experiment or investigation. Training in frontier areas of zoology helps the students to use knowledge and skills required for identifying problems and issues, collection of relevant quantitative and/or qualitative data, analysis and evaluation using methodologies as appropriate to the subject(s) for formulating evidence-based solutions and arguments.

PO 6: Collaboration/Cooperation/Team work: Practical and high-end techniques based B.Sc. courses train the students to demonstrate ability to work effectively with diverse teams, facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause.

PO 7: Information/Digital Literacy: Practical and certain taught courses in Zoology train the students to demonstrate capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources and to use appropriate software for analysis.