

## CO-PO Attainment of Master of Science in Biotechnology AY 2022-23

### 1. Course Outcomes (COs) and Program Outcomes (POs)

#### 1.1. Establish the correlation between the courses and the Program Outcomes & Program

##### 1.1.1 Course Outcomes (COs) (05)

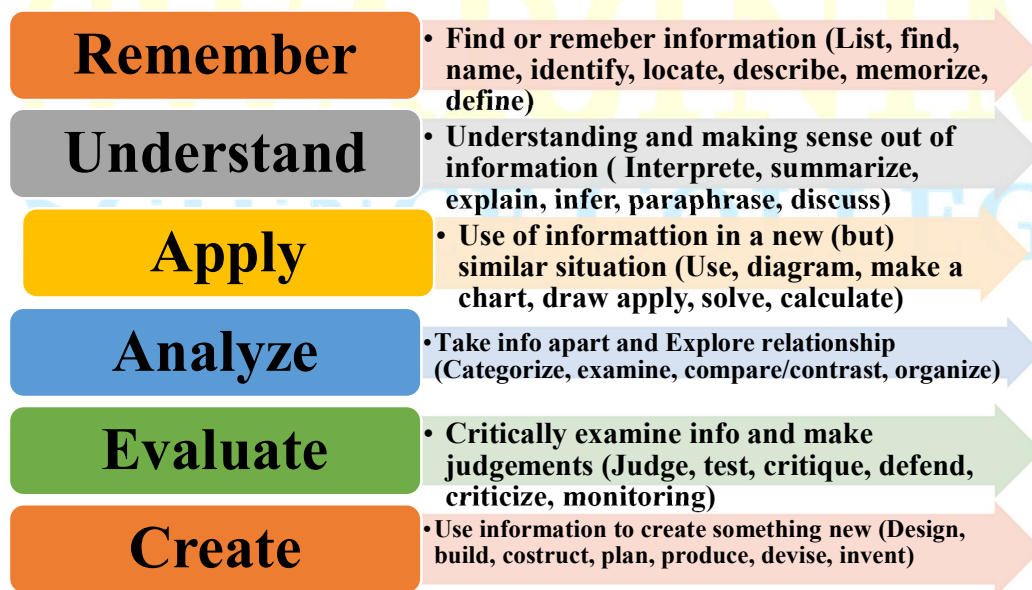
Course outcomes (COs) are the statements indicating what a student can do after the successful completion of a course. Every Course leads to some Course Outcomes. The CO statements are defined by considering the course content covered in each module of a course. For every course there may be 4 to 6 COs. The keywords used to define COs are based on Bloom's Taxonomy. The Course Outcomes are defined in accordance with the University curriculum.

#### Course coding system:

Example: 256010101....256010201....256010301....256010401



#### Bloom's Taxonomy:



## CO-PO matrices Methodology

- Students need to develop certain qualities to effectively contribute to industry, academia, and society. These qualities are defined as Program Outcomes (POs), and the curriculum is structured to foster them.
- Based on how well the course content supports achieving each PO (e.g., PO1, PO2, PO3, etc.), courses are rated as substantial (3), moderate (2), or slight (1) in their contribution.
- Faculty members align Course Outcomes (COs) with POs, considering the broader goals and relevance of the course. This mapping is finalized through discussions in departmental committee meetings and institution-wide faculty meetings, resulting in the CO-PO Matrix.
- The correlation between COs and POs are established through the process given below:

**Step 1:** COs defined by the faculty or given by council are mapped with the Program outcomes.

**Step 2:** For each course, the average value of POs is obtained.

**Step 3:** Step 2 is carried out for all the courses in the program.

**Course co-ordinator: Prepare proper CO's and finalize CO-PO mapping**

**Criteria 3 member: Set CO attainment target level**

**Criteria 3 member: Consolidated CO attainment of respective year**

**Criteria 3 member: Consolidated PO attainment through direct assessment and indirect assesment**

**Criteria 3 member: Drawn conclusion/ observation and suggested for any action to be taken for fullfillment of CO and PO attainment**

**Figure 1: Process involved in CO-PO mapping and attainment**

Target level set for CO attainment from results

| Target Set<br>(Attainment Level) | Percentage<br>result |
|----------------------------------|----------------------|
| Level 1                          | 55-64                |
| Level 2                          | 65-74                |
| Level 3                          | $\geq 75$            |

### Course-PO matrix of courses for all years of study

The mapping of all the courses with PO's is summarized and presented in following table 1.

**Note:** Correlation levels 1, 2 or 3, as defined below:

1: Slight (Low)

2: Moderate (Medium)

3: Substantial (High)

‘-’ Indicates there is no correlation,

**Table 1: Correlation of CO with POs (All courses)**

| SUBJECT   | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO 10 | OVERA<br>LL CO<br>AVG |
|-----------|------|------|------|------|------|------|------|------|------|-------|-----------------------|
| 256010101 | 3    | 2    | 2.8  | 2.5  | 2.5  | 2.2  | 2    | 2    | 2.4  | 2.3   | 2.4                   |
| 256010102 | 3    | 2.2  | 2.8  | 2.7  | 2.2  | 3    | 1.4  | 2.2  | 2.4  | 1.8   | 2.4                   |
| 256010103 | 3    | 2.2  | 2.8  | 2.4  | 2.8  | 1.7  | 1.6  | 2.3  | 2.4  | 2.7   | 2.4                   |
| 256010104 | 3    | 2.2  | 2.8  | 2.6  | 2.7  | 2.2  | 1.8  | 2.3  | 2.6  | 2.7   | 2.5                   |
| 256010105 | 2    | 2.3  | 2.7  | 1.8  | 1.5  | 3    | 1.2  | 2.3  | 1.7  | 1.7   | 2                     |
| 256010201 | 3    | 2.2  | 3    | 2.5  | 2.7  | 1.7  | 1.5  | 2.3  | 2.2  | 2.2   | 2.3                   |
| 256010202 | 3    | 2    | 2.7  | 2.2  | 2.3  | 1.8  | 1.5  | 2.2  | 2    | 2.3   | 2.2                   |
| 256010203 | 3    | 2.7  | 2.8  | 2.5  | 2.5  | 2.5  | 1.8  | 2.3  | 2.3  | 2.3   | 2.5                   |
| 256010204 | 3    | 2.2  | 2.8  | 2.4  | 2.2  | 3    | 1.8  | 2.5  | 2.2  | 1.4   | 2.3                   |
| 256010205 | 2.2  | 2.7  | 2.8  | 2.4  | 2    | 3    | 1.7  | 2.8  | 2.3  | 2.2   | 2.4                   |
| 256010301 | 3    | 2.7  | 3    | 2.8  | 2.7  | 2.5  | 1.8  | 2.5  | 2.8  | 3     | 2.7                   |
| 256010302 | 3    | 2.2  | 2.8  | 2.4  | 2.7  | 2.2  | 1.8  | 2.2  | 2.2  | 2.2   | 2.4                   |
| 256010303 | 3    | 2.7  | 2.8  | 2.5  | 2.7  | 2.5  | 1.8  | 2.3  | 2.5  | 2.5   | 2.5                   |
| 256010304 | 3    | 2.3  | 2.8  | 2.7  | 2.5  | 2    | 2.3  | 2.7  | 2.2  | 2.7   | 2.5                   |
| 256010305 | 3    | 2.3  | 2.8  | 2.7  | 2.5  | 2    | 2.3  | 2.7  | 2.2  | 2.7   | 2.5                   |
| 256010401 | 3    | 2.8  | 2.8  | 2.8  | 2.7  | 2.7  | 1.8  | 2.5  | 2.5  | 2.7   | 2.6                   |
| 256010402 | 3    | 2.7  | 3    | 2.8  | 2.8  | 2.3  | 1.7  | 2.8  | 2.2  | 2.8   | 2.6                   |
| 256010403 | 2.2  | 2.7  | 2.8  | 2    | 1.8  | 3    | 1.5  | 2.3  | 2.3  | 2.2   | 2.3                   |
| 256010404 | 1.5  | 2.5  | 2.3  | 2    | 2    | 2    | 1.8  | 2    | 1.8  | 2     | 2                     |

## 1.2. Attainment of Course Outcomes

### 1.2.1 Describe the assessment components and processes used to gather the data upon which the evaluation of Course Outcome is based

The various assessment components and processes used to gather the data for the evaluation of Course Outcome are described as follows. The maximum marks and the weightage of each assessment component in the final grade are also summarized in the Table 2.

Below table shows the list of assessment processes:

**Table 2: List of assessment processes**

| Academic Year        | Semesters     | Particulars   | Marks            |
|----------------------|---------------|---|------------------|
| 2022-23 &<br>2023-24 | Odd Semester  | Internal Examination<br>(Assignment +<br>Class Attendance +<br>Internal Assessment) | 30<br>(05+05+20) |
|                      |               | University Examination  | 70               |
|                      | Even Semester | Internal Examination<br>(Assignment +<br>Class Attendance +<br>Internal Assessment) | 30<br>(05+05+20) |
|                      |               | University Examination  | 70               |

**Table 3: Assessment components and processes used for the evaluation of Course**

**Outcome**

| Assessment components                            | Marks | Weightage | Quality/Relevance of assessment process  |
|--|-------|-----------|--|
| Internal assessment (IA)                         | 30    | 30%       | <ul style="list-style-type: none"> <li>➤ The <b>overall evaluation</b> of students' performance consists of two main components:</li> </ul> <p><b>Internal Assessment:</b> 30% of the total marks.</p> <p><b>University Examination:</b> 70% of the total marks.</p> <p>This split ensures both continuous assessment and final examination performance are fairly considered.</p> <ul style="list-style-type: none"> <li>➤ <b>Internal Assessment (30%)</b> is designed to evaluate students continuously throughout the semester, promoting regular study habits and engagement. It is further divided into three components:</li> <li>➤ <b>Internal Examination (15 marks):</b></li> </ul> <p>Conducted periodically during the semester.</p> <p>Tests students' understanding of the syllabus covered up to that point.</p> <p>May include written tests, quizzes, or mid-semester exams.</p> <ul style="list-style-type: none"> <li>➤ <b>Class Attendance (5 marks):</b></li> </ul> <p>Encourages regular participation in classes.</p> <p>Marks are awarded based on the percentage of classes attended.</p> <p>Promotes discipline and consistent learning.</p> <ul style="list-style-type: none"> <li>➤ <b>Assignment (10 marks):</b></li> </ul> <p>Based on submission of assignments given by the faculty.</p> <p>May involve problem-solving tasks, essays, projects, or practical exercises.</p> <p>Aims to develop research, analytical, and writing skills.</p> <ul style="list-style-type: none"> <li>➤ This <b>internal assessment structure</b> ensures that students are evaluated not only on their final exam performance but also on their regular participation, attendance, and engagement with the course material.</li> </ul> |
| University assessment (End semester Examination) | 70    | 70%       |  |





**Criteria for Pass:** As per the general passing criteria, students must secure a minimum of 40% marks separately in both Internal Assessment and University Examination for each course. This rule applies individually to all theory and practical courses, which are treated as separate subjects. Internal assessment includes components like tests, assignments, and attendance, while the university exam is conducted at the end of the semester. Passing one component does not compensate for failing the other. Students must meet the minimum in both to be considered as having passed the subject. This ensures consistent performance throughout the course in both internal and external evaluations.

### **1.2.2 Record the attainment of Course Outcomes of all courses with respect to set attainment levels**

Following Procedure is followed for the assessment of attainment of COs through Internal Assessment marks and end semester marks:

#### ***Setting of attainment levels:***

**Step 1:** Course Outcome attainment levels: The CO attainment levels are set for each course in the final examination as target. Accordingly, the target levels for CO attainment are set.

**Step 2:** Criteria for setting and improvement of the target levels: For every course the target level for an assessment year is set on the basis of the target achieved in the previous year. For any course, achieving the maximum attainment level of 3 during the assessment year, the attainment level for the subsequent year shall be redefined by increasing the target marks. Table presents the target levels for CO attainment.

**Step 3:** Weightage and CO attainment achieved: As per the University curriculum, the total marks for the theory courses is 100, Accordingly the weightage adopted for the program are:

- 70% weightage for University examination and
- 30% weightage for internal assessment.

Target level for academic year 2022-23 & 2023-24 is shown below:

| Academic year | For internal assessment |                | For University examination |                |
|---------------|-------------------------|----------------|----------------------------|----------------|
|               | Target Level            | Internal Marks | Target Level               | External Marks |
| 2022-23       | 1                       | ≤10            | 1                          | 32             |
|               | 2                       | 11 to 12       | 0                          | -              |
|               | 3                       | ≥13            |                            |                |

The Course outcomes attained through university examinations and Internal Assessment are calculated and same is presented in Table 4

**Table 4: Target Marks and levels (2022-23)**

| Course Code | Marks |       | Level |         | 20% Internal | 80% External | Target |
|-------------|-------|-------|-------|---------|--------------|--------------|--------|
|             | IA    | Final | T_IA  | T_Final |              |              |        |
| I SEM       |       |       |       |         |              |              |        |
| 256010101   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010102   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010103   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010104   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010105   | 80    | -     | 1     | 1       | 0.3          | 0.7          | 1      |
| II SEM      |       |       |       |         |              |              |        |
| 256010201   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010202   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010203   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010204   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010205   | 80    | -     | 1     | 1       | 0.3          | 0.7          | 1      |
| III SEM     |       |       |       |         |              |              |        |
| 256010301   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010302   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010303   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010304   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010305   | 80    | -     | 1     | 1       | 0.3          | 0.7          | 1      |
| IV SEM      |       |       |       |         |              |              |        |
| 256010401   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010402   | 12    | 28    | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010403   | 160   | -     | 1     | 1       | 0.3          | 0.7          | 1      |
| 256010404   | 160   | -     | 1     | 1       | 0.3          | 0.7          | 1      |



### *Attainment of Cos:*

The attainment of COs is taken as the average of attainment of all the CO's for the course and expressed as CO-IA (20% weightage of CO attainment through IA tests). However, the institution is not accessible to the distribution of marks to corresponding COs from University results, with that as constraint CO-FE (CO attainment through semester examination) is computed as 80% of final examination. Together is expressed as the attainment of CO for the particular course.

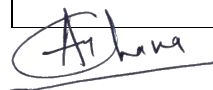
| Target Set: | Percentage |
|-------------|------------|
| Level 1     | 55-64      |
| Level 2     | 65-74      |
| Level 3     | $\geq 75$  |

The course level attainment for the academic year 2022-23 is presented in TABLE 5

Course Outcomes Attainment level and Course Attainment level for all the courses is compiled.

**Table 5 : Course Outcome Attainment for 2022-24**

| Course Code | Exam | Target Set               |   | % students scoring | Attainment level | Weighted Score | Course Outcome attainment |
|-------------|------|--------------------------|---|--------------------|------------------|----------------|---------------------------|
|             |      | Level 1                  | 55-64   |                    |                  |                |                           |
|             |      | Level 2                  | 65-74   |                    |                  |                |                           |
|             |      | Level 3                  | $\geq 75$   |                    |                  |                |                           |
|             |      | No. of Students appeared | No. of Students scoring more than 10/32 marks (in |                    |                  |                |                           |
| 256040101   | INT  | 4                        | 4   | 100.00             | 3                | 0.6            | 3                         |
|             | EXT  | 4                        | 4   | 100.00             | 3                | 2.4            |                           |
| 256040102   | INT  | 4                        | 3   | 75.00              | 3                | 0.6            | 3                         |
|             | EXT  | 4                        | 3   | 75.00              | 3                | 2.4            |                           |
| 256040103   | INT  | 4                        | 3   | 75.00              | 3                | 0.6            | 3                         |
|             | EXT  | 4                        | 3   | 75.00              | 3                | 2.4            |                           |
| 256040104   | INT  | 4                        | 3   | 75.00              | 3                | 0.6            | 3                         |
|             | EXT  | 4                        | 3   | 75.00              | 3                | 2.4            |                           |
| 256040105   | INT  | 4                        | 3   | 75.00              | 3                | 3              | 3                         |







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|           |     |   |   |        |   |     |   |
|-----------|-----|---|---|--------|---|-----|---|
| 256040201 | INT | 4 | 4 | 100.00 | 3 | 0.6 | 3 |
|           | EXT | 4 | 4 | 100.00 | 3 | 2.4 |   |
| 256040202 | INT | 4 | 4 | 100.00 | 3 | 0.6 | 3 |
|           | EXT | 4 | 4 | 100.00 | 3 | 2.4 |   |
| 256040203 | INT | 4 | 4 | 100.00 | 3 | 0.6 | 3 |
|           | EXT | 4 | 4 | 100.00 | 3 | 2.4 |   |
| 256040204 | INT | 4 | 4 | 100.00 | 3 | 0.6 | 3 |
|           | EXT | 4 | 4 | 100.00 | 3 | 2.4 |   |
| 256040205 | INT | 4 | 4 | 100.00 | 3 | 3   | 3 |
|           |     |   |   |        |   |     |   |
| 256040301 | INT | 4 | 4 | 100.00 | 3 | 0.6 | 3 |
|           | EXT | 4 | 4 | 100.00 | 3 | 2.4 |   |
| 256040302 | INT | 4 | 4 | 100.00 | 3 | 0.6 | 3 |
|           | EXT | 4 | 3 | 75.00  | 3 | 2.4 |   |
| 256040303 | INT | 4 | 4 | 100.00 | 3 | 0.6 | 3 |
|           | EXT | 1 | 4 | 400.00 | 3 | 2.4 |   |
| 256040304 | INT | 4 | 4 | 100.00 | 3 | 0.6 | 3 |
|           | EXT | 4 | 4 | 100.00 | 3 | 2.4 |   |
| 256040305 | INT | 4 | 4 | 100.00 | 3 | 3   | 3 |
|           |     |   |   |        |   |     |   |
| 256040401 | INT | 4 | 4 | 100.00 | 3 | 0.6 | 3 |
|           | EXT | 4 | 4 | 100.00 | 3 | 2.4 |   |
| 256040402 | INT | 4 | 4 | 100.00 | 3 | 0.6 | 3 |
|           | EXT | 4 | 4 | 100.00 | 3 | 2.4 |   |
| 256040403 | INT | 4 | 4 | 100.00 | 3 | 0.6 | 3 |
|           | EXT | 4 | 4 | 100.00 | 3 | 2.4 |   |
| 256040404 | INT | 4 | 4 | 100.00 | 3 | 3   | 3 |

# SCIENCE COLLEGE

*Ashwini*

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SWARNIM STARTUP & INNOVATION UNIVERSITY  
BHOYAN RATHOD, KALOL, GANDHINAGAR.



Below table shows verification of CO attainment:

**Table 6: Verification of CO attainment**

| 2022-2024   |              |                            |                      |
|-------------|--------------|----------------------------|----------------------|
| Course Code | Target Level | Course Outcomes Attainment | Verification/Remarks |
| 256010101   | 1            | 3                          | -                    |
| 256010102   | 1            | 3                          | -                    |
| 256010103   | 1            | 3                          | -                    |
| 256010104   | 1            | 3                          | -                    |
| 256010105   | 1            | 3                          | -                    |
| 256010201   | 1            | 3                          | -                    |
| 256010202   | 1            | 3                          | -                    |
| 256010203   | 1            | 3                          | -                    |
| 256010204   | 1            | 3                          | -                    |
| 256010205   | 1            | 3                          | -                    |
| 256010301   | 1            | 3                          | -                    |
| 256010302   | 1            | 3                          | -                    |
| 256010303   | 1            | 3                          | -                    |
| 256010304   | 1            | 3                          | -                    |
| 256010305   | 1            | 3                          | -                    |
| 256010401   | 1            | 3                          | -                    |
| 256010402   | 1            | 3                          | -                    |
| 256010403   | 1            | 3                          | -                    |
| 256010404   | 1            | 3                          | -                    |

## 1.3. Attainment of Program Outcomes

### 1.3.1. Describe assessment tools and processes used for assessing the attainment of each PO

The tools, process and frequency of assessment adopted for evaluating the attainment of the POs are detailed in Table 7

**Table 7: Scheme for Internal assessment and End semester examination as well as the feedback analysis**

| Assessment Method | Assessment tool        | Aim  | Assessment Frequency  | Percentage Contribution |
|-------------------|------------------------|--|---|-------------------------|
| Direct            | Internal assessment    | Assessing the understanding of the fundamental concepts and expression of the practical skills and knowledge gained                | Twice a semester  | 30%                     |
|                   | University examination |  | Once in a semester  | 70%                     |
| Indirect          | Exit survey            | To assess the contribution of the Program in the overall development of the graduates  | Once in a year after graduation (Started from year 2021)                  | 20%                     |
|                   | Employer survey        | To get the feedback from employers for the programme and overall performance of the students in the industrial working environment | Once in a year after placement/ after graduation (started from year 2021) |                         |
|                   | Alumni survey          | To assess the effectiveness of program for the career development and placement of the graduates                                   | Once in a year from alumni (Started in 2022)                              |                         |

Following Procedure is followed to assess the attainment of POs.

- For every course the target level for an assessment year is set on the basis of the target achieved in the previous year.
- For any course, achieving the maximum attainment level of 3 during the assessment year, the attainment level for the subsequent year shall be redefined by increasing the target marks.

### 1.3.2 Provide results of evaluation of each PO

Table 8 show the target levels for POs through courses for the academic year 2022-2024

Table 9 show the indirect attainment levels for POs through courses for the academic year 2022-2024

Table 10 show the attainment levels for POs through courses for the academic year 2022-2024

**Tables 8: Target Levels for POs**

| SUBJECT               | PO1  | PO2  | PO3  | PO4  | PO5  | PO6  | PO7  | PO8  | PO9  | PO10 | OVERALL<br>CO AVG |
|-----------------------|------|------|------|------|------|------|------|------|------|------|-------------------|
| 256010101             | 3.0  | 2.0  | 2.8  | 2.5  | 2.5  | 2.2  | 2.0  | 2.0  | 2.4  | 2.3  | 2.4               |
| 256010102             | 3.0  | 2.2  | 2.8  | 2.7  | 2.2  | 3.0  | 1.4  | 2.2  | 2.4  | 1.8  | 2.4               |
| 256010103             | 3.0  | 2.2  | 2.8  | 2.4  | 2.8  | 1.7  | 1.6  | 2.3  | 2.4  | 2.7  | 2.4               |
| 256010104             | 3.0  | 2.2  | 2.8  | 2.6  | 2.7  | 2.2  | 1.8  | 2.3  | 2.6  | 2.7  | 2.5               |
| 256010105             | 2.0  | 2.3  | 2.7  | 1.8  | 1.5  | 3.0  | 1.2  | 2.3  | 1.7  | 1.7  | 2.0               |
| 256010201             | 3.0  | 2.2  | 3.0  | 2.5  | 2.7  | 1.7  | 1.5  | 2.3  | 2.2  | 2.2  | 2.3               |
| 256010202             | 3.0  | 2.0  | 2.7  | 2.2  | 2.3  | 1.8  | 1.5  | 2.2  | 2.0  | 2.3  | 2.2               |
| 256010203             | 3.0  | 2.7  | 2.8  | 2.5  | 2.5  | 2.5  | 1.8  | 2.3  | 2.3  | 2.3  | 2.5               |
| 256010204             | 3.0  | 2.2  | 2.8  | 2.4  | 2.2  | 3.0  | 1.8  | 2.5  | 2.2  | 1.4  | 2.3               |
| 256010205             | 2.2  | 2.7  | 2.8  | 2.4  | 2.0  | 3.0  | 1.7  | 2.8  | 2.3  | 2.2  | 2.4               |
| 256010301             | 3.0  | 2.7  | 3.0  | 2.8  | 2.7  | 2.5  | 1.8  | 2.5  | 2.8  | 3.0  | 2.7               |
| 256010302             | 3.0  | 2.2  | 2.8  | 2.4  | 2.7  | 2.2  | 1.8  | 2.2  | 2.2  | 2.2  | 2.4               |
| 256010303             | 3.0  | 2.7  | 2.8  | 2.5  | 2.7  | 2.5  | 1.8  | 2.3  | 2.5  | 2.5  | 2.5               |
| 256010304             | 3.0  | 2.3  | 2.8  | 2.7  | 2.5  | 2.0  | 2.3  | 2.7  | 2.2  | 2.7  | 2.5               |
| 256010305             | 3.0  | 2.3  | 2.8  | 2.7  | 2.5  | 2.0  | 2.3  | 2.7  | 2.2  | 2.7  | 2.5               |
| 256010401             | 3.0  | 2.8  | 2.8  | 2.8  | 2.7  | 2.7  | 1.8  | 2.5  | 2.5  | 2.7  | 2.6               |
| 256010402             | 3.0  | 2.7  | 3.0  | 2.8  | 2.8  | 2.3  | 1.7  | 2.8  | 2.2  | 2.8  | 2.6               |
| 256010403             | 2.2  | 2.7  | 2.8  | 2.0  | 1.8  | 3.0  | 1.5  | 2.3  | 2.3  | 2.2  | 2.3               |
| 256010404             | 1.5  | 2.5  | 2.3  | 2.0  | 2.0  | 2.0  | 1.8  | 2.0  | 1.8  | 2.0  | 2.0               |
| AVERAGE<br>ATTAINMENT | 2.78 | 2.39 | 2.81 | 2.45 | 2.40 | 2.38 | 1.74 | 2.39 | 2.26 | 2.33 | 2.39              |
| TOTAL                 | 52.8 | 45.4 | 53.4 | 46.6 | 45.7 | 45.2 | 33.0 | 45.3 | 43.0 | 44.2 | 45.5              |
| COUNT                 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0              |
| AVERAGE<br>ATTAINMENT | 2.78 | 2.39 | 2.81 | 2.45 | 2.40 | 2.38 | 1.74 | 2.39 | 2.26 | 2.33 | 2.39              |

**Tables 9: Indirect Attainment level of POs**

| Form name                         | PO1         | PO2         | PO3         | PO4         | PO5         | PO6         | PO7         | PO8         | PO9         | PO10        |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Alumni Survey                     | 2.66        | 2.66        | 2.71        | 2.63        | 2.61        | 2.75        | 2.66        | 2.64        | 2.70        | 2.55        |
| Student exit survey               | 2.82        | 2.64        | 2.66        | 2.61        | 2.64        | 2.75        | 2.64        | 2.57        | 2.75        | 2.71        |
| Employer survey                   | 2.79        | 2.86        | 2.79        | 2.64        | 2.83        | 2.86        | 2.79        | 2.79        | 2.79        | 2.71        |
| <b>Total</b>                      | <b>8.27</b> | <b>8.16</b> | <b>8.16</b> | <b>7.88</b> | <b>8.08</b> | <b>8.36</b> | <b>8.09</b> | <b>8.00</b> | <b>8.24</b> | <b>7.97</b> |
| <b>Average</b>                    | <b>2.76</b> | <b>2.72</b> | <b>2.72</b> | <b>2.63</b> | <b>2.69</b> | <b>2.79</b> | <b>2.70</b> | <b>2.67</b> | <b>2.75</b> | <b>2.66</b> |
| <b>20% of indirect assessment</b> | <b>0.55</b> | <b>0.54</b> | <b>0.54</b> | <b>0.53</b> | <b>0.54</b> | <b>0.56</b> | <b>0.54</b> | <b>0.53</b> | <b>0.55</b> | <b>0.53</b> |

**Tables 10: Attainment level of POs**

| SUBJECT                    | PO1         | PO2         | PO3         | PO4         | PO5         | PO6         | PO7         | PO8         | PO9         | PO10        |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 256010101                  | 1.00        | 0.67        | 0.94        | 0.83        | 0.83        | 0.73        | 0.67        | 0.66667     | 0.80        | 0.78        |
| 256010102                  | 1.00        | 0.73        | 0.94        | 0.89        | 0.72        | 1.00        | 0.47        | 0.72        | 0.80        | 0.61        |
| 256010103                  | 1.00        | 0.72        | 0.94        | 0.80        | 0.94        | 0.56        | 0.53        | 0.78        | 0.80        | 0.89        |
| 256010104                  | 1.00        | 0.72        | 0.94        | 0.87        | 0.89        | 0.72        | 0.60        | 0.78        | 0.87        | 0.89        |
| 256010105                  | 0.67        | 0.78        | 0.89        | 0.60        | 0.50        | 1.00        | 0.40        | 0.78        | 0.56        | 0.56        |
| 256010201                  | 1.00        | 0.72        | 1.00        | 0.83        | 0.89        | 0.56        | 0.50        | 0.78        | 0.72        | 0.72        |
| 256010202                  | 1.00        | 0.67        | 0.89        | 0.72        | 0.78        | 0.61        | 0.50        | 0.72        | 0.67        | 0.78        |
| 256010203                  | 1.00        | 0.89        | 0.94        | 0.83        | 0.83        | 0.83        | 0.58        | 0.78        | 0.78        | 0.78        |
| 256010204                  | 1.00        | 0.73        | 0.94        | 0.80        | 0.72        | 1.00        | 0.58        | 0.83        | 0.73        | 0.47        |
| 256010205                  | 0.72        | 0.89        | 0.94        | 0.80        | 0.67        | 1.00        | 0.56        | 0.94        | 0.78        | 0.72        |
| 256010301                  | 1.00        | 0.89        | 1.00        | 0.94        | 0.89        | 0.83        | 0.61        | 0.83        | 0.94        | 1.00        |
| 256010302                  | 1.00        | 0.72        | 0.94        | 0.80        | 0.89        | 0.72        | 0.60        | 0.72        | 0.73        | 0.72        |
| 256010303                  | 1.00        | 0.89        | 0.94        | 0.83        | 0.89        | 0.83        | 0.60        | 0.78        | 0.83        | 0.83        |
| 256010304                  | 1.00        | 0.78        | 0.94        | 0.89        | 0.83        | 0.67        | 0.78        | 0.89        | 0.72        | 0.89        |
| 256010305                  | 1.00        | 0.78        | 0.94        | 0.89        | 0.83        | 0.67        | 0.78        | 0.89        | 0.72        | 0.89        |
| 256010401                  | 1.00        | 0.94        | 0.94        | 0.93        | 0.89        | 0.89        | 0.61        | 0.83        | 0.83        | 0.89        |
| 256010402                  | 1.00        | 0.89        | 1.00        | 0.94        | 0.94        | 0.78        | 0.56        | 0.94        | 0.72        | 0.94        |
| 256010403                  | 0.72        | 0.89        | 0.94        | 0.67        | 0.61        | 1.00        | 0.50        | 0.78        | 0.75        | 0.72        |
| 256010404                  | 0.50        | 0.89        | 0.94        | 0.67        | 0.61        | 1.00        | 0.50        | 0.78        | 0.75        | 0.72        |
| SUM OF PO                  | 17.61       | 15.19       | 18.00       | 15.54       | 15.17       | 15.40       | 10.92       | 15.22       | 14.51       | 14.80       |
| COUNT OF PO                | 19          | 19          | 19          | 19          | 19          | 19          | 19          | 19          | 19          | 19          |
| <b>DIRECT TARGET (AVG)</b> | <b>0.93</b> | <b>0.80</b> | <b>0.95</b> | <b>0.82</b> | <b>0.80</b> | <b>0.81</b> | <b>0.57</b> | <b>0.80</b> | <b>0.76</b> | <b>0.78</b> |
| ATTAINMENT OF PO DIRECT    | 2.78        | 2.39        | 2.81        | 2.45        | 2.40        | 2.38        | 1.74        | 2.39        | 2.26        | 2.33        |
| 80% OF DIRECT ATT          | 2.22        | 1.91        | 2.25        | 1.96        | 1.92        | 1.90        | 1.39        | 1.91        | 1.81        | 1.86        |
| 20% OF INDIRECT ATTAINMENT | 0.55        | 0.54        | 0.54        | 0.53        | 0.54        | 0.56        | 0.54        | 0.53        | 0.55        | 0.53        |
| <b>TOTAL</b>               | <b>2.78</b> | <b>2.46</b> | <b>2.79</b> | <b>2.49</b> | <b>2.46</b> | <b>2.46</b> | <b>1.93</b> | <b>2.44</b> | <b>2.36</b> | <b>2.33</b> |

*Athava*