



<b>Document Number: GCOERC/PGL/15</b>		<b>Date: 21.02.2020</b>
<b>Title: Policy Guidelines for Internal Evaluation of Students</b>		
<b>Reference / Inputs:</b>	<ol style="list-style-type: none"> <li>1. University syllabus</li> <li>2. Academic calendar</li> <li>3. Course coverage</li> <li>4. Laboratory Manual</li> </ol>	
<b>Outcome of the Document</b>	<ol style="list-style-type: none"> <li>1. Unit test related schedule</li> <li>2. Unit test question papers</li> <li>3. Unit test attendance and evaluation records</li> <li>4. Term work submitted by students</li> <li>5. Practical / Assignment evaluation records</li> <li>6. CO Attainment records</li> </ol>	

**1) Introduction:**

The purpose of Evaluation and Examination is to assess student's attainment through the teaching and learning process. It is necessary to track the students progress during the learning phases. It is equally necessary to the authorities to assure that the work entrusted to its institutes being carried on satisfactorily and that the students studying there are receiving the right type of education and attaining the expected standards. Examinations are the normal means adopted for this purpose.

**2) Objectives:**

<b>Objective</b>	<b>Measurement</b>	<b>Indicator</b>
To assess the learning outcome of the student during the semester	To determine CO attainment through Unit test, Practical/Assignment	Level of attainment
To initiate actions for continual improvement	Number of actions taken to improve the PO attainment	Number of actions taken

**3) Formation of Academic Committee at institute level:**

Following are the details of the committee members:

- Principal – Chairman
- Academic Dean – Member Secretary
- One faculty from each department - Member



#### 4) Frequency, Quorum and Tenure of the committee :

**Frequency:** The committee shall meet at least twice in a semester.

**Quorum:** Shall be 50% of which presence of Chairman and Member Secretary is mandatory.

**Tenure** : Committee shall have tenure of one academic years or the Principal and Member Secretary will decide to be revised as and when required

#### 5) Process:

For smooth conduction of the internal examination, each department shall appoint a faculty as an in-charge for the internal examination.

##### I) Conducting Unit test:

1. In each semester, two unit tests are to be scheduled and conducted as per academic calendar
2. Total marks of the question paper will be 30/70 and or as decided by the Academic committee.
3. Subject teacher should set the test paper ensuring that the relevant CO (course outcomes) are covered in question paper.
4. Subject teacher should submit the copy of question paper, model answer and marking scheme script to the department examination incharge.
5. To ensure robustness departmental examination incharge will maintain all the question papers in his custody
6. Subject teacher should evaluate the answer sheets and declare the score preferably within 15 days. To ensure transparency, answer sheets to be discussed with students when demanded by the students.
7. Each subject teacher should prepare CO attainment sheet and submit the same to departmental examination incharge (Refer Annexure 15.1).
8. Record the results of class test in academic diary

##### II) Arrangements for Conducting the Class test:

1. Departmental examination incharge will prepare the Notice / Schedule for the examination and display on notice board and disseminated through electronic media like WhatsApp group.



2. Departmental examination incharge will circulate the information regarding the setting of question paper, invigilation duties and evaluation to concern faculty.
3. Departmental examination incharge will make arrangements for the printing of question papers from central examination office
4. Invigilators should be provided with roll list of the students for the attendance purpose and blank answer sheets.
5. Stationary record to be maintained by the examination incharge.
6. Departmental examination incharge will prepare the seating arrangement chart and will display prior to the examination as approved by HoD.

### **III) Continuous Assessment through laboratory work:**

- 1) The list of practicals along with relevant COs and lab manual to be made available to the students.
- 2) Conduct the experiment (While conducting the experiment ensure that 2-3 students will take at least one reading during the experimentation)
- 3) Each experiment to be assessed out of 10 Marks as per following guidelines:
  - a) 4 marks for cognitive knowledge about the experiment (write-up for the practical and attendance in related theory discussion).
  - b) 4 marks for psycho-motor skills like how he/she performed the experiment, recorded the readings and analyzed the obtained readings.
  - c) 2 marks for timely evaluation.
- 4) Maintain the records in academic diary and evaluate the CO attainment (Refer Annexure 15.1)
- 5) At the end of the semester, subject teacher should prepare the CO attainment sheet and record the same in academic diary.

### **VI) Final internal evaluation of term work:**

Final internal evaluation of term work to be done as per Annexure 15.2



## Annexure: 15.1

### Process for obtaining the Attainment of Course Outcomes

(Assessment processes used to gather the data for the evaluation of Course Outcome)

In the Outcome Based Education (OBE), assessment is done through one or more than one processes, carried out by the institution, that identify, collect, and prepare data to evaluate the achievement of Course Outcomes (CO's)

For CO Assessment Process's two methods used for assessment of course outcomes as:

#### **Direct methods and In-direct methods.**

Direct Methods display the student's knowledge and skills from their performance in the continuous internal assessment tests and laboratory assignments etc. These methods provide strong evidence of student learning shown in Table no: A

Table A: Direct Assessment Tools

Assessment Tools	Assessment process	Responsibility
Unit Test	Internal exam papers evaluated by the concerned faculty	Department/ Individual Faculty
Practical/Assignments	Practical/Assignment Evaluation done on performance basis	Department/ Individual Faculty

### Process for determining the CO attainment:

Based on the performance of the students the assessments throughout the semester CO attainments calculated as explain:

Course Outcomes are narrower statements that describe what students expected to know, and be able to do at the end of each course. These relate to the skills, knowledge, and behavior that students acquire through the course.

The CO attainment levels are to be measure based on the results of the cumulative internal evaluations tools (CIE - Weightage 40%) and semester end external examination (SEE- Weightage 60%) conducted by the affiliating University. This is a form of direct measurement of attainment having weightage of 80%.

The Complete CIE and SEE assessment process is explain here by giving an example of course Mechatronics (Third Year Mechanical Engineering)



### Cumulative Internal Evaluations:

For CIE assessment, unit tests and practical/assignment to be considered for every course included in the program

Following table (table B) summarizes the reforms taken during each academic year for the evaluation of CO attainment through CIE

Table B

Academic year	Tools Considered
2016-17	Practical/Assignments
2017-18	Unit Test – 1 & Practical/Assignments
2018-19 onwards	Unit Test – 1, Unit Test - 2 & Practical/Assignments

#### A) Unit Test:

- 1) Paper set by the respective faculty by mapping of question with CO/CO's.
- 2) Answer sheets are evaluated
- 3) Mark sheet of unit test submitted by faculty department. The sample of unit test mark sheet is shown in Table C
- 4) The unit test mark sheet shows the CO attainments and it is calculated by formula:

$$\sum (\text{Marks Scored by Each student}) / (\text{Number of Students attempt Q1}) * 100$$

Note: Average marks scored by the students in respective question considered as CO attainment of respective question

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**Table C: Unit test CO attainment**

Guru Gobind Singh College of Engineering and Research Centre, Nashik														
CO Attainment- Unit Test-I										Max. Marks:				
Department:	Name of Teacher:									Academic Year:				
Name of Subject:	Class & Div:									Subject Code:				
Date of Test:	Date of Result:													
QUESTIONS	Q1	Q1	Q2	Q2	Q3	Q3	Q4	Q4	Q5	Q5	Q6	Q6	Max	Max
														Marks
Max. Marks Allotted:														
Unit No.:														
Mapped with Course Outcome:														
Average Percentage of Marks Scored:														
CO														
%Attainment CO-wise														
Roll No	Name of Student	Q1	Q1	Q2	Q2	Q3	Q3	Q4	Q4	Q5	Q5	Q6	Q6	Total Mark
<b>Total:</b>														
<b>Average:</b>														
<b>Average Percentage of Marks Scored:</b>														
<b>Maximum Marks Scored:</b>														
<b>Minimum Marks Scored:</b>														
<b>No. of Students Attempted a Question:</b>														



**B. Practical/Assignments:**

- 1) Practical's/Assignments mentioned in curriculum are mapped with the relevant CO.
- 2) Mentioned Practical are performed by the students and assessed continuously.
- 3) The CO attainments for the Practical's/Assignments are calculated in same manner as considered for Unit test. Example is shown in table D

**Table D: CO attainment of Practical/Assignment**

Guru Gobind Singh College of Engineering and Research Centre, Nashik												
CO Attainment- Practical												
Department:		Name of Teacher:					Academic Year:					
Name of Subject:		Class & Div:					Sub. Code:					
Max. Marks Allotted:												
Practical No.:												
Mapped with Course Outcome:												
Average Percentage of Marks Scored:												
CO												
%Attainment CO wise												
		Practical No.										
		1	2	3	4	5	6	7	8	9		
R. N.	Name of Student											
<b>Total:</b>												
<b>Average:</b>												
<b>Average Percentage of Marks Scored:</b>												
<b>Maximum Marks Scored:</b>												
<b>Minimum Marks Scored:</b>												
<b>No. of Students Attempted a Question:</b>												



The CO attainment of course through CIE calculated by taking the average of considered tool in the percentage. The percentage then converted into the levels mentioned below.

Level 1: Below 40%

Level 2: 40% to 59.99%

Level 3: 60% and above

### Semester End Examination conducted by the University (SEE) –

The program is divided into four years First, Second, Third and Final Year and Semester End Examination has conducted by the affiliated university according to the years. End semester examination pattern of affiliated university for each year is mentioned in Table E

Table E: Marking Scheme of University Examination

Year	SEE Categories			
	Online/Insem Marking Scheme	Marking Scheme Endsem	Term wok	External Practical Examination
First year	Online	50	50	NA
Second Year	Online	50	50	for selective subject and marking scheme is of 25/50 for selective subject and marking scheme is of 50
Third Year	Insem	30	70	
Fourth Year	Insem	30	70	

After declaration of university results, course wise marks of each students are tabulated by considering the applicable criteria mentioned in table 3.2.1D. the summation of marks of all applicable criteria are converted in 100-point scale for calculating percentage. As attainment levels are set in percentage. The percentage is converted into the levels mentioned below.

Level 1: Below 40%

Level 2: 40% to 59.99%

Level 3: 60% and above

The sample for SEE of course Mechatronics is given in table F





Table F: University Examination Evaluation (SEE)

Guru Gobind Singh College of Engineering and Research Centre, Nashik									
<b>Department:</b>		<b>Name of Teacher:</b>		<b>Below 40</b>	<b>Level-1</b>				
<b>Name of Subject:</b>		<b>Class &amp; Div:</b>		<b>40-59.99</b>	<b>Level-2</b>				
<b>Subject Code:</b>		<b>Academic Year:</b>		<b>60 &amp; Above</b>	<b>Level-3</b>				
University Evaluation									
Sr. No	Exam Seat No.	Name of students	Insem	Theory	OR	Total	%	Level	
-									
-									
			<b>Average of the attainment level</b>						

Attainment of each CO then calculated by combining the CIE and SEE.

The weightage considered for CIE and SEE is 40% and 60% respectively, hence the attainment of each CO is calculated as -  $0.40 \times \text{CIE Level} + 0.60 \times \text{SEE Level}$ . The CO of attainment for the course is the average of all mapped CO's.