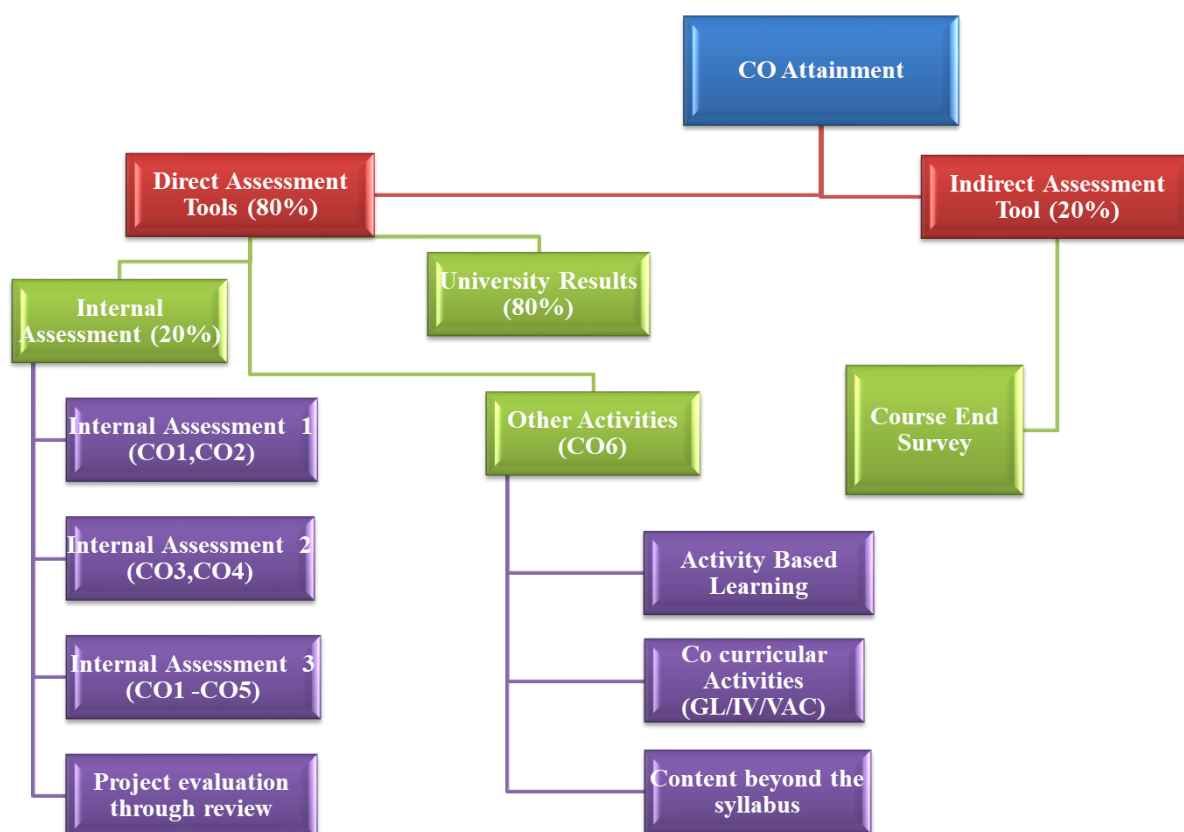# RUBRICS DEVELOPED TO VALIDATE THE COs and POs

➢ List of rubrics used to validate the COs

➢ List of rubrics used to validate the POs

➢ List of rubrics used to validate the PSOs

➢ Justification to use it and proceedings of it

CO Assessment Rubrics:

CO Assessment Tools:

CO assessment is done by giving 80% weightage to Direct Assessment and 20% weightage to Indirect Assessment. Internal Assessment Exams are done by giving 20% weightage and 80% weightage to University Results. Internal Assessment Exams (20%) is done through internal exams (IA1, IA2 & Model Exam) and other activities related to CO6. Direct Assessment (80%) is done through the sum of Internal Assessment Exams and University Results. Indirect assessment is done through course end surveys.

COURSE OUTCOMES AND ASSESSMENT METHODS

COURSE OUTCOMES	ASSESSMENT METHOD			
	DIRECT METHOD			INDIRECT METHOD
	INTERNAL ASSESSMENT		UNIVERSITY RESULTS	
	Assessment Tool	Contribution	Contribution	Tool & Contribution Course End Survey
CO1	IA1	20%	80%	20%
CO1	IA3	20%	80%	20%
CO1	Assignment 1	20%	80%	20%
CO2	IA1	20%	80%	20%
CO2	IA3	20%	80%	20%
CO3	IA2	20%	80%	20%
CO3	IA3	20%	80%	20%
CO4	IA2	20%	80%	20%
CO4	IA3	20%	80%	20%
CO5	IA3	20%	80%	20%
CO6	Guest Lecturer Quiz/ Digital Assignment/Seminar		NA	20%

ATTAINMENT LEVEL

Final Attainment	Attainment level
65>=	3
54>65	2
55<	1

Attainment Level 1: 50% students scoring more than University average percentage marks or set attainment level in the final examination.

Attainment Level 2: 55% students scoring more than University average percentage marks or set attainment level in the final examination.

Attainment Level 3: 65% students scoring more than University average percentage marks or set attainment level in the final examination.

PO/PSO Assessment Rubrics:
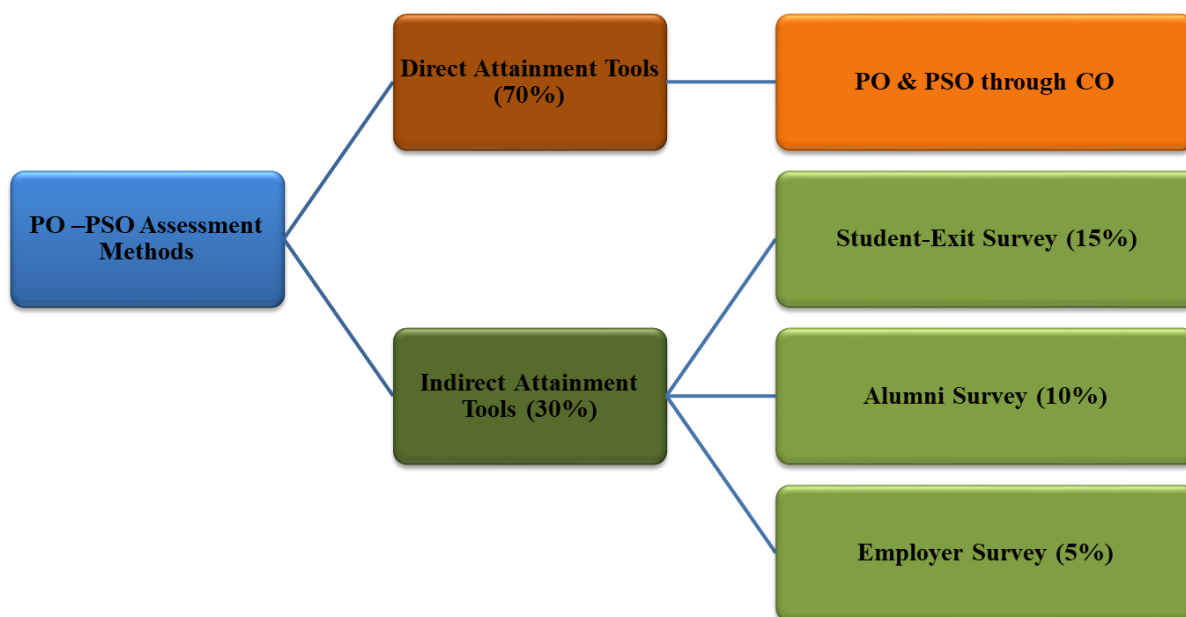
PO / PSO Assessment Tools:

PO / PSO assessment is done by giving 70% weightage to direct assessment and 30% weightage to indirect assessment. Direct assessment is based on overall CO attainment and CO-PO/PSO mapping. Indirect assessment is done through program exit survey, alumni survey and employer survey. Student exit survey is given a weightage of 15% each and employer survey is given a weightage of 5% each and alumni survey is given a weightage of 10%.

The various assessment tools used to evaluate POs / PSOs and the frequency with which the assessment processes are carried out are listed in below mentioned Table.

PO and PSO ASSESSMENT TOOLS				
		Course Type	Assessment Methods	Frequency
			Internal Exams	Three per course

Direct (70% weightage)	Overall CO Attainment	Theory		Assignments	Three/ four/ five per course
				End Sem Exam	Once per course
		Laboratory Examination		Daily Performance	Every lab session
				End Sem Exam	Once per course
		Project	Phase I (6th sem)	Review	Three per course
				Demonstration / Final Evaluation	Once per semester
			Phase II (8th sem)	Review	Three per course
				Demonstration / Final Evaluation	Once per semester
		Indirect method		Course End Survey	Once per course
Indirect (30% weightage)	Surveys	Student Exit Survey (15%)			Once a year
		Employer Survey (10%)			Once in two years
		Alumni Survey (5%)			Once a year

ASSESSMENT OF COURSE OUTCOME

COURSE OUTCOMES CONTRIBUTION TO PO'S

The learning outcomes of each course are mapped to the Program Outcomes with a level of emphasis being either low (1), medium (2), or High (3). The level of emphasis of a program outcome is determined by the weight used for assessing the outcome in each course. For each core course the faculty members have agreed on a minimum weight that should be used in the assessment of each course outcome. This minimum weight ensures a minimum level of coverage for an outcome in a course and is used for deciding the level of coverage for the program outcome corresponding to the course outcome.

A sample of Course outcomes and their correlation with Program Outcomes

S.NO	SUB.CODE & NAME	COURSE OUTCOMES	PROGRAMME OUTCOMES												PSO		
			PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	CS8391 Data Structures	C203.1	3	2	3	-	-	-	-	-	-	-	-	-	2	1	1
		C203.2	3	3	3	-	-	-	-	-	-	-	-	-	2	1	1
		C203.3	3	2	3	-	-	-	-	-	-	-	-	-	2	1	1
		C203.4	2	3	2	-	-	-	-	-	-	-	-	-	2	1	1
		C203.5	2	2	2	-	-	-	-	-	-	-	-	-	2	1	1
		C203.6	2	3	2	-	-	2	-	-	2	-	-	2	-	-	-
		C203	3	3	3	-	-	2	-	-	2	-	-	2	2	1	1
2	CS8392 Object Oriented Programming	C204.1	3	3	2	-	-	-	-	-	-	-	-	-	2	-	-
		C204.2	3	2	3	-	-	-	-	-	-	-	-	-	2	-	-
		C204.3	3	2	3	-	-	-	-	-	-	-	-	-	2	1	1
		C204.4	3	3	3	-	-	-	-	-	-	-	-	-	-	2	2
		C204.5	3	2	3	-	-	-	-	-	-	-	-	-	-	2	2
		C204.6	3	1	3	-	-	-	-	-	2	-	-	2	1	-	-
		C204	3	2	3	-	-	-	-	-	2	-	-	2	2	2	2
3	CS8381 Data Structures Laboratory	C206.1	3	3	3	-	-	-	-	3	3	2	-	3	3	2	1
		C206.2	3	3	3	-	-	-	-	2	3	-	-	3	3	2	1
		C206.3	3	3	3	-	-	-	-	3	2	2	-	-	3	2	1
		C206.4	3	3	3	-	-	-	-	2	-	2	-	1	3	2	1
		C206.5	3	3	3	-	-	-	-	-	1	1	-	2	3	2	1
		C206.6	3	3	3	-	-	-	-	2	2	2	-	2	1	1	-
		C206	3	3	3	-	-	-	-	2	2	2	-	2	3	2	1
4		C207.1	3	2	2	-	-	-	-	2	3	2	-	3	-	3	-

S.No	Course	CO															
	CS8383 Object Oriented Programming Laboratory	C207.2	3	2	2	-	-	-	-	2	2	2	-	2	-	3	-
		C207.3	3	3	2	-	-	-	-	2	2	2	-	2	-	3	-
		C207.4	3	3	2	-	-	-	-	2	3	2	-	3	-	3	-
		C207.5	3	2	3	-	-	-	-	3	3	2	-	3	1	3	-
		C207.6	3	3	3	-	-	-	-	2	2	2	-	2	1	3	-
		C207	3	3	2	-	-	-	-	2	3	2	-	3	1	3	-
5	CS8491 Computer Architecture	C211.1	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-
		C211.2	3	3	3	-	-	-	-	-	-	-	-	-	1	-	1
		C211.3	2	2	3	-	-	-	-	-	-	-	-	-	1	-	1
		C211.4	2	2	2	-	-	-	-	-	-	-	-	-	-	-	1
		C211.5	3	2	3	-	-	-	-	-	-	-	-	-	1	-	1
		C211.6	3	3	3	-	-	-	-	-	-	-	-	1	-	-	-
		C211	3	2	3	-	-	-	-	-	-	-	-	1	1	-	1
6	CS8492 Database Management Systems	C212.1	3	2	2	-	-	-	-	-	-	-	-	-	2	-	-
		C212.2	3	2	2	-	-	-	-	-	-	-	-	-	2	-	1
		C212.3	2	2	3	-	-	-	-	-	-	-	-	-	2	-	-
		C212.4	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
		C212.5	3	2	3	-	-	-	-	-	-	-	-	-	-	-	-
		C212.6	3	2	2	-	2	-	-	-	-	-	-	-	-	-	-
		C212	3	2	2	-	2	-	-	-	-	-	-	-	2	-	1
7	CS8451 Design and Analysis of Algorithms	C213.1	3	3	2	-	-	-	-	-	2	1	-	2	-	-	-
		C213.2	3	3	3	-	-	-	-	-	1	1	-	2	-	-	-
		C213.3	3	3	3	-	-	-	-	-	2	2	-	2	1	-	-
		C213.4	3	2	2	-	-	-	-	-	2	2	-	2	1	-	-
		C213.5	3	3	2	-	-	-	-	-	2	2	-	2	2	-	-
		C213.6	3	2	2	-	-	-	-	-	2	2	-	2	1	-	-
		C213	3	3	2	-	-	-	-	-	2	2	-	2	1	-	-

Each course in the program has specific outcomes based on the requirement of the Program outcomes. The delivery and assessment methods are designed in such a way to achieve the stated outcomes. The delivery and assessment is important to ensure the students are able to acquire the knowledge or skill required and to assess whether the student has attained what is expected out of him.

The Direct and Indirect assessment methods used to assess the impact of course delivery for the attainment of Program Outcomes are:

Direct Assessment Methods:

- Course Evaluation through Internal Assessment tests and University

Examinations

Indirect Assessment Methods:

- Course end survey by students

Table: Assessment tools used for evaluation of PO and PSO attainment

Assessment Process	Evaluation	Frequency
Direct assessment		
Tests and Exams	The department conducts class tests periodically depending on the course. Two Internal Tests and one Model Examinations are conducted regularly in each semester and attendance for the exams is made compulsory. The performance of the students in the tests helps faculty to know the level of knowledge gained by the students. Accordingly, the teaching methodology is modified by the concerned faculty. **Internal Assessment I** (50 Marks)- 1.30 Hrs • Unit 1 and Unit 2 **Internal Assessment II** (50 Marks)- 1.30 Hrs • Unit 3 and Unit 4 **Internal Assessment III** (100 Marks)- 3 Hrs • Unit 1 to Unit 5	Each assessment once in a semester
University Exams	Will be conducted as per Anna university schedule	Once in a semester
Laboratory works	Each student is assigned a system to carry out the laboratory work. 20 Marks will be allocated for each experiment as per Anna university syllabus	Once in a semester
Project Evaluation	Student Projects are evaluated periodically through the Reviews conducted by the department. The skills and abilities of the students related to project work are evaluated by conducting three reviews.	Once in Final year
Assignments for Students	In support of conventional classroom teaching, assignments are given to the students for further practice in the learned concepts. This increases the performance of the students in the assessment tests and exams. This enhances the self-learning capability of the students.	Minimum of three assignments per subject
Indirect assessment		
EVENT	ASSESSMENT TOOL	

Course End Survey	The faculties are encouraged to collect the feedbacks about Instructor's clarity in discussing and presenting course material, Instructional examples, Assignments and exams aligned with course objectives, Instructor's enthusiasm about teaching the course. Collected feedback is analyzed by faculty incharge, group coordinator and Head of the department. According to student response or feedback necessary action will be taken. These responses can provide a deeper understanding of factors that impact learning.	Course End Survey
Alumni Survey	Employment status of the past students is collected through the feedback forms and they are assessed in the department. Suggestions given by the Alumni are recorded for the future actions. They are asked to identify what should be changed, altered, maintained, improved or expanded.	Alumni Survey
Student Exit Survey	Get the feedback from the students after their Course completion. Collected feedback is analysed in the department by group coordinators and Head of the department. Based on that necessary action will be taken.	Student Exit Survey
Employer survey	It is conducted with present and potential employers of our graduates to get their opinion about the abilities of our graduates. This feedback is useful in improving the employability skills of our graduates and making suitable changes to the program.	Employer survey

Quality / relevance of assessment tools and processes:

(i) Direct Assessment Tools and Process:

Direct CO Assessment tools are used for the direct assessment of POs and PSOs. The attainment of each PO corresponding to a particular course is determined from the attainment values obtained for each course outcome related to that PO and the CO-PO mapping values. Similarly, the values of PSO attainment are also determined.

(ii) Indirect Assessment Tools and process:

Indirect assessment is done through student exit survey, alumni survey and employer survey where Student exit survey are given a weightage of 15% each and employer survey are given a weightage of 5% each and alumni survey is given a weightage of 10%

S.A.ENGINEERING COLLEGE, CHENNAI – 77
(An Autonomous Institution, Affiliated to Anna University)
DEPARTMENT OF _____

Student Exit Survey

The purpose of this survey is to obtain Student input on the quality of education, they received and the level of preparation they had in the undergraduate program of Information Technology. The purpose of this survey is to assess the quality of the academic program. We seek your help in completing this survey.

Student Information

1.   Name_____

2.   Register Number _____

3.   Year of graduation_____

Rate the following:

5: Excellent   4: Very good   3: Good   2: Fair   1: Poor

	1.	Rate the quality of the courses under taken in the Information Technology department as	
	2.	Rate the quality of guidelines followed in the program	
	3.	Rate the overall satisfaction with the programme	
	4.	Can you apply basic knowledge of computing and mathematics in information technology	
	5.	At what level the programme help you to analyze a problem, identify and define the computing requirements appropriate to its solution	
	6.	Can you analyze , design and implement the solution for computer-based system using the modern engineering tools	
	7.	At what level the programme help you to indulge in research methods for identifying the improvement in the processes	
	8.	Can you analyze the impacts of solutions for maintaining sustainability	
	9.	Does the programme created an awareness of professional ethics and responsibilities to be applied in real situations.	
	10.	Does the programme provided a sufficient foundation for you to possess a good leadership quality	
	11.	How well the programme upgraded your communication skills	
	12.	Does the programme nurture you to address the social issues	

13.	Rate the level at which the programme helped you to effectively manage projects in diverse environments.	
14.	Does the programme established a strong base for life-long learning.	
15.	How does the programme helped you to study the advanced concepts in core Information Technology	

Date:

Place:

Send to:

Head of the department

_____

Relation of POs and PSOs with questionnaire:

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Questions	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12

PSOs	PSO1	PSO2	PSO3
Questions	Q13	Q14	Q15

Evaluation Process:

The questionnaire consists of 15 questions which are relevant for assessing each PO and PSO. The first 12 questions correspond to the 12 POs and the remaining 3 questions are for PSOs (Questions 13 are used to evaluate PSO 1, Question 14 is used to evaluate PSO 2 and Question 15 is used to evaluate PSO 3). Each question has options, namely, Excellent, Very good, Good, Fair, Poor,which is given marks 5,4,3,2 and 1 respectively. The survey results are tabulated and the average values corresponding to each PO and PSO are calculated.

S.A.ENGINEERING COLLEGE, CHENNAI – 77
(An Autonomous Institution, Affiliated to Anna University)

DEPARTMENT OF _____
EMPLOYER FEEDBACK FORM (POST PLACEMENT)

NAME OF THE EMPLOYEE:
ALUMNI DEPARTMENT /ROLL NUMBER:
EMPLOYING ORGANIZATION:

Dear Sir,

As part of our post placement feedback/evaluation process we request you the rate the subject alumni of our college and currently working in your esteemed organization on a 10 point rating by sparing your valuable time and send us back the format in hard copy/email as convenient to you and oblige

Director Corporate Affairs & Placement

ASSESSMENT TRAITS	EXCELLENT 9	SUPERIOR 8	VERY GOOD 7	GOOD 6	AVERAGE 5	POOR 4
Job Knowledge						
Job Performance						
Learning Interest						
Punctuality & Attendance						
Creative Ability						
Communication /Feed Back						
Technical Skills						
Analytical Skills						
Interpersonal Skills						
Initiative & Leadership						
Total						
YOUR VALUABLE SUGGESTION AS INPUTS FOR CURRICULUM/TRAINING OF STUDENTS						
DATE:	SIGNATURE					

(b) Relation of POs and PSOs with questionnaire:

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Questions	Q1	Q8	Q2	Q3	Q5	Q9	Q9	Q4	Q7	Q6	Q10	Q4

PSOs	PSO1	PSO2	PSO3
Questions	Q1	Q2	Q5

(c) Evaluation Process:

The questionnaire consists of 10 questions. These questions are relevant for assessing each PO and PSO. If multiple questions satisfy a PO, then their average is taken. A similar procedure is followed for PSOs also. Each question is having 3 options namely, extremely satisfied, satisfied and somewhat satisfied, which is given marks 9,8,7,6,5 and 4 respectively.

AL F07

S.A.ENGINEERING COLLEGE, CHENNAI – 77

(An Autonomous Institution, Affiliated to Anna University)

DEPARTMENT OF _____

Alumni Survey Form

Dear Alumni,

Kindly spend your precious time to fill up this Alumni Survey Form.

Provide your valuable inputs about how the Programme you have undergone here helped you to excel in your career which will enable us to know the attainment of our Programme Outcomes and Programme Educational Objectives.

Alumni Information

1. Name_____

2. Batch :_____

3. Phone No:_____

4. E mail id:_____

5. Residential Address_____

Professional Details		
Higher Education Details: (Pursuing / Completed)	**Employment Details:**	**Self-Employment Details:**
Degree Name:	Designation:	Company/Industry Registration No.
College/University Name:	Company/Industry Name:	Name:
Address:	Address:	Address:
Period of Study : 20___ to 20___	Official email id:	

5-Excellent, 4-Very Good, 3-Good, 2-Average, 1-Need to improve

S.No		Rating

	Survey Questions (Rate the following) At what level the B.E. CSE Programme helped you to	5	4	3	2	1
1.	Apply the knowledge of mathematics, science, basic engineering and computing fundamentals in solving Engineering problems.					
2.	Identify, formulate and analyze the engineering problems with substantiated conclusions.					
3.	Design a system, component or process to meet desired needs of the society with considerations for the public health and safety.					
4.	Use the knowledge of design of experiments, analysis and synthesis of the information to provide valid conclusions.					
5.	Possess skills in using the appropriate techniques and modern tools necessary for engineering practice.					
6.	Address social issues relevant to engineering practice.					
7.	Understand the impact of engineering solutions in societal and environmental contexts and demonstrate the need for sustainable development.					
8.	Develop an awareness of professional ethics and responsibilities to be applied in real situations.					
9	Acquire a good foundation for leadership roles in the future career.					
10	Upgrade your skills in communication and coordination within workgroups in your organization.					
11	Demonstrate engineering and management principles to manage the projects in multidisciplinary atmospheres.					
12.	Acquire a foundation to recognize the need for life-long learning as per the needs of the current and future professional practice.					
13.	Employ modern computer languages, environments, and platforms leading to innovative career paths.					
14	Design and develop software in emerging and futuristic technology environments.					

a) Are you currently working in your major field of engineering?

　　○ Yes ○ No

b) Have you ever completed any engineering projects/tasks successfully at workplace?

○ Yes ○ No

c) Have you ever achieved or been promoted after joining this organization?

　　○ Yes ○ No

If so mention the designation with company name

Sl No	Designation	Name of the Company

d) Do you have an experience of leading a team (Project Leader/ Project Manager)?

　　○ Yes ○ No

e) Do you enjoy enriching your knowledge by pursuing new courses relevant to your work?

　　○ Yes ○ No

f) Do you find that any one of your completed/ongoing projects is societal friendly?

　　○ Yes ○ No

If yes kindly mention the name of the project and organization name.

Sl No	Project Name	Organization Name

g) Did you receive any awards from your organization?

　　○ Yes ○ No

If yes mention the name of the award with year and organization

Sl No	Name of the Award	Year/ Organization Name

h) To meet the current Job requirements, please specify tools / Novel Technologies, you used other than what you have learnt during the Degree

_____

Any other Suggestions:

Signature of the Alumni with date

(b) Relation of POs and PSOs with questionnaire:

POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Questions	Q1	Q2	Q3	Q4	Q5	Q7	Q6	Q8	Q9	Q10	Q11	Q12

PSOs	PSO1	PSO2	PSO3
Questions	Q13	Q14	Q13

(c) Evaluation Process:

The questionnaire consists of 14 questions which are relevant for assessing each PO and PSO. The first 12 questions are used to evaluate the 12 POs and the remaining 2 questions are for evaluating PSOs (Questions 13 is used to evaluate PSO 1 and PSO 3, Question 14 is used to evaluate PSO 2). Each question has 5 options,5-Excellent, 4-Very Good, 3-Good, 2-Average, 1-Need to improve. These marks are tabulated and the average value is shown.