

## INDEX

### **Criterion No: 2.6.2**

**Criterion Details:** Attainment of Programme outcomes and course outcomes are evaluated by the institution.

S. No.	Particulars	Annexure No.
1.	Procedure of CO/PO Attainment	Annexure - I
2.	CO Attainment of Department for Computer Science and Engineering	Annexure - II

# **Annexure - I**

## CO-PO Attainment Process

Program outcomes are defined by regulatory bodies such as the University Grants Commission (UGC), the All India Council for Technical Education (AICTE), or the National Board of Accreditation (NBA). These outcomes serve as foundational benchmarks for assessing the quality and effectiveness of educational programs at the institutional level and ensuring alignment with national standards and accreditation requirements.

In addition to the regulatory-defined program outcomes, individual academic departments establish their program specific outcomes (PSO) and program educational objectives (PEOs) to reflect the vision, mission, and educational goals of each department, as well as the specialized knowledge, skills, and competencies expected of graduates in their chosen field.

### Program Outcomes (POs) for Engineering

- PO-01:** **Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO-02:** **Problem Analysis:** Identify, formulate, research literature, and analyze complex Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO-03:** **Design/development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- PO-04:** **Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO-05:** **Modern Tool usage:** Create, select, and apply appropriate techniques, resources, and Modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- PO-06:** **The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO-07:** **Environment and Sustainability:** Understand the impact of the professional Engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO-08:** **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO-09:** **Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO-10:** **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- PO-11:** **Project Management and Finance:** Demonstrate knowledge and

understanding of the Engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO-12:** **Life-long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

### Program Specific Outcomes (PSOs)

Each department has Two to Four well defined program specific outcomes.

#### Program Specific Outcomes (CSE):

**PSO-01:** Provide programming paradigms through teaching learning facilities.

**PSO-02:** Provide ability to design and develop computing solutions.

#### Outcome Based Education (OBE)

The institutes implemented a comprehensive Outcome Based Education (OBE) system to ensure students achieve Program Outcomes (POs) and Program Specific Outcomes (PSOs). By mapping Course Outcomes (COs) with these POs and PSOs, the institute is ensuring alignment between what students are learning and the program's overall objectives.

Assessment methods such as assignments/tutorials, class tests, sessional examinations, and end-semester examinations are designed to measure the attainment of Course Outcomes. The institute is focusing on measuring outcomes using Revised Bloom's Taxonomy, which provides a framework for classifying the levels of cognitive skills that students are expected to demonstrate.

This approach not only ensures that students are acquiring the necessary knowledge and skills but also provides a structured way to assess their progress and achievement. By emphasizing competencies and preparing students to meet the demands of their chosen field or profession effectively.

#### Course Outcomes

Course Outcomes (COs) are provided by the university for all courses. If the university has not defined course outcomes or has not clearly articulated them using the Cognitive Process Action Verbs/Keywords of Revised Bloom's Taxonomy, then respective departments to take step in and by selecting appropriate action verbs that align with the desired cognitive processes, departments can ensure that course outcomes are specific, measurable, achievable, relevant, and time-bound.

COURSE NAME:		Design and Analysis of Algorithms	COURSE CODE	BCST-503
CO #	BT L	CO STATEMENT		
BCST-5 03.1	C4	Calculate and compare efficiency of standard algorithms for problems in fundamental areas of computer science and engineering using asymptotic complexity.		
BCST-5 03.2	C3	Apply prior knowledge of standard algorithm design techniques and mathematics to solve fundamental problems in computer science and engineering.		

<b>BCST-5 03.3</b>	<b>C3</b>	Apply prior knowledge of standard algorithm design techniques and mathematics to design efficient algorithms for moderately difficult new computational problems.
<b>BCST-5 03.4</b>	<b>C4</b>	Investigate as an individual and in a team 10 algorithm design techniques available in the literature and submit a report containing their relative merits and demerits based on performance measures.
<b>BCST-5 03.5</b>	<b>C5</b>	Evaluate mathematically the quality and correctness of the new proposed novel solutions of a given real world engineering problem.

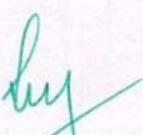
### CO-PO/PSO Mapping

The Course Outcomes are mapped to the Program Outcomes and Program Specific Outcomes with three levels of attainment. The strength of the correlation between CO and PO describes the level at which a particular PO is addressed through a CO.

- 3:** Indicates Substantial/High mapping (high correlation towards attainment): This means Primary Focus/effort
- 2:** Indicates Moderate mapping (moderate correlation towards attainment). This means Secondary Focus/effort.
- 1:** Indicates Low mapping (low correlation towards attainment). This means Tertiary Focus Effort.
- “-”:** No correlation

### RUBRICS FOR STRENGTH OF CO-PO/PSO MAPPING

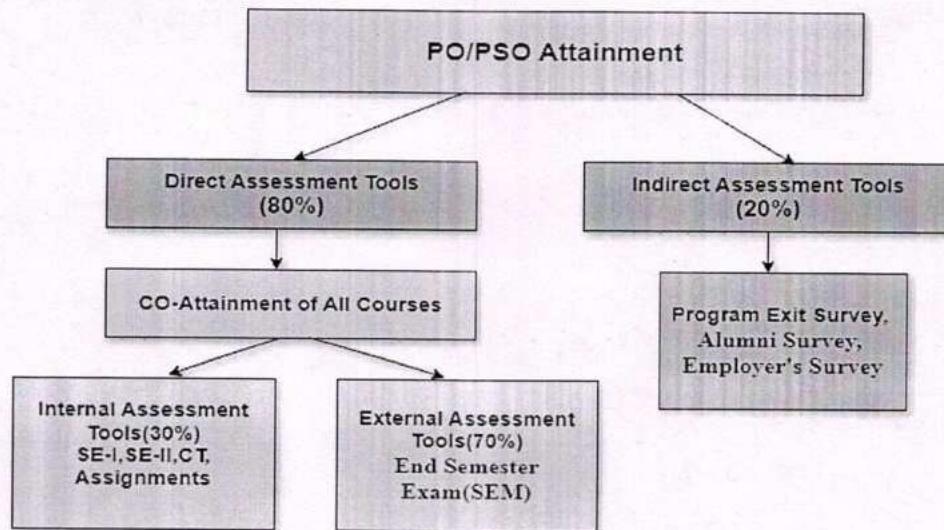
MAPPING STRENGTH	JUSTIFICATION
<b>3: HIGH</b>	$\geq 40\%$ of classroom sessions /tutorials /lab hours address a particular PO, then it is considered that: PO is addressed at level 3
<b>2: MODERATE</b>	$\geq 20\%$ and $< 40\%$ of classroom sessions/tutorials/lab hours address a particular PO, then it is considered that: PO is addressed at level 2
<b>1: LOW</b>	$\geq 5\%$ and $< 20\%$ of classroom sessions/tutorials/lab hours address a particular PO, then it is considered that: PO is addressed at level 1
<b>“-”:</b> No Correlation	$< 5\%$ of classroom sessions/tutorials/lab hours address a particular PO, then it is considered that: PO is not addressed.



Director  
Tula's Institute, Dehradun

### **Assessment methods/tools:**

The Institute uses both direct and indirect assessment methods to ensure the attainment of POs and PSOs.



#### **Direct Assessment Method:**

- Sessional Examination
- Assignments/Tutorial
- Class Test
- Laboratory Performance
- Project/Internship
- End Semester Examinations

#### **Indirect Assessment Method:**

- Program Exit Survey
- Alumni Exit Survey
- Employer's Survey

#### **Weightage for direct and indirect Assessments:**

Based on the provided weightages, we can calculate the contribution of each assessment method as follows:

The weightage of the direct assessment method is 80%, while the weightage of the indirect assessment method is 20%. Furthermore, within the direct assessment, 30% is contributed by internal assessments tool (IAT), and 70% is contributed by external assessments.

#### **Direct Assessment Method:**

- Weightage: 80%

#### **Direct Assessment is Further breakdown:**

- Internal Assessment: 30% of Direct Assessment
- External Assessment: 70% of Direct Assessment

#### **Indirect Assessment Method:**

- Weightage: 20%

### **Steps for Course Outcome Attainment**

#### **Step 1: Well-Defined Course Outcomes.**

The first step is that the course outcome of all the courses in the curriculum must be clearly defined using the Cognitive Process Action Verbs / Keywords of Revised Bloom's Taxonomy.

**Step 2: Determine Assessment Tools that are to be used to measure course outcomes.**

Direct assessment consists of two sessional examinations, 5 assignments, 5 class tests, and one semester-end examination conducted by the university.

**Step 3: Set Attainment Levels for course outcomes.**

The target attainment levels for course outcomes in all courses are determined based on the average marks obtained by students over three years of internal and external assessment examinations. For new courses, attainment levels of course outcomes are established using the average results of the same academic year.

**Step 4: Collect Data from Assessment Tools and calculate CO Attainment.**

Course Outcome (CO) attainment is determined by analyzing data extracted from Excel spreadsheets containing assessment marks for each Course Outcome, submitted by respective faculty members for their respective courses. The CO-wise attainment level is calculated by determining the average percentage of CO attainment, which is then compared against the predefined set target for the attainment level of CO.

Total No. of Students Obtained Y	57	65	59	42	50		114
Total No. of Students Obtained N	59	51	57	74	66		0
Total No. of Students AB							2
%age Attainment(Y*100/N)	49.1	56.0	50.9	36.2	43.1		100.0
CO Wise Attainment Level	1	2	2	1	1		3
THRESHOLD	13.68	13.68	10.08	10.08	10.08		44
THRESHOLD PERCENTAGE %	72	72	72	72	72		44

*huz*  
Director  
Tula's Institute, Dehradun

Rubrics for CO wise Attainment Calculation:

**Attainment Level 1: If > 0 % to less than 50% students are scoring more than [class average three years external assessment tools] % marks.**

**Attainment Level 2: If 51% to 60 % students are scoring more than [class average of three years external assessment tools] % marks.**

**Attainment Level 3: If more than 60% students are scoring more than [class average of three years external assessment tools] % marks.**

  
Dr. Jayant Patel  
Director  
Tula's Institute, Dehradun

**ATTAINMENT OF IAT AND SEE**

CO #	CIE	SEE	CIE*.3	SEE*.7	CIE+ SEE	Total CO Attainment
CO-01	1	3	0.3	2.1	2.40	2.40
CO-02	2	3	0.6	2.1	2.70	2.70
CO-03	2	3	0.6	2.1	2.70	2.70
CO-04	1	3	0.3	2.1	2.40	2.40
CO-05	1	3	0.3	2.1	2.40	2.40



Director  
Tula's Institute, Dehradun

**COURSE OUTCOMES ATTAINMENT 2019-23 BATCH**

S. No	Course Code	CO1	CO2	CO3	CO4	CO5	Average
1	BAST 104	1.6	1.0	1.0	1.6	1.0	1.2
2	BAST 102	2.0	2.0	2.0	2.3	1.7	2.0
3	BMET-102	2.0	1.7	1.7	1.7	1.7	1.8
4	BCET 101	1.7	1.7	1.7	1.7	1.7	1.7
5	BASP 104	1.7	1.7	1.7	1.7	1.7	1.7
6	BMEP 102	3.0	3.0	2.4	2.4	2.4	2.6
7	BCEP 101	1.7	1.7	2.0	2.0	2.0	1.9
8	BMEP 103	3.0	2.7	3.0	2.7	3.0	2.9
9	BASP-106	1.6	1.6	1.6	1.3	1.6	1.5
10	BEST 101	1.0	1.0	1.0	1.0	1.0	1.0
11	BEST 101(Field Work)	1.0	1.0	1.0	1.0	1.0	1.0
12	BAST 101	3.0	3.0	3.0	3.0	3.0	3.0
13	BAST-105	3.0	3.0	3.0	3.0	2.7	2.9
14	BAST 103	3.0	3.0	3.0	3.0	3.0	3.0
15	BEET-101	3.0	2.4	2.7	2.4	3.0	2.7

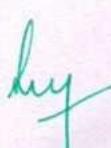
Director  
Tula's Institute, Dehradun

*huy*

16	BCST 101	3.0	3.0	3.0	3.0	3.0	3.0
17	BASP- 101	1.6	1.0	1.0	1.6	1.0	1.2
18	BASP-103	2.7	3.0	2.7	3.0	2.7	2.8
19	BEEP-101	3.0	3.0	3.0	3.0	3.0	3.0
20	BCSP-101	3.0	3.0	3.0	3.0	3.0	3.0
21	BMEP 101	3.0	3.0	3.0	3.0	3.0	3.0
22	BASP-105	3.0	3.0	3.0	3.0	3.0	3.0
23	BCET-301	3.0	3.0	3.0	3.0	3.0	3.0
24	BCST-302	3.0	3.0	3.0	3.0	3.0	3.0
25	BCST-303	3.0	3.0	3.0	3.0	3.0	3.0
26	BCST-305	3.0	2.7	3.0	3.0	3.0	2.9
27	BECT-303	3.0	3.0	3.0	3.0	3.0	3.0
28	BAST-107	3.0	3.0	3.0	3.0	1.0	2.6
29	BCSP-303	3.0	3.0	3.0	3.0	3.0	3.0
30	BCSP-305	3.0	2.4	3.0	3.0	3.0	2.9
31	BCSP-306	3.0	3.0	3.0	2.7	2.4	2.8
32	BECP-303	3.0	3.0	3.0	3.0	3.0	3.0
33	BAST-401	3.0	3.0	3.0	3.0	3.0	3.0

  
 Director  
 Tula's Institute, Dehradun

34	BECT-402	3.0	3.0	3.0	3.0	2.4	2.9
35	BECT-403	3.0	2.4	3.0	3.0	2.4	2.8
36	BEET-404	3.0	3.0	3.0	3.0	2.7	2.9
37	BEET-405	3.0	3.0	3.0	3.0	3.0	3.0
38	BECP-402	2.3	2.3	2.0	2.0	2.0	2.1
39	BECP-403	3.0	3.0	2.4	2.4	3.0	2.8
40	BEEP-404	2.7	2.4	3.0	3.0	3.0	2.8
41	BHUT-401	3.0	3.0	3.0	3.0	3.0	3.0
42	BCST 501	3.0	3.0	3.0	3.0	2.4	2.9
43	BCST -502	3.0	3.0	3.0	3.0	3.0	3.0
44	BCST -503	2.4	2.7	2.7	2.4	2.4	2.5
45	BCST504(C)	2.7	2.4	3.0	3.0	2.4	2.7
46	BOCS -505 (C)	3.0	3.0	3.0	3.0	3.0	3.0
47	BCSP- 501	1.3	1.3	1.6	1.6	1.6	1.5
48	BCSP- 502	3.0	3.0	3.0	3.0	3.0	3.0
49	BCSP-503	3.0	3.0	3.0	3.0	3.0	3.0
50	BCST-506	1.0	2.0	1.0	3.0	2.0	1.8

  
 Director  
 Tula's Institute, Dehradun

51	BSCT-508	3.0	3.0	3.0	3.0	3.0	3.0
52	BCST-601	1.3	1.3	1.6	1.3	1.6	1.4
53	BCST -602	1.7	1.7	1.7	1.7	1.7	1.7
54	BCST -603	2.4	2.4	2.4	2.4	2.4	2.4
55	BCST 604(B)	2.4	2.4	2.4	2.4	2.7	2.5
56	BOCS -605(B)	2.4	2.4	2.4	2.4	2.4	2.4
57	BCSP-601	1.0	1.6	1.0	1.0	1.6	1.2
58	BCSP-602	3.0	3.0	3.0	3.0	3.0	3.0
59	BCSP-603	2.7	2.4	2.4	2.4	2.7	2.5
60	BCSP -606	3.0	3.0	3.0	3.0	3.0	3.0
61	BCSP -607	3.0	3.0	3.0	3.0	3.0	3.0
62	BCST 701	3.0	3.0	3.0	3.0	3.0	3.0
63	BCST -702	3.0	3.0	3.0	3.0	3.0	3.0
64	BCST 703 (D)	2.7	2.4	2.4	2.4	2.4	2.5
65	BOCS -704(A)	2.4	2.4	2.4	2.4	2.4	2.4
66	BCSP 701	1.6	1.6	1.6	1.6	1.6	1.6
67	BCSP-702	3.0	2.4	2.4	2.7	2.7	2.6

68	BCSP -705	3.0	3.0	3.0	3.0	3.0	3.0
69	BCSP -706	3.0	3.0	3.0	3.0	3.0	3.0
70	BCSP -707	3.0	3.0	3.0	3.0	2.7	2.9
71	BCST-801	1.0	1.0	1.0	1.0	1.0	1.0
72	BCST -802	1.0	1.0	1.0	1.0	1.0	1.0
73	BCST 803 (D)	2.4	2.4	2.4	2.4	2.4	2.4
74	BOCS -804 (B)	2.4	2.4	2.4	2.7	2.4	2.5
75	BCSP-801	1.0	1.6	1.3	1.0	1.3	1.2
76	BCSP-802	2.4	3.0	2.7	2.4	3.0	2.7
77	BCSP -805	3.0	2.4	2.4	3.0	2.4	2.6



Director  
Tula's Institute, Dehradun

### **Calculation of PO/PSO-Attainment**

**Step 1:** Prepare the CO-PO/PSO matrix.

**Step 2:** PO / PSO attainment is calculated by considering all the assessment tools used for CO attainment and using the formula:

$$\text{PO/PSO Attainment} = \frac{\text{CO-PO/PSO Mapping Level}}{3} \times \text{CO-Attainment Value}$$

**Step 3:** For Indirect PO/PSO attainment (IDA), surveys from graduating students, alumni, and employers are taken.

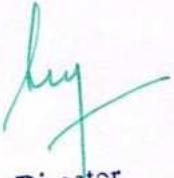
The weightage of the direct assessment method (DA) is 80%, while the weightage of the indirect assessment method (IDA) is 20%.

*huy*  
Director  
Tula's Institute, Dehradun

## **Gap Analysis and Action Taken Report**

The final attainment of Program Outcomes (PO) is determined by a combination of Direct and Indirect assessment methods, with 80% of the achievement derived from the Direct method and 20% from the Indirect method. These values are then compared against the predefined attainment targets set for each PO and Program Specific Outcome (PSO).

- If the predetermined targets are achieved (A), the assessment process continues unchanged for subsequent batches.
- If the targets are not achieved (NT), a series of continuous improvement actions are initiated for each PO and PSO.
- Evaluation results are deliberated in IQAC meetings, where members discuss potential enhancements based on attainment levels.
- Continuous improvement includes Action taken to improve the teaching-learning process/facilities based on the attainment gap and organizing the programs, workshops, training, and industrial visits to fill the attainment gap.



Director  
Tula's Institute, Dehradun

## **Annexure II**

**PROGRAM LEVEL COURSE OUTCOMES ATTAINMENT (DEPARTMENT OF COMPUTER SCIENCE & ENGINNERING)**  
**2019-23 BATCH**

S. No.	Subject Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	BAST 104	1.2	0.7	0.2										1.2	0.4
2	BAST 102	1.5	0.9												
3	BMET 102	1.8	1.3					1							
4	BCET 101	1.7	0.8	0.7				0.6							
5	BASP 104	0.8							0.8						
6	BMEP 102	1.9	1.4	0.4	0.4	0.8				0.5	0.3				
7	BCEP 101	0.9	0.7	0.2	0.3					0.1	0.2				
8	BMEP 103	2.1	1.9	0.6	1.1										
9	BASP 106		1.4			0.6			0.2		2.4		1.2		
10	BEST 101	0.4						0.9	0.8	0.2	0.1	0.3	0.6		

*hmf*

Tulsi Institute, Dehradun  
 Director

  
 Department of Computer Sciences & Engineering,  
 Tulsi's Institute, Dehradun

11	BAST 101	2.2	1				0.8	0.6					1.8		
12	BAST-105	2.9	1.8				0.4								
13	BAST 103		2.4	1.2									2.8	0.4	
14	BEET-101	2	1.4		0.3	0.8		0.4	0.6	0.6			0.6		
15	BCST 101	3	1.4	0.6										3	1
16	BASP- 101		0.6					0.6	0.6	0.8					
17	BASP-103		1.3	2.1									1.9		
18	BEEP-101	0.8			0.2	0.8			1.2	1.4	1.8	0.2			
19	BCSP-101	2.6	1	0.4										2.3	1
20	BMEP 101	2.4	1.4	0.6	0.2	0.2									0.8
21	BASP-105							3	2		2				
22	BEST 101(Field Work)						0.1	0.8	0.1	0.2			0.3		
Tula's Institute, Dehradun	BCET-301	2.6	1.2					2.4	0.4				2	2	

Tula's Institute, Dehradun

Tula's

Tata's Institute, Dehradun

لے دینے والے

100

Department of Computer Sciences & Engineering  
Tula's Institute, Dehradun

37	BEET-405	3	1.2	0.4	0.2											2
38	BECP-402	1.7	0.9			0.3			0.1	0.4					1.7	2.1
39	BECP-403	2.8	1.8	0.9												1.1
40	BEEP-404	2.2	1.5	0.7							0.4					1.1
41	BHUT-401	0.4					0.8	0.8	3		0.4			2		
42	BCST 501	2.9	1.5	0.2	0.8	0.2										1
43	BCST -502	3	1.6	0.2	0.4	0.4										1.4
44	BCST -503	2.5	1.7	1.2												1.7
45	BCST504(C)	2.7	1.6	0.9	0.5	0.6				0.5					2.7	2.7
46	BOCS -505 (C)	3	1.6	0.6	0.2											1
47	BCSP- 501	1.5	0.5	0.1	0.1					0.2						0.5
48	BCSP- 502	3	0.8	1		1										1.8
49	BCSP-503	2.4	0.4								0.6			2.2	2.2	

50	BCST-506	1		0.1		0.1			0.1	0.1	1.4	0.5		1.6	1.6
51	BSCT-508	1.2		0.2		0.2			0.4	0.2	2.4	0.8		1	1
52	BCST-601	1.4	0.7	0.4										1.1	0.6
53	BCST -602	1.4	0.2	0.1	0.2					0.3				1	0.3
54	BCST -603	2.2	1	0.3	0.5	1.1								2.4	0.8
55	BCST -604(B)	2.5	1.6	0.5		0.2									0.6
56	BOCS -605(B)	2.4	1.1			0.3				0.3				2.1	1.6
57	BCSP-601	1.2	0.4	0.4		0.7								0.7	0.2
58	BCSP-602	2.4	2	0.8						0.4	1			1.2	1.2
59	BCSP-603	2.5	0.7	0.7	0.2	1.8				0.4			0.3	2.5	0.8
60	BCSP -606	3	2	0.4	0.2	0.8								3	3
61	BCSP -607	1	1.6	1.6		0.8			1.2	0.4	0.4			3	3
62	BCST 701	3	0.2	1.2	0.6	0.2			0.2	0.2		0.4	2.8	3	

Tula's Institute, Dehradun  
Director

Tula's Institute of Computer Sciences & Engineering  
Tula's Institute, Dehradun

63	BCST -702	2.8	1.8	1.2											2	
64	BCST 703 (D)	2.5	1.8		0.2						0.2			2.5	2.5	
65	BOCS -704(A)	1.3	1	0.3	0.5					0.5	0.5		0.3	0.3		
66	BCSP 701	1.4	0.2	0.4		0.4								1	0.6	
67	BCSP-702	2.5	1.6	1.1											1.6	
68	BCSP -705	2.4	1	0.4		0.4					0.6			1.8	0.4	
69	BCSP -706	1.2		0.2		0.2				0.4	0.2	2.4	0.8		1	1
70	BCSP -707	1.2	0.8			1.1					0.8	0.6	0.2		2.3	2.9
71	BCST-801	0.8	0.5	0.3		0.2									0.1	
72	BCST -802	0.8	0.5	0.2	0.1	0.1									0.3	
73	BCST 803 (D)	2.4	1.6	0.5	0.2	1.1									0.8	
74	BOCS -804 (B)	2.5	1.2	0.7	0.3	0.3									1.6	
75	BCSP-801	1	0.7	0.4		0.2								1.2	1.2	

Tula's Institute, Dehradun  
 Director

76	BCSP-802	1.4	1.4	1		0.5				0.5				0.7
77	BCSP -805	1.3	1.8	1.1		1				0.5				2.6
	Direct PO Attainment	2.07	1.28	0.62	0.35	0.55	1.11	1	0.65	0.5	0.92	0.5	0.94	1.9
	Indirect PO- Attainment	3	3	3	3	3	2	2	2	3	3	2	2	3
	Total PO Attainment (DA(80%)+IDA(20%))	2.25	1.62	1.1	0.88	1.04	1.29	1.2	0.92	1	1.34	0.8	1.15	2.1
	Target	2.15	1.62	1.1	0.85	1.23	1.21	1.43	0.91	1	1.21	1.22	0.55	2
	Gap	0.1	0	0	0.03	-0.19	0.08	-0.23	0.01	0	0.13	-1.42	0.6	0.1
	Gap Analysis	A	A	A	A	NT	A	NT	A	A	A	NT	A	NT

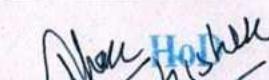
Department of Computer Sciences & Engineering  
Tula's Institute, Dehradun

**PROGRAM LEVEL COURSE OUTCOMES ATTAINMENT 2019-23 BATCH ( ELECTRICAL & ELECTRONICS  
ENGINEERING)**

S. No.	University Subject Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	BAST 104	1.20	0.70	0.20										1.20	0.40
2	BAST 102	1.50	0.90												
3	BMET- 102	1.80	1.30					1.00							
4	BCET 101	1.70	0.80	0.70				0.60							
5	BASP 104	0.80							0.80						
6	BMEP 102	1.90	1.40	0.40	0.40	0.80				0.50	0.30				
7	BCEP 101	0.90	0.70	0.20	0.30					0.10	0.20				
8	BMEP 103	2.10	1.90	0.60	1.10							0.20	2.40	1.20	
9	BASP 106		1.40			0.60				0.20		0.10	0.30	0.60	
10	BEST 101	0.40					0.90	0.80	0.20	0.10	0.30			1.80	
11	BAST 101	2.20	1.00				0.80	0.60							
12	BAST-105	2.90	1.80			0.40						2.80		0.40	
13	BAST 103	2.40	1.20									0.60			
14	BEET-101	2.00	1.40		0.30	0.80		0.40	0.60	0.60				3.00	1.00
15	BCST 101	3.00	1.40	0.60				0.60	0.60	0.80					
16	BASP- 101		0.60									1.90			
17	BASP-103		1.30	2.10											
18	BEEP-101	0.80			0.20	0.80			1.20	1.40	1.80	0.20		2.30	1.00
19	BCSP-101	2.60	1.00	0.40											0.80
20	BMEP 101	2.40	1.40	0.60	0.20	0.20									
21	BASP-105						3.00	2.00		2.00				0.30	
22	BEST 101(Field Work)						0.10	0.80	0.10	0.20				2.00	2.00
23	BCET 301		1.20					2.00	0.60						
24	BEST 301	1.50	0.90											3.00	2.00
25	BEET 301	3.00	2.20	2.20		2.40	1.40							3.00	2.40
26	BECT 304	1.40	2.00	2.20		1.00								2.40	2.00
27	BEET 305	1.40	2.00	1.20		2.00								3.00	2.00
28	BEEP 301	2.40	2.20	1.60		2.40	1.40							3.00	2.40
29	BECP 304	2.00	1.60	0.40		1.00				0.40				2.30	2.30
30	BEEP 305	2.90	1.50	0.60							2.00	2.40			2.80
31	BASP 307		1.50	0.30		0.90								2.30	1.00
32	BEEP 306	2.60	1.00	0.40										1.80	0.40
33	BECT 402	2.40	2.00							0.60				2.90	1.00
34	BEET 402	2.20	1.60	0.60		0.50				0.40	0.40	0.40			1.80
35	BECT 401	2.20	1.80	0.90										0.40	
36	BEET 404	2.40	1.40		2.00										2.00
37	BEET 405	3.00	1.20	0.40	0.20					0.10	0.40			1.70	2.10
38	BCSP 409	2.40	2.00			0.30									1.10
39	BEEP 402	2.80	1.80	0.90							0.40				1.10
40	BEEP 405	2.20	1.50	0.70											

Tula's Institute Dehradun

✓

  
 Dr. Hitesh Chauhan  
 Department of E&E Engineering  
 Tula's Institute, Dehradun

41	BECP 401	0.40					0.80	0.80	3.00		0.40		2.00			
42	BEEP 404	2.90	1.50	0.20	0.80	2.00								1.00		
43	BEET- 501	3.00	1.60	0.20	0.40	0.40								1.40	3.00	
44	BEET- 502	2.50	1.70	1.20											1.70	
45	BEET 503(B)	2.70	1.60	0.90	0.50	0.60				0.50					2.70	2.70
46	BOET- 504(D)						3.00	2.40			2.00				2.20	1.00
47	BEET-505	1.50	0.50	0.10	0.10					0.20					2.70	0.50
48	BEEP-501	3.00	0.80	1.00		1.00										1.80
49	BEEP 502	2.40	0.40								0.60				2.20	2.20
50	BENP-506	2.00		0.10		0.10					1.40				1.60	1.60
51	BENP-507	1.20		0.20		0.20									1.00	1.00
52	TEE 601	1.40	0.70	0.40											1.10	0.60
53	TEE 602	1.40	0.20	0.10	0.20						0.30				1.00	0.30
54	TEE 603	2.20	1.00	0.30	0.50	1.10									2.40	0.80
55	TEC 602	2.50	1.60	0.50		0.20										0.60
56	TCS 607	2.40	1.10			0.30					0.30					2.10
57	THU 608						1.20				2.40	2.00			0.70	0.20
58	PEE 652	2.40	2.00	0.80						0.40	1.00				1.20	1.20
59	PEE 653	2.50	0.70	0.70	0.20	1.80					0.40			0.30	2.50	0.80
60	PCS 657	2.40	2.00	0.40	0.20	0.80									3.00	3.00
61	TEE 701	1.00	1.60	1.60		0.80				1.20	0.40	0.40			3.00	3.00
62	TEE 702	2.40	0.20	1.20	0.60	0.20				0.20	0.20		0.40		2.80	3.00
63	TEC 701	2.80	1.80	1.20												2.00
64	TEE 011	2.50	1.80		0.20					0.20					2.50	2.50
65	TOE 01	1.30	1.00	0.30	0.50					1.00	1.40		0.30		0.30	
66	PEE 751	1.40	0.20	0.40		0.40									1.00	0.60
67	PEC 751	2.50	1.60	1.10												1.60
68	PEE 753	2.40	1.00	0.40		0.40					0.60				1.80	0.40
69	PEE 754	1.20		0.20		0.20			0.40	0.20	2.40	0.80			1.00	1.00
70	TEE 802	1.20	0.80			1.10				0.80	0.60	0.20			2.30	2.90
71	TEE 801	2.40	1.00	1.40		1.00										0.10
72	TEE 022	2.00	1.40	1.20		2.40										0.30
73	TEE 033	2.40	1.60	0.50		0.60									2.50	0.80
74	PEE 851	2.50	1.20	0.70		2.40									0.30	1.60
75	PEE 852	2.60	2.40	1.40		2.00									1.00	1.20
Direct POAttainment		2.10	1.30	0.60	0.40	0.60	1.10	1.00	0.70	0.50	0.90	0.50	0.90	1.90	1.50	
Indirect PO-Attainment		2.40	2.60	2.00	2.00	2.40	1.40	1.60	2.00	2.40	2.60	1.40	2.20	3.00	3.00	
Total PO Attainment(DA(80%)+IDA(20%))		2.16	1.56	0.88	0.72	0.96	1.16	1.12	0.96	0.88	1.24	0.68	1.16	2.12	1.80	
Target		2.15	1.62	1.10	0.85	1.23	1.21	1.43	0.91	1.00	1.21	1.22	0.55	2.00	2.00	
Gap		0.01	0.00	-0.22	-0.13	-0.27	-0.05	-0.31	0.05	-0.12	0.03	-0.54	0.61	0.12	-0.20	
Gap Analysis		A	A	A	NT	NT	NT	NT	A	NT	A	NT	A	A	NT	

Engineering  
Department of Civil Engineering  
Tula's Institute of Engineering & Technology  
Dehradun

## Department of Agriculture

### PROGRAM LEVEL COURSE OUTCOMES ATTAINMENT 2019-23 BATCH

S. No.	University Subject Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	BSAC101	1.2	0.9	0.2										1.2	0.4
2	BSAC 102	1.7	0.8												
3	BSAC 103	1.9	1.4						1						
4	BSAC 104	1.8	0.8	0.7					0.6						
5	BSAC 105	0.8								0.8					
6	BSAC 106	1.9	1.4	0.4	0.4	0.8					0.5	0.3			
7	BSAR 107	0.9	0.7	0.2	0.3						0.1	0.2			
8	BSAR 108	2.1	1.9	0.6	1.1										
9	BSAR 109		1.4			0.6				0.2		2.4		1.2	
10	BSAC 110	0.4							0.9	0.8	0.2	0.1	0.3		0.6
11	BSAN 111	2.2	1						0.8	0.6					1.8
12	BSAN 112	2.9	1.8			0.4									
13	BSAC 201		2.4	1.2									2.8		0.4
14	BSAC 202	2	1.4		0.3	0.8			0.4	0.6	0.6			0.6	
15	BSAC 203	3	1.4	0.6											
16	BSAC 204		0.6						0.6	0.6	0.8				
17	BSAC 205		1.3	2.1									1.9		
18	BSAC 206	0.8			0.2	0.8				1.2	1.4	1.8	0.2		
19	BSAC 207	2.6	1	0.4										2.3	1
20	BSAC 208	2.4	1.4	0.6	0.2	0.2									0.8
21	BSAC 209								3	2		2			
22	BSAC 301								0.1	0.8	0.1	0.2			0.3

23	BSAC 302	2.6	1.2				2.4	0.4			2	2	
24	BSAC 303	3	1.6								3	1	
25	BSAC 304	3	2.2	0.2							2.9	2.9	
26	BSAC 305	2.7	2	1.2		0.4							
27	BSAC 306	2.2	1.8	0.8									
28	BSAC 307	0.8		0.2		0.2		0.4	0.2	2	0.5		2.4
29	BSAC 308	2.4	1.6	0.8					0.4	0.6			2.3
30	BSAC 309	2.9	1.5	0.6					0.4				2.8
31	BSAC 401	2.7	1.5	0.3		0.9			0.4				
32	BSAC 402	3	1.6	0.6							1.8	0.4	
33	BSAC 403	3	1.6			0.4			0.6			2.9	1
34	BSAC 404	2.9	1.6	0.6		0.5			0.4	0.4	0.4		1.8
35	BSAC 405	2.8	1.8	0.9								0.4	
36	BSAC 406	2.9	2	1									2
37	BSAC 407	3	1.2	0.4	0.2				0.1	0.4		1.7	2.1
38	BSAC 408	1.7	0.9			0.3							1.1
39	BSAC 409	2.8	1.8	0.9					0.4				1.1
40	BSAE 108	2.2	1.5	0.7									
41	BSAC 501	0.4					0.8	0.8	3	0.4	2		1
42	BSAC 502	2.9	1.5	0.2	0.8	0.2							
43	BSAC 503	3	1.6	0.2	0.4	0.4						1.4	
44	BSAC 504	2.5	1.7	1.2								2.7	2.7
45	BSAC 505	2.7	1.6	0.9	0.5	0.6			0.5				1
46	BSAC 506	3	1.6	0.6	0.2				0.2				0.5
47	BSAC 507	1.5	0.5	0.1	0.1								

48	BSAC 508	3	0.8	1		1									1.8
49	BSAC 509	2.4	0.4												2.2
50	BSAE-110	1		0.1		0.1			0.1	0.1	1.4	0.5		1.6	1.6
51	BSAC 601	1.2		0.2		0.2			0.4	0.2	2.4	0.8		1	1
52	BSAC 602	1.4	0.7	0.4											1.1
53	BSAC 603	1.4	0.2	0.1	0.2						0.3			1	0.3
54	BSAC 604	2.2	1	0.3	0.5	1.1									2.4
55	BSAC 605	2.5	1.6	0.5		0.2					0.3			2.1	1.6
56	BSAC 606	2.4	1.1			0.3									0.7
57	BSAC 607	1.2	0.4	0.4		0.7					0.4	1		1.2	1.2
58	BSAC 608	2.4	2	0.8							0.4			0.3	2.5
59	BSAC 609	2.5	0.7	0.7	0.2	1.8									3
60	BSAC 610	3	2	0.4	0.2	0.8					1.2	0.4	0.4		3
61	BSAE 109	1	1.6	1.6		0.8					0.2	0.2		0.4	2.8
62	BSAW 701	3	0.2	1.2	0.6	0.2									2
63	BSAL 801	2.8	1.8	1.2											
Direct POAttainment		2.1	1.3	0.6	0.4	0.6	1.1	1	0.7	0.5	0.9	0.5	0.9	1.9	1.5
Indirect PO-		3	3	3	3	3	2	2	2	3	3	2	2	3	3
Total PO		2.28	1.64	1.08	0.92	1.08	1.28	1.2	0.96	1	1.32	0.8	1.12	2.12	1.8
Target		2.16	1.62	1.1	0.85	1.23	1.21	1.43	0.91	1	1.21	1.22	0.55	2	2
Gap		0.12	0.02	-0.02	0.07	-0.15	0.07	-0.23	0.05	0	0.11	-0.42	0.57	0.12	-0.2
Gap Analysis		A	A	NT	A	NT	A	NT	A	A	A	NT	A	A	NT

Director  
Tula's Institute, Dehradun

huz

Swing  
HOD  
Department of Agriculture & Forestry  
Tula's Institute Dehradun