



VISVESVARAYA



COLLEGE OF ENGINEERING & TECHNOLOGY

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Sponsored by : Jawahar Educational Society, An ISO 9001 : 2018 and ISO 14001 : 2015 Certified Institution

3.3.1 Describe the assessment tools and processes used for measuring the attainment of each of the Program Outcomes and Program Specific Outcomes(2023-24)

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Department of Electronics & Communication Engineering

ASSESSMENT PROCESS (R22)

VCET/ECE/C3/ASS PROCESS

A. List of CO assessment processes

The Department has recognized that the commitment to teaching and learning must include assessing and documenting to what extent students are learning and using this information to improve the educational experiences being offered. While there is certainly a strong external drive for Outcome Assessment, the Department's approach to Outcome Assessment focuses primarily on improving student learning. In many ways, Outcome Assessment is a process that we, as educators, follow strictly. When we articulate the main goals for a course, we check to see whether the students have achieved them, and then use the results to make our courses better. The Department Outcome Assessment approach takes advantage of what we are doing by formalizing the process and broadening our individual efforts.

ASSESSMENT TOOLS USED:

DIRECT ASSESSMENT TOOLS:

Assignment: The assignment is a qualitative performance assessment tool designed to assess students' knowledge of engineering practices, framework, and problem solving. An analytic rubric was developed to assess students' knowledge with respect to the learning outcomes associated with the current scenario tool. Both the home assignment and the assignment contribute overall marks of 5 towards the internal assessment.

Objective: Objective is a Multiple-Choice Questions (MCQ) based and fill in the blanks-based examination system that provides an easy way to assess objective skills which involves certain short and analytical concepts of the course. This Objective exam contributes overall marks of 10 towards the internal assessment. The objective question paper is given by the University. The objective exam contributes 10 marks towards the internal assessment.

Descriptive: This type of performance assessment is carried out during the examination sessions which are held twice a semester. Each and every session is focused in attaining the course outcomes. This type of assessment helps in evaluating the students' understanding of the course concepts in an elaborative way. This Descriptive exam contributes an overall of 10 marks towards the internal Descriptive marks. All put together, the internal assessment is evaluated for 25 marks which includes the assignments, Objective, and Descriptive Exams.

Semester End Examination: Semester end examination is more focused on attainment of course outcomes and program outcomes using descriptive exam

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Department of Electronics & Communication Engineering

VCET/ECE/C3/ASS PROCESS

R22 REGULATION

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Descriptive: This type of performance assessment is carried out during the examination sessions which are held twice a semester. Each and every session is focused in attaining the course outcomes. This type of assessment helps in evaluating the students' understanding of the course concepts in an elaborative way. This Descriptive exam contributes an overall of 20 marks towards the internal Descriptive marks. All put together, the internal assessment is evaluated for 35 marks which includes the assignments, Objective, and Descriptive Exams.

Subject Viva-Voce/PPT/Poster presentation /case study on a topic in the concerned subject for 5 marks.

Semester End Examination: Semester end examination is more focused on attainment of course outcomes and program outcomes using descriptive exam

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INDIRECT ASSESSMENT TOOLS:

Survey reports: Indirect assessment strategies may be easily implemented by embedding them at the end of course Evaluation form, Alumni Survey and Employer Survey.

Graduate/Exit Survey: Graduate / Exit Survey is carried out during the program.

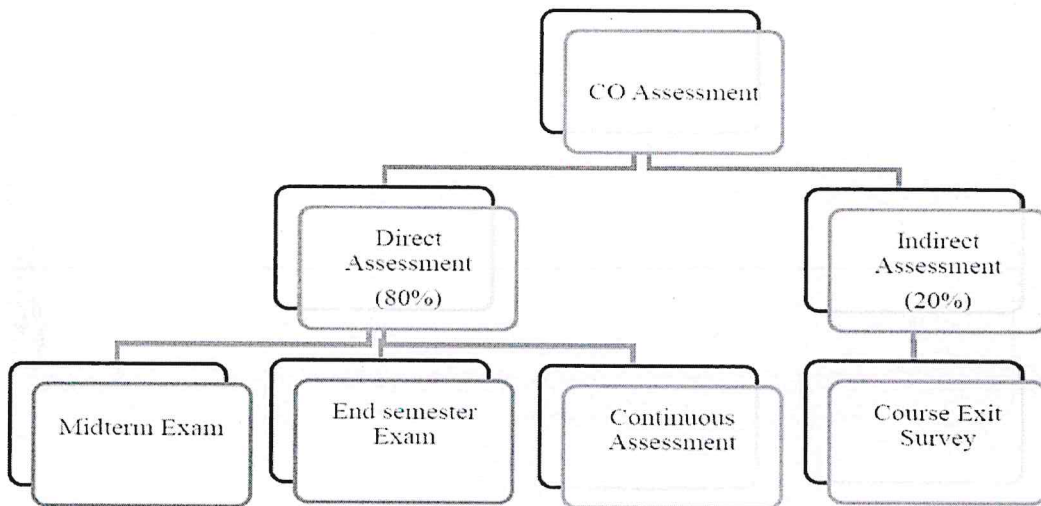
Alumni Survey: After one year of graduation alumni survey is formulated.

Employer Survey: After one year of graduation employer survey is assessed.

Finally, in evaluating the Course Outcomes, we take weighted average of the 75 % of the direct assessment and 25 % of the indirect asses.

Assessment of Course Outcomes:

(a) Theory Courses:

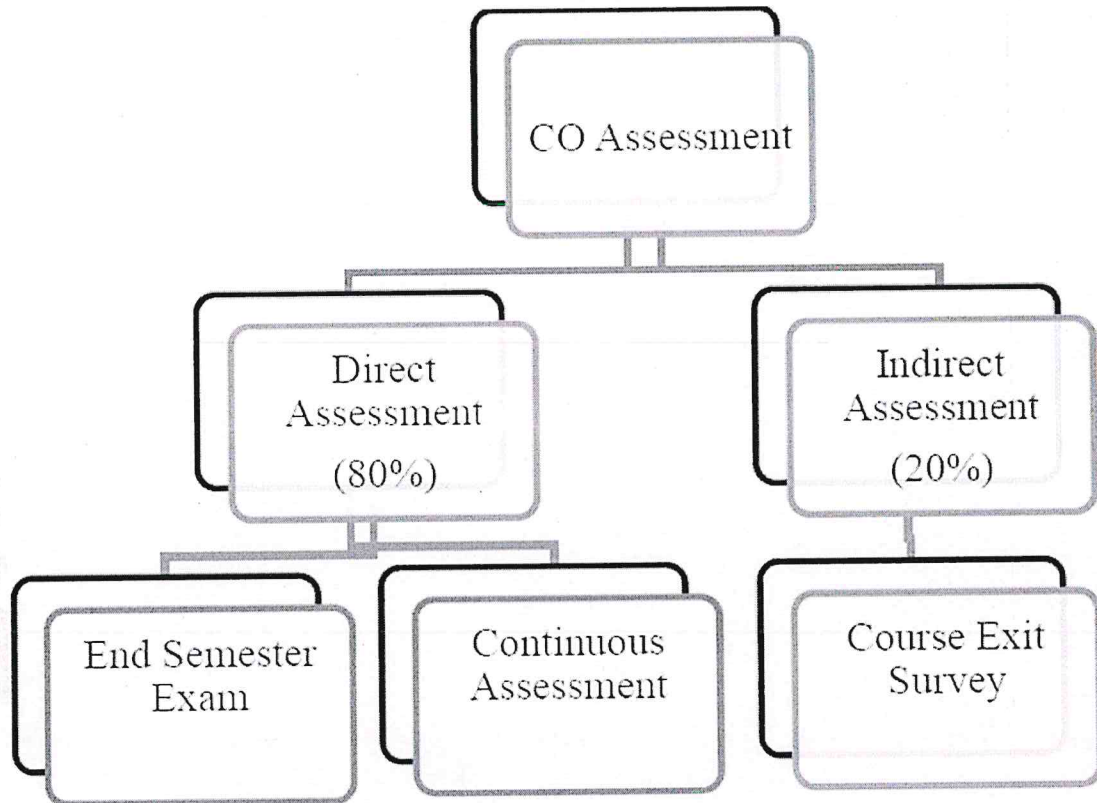


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(b) Laboratory/ Practical Courses:



Marks allocation by University: The division of marks given by university, and weightages in arriving at the attainment of CO are given below. The CO assessment is carried out through CIE and SEE with the following proportions:


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Table: Weightage of Marks for CIE: SEE

Type of Course	Internal Marks(CIE)	External Marks(SEE)	Total Marks	Net CO attainment level as per weightage
Theory	40	60	100	0.4*CIE Level+ 0.6*SEE Level
Laboratory	40	60	100	0.4*CIE Level+ 0.6*SEE Level
Real time project/field based research project	50		50	CIE Level
Industrial Oriented Mini Project/ Summer internship		100	100	SEE LEVEL
Project Stage - I	100		100	CIE Level
Project Stage-II	40	60	100	0.4*CIE Level+ 0.6*SEE Level
Mandatory Course	100		100	CIE Level

Based on combined marks (i.e., CIE+SEE) obtained by the candidate, Letter grades are awarded as shown below and corresponding Grade Points are also shown in table

% of Marks Secured in a Subject/Course (Class Intervals)	Letter Grade (UGC Guidelines)	Grade Points
Greater than or equal to 90%	O (Outstanding)	10
80 and less than 90%	A+ (Excellent)	9
70 and less than 80%	A (Very Good)	8


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60 and less than 70%	B+ (Good)	7
50 and less than 60%	B (Average)	6
40 and less than 50%	C (Pass)	5
Below 40%	F (Fail)	0
Absent	Ab	0

Table: Letter grades with respect to academic Performance

For attainment of course outcomes

Final Letter grades obtained by each student in the course are made available by university.

These Letter grades must be converted to marks as shown in below table

% of Marks Secured in a Subject	Letter Grade	Corresponding Marks
Greater than or equal to 90%	O	1 *Max SEE Marks
80 and less than 90%	A+	0.89* Max SEE Marks
70 and less than 80%	A	0.79* Max SEE Marks
60 and less than 70%	B+	0.69* Max SEE Marks
50 and less than 60%	B	0.59* Max SEE Marks
40 and less than 50%	C	0.49* Max SEE Marks
Below 40%	F	0.39* Max SEE Marks

Table: Conversion of Letter grades into corresponding marks

Frequency of Data Collection

The data required for calculating attainments is to be gathered. Each course instructor maintains the data required like Internal Marks mid wise and External Marks of their respective course. The frequency of data collection for each assessment tool is shown in a table.


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Assessment Tool	Frequency
University Examination	Once a semester
Mid Examination	Twice a semester
Assignments	Twice a semester
Internal/External Lab Examination	Once a semester

Table: Data Frequency

Attainment of COs for Theory Courses:

Attainment of theory courses calculated based on student performance in Continuous Internal Evaluation (CIE) and Semester End Examination (SEE)

Overall CO attainment= $0.4 \times \text{CIE Level} + 0.6 \times \text{SEE Level}$

These values of the CO levels for the course are then used for mapping the PO attainments, using the array of target PO values for the course.

2. The Quality / Relevance of Assessment Process & tools used (8)

Theory:

Mid-semester Test: The Mid-semester test encourages students to cope with subject matter covered in class. The questions satisfy Bloom's taxonomy, wherein each question is mapped to the appropriate course outcome of the respective course and assessed based on the set attainment levels.

Major Test: Major test is conducted once at the end of every semester to evaluate the students' performance. The questions are designed to assess students' knowledge of engineering practices, frameworks, and problem-solving skills.

Continuous Assessment: Continuous assessment in the form of assignments, oral quizzes, MCQ are the qualitative performance assessment tools to assess the promptness and understanding of the subject. Student's submissions are evaluated based on work quality, time limit, and originality. The questions in the assignment are mapped to the Course outcomes of the subject.

Laboratory:

Lab courses provide students with first-hand experience with course concepts and the opportunity to explore experimental methods and their application in the field.

Continuous assessment: All the students are expected to be regular and learn the application aspects of the various tests and develop the necessary skills to analyse the testing data and application in designing various Electrical and Electronics Engineering structures and facilities. It also facilitates interaction among the students and develops the team spirit required to cope with advancing worlds. Performance assessment is based on the ability of the student to actively participate in the successful conduct of prescribed practical work and draw appropriate conclusions. The student submits a record of experimental work performed in each class.

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Major laboratory exam: A major laboratory exam is conducted to assess the ability of a student to perform a given task by integrating the knowledge gained from related theory courses and regular laboratory sessions. The exam includes viva voce and performing a given experiment.

Seminar:

The seminar is a part of the sixth-semester curriculum. The student makes two seminar presentations (preliminary and a final) on a topic of their choice and is approved by the assigned faculty. A seminar presentation is planned for 30 minutes, including a question-answer session of 5 to 10 minutes. The seminar is evaluated based on flow and the material presented presentation by the students before an evaluation committee consisting of three faculty members, including the Head of the Department. The committee generally evaluates the seminar based on the following parameters.

Relevance: The seminar PowerPoint presentation generally covers the fundamentals and advanced topics in engineering. The importance of the topic is considered to assess the seminar.

Presentation: The flow of presentation and communication skills are essential tools to evaluate. **Viva-voce:** At the end of the presentation, the assessment panel and the audience ask their doubts and questions about the seminar topic. The effectiveness of the students' response to these queries is also assessed.

Report and Documentation: A seminar report is submitted at the end of the semester. This report presents the subject matter in a detailed manner. Students' ability to comprehend and effective writing is assessed based on the report.

Project

The Project is intended to test intellectual and innovative abilities and allow students to synthesize and apply the grasped knowledge and analytical skills learned to solve real-life problems. The project work started in the seventh semester and continued in the eighth semester.

Project-7th Semester:

Students are expected to discuss possible topics of interest with a faculty member and develop the final topic. The students are supposed to finalize the topic and complete the literature review within the first half of the seventh semester. The students are expected to submit the proposed projects relevance, literature survey, scope, objectives, time schedule, and cost estimate during the semester.


Assessment tools used to evaluate project work are:

Mid-term Evaluation: Mid-term evaluation is conducted in the mid of the semester, and a group panel evaluates the work based on various parameters. The feasibility and significance of the work are two major assessment criteria. The basic understanding of the topic and presentation skills are also evaluated by the panel based on their performance.

End-term Evaluation: End-term evaluation is conducted at the end of the semester in the form of a presentation. Detailed report submission is also compulsory. At the end of the presentation, the assessment panel and the audience ask their doubts and questions about the topic. The effectiveness of the students' response to these queries is also assessed. The submitted project report is assessed.

Project –8th Semester

To assessment tools are almost identical to those of the 7th-semester project work. Like 7th-semester project work, the evaluation is made in the mid-semester (Mid-term Evaluation) and at the end of the semester.


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Examiners examine whether the project demonstrates a high level of understanding and originality in the analysis (theoretical and /or empirical). The project topic should make a significant contribution to the knowledge base of the discipline and field of study. The topic should be innovative, having a future scope and the results should be appropriate and of high quality.


IN-CHARGE


HOD-ECE



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Department of Electronics & Communication Engineering

VCET/ECE/C3//CO-ATT

CO ATTAINMENT PROCESS

A. Direct attainment

Each course is evaluated based on direct and indirect assessment tools. Direct assessment tools include internal exams, assignments, and university examination.

Measuring Course Outcomes attained through University Examinations:

The evaluation of the answer scripts of the University examinations is done by external evaluators. Since the University does not provide the statistics on the performance of students in each individual Course Outcome (CO), the threshold is kept as 40 % marks.

Following are the criteria's set for assessing the Course Outcomes Attainment for each of the courses.

Level 1: $\geq 40\%$ Students scored greater than % target

Level 2: $\geq 50\%$ Students scored greater than % target.

Level 3: $\geq 60\%$ Students scored greater than % target

Course Attainment = $0.8*(a) + 0.2*(b)$

a=Direct attainment, b=Indirect attainment

Measuring CO attainment through Internal Assessments

The faculty has the freedom to set question paper of his/her choice of the standard pattern and prescribed cognitive level in the syllabus. The quality of the question paper is verified by the module coordinator consisting of the subject experts. Since the assignments can be of varied structure, the faculty has the freedom to assess the student performance in suitable ways. Question papers for internal series tests and questions for assignments are prepared in such a way that each question gets mapped with any of the Course Outcomes of the course with appropriate cognitive levels 1 to 6. Module coordinator along with the head of the department ensures the mapping of COs with POs and PSOs.

The CO weightage of each series exam and assignments are generated separately. Average CO weightage from the series exams and assignments are calculated next. Based on the average CO weightage value for internals, CO attainment value is calculated by finding the percentage of students who achieved the threshold value. The threshold is kept as 50% for internal assessment as class average in internals comes around 60% in most of the subjects.

The formation of the three attainment levels is described as follows.

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B. Indirect attainment

Indirect assessment is based on course exit survey conducted for each course and program exit survey. The survey form consists of questions associated with the COs defined for the particular course. Students can mark any one of the levels 3, 2 and 1 indicates Excellent, Very good and Satisfactory respectively. CO attainment is calculated based on rating, the rating is quantized into levels by calculating the percentage of students rating very good and above. 20 % of indirect attainment will be contributed towards the total CO attainment calculation.

Course Outcome attainment

The overall attainment of the course is calculated by giving 80% weightage to direct attainment (from university examinations and Internal evaluation) and remaining 20% weightage is given to indirect attainment (from course exit survey). Procedure for calculating course outcome attainment is also presented in Fig.

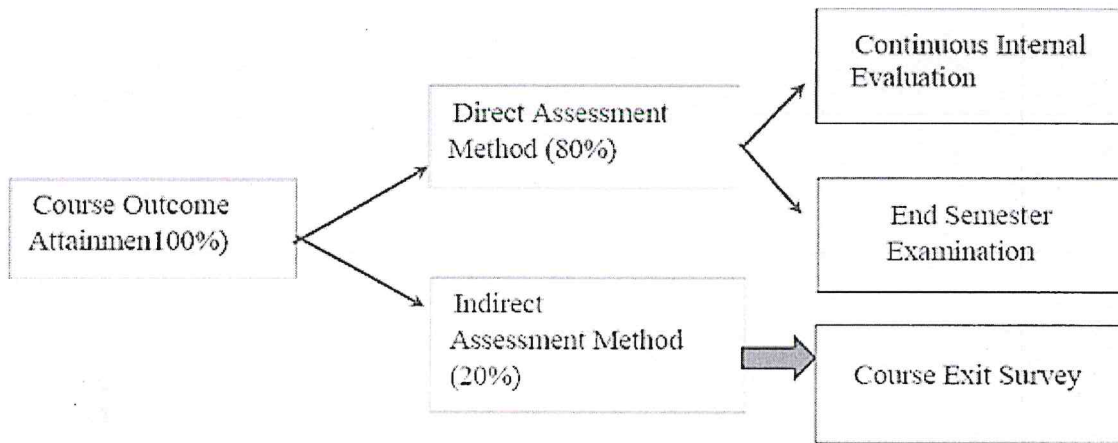


Fig: Procedure for Calculating Course Outcome Attainment

CO attainment target

The department has set CO attainment target to fill the gap if any, by taking action plan to improve and is kept as 40 %. The attainment attained is compared with the set CO attainment target. If it is below the set attainment target, improved teaching strategies are planned for next academic session. If the CO target is attained, target is increased for next academic session. The process for CO attainment is depicted in flow chart Figure.

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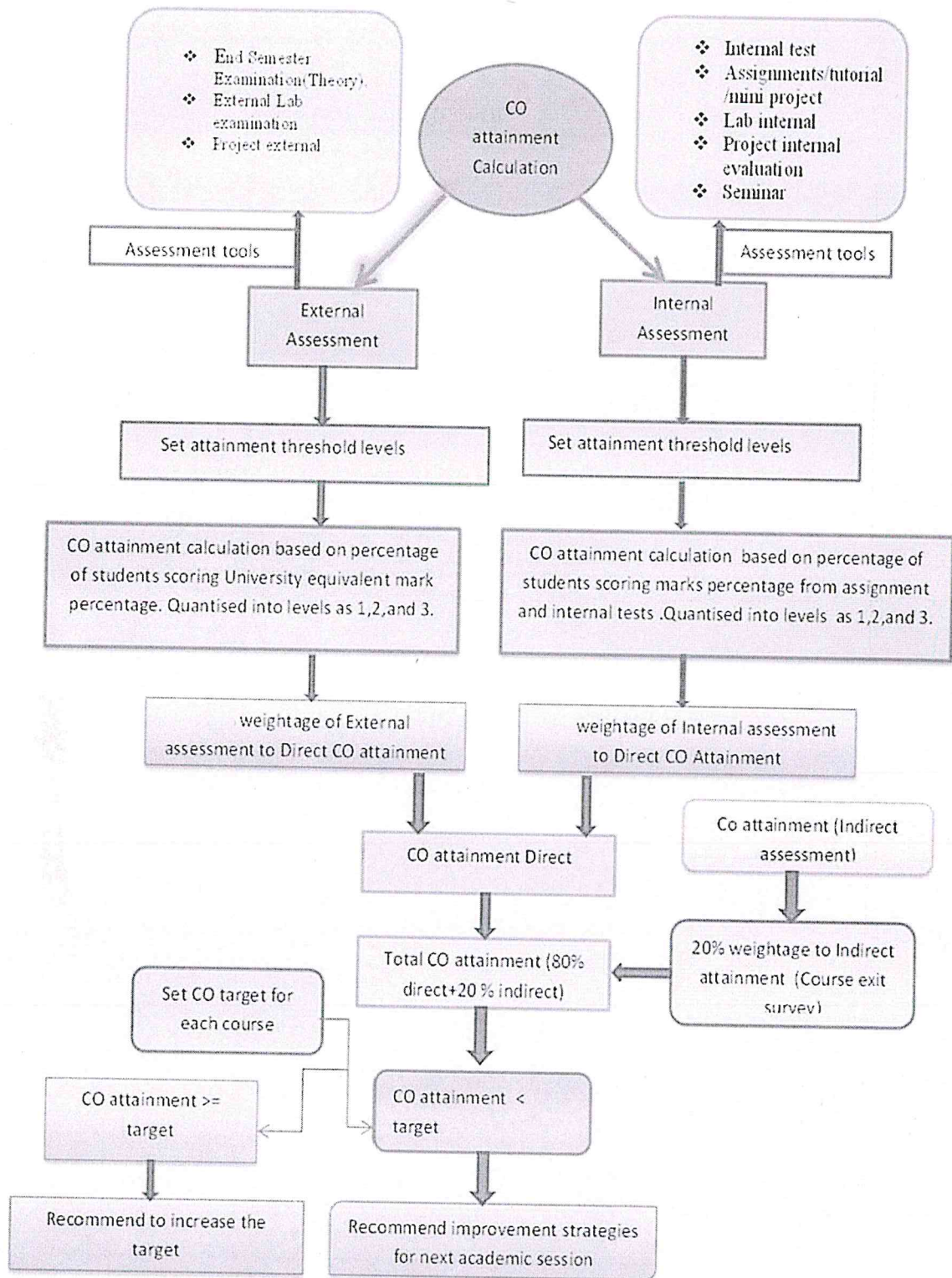


Figure: Procedure for CO Attainment and Continuous Improvement


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The Institution strives hard to ensure that the Learning across all the courses of the curriculum is Outcome oriented. There is continuous assessment of Learning outcomes attainment, and this procedure has been refined over a period of time.

The following are the two broadly classified methods used for assessment of Learning Outcome Attainment

- Direct Assessment Method
- Indirect Assessment Method

Direct Method –

Direct method is used for calculating the CO attainments for

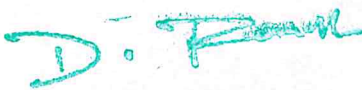
1. Theory courses
2. Laboratories
3. Projectworks

The following table represents a summary sheet for the assessment via Direct Method.

Subject Type	Assessment Tools	Assessment Frequency	Responsibility
Theory	Internal examination + Assignment	Twice in a Semester	Individual Faculty
	End Examination	Once in a Semester	Individual Faculty
Laboratory	Internal	Internal Exam	Individual Faculty
	External	End Semester Exam	Individual Faculty
Project Works	Internal Reviews	Reviews	Project Review Committee
	Semester end exam	End Semester Exam	Project Coordinator

I.TheorySubjects

COURSE OUTCOME ASSESSMENT		
Assessment Pattern		
Assessment Type	Weightage	Assessment Tool
Direct Attainment	80%	CIE-I:40 marks • Descriptive (4 out of 6) based on question wise CO mapping -4x5=20 • Objective (10) • Assignment (5) CIE-II:40 marks • Descriptive (4 out of 6) based on question wise CO mapping -2x5=10 • Objective (10) • Assignment (5) • PPT(5) Semester End Examination (60 Marks)
Indirect Attainment	20%	Course End Semester Feedback


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Indirect Attainment	20%	Course End Semester Feedback

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Indirect Method

1. Student Exit Survey(Yearly):

Student Exit surveys are conducted once every year for the graduating students to gather data on the curriculum, specific exam questions, mid sessional exam questions, assignments, comprehensive viva-voice, and project presentation and therefore assess the attainment of each PO through these questionnaires. The information on their overall impression about the college, department, supporting departments and facilities such as library, physical education, canteen, academic section, examination section, accounts section, health center, transport, student activities etc. This helps in removing the deficiencies and improving further various aspects of students support services. The teaching learning process, curriculum and evaluation process will be relooked based on the feedback hence obtained. The following is a sample sheet for the Student Exit Survey conducted for the Academic Year 2021-22. Also find below the mapping of each of these questions to the POs and PSO.

FEEDBACK FORM FOR EXIT STUDENTS

Dear Exit Student,

Lords College heartily congratulates you for successfully completing your Four-year Engineering Degree.

Please spend few minutes and give us your valuable suggestions which will help us to improve the standards of your juniors.

Regd. No.	
Name of the Student	
Program Name	
Phone number	
Email-ID	

Please answer the questions below to help the authorities for improving the methodology of teaching learning process. Tick mark against the appropriate square block.

Please answer the following questions	Evaluate on following scale:		
	Excellent	Good	Satisfactory
	3	2	1
1) Can You apply the basic principles of mathematics, science and engineering to solve the complex engineering problems?			
2) How effectively do you analyze the problems of engineering?			
3) Can you design solutions for complex problems from your academic knowledge for sustainable growth?			
4) How far you are able to investigate a problem by utilizing research-based knowledge and methods which you have learnt from academics in research-oriented way.			
5) Have you learnt about current technologies and modern engineering tools?			

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6) Can you serve the society with your knowledge achieved from your studies?			
7) Have you learnt any basic skills to survive in the society?			
8) Have you come to know ethical values from academics?			
9) Will your efforts in academic projects help you out to work in diverse teams?			
10) How far your academics helped you to enhance your communication skills?			
11) How did you demonstrate and apply the knowledge acquired from your academics at the time of project documentation and implementation?			
12) Can you learn independently throughout your life for career development?			
13) Have you learnt to develop software for quality products independently / as a group applying modified engineering principles?			
14) Did your academics give you enough knowledge to write competitive exams for successful career?			


Your feedback is valuable, which will lead to achieve further improvement in the system.

Write a few words about college environment that made you a graduate engineering.

Give your comments for further developments that are needed in LIET's academic and non-academic activities.

Date:

Signature.


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2.Alumni Survey(Yearly)

Every year alumni survey is conducted to receive inputs from alumni on the relevance of the curriculum in contributing to their success or otherwise in their employment or higher studies and their feedback will be of great help in the curriculum revision. Besides this they also give information about the utility or otherwise of various courses in basic sciences, mathematics, humanities, engineering sciences, core courses and professional electives which will indicate the extent of attainments of POs and their prospective revisions. Below is a sample sheet of the Alumni Feedback taken every year along with its mapping to POs and PSOs.

FEEDBACK FORM FOR ALUMNI

Thanking you for taking time to respond to this survey for ___Dept. alumni. Your ideas and opinions are very important to our programs and our efforts to continuously improve these programs. You may use available blank space at the end for comments.

Alumni Name	
Year of Graduation	
Present Address	
Email-ID	
Contact	
Present Occupation(Please send appointment letter copy to the HOD at the earliest)	
Whether undergone higher education: Yes/No(If Yes, please send Admission details at the earliest)	

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Please answer the following questions	Evaluate on following scale:		
	Excellent	Good	Satisfactory
	3	2	1

1. How effectively the engineering knowledge is helpful in your real life?			
2. How far did you apply mathematical formulas and algorithmic principles to design and implement engineering system?			
3. How far your studies helped you to meet the specific needs of society?			
4. How far you are able to apply studies in research-oriented way to investigate complex problems?			
5. Did you acquire your knowledge to meet modern engineering tools and current technologies?			
6. How far you are able to serve the society with your Engineering knowledge?			
7. How far your engineering skills did help you to sustain in global environment for career achievement?			
8. Did your studies inculcate the professional ethics for a successful career?			
9. How effectively your activities in the college helped you to work in diverse teams as an individual/leader?			
10. How far your efforts on academic projects helped you to meet real time presentations / documentations and enhance your overall communication skills?			
11. How far you have knowledge on engineering and management principles which helped you to manage the projects as a leader/team?			
12. How far are you ready to recognize and prepare for technological changes to sustain in real world?			


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13. Have you applied the advanced principles learnt from academics for Professional Skills?			
14. Are you able to identify the technological development which helps further in your career for Problem solving Skills?			

Suggestion / Comments:

Date:

Signature.

We wish you all the very best in all your endeavours and always look forward to hearing back from you about your Successes and Achievements. For all Alumni relations, you can contact us at alumni@lords.ac.in (mailto:alumni@lords.ac.in)



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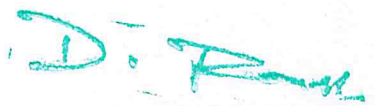
3. Employer Feedback

The Training and Placement Cell of the organization takes feedback from the Industry after every recruitment procedure that is conducted on the campus. This feedback helps the Institution in assessing the quality of its Students and Infrastructure, thereby helping the Institution understand the attainment of POs and PSOs. Below is sample Employer feedback and its mapping to various POs and PSOs for your perusal.

FEEDBACK FORM FOR EMPLOYER'S

Thanking you for coming for the campus recruitment and selecting our students for your esteemed organization. Your feedback on the performance of these students who are serving as your employee in your organization is indeed very important for us. We will be atly thankful to you if you provide your feedback in the following format.

Name of the Employee	
Company /Organization	
Designation	
Phone number	
Email-ID	
Address for Communication	


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Please answer the following questions	Evaluate on following scale:		
	Excellent	Good	Satisfactory
	3	2	1
1. Do the students have fundamental programming knowledge on analyzing and solving complex problems?			
2. Do the students have ability to apply the principles of mathematics, science and engineering in analyzing problems for application development?			
3. Are the students able to develop an application based on the requirements of industry /client?			



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Ranga Reddy (Dist), TS-501 519.

Please answer the following questions	Evaluate on following scale:		
	Excellent	Good	Satisfactory
	3	2	1
1. Do the students have fundamental programming knowledge on analyzing and solving complex problems?			
2. Do the students have ability to apply the principles of mathematics, science and engineering in analyzing problems for application development?			
3. Are the students able to develop an application based on the requirements of industry /client?			

D. Paul

Principal

Visvesvaraya College of Engineering & Technology
M.P. Patelguda (V), Ibrahimpatnam (M),
Ranga Reddy (Dist), TS-501 510.

VISVESVARAYA COLLEGE OF ENGINEERING & TECHNOOLOGY

Department: ELECTRONICS AND COMMUNICATION ENGINEERING

Course Outcome Attainment - Internal Assessments

Name of the Faculty:		N.LAXMI		Academic Year:		2023-24		
Branch & Section:		ECE(IV-I)		Exam:		Mid-I		
Course:		DIP				IV-I		
Sl.No	Roll Number	Question No.				Objective	Assignment	TOTAL
		1	2	3	4			
Maximum Marks		5	5	5	5	10	5	
1	20BT5A0415	4		5		8	5	22
2	20BT1A0401	4			3	8	5	20
3	20BT1A0402	5			5	10	5	25
4	20BT1A0403	4		4		8	5	21
5	20BT1A0404	5				8	5	18
6	20BT1A0405	5			5	10	5	25
7	20BT1A0406	5		5		10	5	25
8	20BT1A0408	5		5		10	5	25
9	20BT1A0409	5			5	10	5	25
10	21BT5A0401	5			5	10	5	25
11	21BT5A0402	5			5	10	5	25
12	21BT5A0403	5				8	5	18
13	21BT5A0404			5		7	5	17
14	21BT5A0405	5	5			8	5	23
15	21BT5A0406	5	5			8	5	23
16	21BT5A0407	5			5	10	5	25
17	21BT5A0408	4			4	9	5	22
18	21BT5A0409	4			4	5	5	18
19	21BT5A0410	4			5	10	5	25
20	21BT5A0411	4			3	7	5	19
21	21BT5A0413	3		3		9	5	20
22	21BT5A0414	4			3	8	5	20
23	21BT5A0415	5			5	5	5	20
24	21BT5A0417	5	1			9	5	20
25	21BT5A0418	4			4	8	5	21
26	21BT5A0419	5			5	9	5	24
27	21BT5A0420	5				5	5	15
28	21BT5A0421	5				5		15
29	21BT5A0422	4			4	9	5	22
30	21BT5A0423	3	3			5	5	16
31	21BT5A0424	5				5	5	15
32	21BT5A0425	5			5	10	5	25
33	21BT5A0428	5				5	5	15
34	21BT5A0429	5			5	9	5	24
No. of students attempted		32	4	5	18	33	32	

Principal

Visvesvaraya College of Engineering & Technology
M.P. Patelguda (V), Ibrahimpatnam (M).

VISVESVARAYA COLLEGE OF ENGINEERING & TECHNOLOGY

Department: ELECTRONICS AND COMMUNICATION ENGINEERING

Course Outcome Attainment - Internal Assessments

Name of the Faculty:		N.LAXMI		Academic Year:		23-24		
Branch & Section:		ECE(IV-I)		Exam:		Mid-II		
Course:		DIP		Year/Semister:		IV-II		
Sl.No	Roll Number	Question No.				Objective	Assignment	TOTAL
		1	2	3	4			
Maximum Marks		5	5	5	5	10	5	
1	20BT5A0415	5	2			8	5	20
2	20BT1A0401	5	3			8	5	21
3	20BT1A0402	5	5			10	5	25
4	20BT1A0403		4	3		6	5	18
5	20BT1A0404			3	4	6	5	18
6	20BT1A0405	4	5			9	5	23
	20BT1A0406	5	5			10	5	25
8	20BT1A0408	5	5			9	5	24
9	20BT1A0409	5	5			10	5	25
10	21BT5A0401	5	4			9	5	23
11	21BT5A0402		5		5	10	5	25
12	21BT5A0403		3		3	6	5	17
13	21BT5A0404		3		3	6	5	17
14	21BT5A0405		5		3	7	5	20
15	21BT5A0406		5		3	6	5	19
16	21BT5A0407	5	5			10	5	25
17	21BT5A0408	4	4			9	5	22
18	21BT5A0409		4		4	9	5	22
19	21BT5A0410	5	5			10	5	25
20	21BT5A0411		4	3		8	5	20
21	21BT5A0413		5		4	8	5	22
	21BT5A0414	5	4			9	5	23
23	21BT5A0415	5			4	9	5	23
24	21BT5A0417			5	3	8	5	21
25	21BT5A0418		3		3	5	5	16
26	21BT5A0419		4		4	8	5	21
27	21BT5A0420	3		3		7	5	18
28	21BT5A0421		4		2	7	5	18
29	21BT5A0422		4		4	8	5	21
30	21BT5A0423		5		4	9	5	23
31	21BT5A0424	5	5			9	5	24
32	21BT5A0425	5	5			10	5	25
33	21BT5A0428	3	3			7	5	18
34	21BT5A0429	5	4			9	5	23

No. of students attempted	18	30	5	15	34	33
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Principal
 Visvesvaraya College of Engineering & Technology,
 M.P. Patelguda (V), Ibrahimpatnam (M),
 Ranga Reddy (Dist). TS-501 510.

VISVESVARAYA COLLEGE OF ENGINEERING & TECHNOLOGY**Department: ELECTRONICS AND COMMUNICATION ENGINEERING****Course Outcome Attainment External Examination**

Name of the Faculty:	N.LAXMI	Academic Year:	2023-24
Branch & Section:	ECE	Exam:	External
Course:	DIP	Semester:	IV-I

S.NO.	HALLTICKET NO	TAL(Max. Score:75)
1	20BT1A0401	4
2	20BT1A0402	30
3	20BT1A0403	-1
4	20BT1A0404	0
5	20BT1A0405	37
6	20BT1A0406	34
7	20BT1A0408	28
8	20BT1A0409	17
9	21BT5A0401	29
10	21BT5A0402	26
11	21BT5A0403	39
12	21BT5A0404	3
13	21BT5A0405	31
14	21BT5A0406	18
15	21BT5A0407	34
16	21BT5A0408	9
17	21BT5A0409	8
18	21BT5A0410	30
19	21BT5A0411	26
20	21BT5A0413	0
21	21BT5A0414	26
22	21BT5A0415	26
23	21BT5A0417	2
24	21BT5A0418	41
25	21BT5A0419	38
26	21BT5A0420	2
27	21BT5A0422	-1
28	21BT5A0423	-1
29	21BT5A0424	0
30	21BT5A0425	34
31	21BT5A0428	0
32	21BT5A0429	2
No. of students who attempted the subject		29
Max. Marks		75
Threshold 40%		30
No. of students who scored more than the target score		10
Percentage of students who scored more than target score		34.48
Overall External Attainment level		1

Attainment Level 1: % students score more than thresho
Attainment Level 2: % students score more than thresho
Attainment Level 3: % students score more than thresho

Principal

Visvesvaraya College of Engineering & Technol
M.P. Patelguda (V), Ibrahimpattam (M),
TO 501 510

VISVESVARAYA COLLEGE OF ENGINEERING & TECHNOLOGY

Department:	ELECTRONICS AND COMMUNICATION ENGINEERING		
Overall Course Outcome Attainment			
Name of the Faculty	N.LAXMI	Academic Year:	2023-24
Branch & Section:	ECE	Exam:	
Course:	DIP	Year/Semester:	IV-I

Course Outcomes	1st	2nd Internal	Internal Exam(Avg.)	University Exam
Course outcome - 1	3.00		3.00	1.00
Course outcome - 2	2.67		2.67	1.00
Course outcome - 3	3.00	3.00	3.00	1.00
Course outcome - 4		3.00	3.00	1.00
Course outcome - 5		3.00	3.00	1.00
Average			2.93	1.00

Final CO Direct Attainment for the Subject	1.48
Final CO Indirect Attainment for the Subject	2.83
Final CO Attainment for the Subject	1.75

**Principal**

Visvesvaraya College of Engineering & Technology
M.P. Patalguda (V), Ibrahimpatnam (M),
Ranga Reddy (Dist), TS-501 510.

End of Course Evaluation Form

Subject :
 Section :
 Academic Year :
 Faculty Name :
 Designation :

DIP
 ECE
 2023-24

N. LAXMI

Assistant Professor

	COURSE OUTCOMES: (AT THE END OF THE COURSE THE STUDENT IS ABLE TO)	To a great extent	To a moderate	To some extent	%	Out of 3	
		(3)	(2)	(1)			
1	Explore the fundamental relations between pixels and utility of 2-D transforms in image processor. Understand the enhancement, segmentation and restoration processes on an image.	27	3	4	89.22	2.68	
2		26	4	4	88.24	2.65	
3		25	5	4	87.25	2.62	
4	Implement the various Morphological operations on an image Understand the need of compression and evaluation of basic compression algorithms.	28	3	3	91.18	2.74	
5	Describe object detection and recognition techniques	30	3	1	95.1	2.85	
Overall Rating		Out of 3:			2.71	Percentage	90.2

D. Rank

Principal

Visvesvaraya College of Engineering & Technology
 M.P. Patelguda (V), Ibrahimpatnam (M),
 Ranga Reddy (Dist), TS 501 513.

DIP 2023-24 IV-I

S. No	Roll No	CO-1	CO-2	CO-3	CO-4
1	20BT5A0415	3	3	3	2
2	20BT1A0401	3	3	3	3
3	20BT1A0402	3	3	2	3
4	20BT1A0403	3	3	3	3
5	20BT1A0404	3	2	2	3
6	20BT1A0405	1	3	3	3
7	20BT1A0406	2	3	3	2
8	20BT1A0408	3	3	3	3
9	20BT1A0409	3	3	3	3
10	21BT5A0401	3	2	3	3
11	21BT5A0402	3	3	3	3
12	21BT5A0403	3	3	2	3
13	21BT5A0404	3	2	3	3
14	21BT5A0405	2	3	3	3
15	21BT5A0406	3	3	3	3
16	21BT5A0407	3	3	2	3
17	21BT5A0408	2	3	3	2
18	21BT5A0409	3	3	3	3
19	21BT5A0410	3	1	3	3
20	21BT5A0411	3	3	2	3
21	21BT5A0413	1	3	3	3
22	21BT5A0414	3	1	3	3
23	21BT5A0415	3	3	3	1
24	21BT5A0417	3	2	1	3
25	21BT5A0418	3	3	3	3
26	21BT5A0419	3	3	3	3
27	21BT5A0420	3	3	3	3
28	21BT5A0421	1	1	1	3
29	21BT5A0422	3	3	3	3
30	21BT5A0423	3	1	3	3
31	21BT5A0424	3	3	1	3
32	21BT5A0425	3	3	3	3
33	21BT5A0428	3	3	3	1
	21BT5A0429	1	3	1	1

2.708333333 2.666666667 2.708333333 2.791666667

D. R. R.

Principal

Visvesvaraya College of Engineering & Technology
M.P. Patelguda (V), Ibrahimpatnam (M),
Ranga Reddy (Dist), TS-501 510.

VISVESVARAYA COLLEGE OF ENGINEERING & TECHNOLOGY

Department: ELECTRONICS & COMMUNICATION Engineering

CO-PO Mapping & PO Attainment Direct Method

Name of the Faculty:	N.LAXMI	Academic Year:	2023-24
Branch & Section:	ECE	Exam:	
Course:	DIP	Semester:	IV-I

COURSE OUTCOMES AND PROGRAM OUTCOMES MAPPING														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Course outcome - 1	3	1	2	3	1	-	-	-	-	3	3	2	3	2
Course outcome - 2	3	-	3	3	3	-	-	-	-	3	3	3	2	3
Course outcome - 3	3	2	3	3	2	-	-	-	-	3	3	2	2	3
Course outcome - 4	2	2	2	-	-	-	-	-	-	3	3	3	3	3
Course outcome - 5	3	1	3	2	2	-	-	-	-	3	3	2	2	2
Average Pos	2.8	1.5	2.6	2.75	2	-	-	-	-	3	3	2.4	2.4	2.6
PO ATTAINMENT	1.63	0.88	1.52	1.6	1.17	-	-	-	-	1.75	1.75	1.4	1.4	1.52



Principal

Visvesvaraya College of Engineering & Technology
M.P. Patelguda (V), Ibrahimpatnam (M),
Ranga Reddy (Dist), TS-501 510.



VISVESVARAYA



COLLEGE OF ENGINEERING & TECHNOLOGY

Approved by AICTE, New Delhi & Govt. of T.S. Accredited with NAAC 'A' Grade, Affiliated to JNTUH, Hyderabad
Sponsored by : Jawahar Educational Society, An ISO 9001 : 2018 and ISO 14001 : 2015 Certified Institution

CO DIRECT & INDIRECT ATTAINMENT TABLE (II, III, IV) SUBS(2023-24)

Course code	Course title	Co direct Attainment (a)	Co indirect attainment (b)	Co attainment (0.8a+0.2b)
II-I SEM				
C201	ANALOG CIRCUITS	3	2.8	2.96
II-II SEM				
C211	Electromagnetic Fields and Transmission Lines	1.8	2.78	2
III-I SEM				
C303	CONTROL SYSTEMS	1.5	2.72	1.74
III-II SEM				
C311	VLSI Design	1.48	2.65	1.71
IV-I SEM				
C405	POE	2.98	2.83	2.95
IV-II SEM				
C412	EIA	3	2.78	2.96

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Visvesvaraya College of Engineering & Technology
M.P. Patelguda (V), Ibrahimpatnam (M),
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DIRECT & INDIRECT ATTAINMENT TABLE (II, III, IV) LABS(2023-24)

Course code	Course title	Co direct Attainment (a)	Co indirect attainment (b)	Co attainment (0.8a+0.2b)
II-I SEM				
C206	Analog circuits lab	3.00	2.77	2.95
II-II SEM				
C217	Integrated circuits applications LAB	3	2.71	2.94
III-I SEM				
C307	Data Communications and Networks Lab	3	2.68	2.94
III-II SEM				
C315	Digital signal processing lab	3	2.64	2.93
IV-I SEM				
C401	Microwave and Optical Communications LAB	3.00	2.85	2.97

CO DIRECT & INDIRECT ATTAINMENT TABLE IV SEMINAR, PROJECT, MINIPROJECT(2023-24)

Course code	Course title	Co direct attainment	Co indirect attainment	Co attainment
C407	Industrial Oriented MiniProject/Summer Internship	3	2.85	2.97
C408	SEMINAR	3	2.81	2.96
C413	Project Stage-I	3	2.87	2.97


INCHARGE


HODE-ECE


Principal
Visvesvaraya College of Engineering & Technology
M.P. Patelguda (V), Ibrahimpatnam (M),
Ranga Reddy (Dist), TS-501 510.