



# GARGAON COLLEGE

## 2.6.2 ASSESSMENT OF PO, PSO & CO ATTAINMENT



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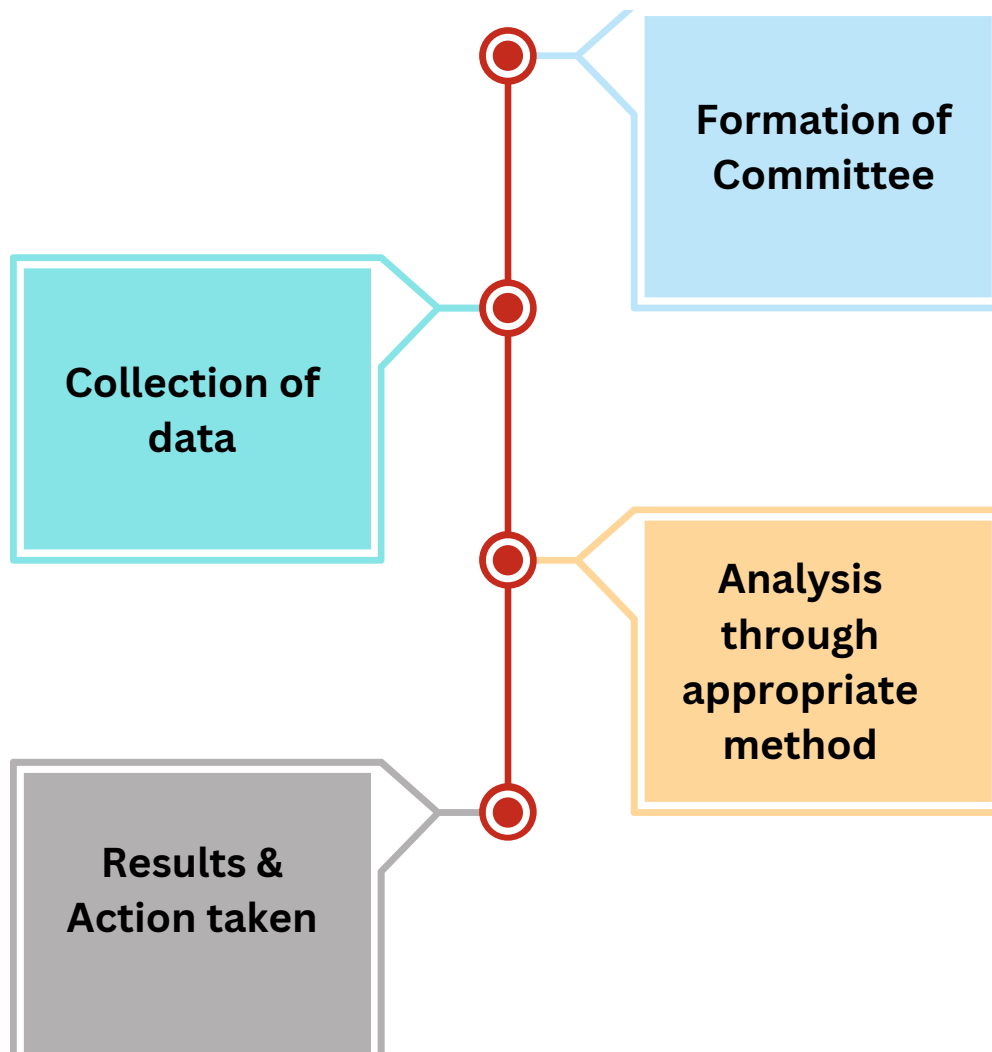


## ASSESSMENT COMMITTEE

<b>Dr. Sabyasachi Mahanta, Principal</b>	<b>Advisor</b>
<b>Dr. Surajit Saikia</b>	<b>IQAC Coordinator</b>
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<b>Miss Sandeepa Agarwalla Dr. Saheen Shehnaz Begum Miss Sujata Goala</b>	<b>Members</b>



## METHODOLOGY OF ASSESSMENT





## INTRODUCTION

Outcome-Based Education (OBE) becomes an inevitable approach in infusing educational outcomes among learners. It is a student-centric teaching and learning methodology in which the course delivery and assessment are planned to achieve stated objectives and outcomes. It focuses on measuring student performance i.e. outcomes at different levels. As part of measuring the OBE, Gargaon College makes an attempt to assess the learners' learning levels based on some pre-defined outcomes, i.e., the Programme Outcomes (PO), Programme Specific Outcomes (PSO) and Course Outcomes (CO). The students and the other stakeholders are informed about these outcomes through the college website (<https://gargaoncollege.ac.in/outcomes.html>).

### Programme Outcomes (PO)

A programme outcome is a statement that describes what a student will know or be able to do by the end of a programme of study, such as a graduate and post-graduate degree programme. These statements typically focus on the knowledge, skills, and attitudes that students will have gained.

### Programme Specific Outcomes (PSO)

Programme Specific Outcomes (PSOs) are a type of program outcome used specifically in education. They focus on the unique knowledge and skills that graduates of a particular program should possess compared to other programs.

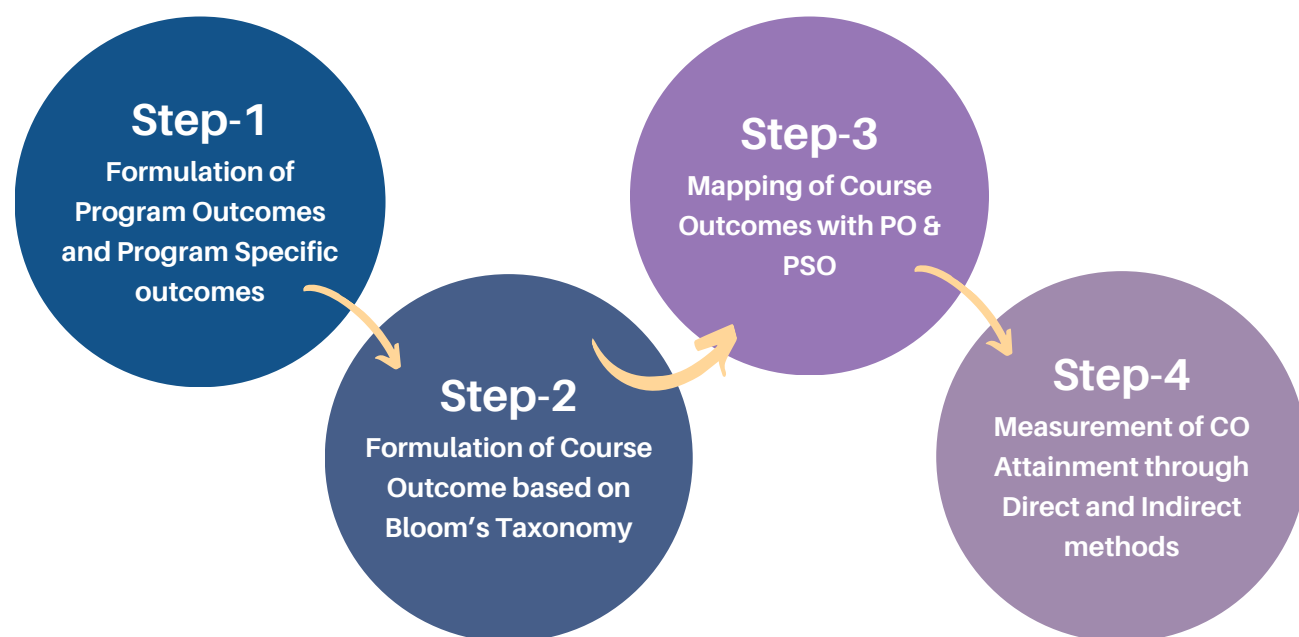
### Course Outcomes (CO)

A course outcome is a specific and measurable statement that describes what students will be able to know and do by the end of a course. It's essentially a blueprint for what students should learn and achieve



# METHODOLOGY

An approved methodology is followed to assess the attainment of PO, PSO and CO.



PROGRAM OUTCOMES	
PO1	Critical thinking
PO2	Communication Skills
PO3	Problem solving
PO4	Analytical and Logical reasoning
PO5	Research-oriented skills
PO6	Cooperation/Team work/Leadership
PO7	Reflective thinking
PO8	Digital literacy/ Use of Modern Tools
PO9	Environmental Awareness
P10	Entrepreneurship and Employability
P11	Lifelong Learning
P12	Ethical Awarness



## Programme Specific Outcomes

Programme Name: **of B.Sc. (Zoology)**

*By the end of the B.Sc (Zoology) programme students should be able to :*

### PSO1:

understand the identification, classification and differentiate diverse non-chordates and chordates based on their morphological, anatomical and systemic organization and to describe economic, ecological and medical significance of various animals in human life.

### PSO2:

know the practical skills in biotechnology, biostatistics, bioinformatics and molecular biology and understand the basic experimental skills in various techniques in the fields of genetics; molecular biology; biotechnology; qualitative and quantitative microscopy; enzymology and analytical biochemistry.

### PSO3:

Understand about the in-depth knowledge and about comparative anatomy and developmental biology of various biological systems; and about the organisation, functions, strength and weaknesses of various systems and the way evolution has shaped these traits in the human body.

## Step-2

<b>Paper code</b>	<b>ZC101T</b>
<b>Paper title</b>	<b>Non-chordates I: Protista to Pseudocoelomates</b>
<b>Course Outcome</b>	<b>Students will be able to</b>
<b>CO1</b>	Gain comprehensive knowledge of the diversity of non-chordates, including their classification, phylogeny, and evolutionary relationships.
<b>CO2</b>	Understand the morphology, anatomy, and physiology of non-chordates, highlighting their unique adaptations, characteristics and pathogenicity.
<b>CO3</b>	Learn about the ecological roles and behaviors of non-chordates, including their interactions with the environment and other organisms.
<b>CO4</b>	Understand the importance of non-chordates in biodiversity and their roles in ecosystem functioning and conservation efforts.
<b>CO5</b>	Develop skills in identifying and classifying various non-chordate species using morphological and genetic techniques.







## PROCEDURE FOR PO, PSO & CO ATTAINMENT

### DIRECT ATTAINMENT

1. CO-PO matrix is formulated for each course.
2. The PO attainment for given CO attainment in a course is computed in a range of 3
3. The average of PO/PSO attainment in individual Courses is the final direct PO/PSO attainment in the level of 1,2 &3.

### INDIRECT ATTAINMENT

1. Graduate Exit Survey
2. Alumni Survey

**Overall Attainment =  $0.8 \times \text{Direct Attainment} + 0.2 \times \text{Indirect Attainment}$**



### Sample of Direct attainment calculation

Course Outcomes	Program Outcomes											
	Critical thinking	Communication Skills	Problem solving	Analytical and Logical reasoning	Research-oriented skills	Cooperation /Team work/Leadership	Reflective thinking	Digital literacy/ Use of Modern Tools	Environmental Awareness	Entrepreneurship and Employability	Lifelong Learning	Ethical Awareness
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	0	3	2	3	3	3	2	3	0	3	3
CO2	3	1	3	3	3	3	3	3	3	2	3	3
CO3	3	1	3	2	3	3	3	0	3	0	3	3
CO4	3	0	3	3	3	3	3	1	3	2	3	3
CO5	3	2	3	3	3	3	3	3	3	2	3	3
Average	3.00	1.33	3.00	2.60	3.00	3.00	3.00	2.25	3.00	2.00	3.00	3.00

### Mapping of PO for the the Batch 2020-2023

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C1	3.00	1.33	3.00	2.60	3.00	3.00	3.00	2.25	3.00	2.00	3.00	3.00	3.00	3.00	2.00
C2	3.00	2.00	2.25	2.33	3.00	2.00	3.00	2.50	3.00	2.20	3.00	3.00	2.00	2.40	2.80
C3	3.00	1.33	3.00	2.60	3.00	3.00	3.00	2.20	3.00	3.00	3.00	3.00	2.80	3.00	2.00
C4	3.00	2.00	2.00	2.40	2.40	2.00	2.40	2.20	2.00	2.50	2.40	2.50	2.00	2.00	2.40
C5	1.75	1.75	1.00	1.00	1.60	2.20	1.40	2.80	2.60	1.00	2.60	2.50	1.60	1.60	2.80
C6	3.00	2.00	2.00	2.40	2.40	2.00	2.40	2.20	2.00	2.50	2.40	3.00	2.00	2.00	2.40
C7	2.80	2.00	2.00	2.40	2.40	2.40	2.40	2.20	2.00	2.50	2.40	3.00	2.40	2.60	2.60
C8	3.00	2.00	3.00	3.00	3.00	3.00	3.00	2.75	1.50	0.00	3.00	1.00	3.00	3.00	2.80
C9	2.40	1.00	1.80	1.30	1.80	1.00	1.80	2.60	1.00	0.00	2.60	1.00	1.80	2.00	2.80
C10	2.25	1.20	2.25	1.75	2.25	2.00	2.40	3.00	1.60	2.00	2.20	1.80	2.00	2.00	2.80
C11	3.00	2.00	2.00	2.40	2.40	2.00	2.40	2.20	2.00	2.50	2.40	2.50	2.40	2.00	2.60
C12	2.20	1.00	2.40	2.00	2.60	2.00	1.60	3.00	2.20	1.50	2.40	1.80	1.80	2.00	3.00
C13	3.00	2.00	2.00	2.40	1.80	2.40	2.40	2.20	2.00	2.50	2.40	3.00	2.60	2.40	2.60
C14	3.00	0.00	3.00	2.84	3.00	3.00	3.00	2.60	2.50	2.46	3.00	2.60	2.76	2.72	2.32
DSE1	3.00	2.50	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.33	3.00	3.00	2.80	2.40	2.80
DSE2	3.00	1.00	3.00	3.00	3.00	3.00	3.00	2.80	3.00	2.50	3.00	3.00	2.20	2.20	2.00
DSE3	3.00	1.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.00	3.00	3.00	2.20	2.40	2.20
DSE4	2.50	1.00	2.00	1.30	1.80	1.40	2.00	2.25	2.00	1.00	2.20	1.50	1.60	1.80	3.00
Average of PO	2.77	1.60	2.37	2.32	2.53	2.36	2.51	2.54	2.24	2.16	2.67	2.46	2.28	2.31	2.55



## Sample of Questionnaire

### QUESTIONNAIRE FOR GRADUATE EXIT SURVEY

	Questions
PO1	After completing my graduation, I have gained ability to critically think and rationally analyse the subject knowledge or academic expertise in my Honours subject.
PO2	I have the ability to communicate effectively and capability to convey the intricate zoological information effectively and efficiently.
PO3	I have the ability to solve the problems related to animal sciences without relying on assumptions and guess work.
PO4	I have gained the capability of seeking solutions and logically solving them by experimentation and data processing either manually or through software.
PO5	I have gained the research-oriented skills and knowledge about the tools, techniques and methodology of research.
PO6	I have the ability to work as a team member or leader in any kind of scenario including research works.
PO7	I have gained reflective thinking ability to act on a broader context.
PO8	I have the capability of using computers for biological simulation, computation and appropriate software for biostatistics, and employing search tools to locate, retrieve, and evaluate zoology-related data.
PO9	I have the capability to demonstrate awareness on environment, wild life conservation, management and contribute as policy makers in wild life conservation, animal preservation and environment protection.
PO10	I have gained in-depth knowledge of applied subjects ensuring the inculcation of employment skills through entrepreneurship in diverse fields of aquatic biology, sericulture, apiculture etc.
PO11	I have gained the capability of self-paced and self-directed learning aimed at personal and social development.
PO12	I have the ability to avoid unethical behaviour such as fabrication, falsification or misrepresentation of data, as well as appreciate environmental and sustainability issues.
PSO1	I have the understanding and ability to identify, classify and differentiate diverse non-chordates and chordates based on their morphological, anatomical and systemic organization as well as to describe economic, ecological and medical significance of various animals in human life.
PSO2	I am able to apply the practical skills in biotechnology, bioinformatics and molecular biology and understand the basic experimental skills in various techniques in the fields of genetics; molecular biology; biotechnology; qualitative and quantitative microscopy; enzymology and analytical biochemistry.
PSO3	This program is helpful for me in analysing the in-depth knowledge about comparative anatomy and developmental biology of various biological systems as well as to analyse how evolution has shaped the organization, functions, strength and weaknesses of various systems in the human body.

### Response in the scale of 3

3	Excellent
2	Very Good
1	Satisfactory



## Sample of Questionnaire

### QUESTIONNAIRE FOR ALUMNI SURVEY

	Questions
<b>PO1</b>	How would you rate your ability to critically think and rationally analyse the subject knowledge or academic expertise in your Honours subject?
<b>PO2</b>	How would you rate your communication skills and capability to convey the intricate zoological information effectively and efficiently?
<b>PO3</b>	How will you rate the ability to solve the problems related to animal sciences without relying on assumptions and guess work?
<b>PO4</b>	How will you rate your ability of seeking solutions and logically solving them by experimentation and data processing either manually or through software?
<b>PO5</b>	How effective is this programme in making you aware of research-oriented skills and knowledge about the tools, techniques and methodology of research?
<b>PO6</b>	How effective is this programme in building your ability to work as a team member or leader in any kind of scenario including research works?
<b>PO7</b>	How much is this programme helpful in enhancing your reflective thinking ability to act on a broader context?
<b>PO8</b>	How much is this programme helpful in acquiring the capability of using computers for biological simulation, computation and appropriate software for biostatistics, and employing search tools to locate, retrieve, and evaluate zoology-related data?
<b>PO9</b>	How much is this programme helpful for you in enhancing the capability to demonstrate awareness on environment, wild life conservation, management and contribute as policy makers in wild life conservation, animal preservation and environment protection?
<b>PO10</b>	How much is this programme helpful to you in inculcation of employment skills through entrepreneurship in diverse fields of aquatic biology, sericulture, apiculture etc.?
<b>PO11</b>	How effectively have the courses helped you to gain the capability of self-paced and self-directed learning aimed at personal and social development?
<b>PO12</b>	How effectively have the courses helped your ability to avoid unethical behaviour such as fabrication, falsification or misrepresentation of data, as well as appreciate environmental and sustainability issues?
<b>PSO1</b>	How do you rate your understanding and ability to identify, classify and differentiate diverse non-chordates and chordates based on their morphological, anatomical and systemic organization and to describe economic, ecological and medical significance of various animals in human life?
<b>PSO2</b>	How do you rate your ability to apply the practical skills in biotechnology, biostatistics, bioinformatics and molecular biology and understand the basic experimental skills in various techniques in the fields of genetics; molecular biology; biotechnology; qualitative and quantitative microscopy; enzymology and analytical biochemistry?
<b>PSO3</b>	How is this program helpful for you in analysing the in-depth knowledge about comparative anatomy and developmental biology of various biological systems and in analysing how evolution has shaped the organization, functions, strength and weaknesses of various systems in the human body?

### Response in the scale of 3

3	Excellent
2	Very Good
1	Satisfactory



## Department-wise Reports of PO, PSO and CO Attainment

Department	Attainment	Link of Graduate Exit Survey	Link of Alumni Survey
Assamese	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
Botany	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
Chemistry	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
Commerce	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
Economics	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
Education	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
English	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
Geography	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
Geology	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
History	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
Mathematics	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
Physics	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
Political Science	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
Sociology	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
Statistics	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>
Zoology	<a href="#">Link</a>	<a href="#">Link</a>	<a href="#">Link</a>



## STRATEGIES

**On the basis of the assessment results, various strategies are undertaken by the College.**

For Slow learners

**Individual Mentoring**

**Remedial Classes**

**Peer Teaching**

**Assignments**

For Advanced learners

**Career Guidance**

**Preparation strategies and guidance for higher studies**

**Skill based program**

**Guidance for Competitive examination**