MANGALAM
COLLEGE OF ENGINEERING
Inspire | Imbibe | Innovate

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Hearty Welcome

NBA EXPERT COMMITTEE MEMBERS

Presentation By,
Dr. K Ravikumar
Head of the Department

OVERVIEW OF PRESENTATION

SL.NO	PART	CONTENTS
1	PART A	Introduction
2		Achievements/Recognitions • Department Level • Faculty Level • Student Level
3		• Criterion 1: **Vision, Mission & PEOs**
4		• Criterion 2: **Curriculum & Teaching Learning Process**
5		• Criterion 3: **Course Outcomes and Program Outcomes**
6		• Criterion 4: **Student Performance**
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8		• Criterion 6: **Facilities & Technical Support**
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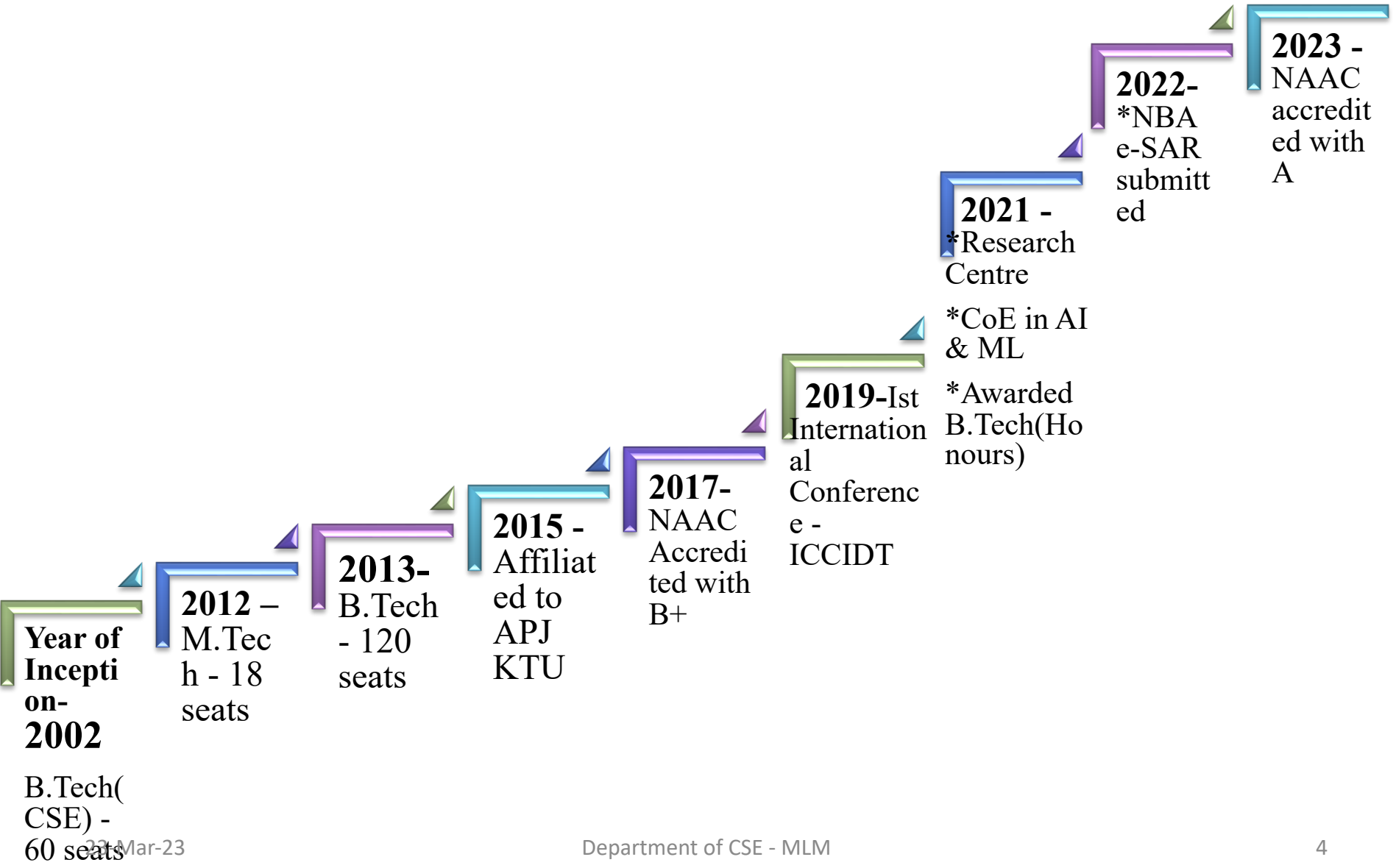
10	**PART B**	• **OBE philosophy of Department**

INTRODUCTION TO DEPARTMENT

DEPARTMENT	STUDENTS	FACULTY
B.Tech (CSE)–120 seats **M.Tech(CSE)** – 18 seats **Ph.D (CSE)** – 6 seats	***Undergraduate Programme*** I year -126 II year -116 III year -115 IV year -113 ***Postgraduate Programme*** I year -17 II year- 16 **Total No. of students(UG) : 474** **Total no. of students(PG) : 33**	Professors – 04 Assoc. Professors – 04 Asst. Professors – 27 **Total no. of Faculty : 35**

JOURNEY TO EXCELLENCE-
Department Acheivements



Faculty Achievements

- ***Dr.Vinodh P Vijayan*** received grant of Rs.1655375/- from AICTE-MODROBS for Centre of Excellence in Artificial Intelligence and Machine learning Integrated Internet of things in the academic year 2021-2022.
- 7 faculty members published ***B.Tech lab manuals*** under Techno star publications.
- 8 faculty members ***pursuing Ph.D*** in various universities.
- Mr.Sanoj C Chacko completed the *Certified Cyber Security Analyst* conducted by ICT academy of Kerala.
- Mr.Vishnu S Sekhar completed *Java Programming,* professional development course conducted by Oracle Academy.
- Conducted ***Internship program*** on New trends in technology and Training on Ethical hacking and various software's for the school students.
- ***Faculty Publications :***

  SCI Indexed. : 07
  Scopus Indexed :27
  Conference : 113
  Patents : 04
  Book/Book chapters: 14

Student Achievements

Stars of Asthra (Technical fest conducted in St. Joseph College of Engineering,Palai.

Mr.Abhid Methar (S3 A)
Mr.Ananda Krishnan K A (S3 A)
Mr.Ananthakrishnan M Nair *(S3 A)*

SS12 IEEE International Innovation: Project Competition *presented an IoT based irrigation automation system- Sprout*
Mr.Ananthakrishnan (S7 A)
Mr.Anandhu Shimon (S3 A)
Mr.Arif Muhammed (S3 A)
Mr.Akshay V Anil (S3 A)

reboot kerala hackathon 2020

*The students of our Department got the golden opportunity to take part in the **reboot Kerala Hackathon2020** held at Malappuram.*

Student Achievements

Year wise Highest CGPA:

Year	Name of the student	CGPA
2021-2022	Luv Michael Surve	9.17
2020-2021	Roshan N Thomas	9.21
2019-2020	Rahul Thomas	8.92

Co-Curricular & Extra curricular Activities:

- Students won various prizes in National level Technical Fest in various colleges.
- Students were participating in Industrial visits and Internships.
- 250 students done ***add on courses in various academic years.***
- 10 students received B.Tech Honors Degree.
- Students have ***CSI & IEEE professional society membership.***

Our students published 77 papers in the academic year 2021-2022.

Mr. Benjamin A Jacob from CSE participated in the Sakura science exchange program (Exchange of youths in Asian countries and Japan)

Sakura Science Exchange Program

- *Promoting science and technology is a key engine to materialize a bright future of Asia and it is vitally important to enhance the exchange of youths in Asian countries and Japan who will play a crucial role in the field of science and technology.*
- *Nine students and one faculty member from Mangalam College of Engineering, Kottayam, Kerala were selected to represent India on the basis of their outstanding performance in academics.*

Criterion 1:Vision, Mission & PEO

Vision and Mission of the Department

Vision

To become centre of *excellence in computing and research* where future generations embrace technologies wholeheartedly and use its possibilities to make the world a better place to live.

Mission

M1:Enlight the young talents to *achieve academic excellence as well as professional competence* by imparting state of the art knowledge in computing.

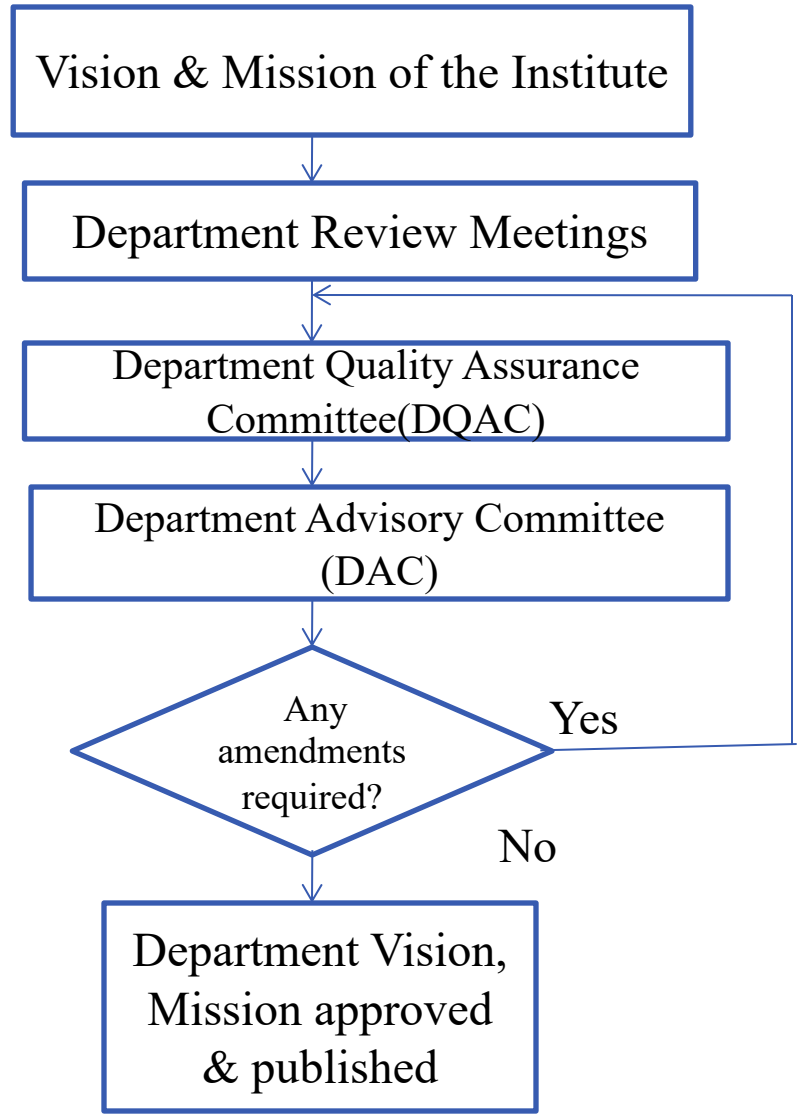
M2: To be admirable individuals with *ethical values* and appropriate skills.

Programme Educational Objectives (PEOs)

PEO I	**Graduate will have strong foundation and profound knowledge in computing and allied engineering and be able to analyse the requirements of real world problems, design and develop innovative engineering solutions and maintain it effectively in the profession.**
PEO II	**Graduate will adapt to technological advancements by engaging in higher studies, lifelong learning and research, there by contribute to computing profession.**
PEO III	**Graduate will foster team spirit, leadership, communication, ethics and social values, which will lead to apply the knowledge of societal impacts of computing technologies.**

Process for Vision, Mission Formation

Criterion 1



Published in

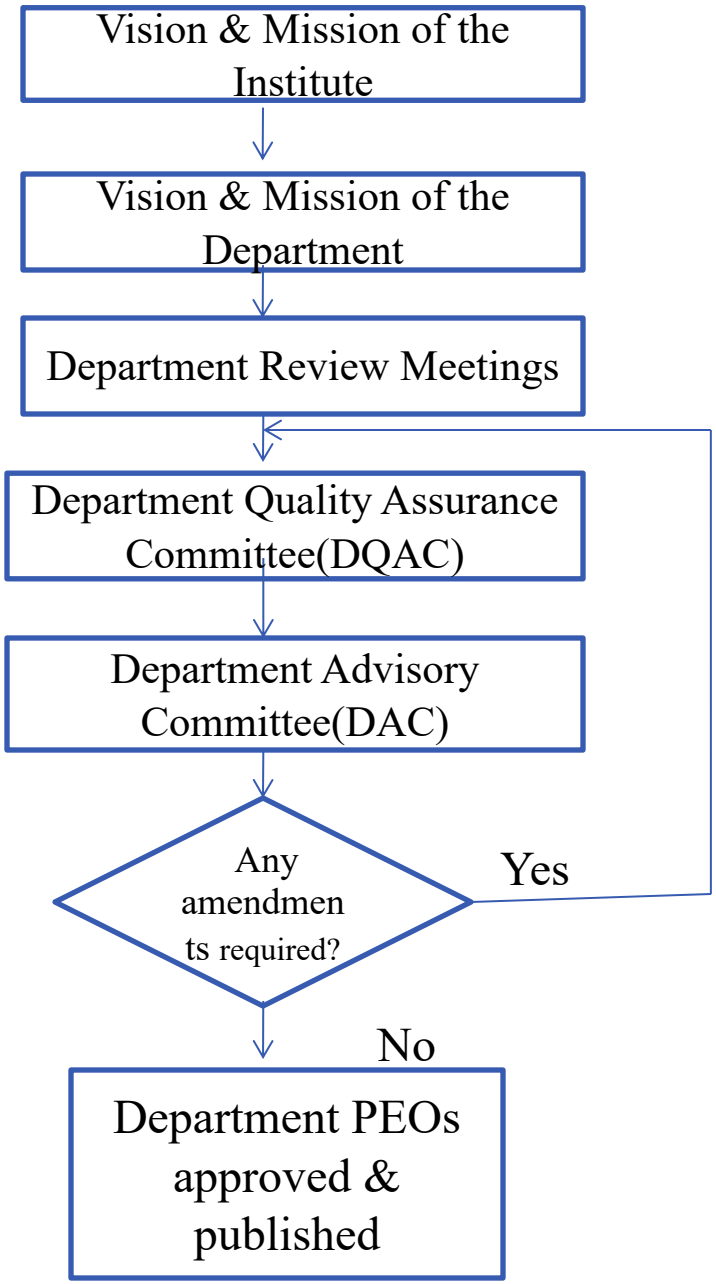
Website, Newsletter, Notice boards, Dept.Library, Faculty Rooms, Classrooms, Course Diary, Project Reports

Disseminated in

Induction Program, Progress reports, Workshops, Seminars, Alumni Meet, International Conference

Criterion 1

Process for PEO Formation



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Disseminated in

Induction Program, Progress reports, Workshops, Seminars, Alumni Meet, International Conference

Consistency of PEOs with Mission

Criterion 1

PEO Statements	MISSION STATEMENTS	
	M1	**M2**
	Enlight the young talents to *achieve academic excellence as well as professional competence* by imparting state of the art knowledge in computing .	**To be admirable individuals with *ethical values* and appropriate skills.**
PEO 1: **Graduate will have strong foundation and profound knowledge in computing and allied engineering and be able to analyse the requirements of real world problems, design and develop innovative engineering solutions and maintain it effectively in the profession.**	**3**	**2**
PEO 2: Graduate will adapt to technological advancements by engaging in higher studies, lifelong learning and research, there by contribute to computing profession.	**3**	**2**
PEO 3: Graduate will foster team spirit, leadership, communication, ethics and social values, which will lead to apply the knowledge of societal impacts of computing technologies.	**2**	**3**

Program Outcomes (POs)

POs	Description
PO1	Engineering Knowledge
PO2	Problem Analysis
PO3	Design/Development Solutions
PO4	Conduct investigations of Complex Problems
PO5	Modern tool usage
PO6	The Engineer and Society

POs	Description
PO7	Environment and Sustainability
PO8	Ethics
PO9	Individual teamwork
PO10	Communication Skills
PO11	Project Management and Finance
PO12	Life Long Learning

Programme Specific Outcomes (PSOs)

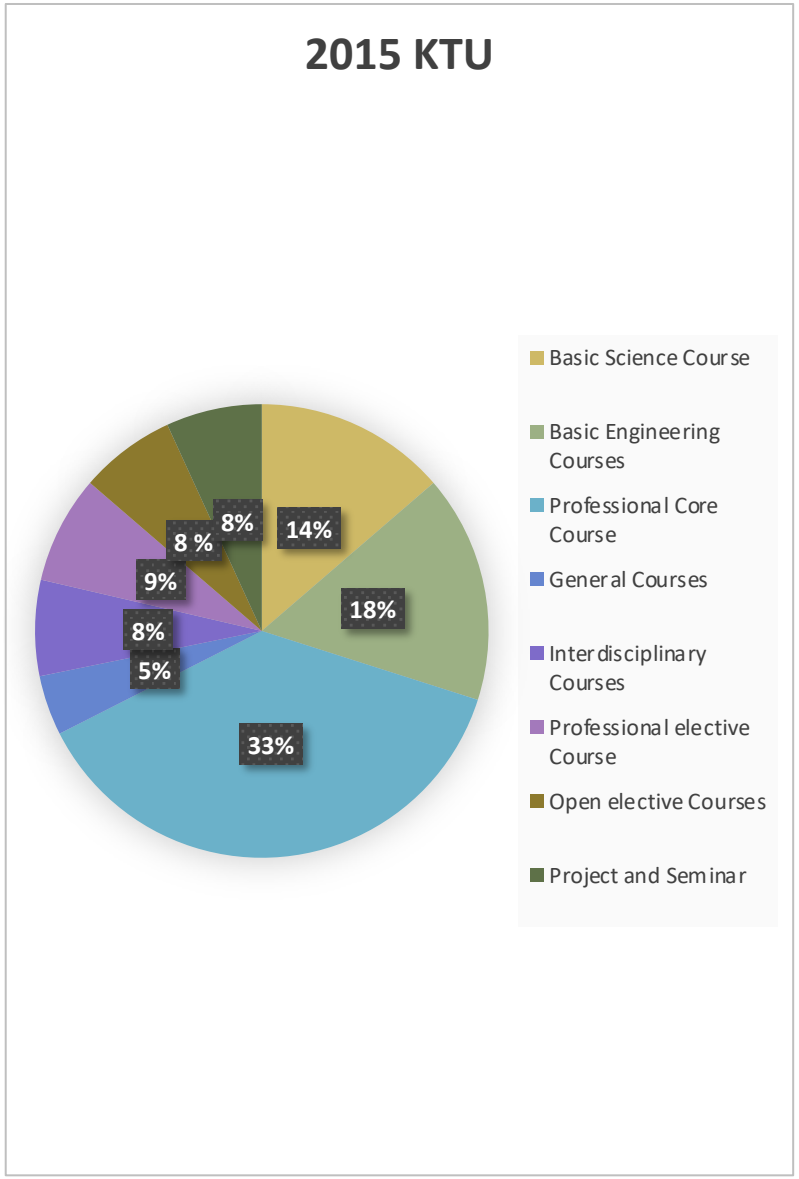
The students of CSE programme shall have the following specific outcomes:

PSO 1: Apply the Principles of Computing in solving real world problems with sustainability.

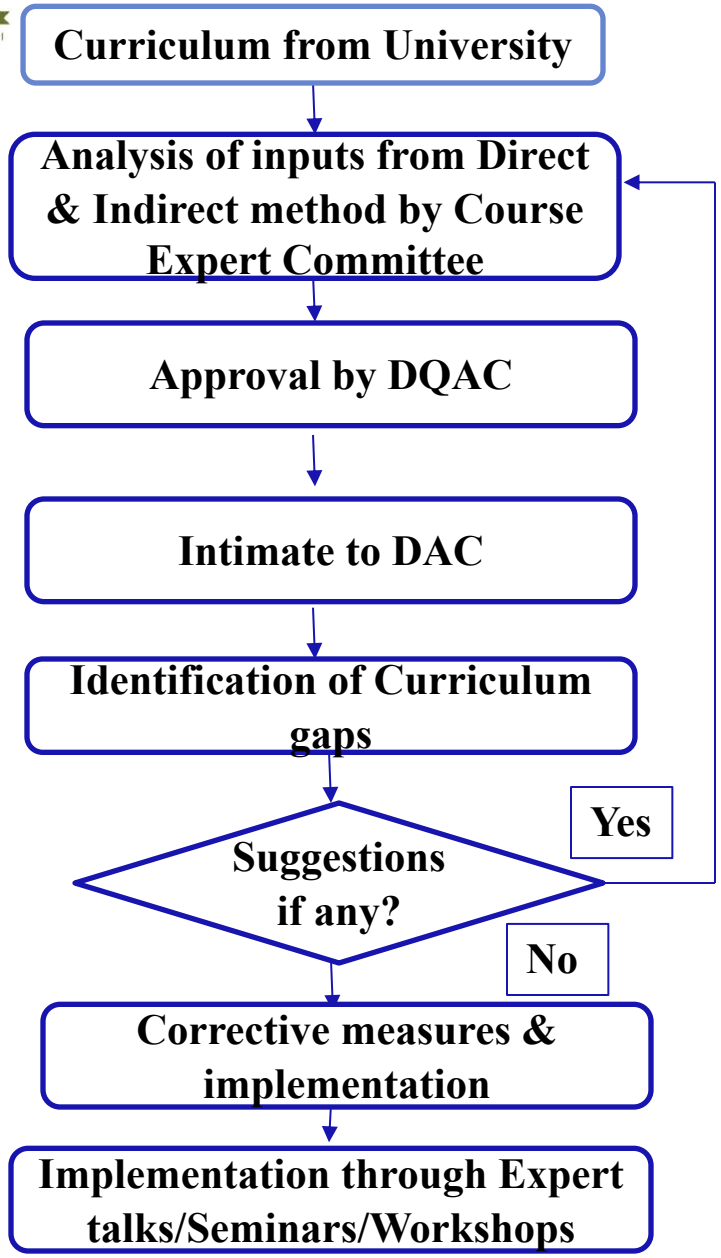
PSO 2: Apply Futuristic technology in designing and developing hardware and software solutions.

Program Curriculum

Sl. No.	Category	Credits	
		AICTE Model Curriculum	KTU 2015 Scheme
1	Basic Science Courses	14% (23/163)	16% (26/180)
2	Engineering Science Courses	18% (29/163)	18% (32/180)
3	Professional Core Courses	34% (55/163)	33% (60/180)
4	Professional Elective Courses	6% (9/163)	8% (14/180)
5	Interdisciplinary Courses	5% (8/163)	8% (15/180)
6	Open Elective courses	5% (8/163)	7% (12/180)
7	General Courses	10% (16/163)	5% (9/180)
8	Project, Seminar, Internship etc.	9% (15/163)	7% (12/180)



Process to Identify Curriculum gaps



Identified Gaps for attainment of POs & PSOs : shorturl.at/ekBLR

If the average value of PO's and PSO's is less than the mean value of average mapping of all PO's and PSO's, is considered as as the curriculum gap.

GAP IDENTIFIED

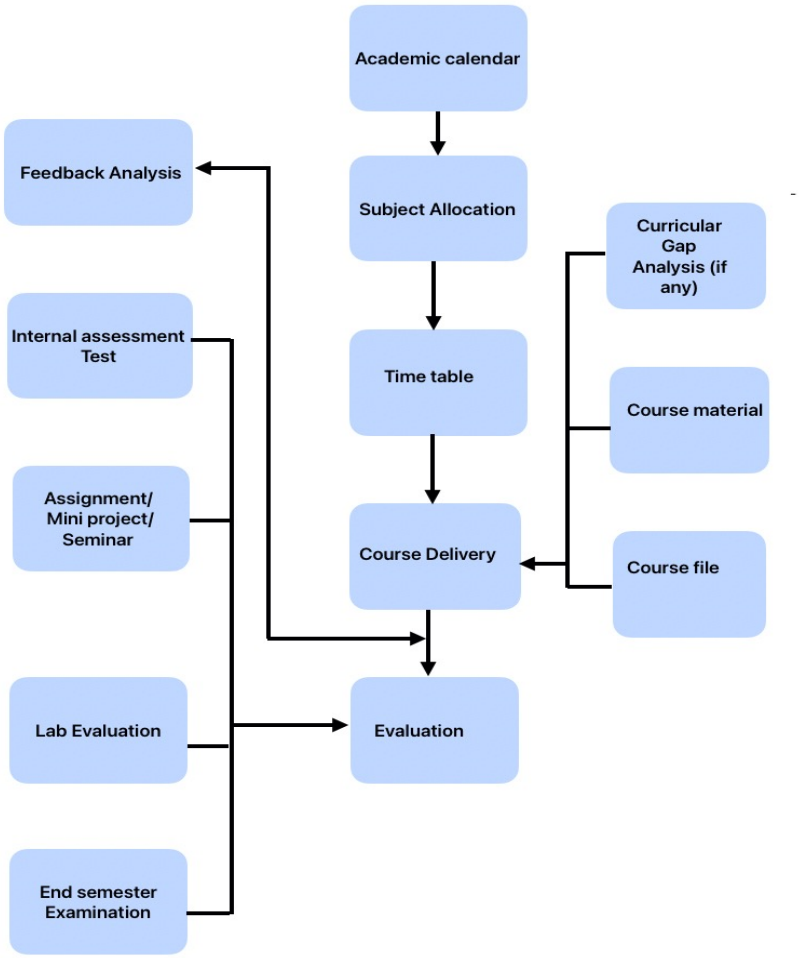
PO5: Modern tool usage
PO6: Engineer and Society
PO7:Environment Sustainability
PO8:Ethics
PO11:Project Management & Finance
PO12: Lifelong learning
PSO2:Future Technology

BRIDGING GAP

- **Industrial Visit**
- **Expert Talks**
- **Seminars**
- **Video tutorials**
- **Internship**
- **Workshop**

Teaching Learning -Process

Criterion 2



Delivery methods

Chalk and talk

Tutorials

Using ICT tools

Video lectures

Quiz

Project based

Learning

Q&A sessions

Expert presentations

Seminar

YouTube videos

NPTEL lecture

Quality of Question Paper:

Internal questions prepared as per the blooms taxonomy and scrutiny of question paper by subject expert committee and verified by head of the department.

Quality of Assignment:

Questions related to the latest development to the Respective subject are given as assignment

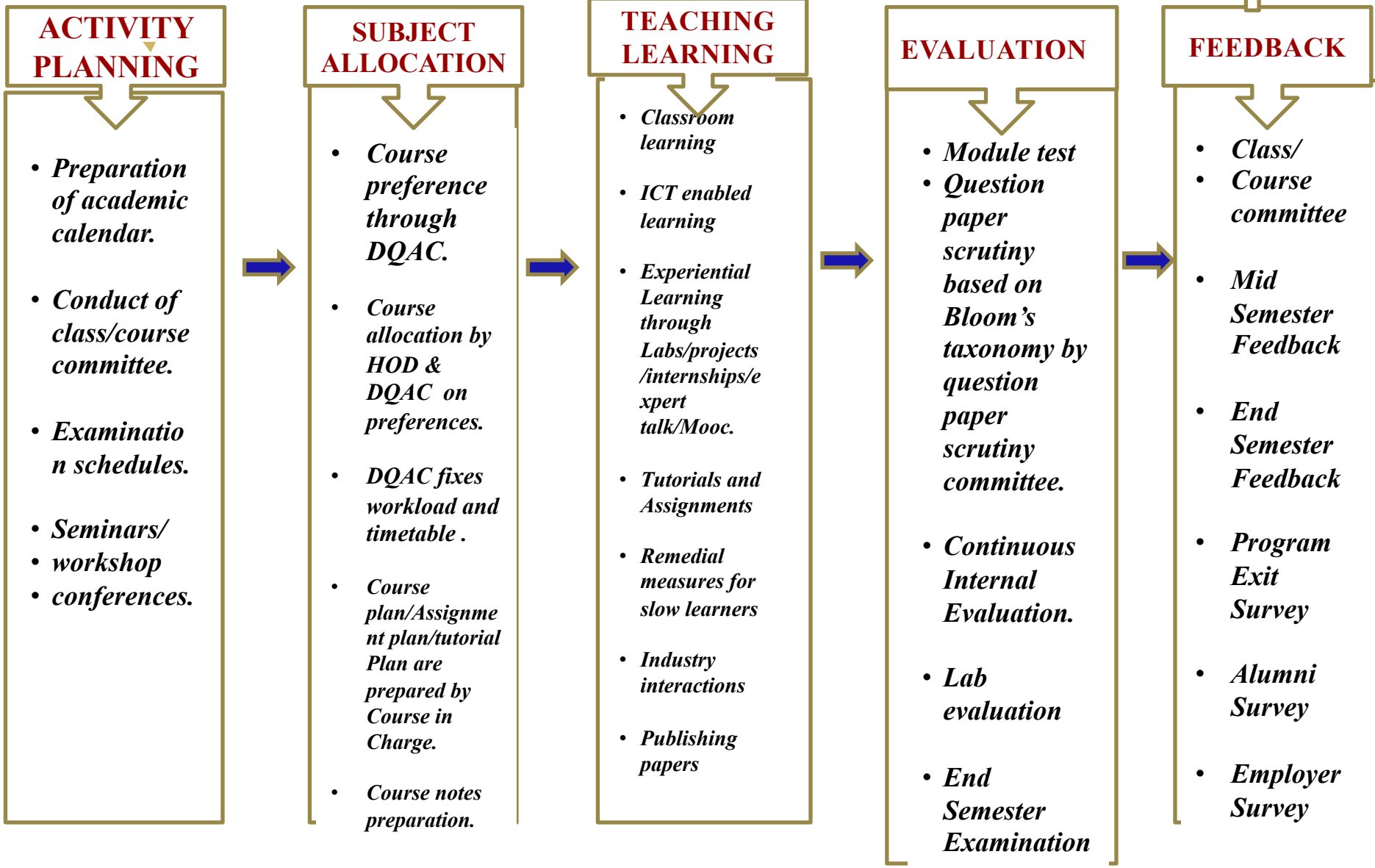
Content, submission due date, presentation,completeness

Tutorial:

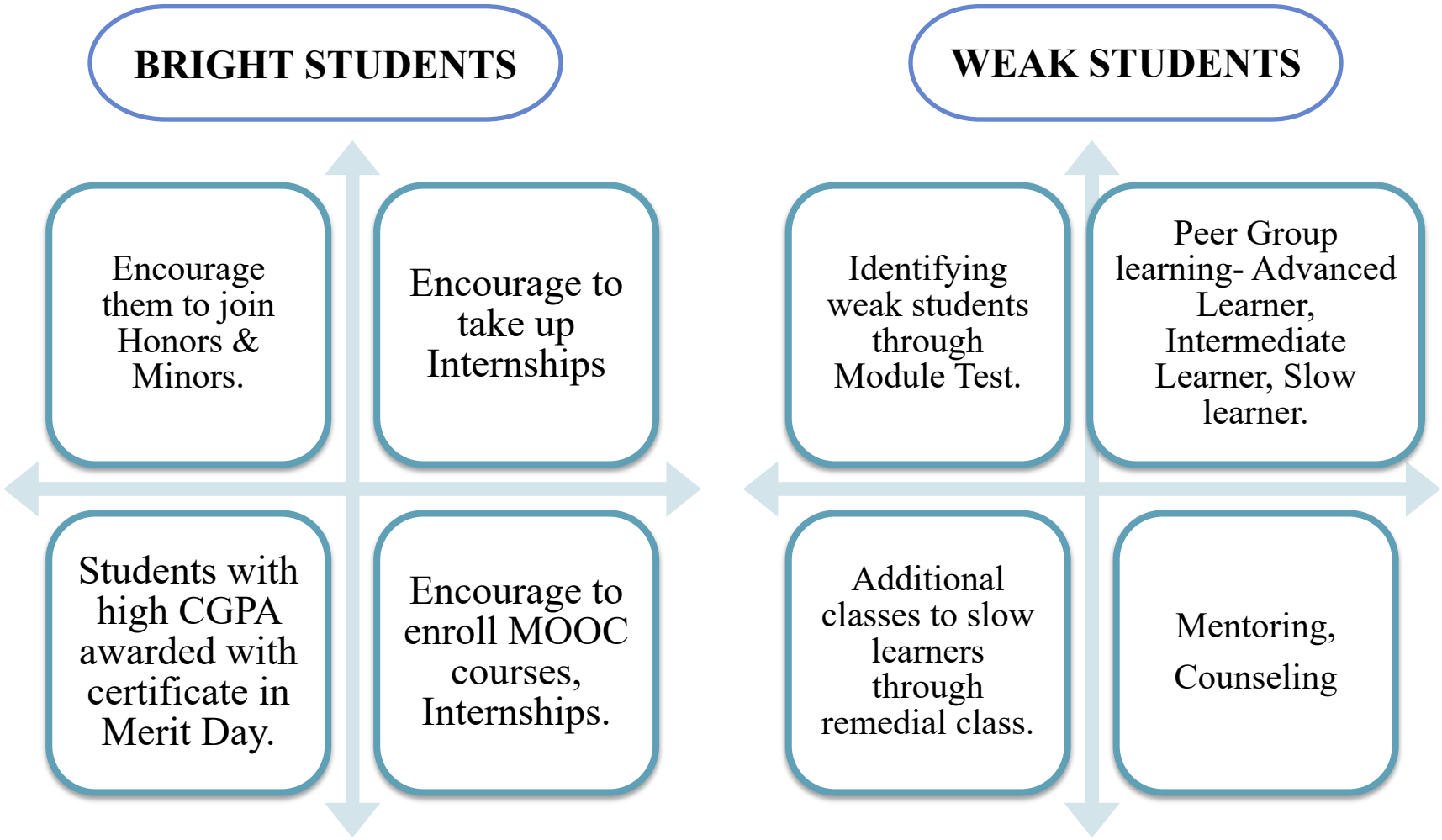
At the end of each unit, students are asked to solve Problems from that unit in the tutorial hour

Teaching Learning Process – Activities & Evaluation

Criterion 2



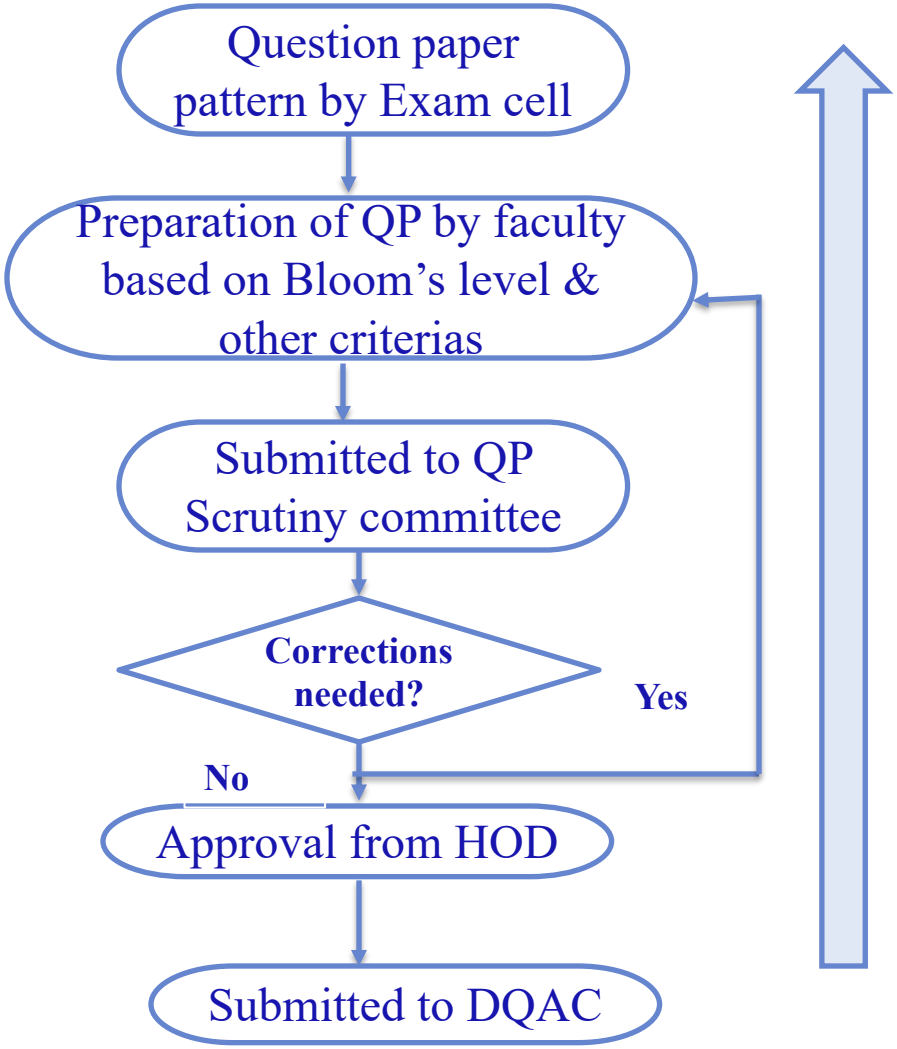
Methodologies to support Weak & Bright Students



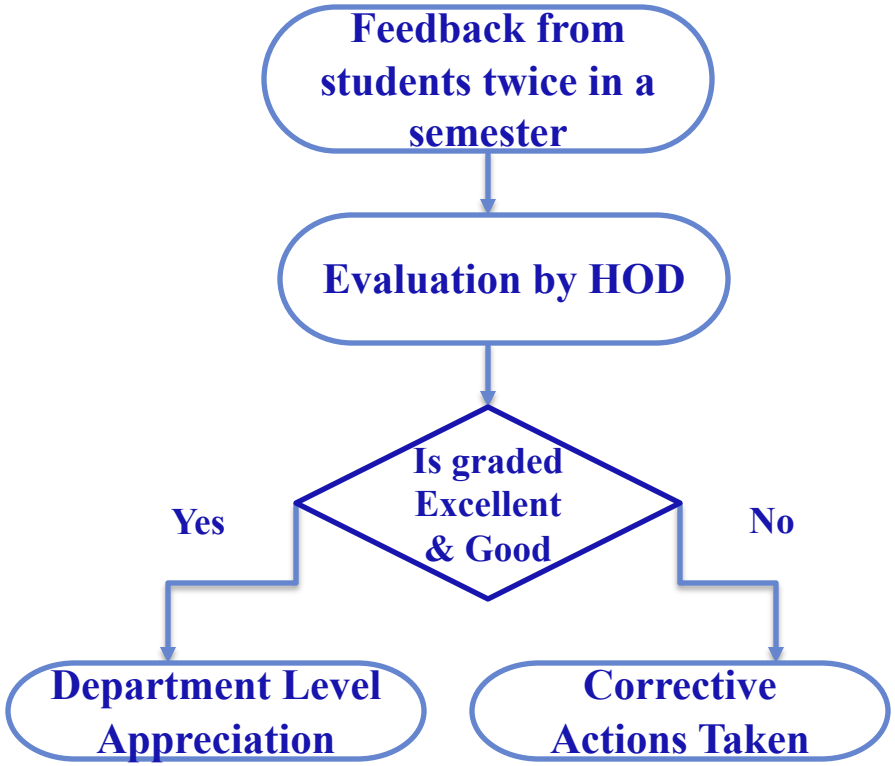
Methods of Teaching in Classrooms & Laboratory

S. No	Teaching methods	Description of the methods	POs, PSOs
1	Classroom Lectures	Classroom teaching with chalk as a conventional method is followed on different topics in general.	1,2,3,4,6,7,8, 10, PSO1
2	Laboratory Classes	Each faculty is assigned with a group of students for one to one interaction.	1,2,3,4,8,10, 12, PSO2
3	PPT	The abstract concepts difficult to imagine are presented through power point presentations and animation tools to impart insight into the subject.	1,2,3,4,5,6,1 0
4	Seminars	The student's collect knowledge related to a topic and present it in a technical report and oral lecture comprehensively.	1,2,3,4,6,7,8, 10,11
5	Tutorials	Conducting effective tutorial classes for students and the same is recorded in the Course diary.	1,2,4,9,10,11
6	Assignments	Writing assignments deepens thinking and increases students' engagement with course material. Group assignments help them to work effectively in a team.	1,2,4,9,10,11
7	VIDEOS(NPTEL and others)	Videos and E-learning material are used for giving exposure to domain expertise of the faculties from various reputed institutes like NPTEL, Open Courseware etc.	1,2,4,7,9,10, 11

Quality of Question papers



Student Feedback – Action taken



Quality of Student Projects

Faculty competency with domain will be informed to student .

- Senior Faculty member as project coordinator.
- Assessment will be done based on the rubric developed for each review.

SUBJECT GROUPS	2021-2022	2020-2021	2019-2020
Machine Learning	8	11	13
Network Security	1	3	0
Deep Learning/Datamining	2/1	2/1	2
Android/IoT	0	3	18

Identification of Students project

↓

Guide Allotment

↓

Continuous monitoring

↓

Project Review

↓

Final Evaluation

↓

Publish in journals

Outcome of the Projects:

Student Publications : 77
Product Development : 04
Project competitions : 10

MOU

***MoUs** of Computer Science & Engineering: 06*

- ASAP, Kerala (Initiative of Kerala Government)
- VIRTUAL LAB (Initiative of ministry of education)
- NETALLA Innovations Pvt Ltd, Bengaluru
- YATNAM Technologies Pvt Ltd, Kochi
- ICT Academy of Kerala Trivandrum
- Universiti Putra Malaysia Selangor

Initiatives related to Industry Interaction

Expert Talk by Industry Experts

Sl. No.	Name of Event	Resource Person
1	Motion Graphics	Mr.Gauis B Samuel, SEO Developer,Hazaq Infotech, Kochi
2	Introduction to Android Programming	Mr.Muhammed Iqbal Infotech Systems, Dubai
3	Spring Cloud & Spring Boot	Ms.Somy Elizabeth Kurian, HSBC Team Leader
4	Enterprise level Information Security Mechanism	Ms.Saffi Treesa Saji, Technical Engg, Fujitsu
5	Secure transactions in Distributed Networks through Block chain	Mr.Vishnu P S, Sr.Software Engg., E&Y, Kochi
6	Cyber Security Attacks	Mr.Santhosh Chaluvadi, CEO-Supraja Technologies

Department Activities: shorturl.at/knxL0

Courses/Offered by Industries

- Internships in companies.
- ICFOSS workshop for Faculty – ICT Academy.
- Google Ace Program – ASAP, Kerala.
- Learn Python by Designing Website – ICT Academy
- Netalla Innovations – MODROBS Lab
- Yatnam Technologies-Placement
- Skill Development program for First year students – ASAP, Kerala

Academic Year	Intern-ship	Industrial Visit	Expert Talks
2019-2020	130	235	20
2020-2021	82	-	23
2021-2022	76	455	06

Criterion 3: Course Outcomes and Program Outcomes

- Each course has its own Course Outcomes (COs).
- COs are directly & quantitatively assessed and are tied to POs.
- Hence, through COs, the POs are met.

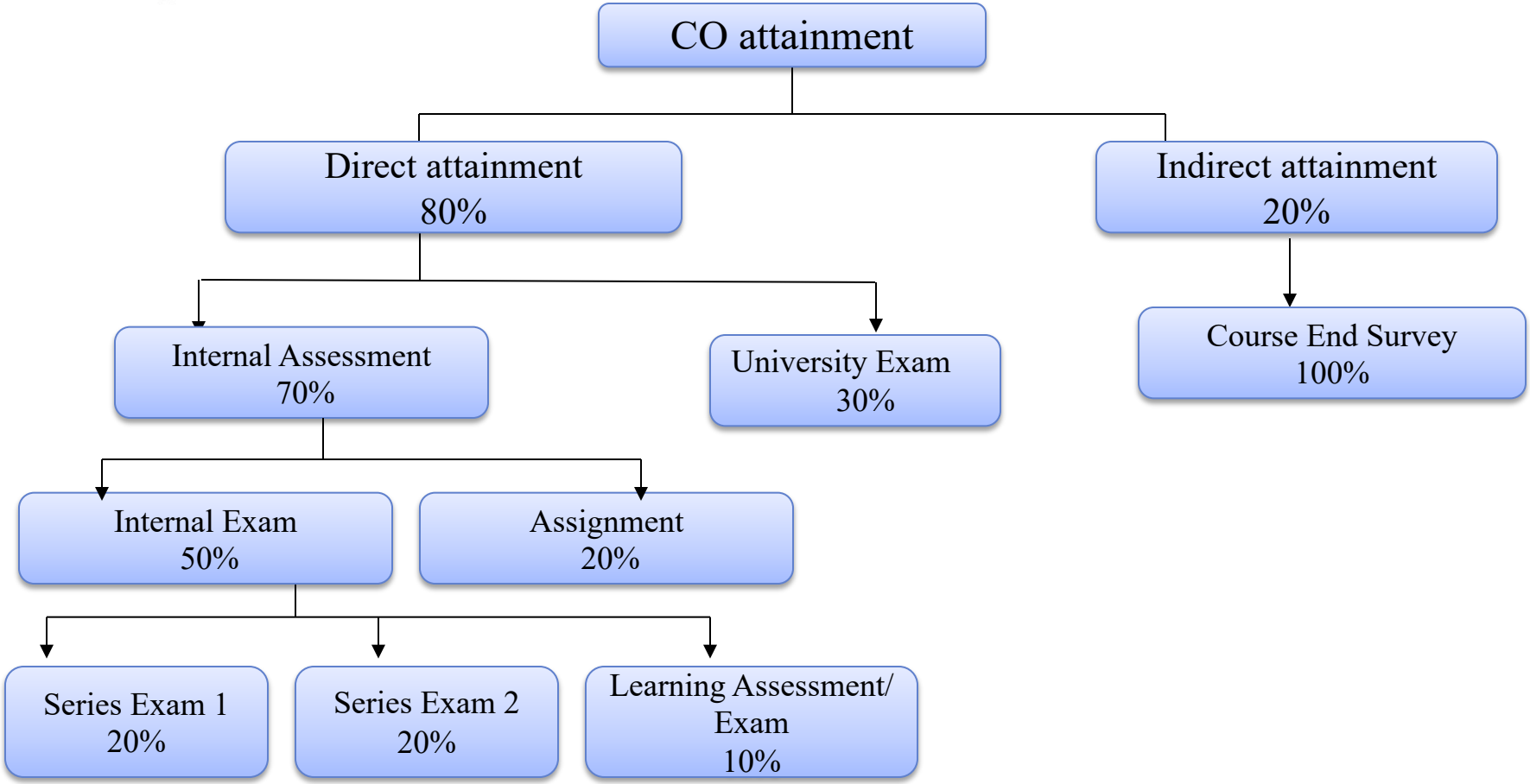
Assessment Tools for CO attainment

Direct Assessment	Indirect Assessment
Internal Exam	Course End Survey
Assignment	
End Semester Exam	

Assessment Tools for PO&PSO attainment

Direct Assessment	Indirect Assessment
CO Attainment	Program Exit Survey
	Activity Point
CO-PO/PSO mapping	

Evaluation of Course Outcomes – Theory Courses



CO Attainment Levels

Attainment Levels	Internal Examination	University Examination
LEVEL 1	50% of students secured more than 45%	50% of students secured ‘P’ and more than ‘P’ grade.
LEVEL 2	60% of students secured more than 45%	60% of students secured ‘P’ and more than ‘P’ grade.
LEVEL 3	70% of students secured more than 45%	70% of students secured ‘P’ and more than ‘P’ grade.

Sample Course Outcome
Course Code &Name : CS409 Cryptography & Network Security

CO	Course Outcomes
CS409.1	Understand various classical encryption techniques and block ciphers principles
CS409.2	Differentiate and compare the structure and operations of block cipher and stream cipher.
CS409.3	Demonstrate cryptographic algorithms for encryption/key exchange
CS409.4	Summarize different authentication and digital signature schemes
CS409.5	Identify security issues in the network layer and apply various security protocols.
CS409.6	Identify security issues in the transport layer and application layer.

Attainment of Course Outcomes- Sample

Criterion 3

CO-PO Mapping Matrix:

Course Name : Cryptography & Network Security
Course Code: CS409

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	2	-	-	1	-	-	-	-	-	2
CO2	2	2	2	2	-	1	-	-	-	-	-	1
CO3	3	2	3	2	-	2	-	-	-	-	-	2
CO4	2	2	2	2	-	2	-	-	-	-	-	-
CO5	1	1	2	2	-	-	-	-	-	-	-	-
CO6	1	1	3	3	2	2	-	-	-	-	-	-

CO Attainment Matrix

Correlation levels for mapping are High (3), Medium (2) and Low(1).

Assessment Tools	CS409.1	CS409.2	CS409.3	CS409.4	CS409.5	CS409.6
Asst 1	3	-	-	3	3	-
C.Test 1	3	3	-	-	-	-
C.Test 2	-	-	3	3	-	-
L.Assess 1	-	-	-	-	3	3
University	2	2	2	2	2	2
CO Direct Attainment	2.7	2.5	2.5	2.7	2.7	2.5
CO Indirect Attainment	2.9	3	3	2.8	3	2.8
Overall CO Attainment	2.74	2.6	2.6	2.72	2.76	2.56
CO Attainment Average	2.65					

CO Assessment using various Tools

University Attainment

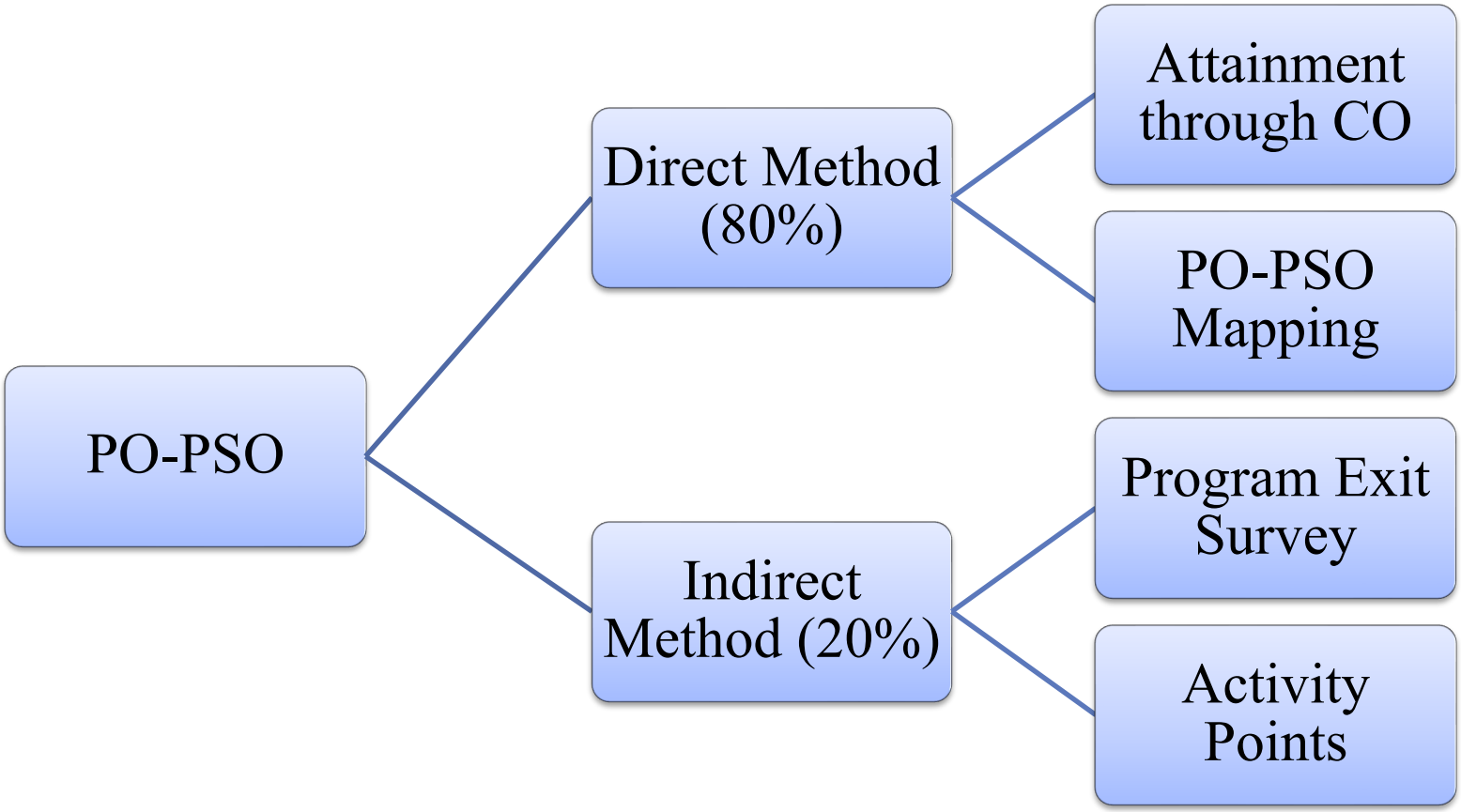
Average of CO attainment

Indirect attainment of CO through Course End Survey

Overall CO attainment =(2.7*(80/100))+(2.9*(20/100)) = 2.74

Overall CO attainment = 80% of Direct attainment + 20% Indirect attainment

Assessment Tools for POs & PSOs



Attainment of PO & PSO

CO-PO Mapping Matrix

Course Name : Cryptography & Network Security
Course Code: CS409

Sl.No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	Final CO Attainment
CS409.1	2	2	2	-	-	1	-	-	-	-	-	2	2.74
CS409.2	2	2	2	2	-	1	-	-	-	-	-	1	2.6
CS409.3	3	2	3	2	-	2	-	-	-	-	-	2	2.6
CS409.4	2	2	2	2	-	2	-	-	-	-	-	-	2.72
CS409.5	1	1	2	2	-	-	-	-	-	-	-	-	2.76
CS409.6	1	1	3	3	2	2	-	-	-	-	-	-	2.56
CS409(Mapped)	1.83	1.67	2.33	2.2	2	1.6	-	-	-	-	-	1.67	
CS409(Attained)	1.60	1.52	2.13	2.01	1.81	1.46	-	-	-	-	-	1.53	
PO (Indirect Attainment)	2.4	2.5	2.5	2.3	2.4	2	2.1	1.9	1.9	2.1	2.2	2.4	
Overall PO attainment													

CO-PSO Mapping Matrix

Sl.No	PSO1	PSO2
CS409.1	1	-
CS409.2	2	1
CS409.3	2	1
CS409.4	2	-
CS409.5	1	2
CS409.6	2	2
CS409(Mapped)	1.67	1.5
CS409(Attained)	1.52	1.37
PSO (Indirect Attainment)	2.4	2.6
Overall PSO attainment	1.69	1.61

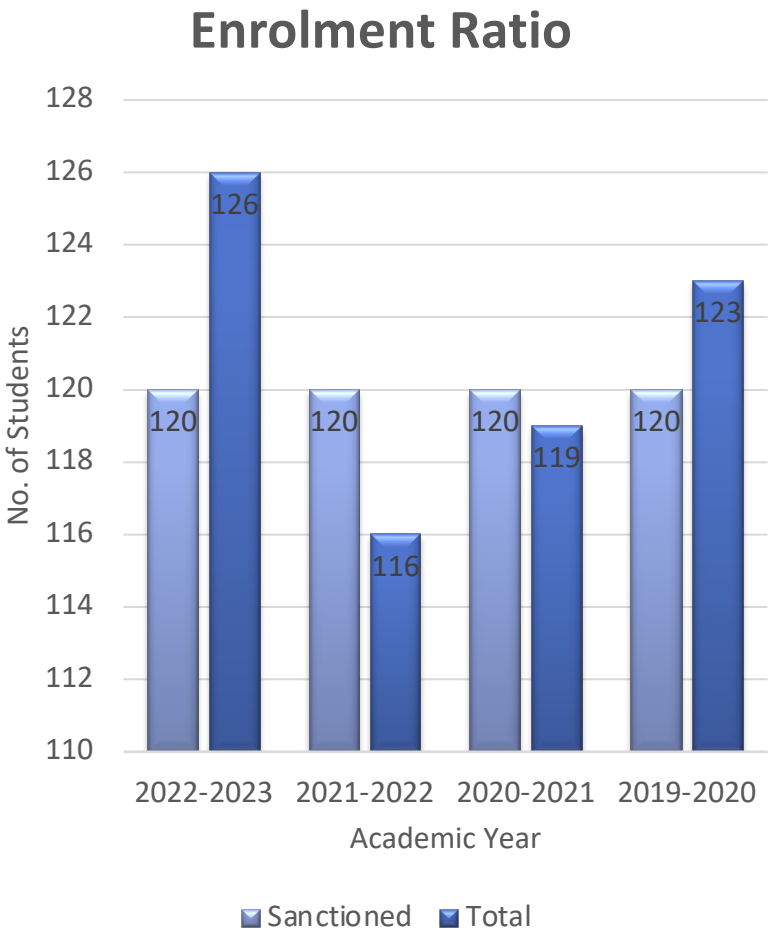
PO (Direct Attainment):

$$=\frac{((2*2.74)/3)+((2*2.6)/3)+((3*2.6)/3)+((2*2.72)/3)+((1*2.66)/3)+((1*2.56)/3))}{6} = 1.60$$

Criterion 4: Students' Performance

Enrolment Ratio

ACADEMIC YEAR	2022-2023	2021-2022	2020-2021	2019-2020
SANCTIONED INTAKE(N)	120	120	120	120
ENROLLED AT FIRST YEAR	126	114	119	120
ADMITTED 2nd YEAR via LE	0	2	0	3
TOTAL NO. OF STUDENTS (N)	126	116	119	123
AVERAGE ENROLMENT RATIO (N1/N)*100	105.00	96.6	99.2	102.5



Success Rate

- ***Success Rate without any backlogs***

Items	2021-2022 (2018-2022 Batch)	2020-2021 (2017-2021 Batch)	2019-2020 (2016-2020 Batch)
Success Index (SI)	19/89= 0.21	22/83 =0.27	42/119 = 0.35
Average(SI)	**(0.21+0.27+0.35)/3 = 0.27**		

- ***Success rate with backlogs***

Items	2021-2022 (2018-2022 Batch)	2020-2021 (2017-2021 Batch)	2019-2020 (2016-2020 Batch)
Success Index (SI)	42/89= 0.47	46/83 =0.55	84/119 = 0.71
Average(SI)	**(0.47+0.55+0.71)/3 = 0.58**		

Academic Performance

III Year

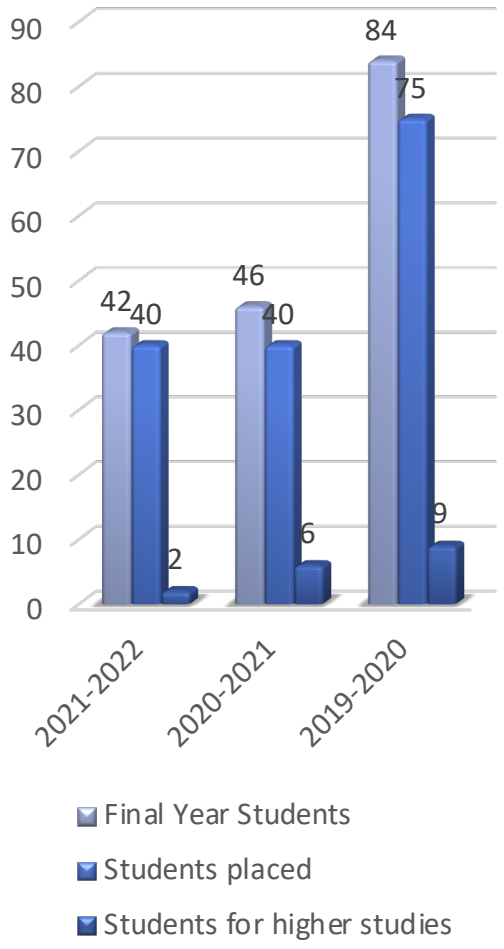
Academic Performance	2019-2023 Batch	2018-2022 Batch	2017-2021 Batch
Mean of CGPA of all successful students (X)	8.15	7.91	8.03
Total no. of successful students (Y)	35	48	46
Total no. of students appeared in exams (Z)	46	48	47
API =(X*(Y/Z))	6.2	7.91	7.86
Average API	7.32		

II Year

Academic Performance	2020-2024 Batch	2019-2023 Batch	2018-2022 Batch
Mean of CGPA of all successful students (X)	7.94	8.16	7.73
Total no. of successful students (Y)	22	46	48
Total no. of students appeared in exams (Z)	40	61	56
API =(X*(Y/Z))	4.4	6.1	6.6
Average API	5.7		

Placement, Higher studies

Academic Year	2021-2022	2020-2021	2019-2020
Total no. of Final year students	42	46	84
Total no. of students placed (X)	40	39	74
Total no. of students went for Higher studies (Y)	2	7	10
PLACEMENT INDEX (X+Y+Z)	42	46	84
AVERAGE PLACEMENT (P1+P2+P3)	100%	100%	100%



Professional Society Activities

- Computer Society of India (CSI) started in the academic year 2018-2019.
- IEEE(CS) chapter started in the academic year 2020-2021.

Academic Year	No. of Activities
2022-2023	8
2021-2022	5
2020-2021	2

Academic Year	CSI	IEEE
2021-2022	112	53
2020-2021	112	74
2019-2020	107	0

Newsletters

- *Newsletters published twice in an year.*
- *Magazine published once in a year.*

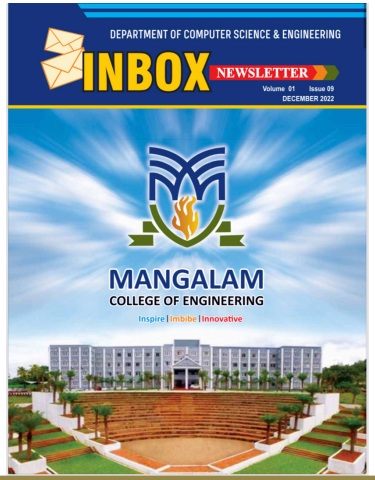
July-Dec 2020

Jan-June 2022

July-Dec 2019

Jan-June 2021

Magazine - Quest



July-Dec 2023

Association Activities

- Expert Talks
- Workshops
- Paper presentations
- Quizzes
- Guest lectures

ACADEMIC YEAR	WORKSHOPS	WEBINARS	EXPERT TALK
2022-2023	2	8	4
2021-2022	8	13	1
2020-2021	17	5	-
2019-2020	4	1	2

Social Service Activities

X'mas celebration @ Govt.Children's home, Thiruvanchoor

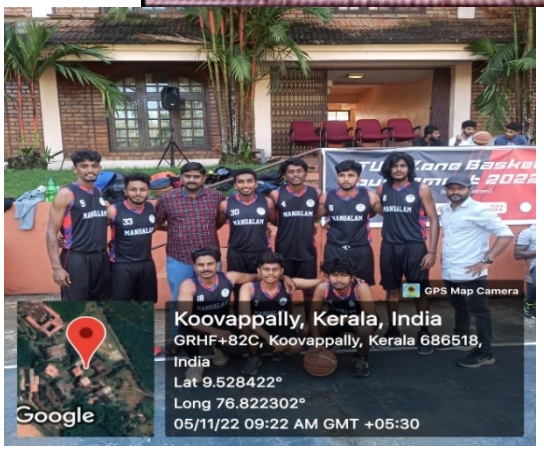
Donating Smart Bin to District Panchayath

Seminar on the topic "Relevance of Computer science to school students"

Co-Curricular and Extra-Curricular Activities

- Attending **Project Exhibitions, Technical Fests and Paper Presentations**
- Motivation and Encouragement to prove their excellence in **Sports , Arts &NSS activities**.

Academic Year	Co-Curricular Activities		Extra-Curricular Activities	
	Participated	Awarded	Participated	Awarded
2021-2022	82	60	120	108
2020-2021	50	46	-	-
2019-2020	30	22	50	46



Criterion 5: Faculty Informations & Contributions

Faculty Informations

Student Faculty Ratio

2022-2023
11.7

2021-2022
15.5

2020-2021
19.24

2019-2020
20.40

Average SFR = 18.38 (Last 3 years)

List of Faculty: ***http://surl.li/efzzi***

Faculty Cadre Proportion

ACADEMIC YEAR	Professors	Assoc. Professors	Assistant Professors
2022-2023	4	4	24
2021-2022	4	4	18
2020-2021	0	3	18
2019-2020	0	3	17
Faculty Retention =87%			

Faculty Qualification & Profile

Teaching Faculty: 35

Professors	: 4
Associate Professor	: 4
Assistant Professors	: 27
No. of Faculty Pursuing Ph.D	: 08

Faculty experience:

> 10 years	: 16
5-10 years	: 9
1-5 years	: 8

No. of Ph.D Supervisors : 1

No. of Visiting Faculty: 3

Academic Year	Name of Visiting Faculty	No. of Hours
2019-2020	Ms.Neethu Krishna	54
2020-2021	Dr.A Jegadeeshan	50
2021-2022	Ms.Parvathy Gopakumar	53

No. of Patents published : 4

No. of Books Published : 9

No. of Journals/ Conference Paper Published : 109

Overall Citations

h-index : 3

No. of International conferences organized : 4

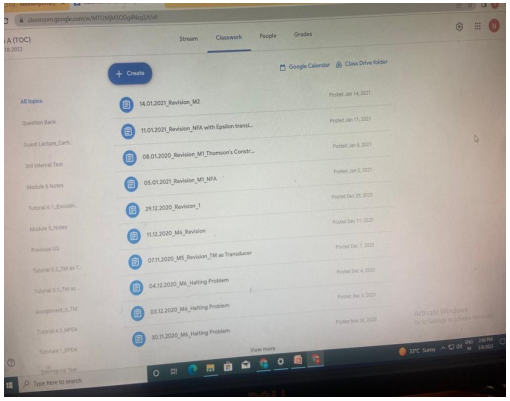
Faculty Qualification Index:

Academic Year	Faculty with Ph.D	Faculty with M.Tech	FQ
2019-2020	3	17	12.25
2020-2021	3	18	12.75
2021-2022	8	18	19
Average Assessment		**16.5**	

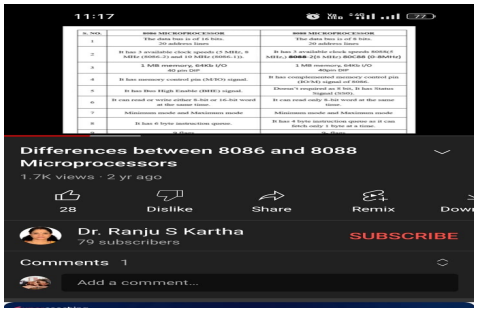
Innovations by Faculty in Teaching & Learning

Peer to Peer Bridge Learning

Google Classroom

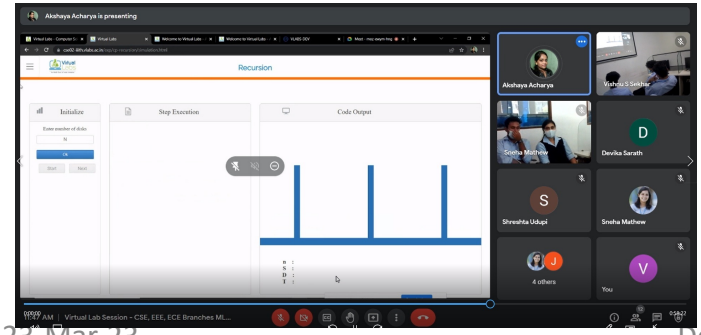


Youtube Lectures



https://rb.gy/mfteyb

Virtual Labs



ICT enabled Classrooms

Innovations by Faculty in Teaching & Learning

Use of NPTEL/Swayam Online Courses

Industrial Visit

Industrial Visit @UST , Kochi

Research & Development – Academic Research

Criterion 5

Research Center:

Recognized Supervisors : 1

List of Publications:

https://rb.gy/umorwh

List of Patents:

https://rb.gy/sqodtd

List of Books/Book Chapters :

https://rb.gy/jogckj

List of FDPs :

https://rb.gy/iq9hwi

Academic Year	Publica-tions	Books/ Book Chapters	Patents	FDPs attended (No. of days)
2022-2023	13	7	2	65
2021-2022	41	3	1	120
2020-2021	32	3	1	135
2019-2020	25	1	0	78
2018-2019	36	0	0	36
TOTAL	**147**	**14**	**4**	**398**

Research & Development – Sponsored Research

Investigators / Co-ordinator	Title	Funding Agency	Scheme	Amount (Rs.)
Dr.Vinodh P Vijayan	Modernization of existing " Networks Lab into advanced networks lab"	AICTE	MODROBS (2020-21)	16,66400L

Funds Applied

Title of Project	Name of the Coordinators	Agency	Amount Quoted (Rs.)
Integrated Disease Surveillance	Dr.K Ravikumar	Kerala startup Mission (2021-2022)	1250000L
Google Play Co review graph Fraud detection	Dr.C Sahaya Kingsly	SERB(2022-2023)	6,69000L

Development Activities- Product Development

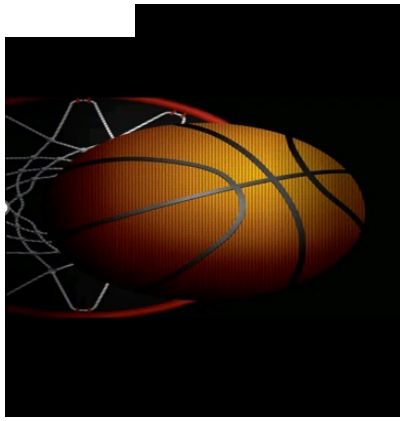
1.Feedback Software (Proposed by,Mr. Anandhu N, Ms.Nimmymol Manuel)

- By using this software student can give feedback about the lectures through the link www.mangalamcse.in
- Three users : Student, Teacher, Admin

Key features & Advantages:

- Cost Efficiency
- Time Saver
- More Accurate
- Results

Development Activities- Product Development

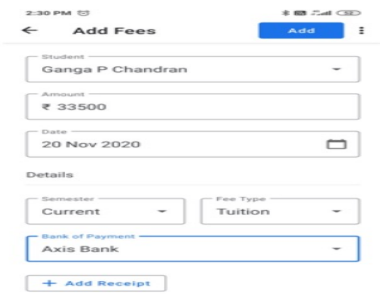


2.Buckyball & Meco (*Proposed By, Mr.****Aswin M Suthan & Mr.Amal C Anil, Ms Divya S B)***

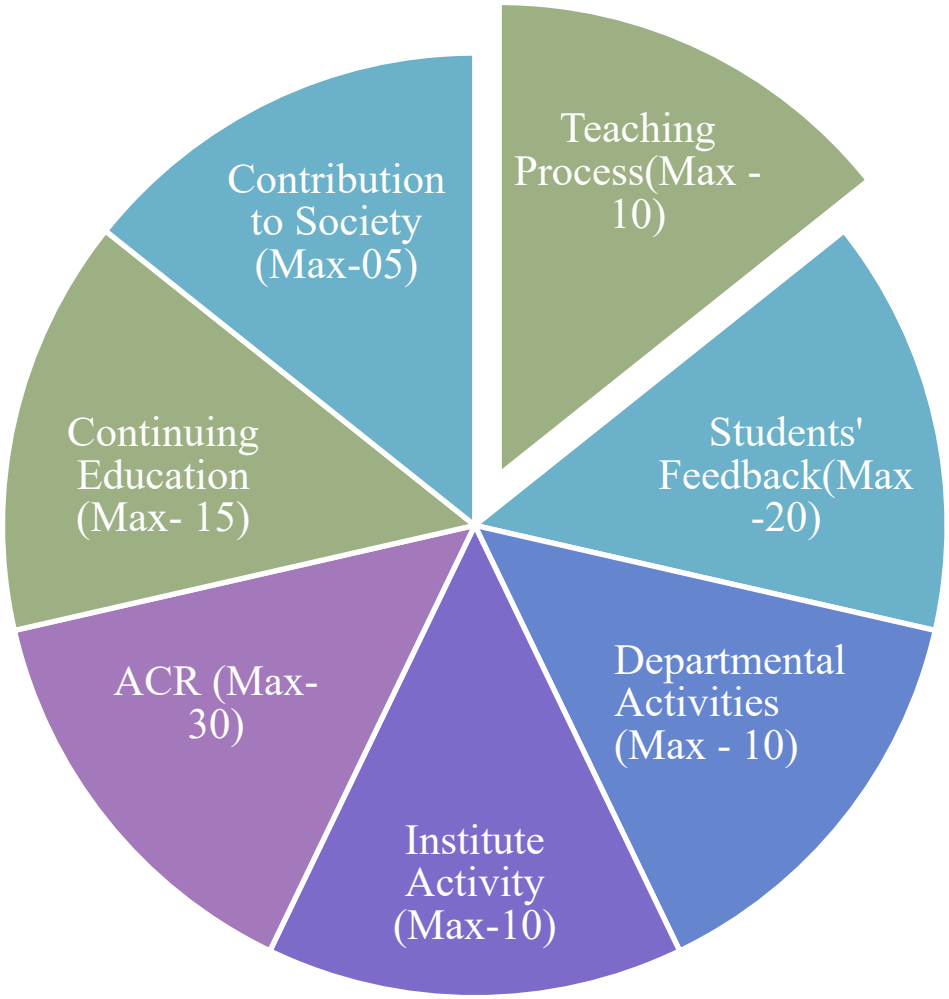
- **Bucky Ball** is a ball game released on google play store. Goal of the player is to put the ball into basket.
- **MECO**, the runner is a classic platformer and the player exploring the new world.

3.Fee Manager (*Proposed by, Mr.****Anandhakrishnan K R ,Ms.Divya S B)***

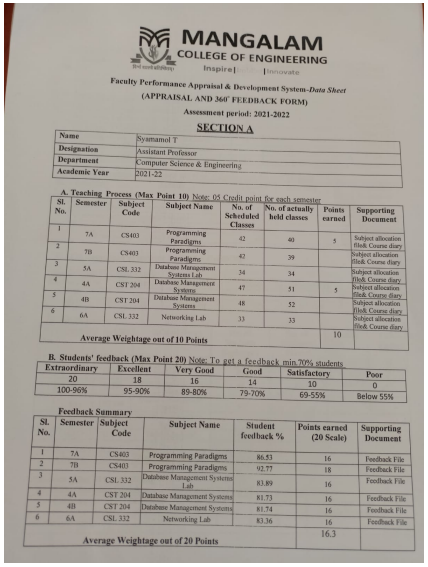
- **Fee Manager** is an android app developed to manage and track the status of fee payment of students.



Faculty Performance Appraisal System (As per AICTE recommendations-Max - 100 marks)



Faculty Performance Appraisal System (Sample)



MANGALAM COLLEGE OF ENGINEERING

Inspire | Innovate

Faculty Performance Appraisal & Development System-*Data Sheet*

(APPRAISAL AND 360° FEEDBACK FORM)

Assessment period: 2021-2022

SECTION A

Name	Syamamol T
Designation	Assistant Professor
Department	Computer Science & Engineering
Academic Year	2021-22

A. Teaching Process (Max Point 10) Note: 05 Credit point for each semester

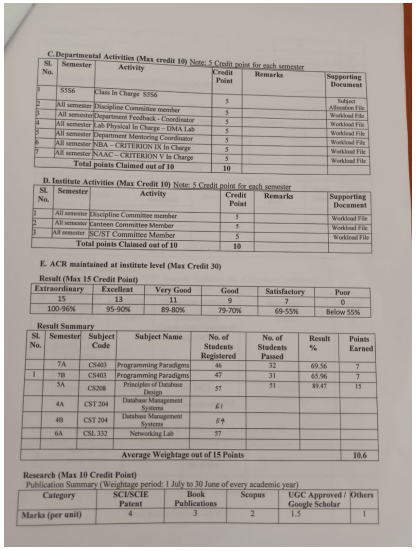
Sl. No.	Semester	Subject Code	Subject Name	No. of Scheduled Classes	No. of actually held classes	Points earned	Supporting Document
1	7A	CS403	Programming Paradigms	42	40	5	Subject allocation Hod& Course diary
2	7B	CS403	Programming Paradigms	42	39		Subject allocation Hod& Course diary
3	5A	CSL 332	Database Management Systems Lab	34	34		Subject allocation Hod& Course diary
4	4A	CST 204	Database Management Systems	47	51	5	Subject allocation Hod& Course diary
5	4B	CST 204	Database Management Systems	48	52		Subject allocation Hod& Course diary
6	6A	CSL 332	Networking Lab	33	33		Subject allocation Hod& Course diary
			Average Weightage out of 10 Points			10	

B. Students' feedback (Max Point 20) Note: To get a feedback min.70% students

Extraordinary	Excellent	Very Good	Good	Satisfactory	Poor
20	18	16	14	10	0
100-96%	95-90%	89-80%	79-70%	69-55%	Below 55%

Feedback Summary

Sl. No.	Semester	Subject Code	Subject Name	Student feedback %	Points earned (20 Scale)	Supporting Document
1	7A	CS403	Programming Paradigms	86.53	16	Feedback File
2	7B	CS403	Programming Paradigms	92.77	18	Feedback File
3	5A	CSL 332	Database Management Systems Lab	83.89	16	Feedback File
4	4A	CST 204	Database Management Systems	81.73	16	Feedback File
5	4B	CST 204	Database Management Systems	81.74	16	Feedback File
6	6A	CSL 332	Networking Lab	83.36	16	Feedback File
			Average Weightage out of 20 Points		16.3	



C. Departmental Activities (Max credit 10) Note: 5 Credit point for each semester

Sl. No.	Semester	Activity	Credit Point	Remarks	Supporting Document
1	S5S6	Class In Charge S5S6	5		Subject Allocation File
2	All semester	Discipline Committee member	5		Workload File
3	All semester	Department Feedback - Coordinator	5		Workload File
4	All semester	Lab Physical In Charge – DMA Lab	5		Workload File
5	All semester	Department Mentoring Coordinator	5		Workload File
6	All semester	NBA – CRITERION IX In Charge	5		Workload File
7	All semester	NAAC – CRITERION V In Charge	5		Workload File
		Total points Claimed out of 10	10		

D. Institute Activities (Max Credit 10) Note: 5 Credit point for each semester

Sl. No.	Semester	Activity	Credit Point	Remarks	Supporting Document
1	All semester	Discipline Committee member	5		Workload File
2	All semester	Canteen Committee Member	5		Workload File
3	All semester	SC/ST Committee Member	5		Workload File
		Total points Claimed out of 10	10		

E. ACR maintained at institute level (Max Credit 30)

Result (Max 15 Credit Point)

Extraordinary	Excellent	Very Good	Good	Satisfactory	Poor
15	13	11	9	7	0
100-96%	95-90%	89-80%	79-70%	69-55%	Below 55%

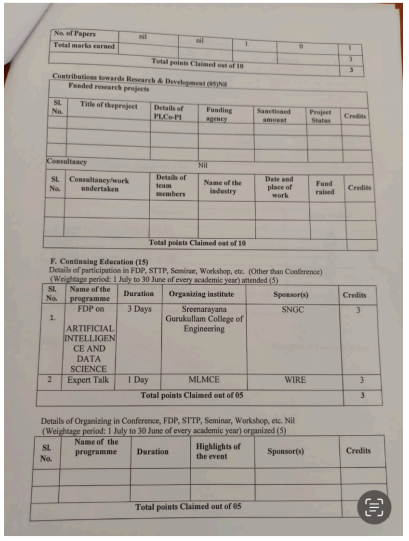
Result Summary

Sl. No.	Semester	Subject Code	Subject Name	No. of Students Registered	No. of Students Passed	Result %	Points Earned
	7A	CS403	Programming Paradigms	46	32	69.56	7
1	7B	CS403	Programming Paradigms	47	31	65.96	7
	5A	CS208	Principles of Database Design	57	51	89.47	15
	4A	CST 204	Database Management Systems	61			
	4B	CST 204	Database Management Systems	59			
	6A	CSL 332	Networking Lab	57			
			Average Weightage out of 15 Points				10.6

Research (Max 10 Credit Point)

Publication Summary (Weightage period: 1 July to 30 June of every academic year)

Category	SCI/SCIE Patent	Book Publications	Scopus	UGC Approved / Google Scholar	Others
Marks (per unit)	4	3	2	1.5	1



No. of Papers	nil	nil	1	0	1
Total marks earned					3
Total points Claimed out of 10					3

Contributions towards Research & Development (05)Nil

Funded research projects

Sl. No.	Title of theproject	Details of PI,Co-PI	Funding agency	Sanctioned amount	Project Status	Credits

Consultancy — Nil

Sl. No.	Consultancy/work undertaken	Details of team members	Name of the industry	Date and place of work	Fund raised	Credits
Total points Claimed out of 10						

F. Continuing Education (15)

Details of participation in FDP, STTP, Seminar, Workshop, etc. (Other than Conference)

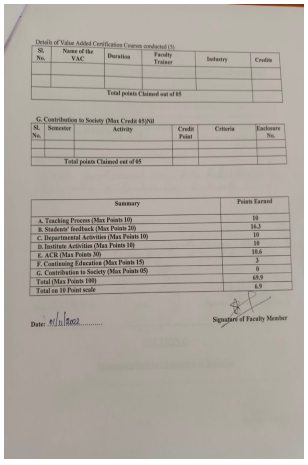
(Weightage period: 1 July to 30 June of every academic year) attended (5)

Sl. No.	Name of the programme	Duration	Organizing institute	Sponsor(s)	Credits
1.	FDP on ARTIFICIAL INTELLIGENCE AND DATA SCIENCE	3 Days	Sreenarayana Gurukulam College of Engineering	SNGC	3
2	Expert Talk	1 Day	MLMCE	WIRE	3
Total points Claimed out of 05					3

Details of Organizing in Conference, FDP, STTP, Seminar, Workshop, etc. Nil

(Weightage period: 1 July to 30 June of every academic year) organized (5)

Sl. No.	Name of the programme	Duration	Highlights of the event	Sponsor(s)	Credits
Total points Claimed out of 05					



Details of Value Added Certification Courses conducted (5)

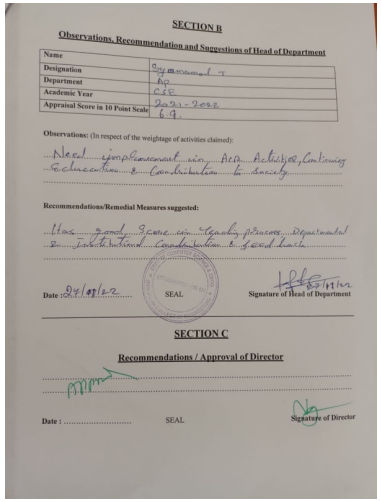
Sl. No.	Name of the VAC	Duration	Faculty Trainer	Industry	Credits
Total points Claimed out of 05					

G. Contribution to Society (Max Credit 05)Nil

Sl. No.	Semester	Activity	Credit Point	Criteria	Enclosure No.
Total points Claimed out of 05					

Summary	Points Earned
A. Teaching Process (Max Points 10)	10
B. Students' feedback (Max Points 20)	16.3
C. Departmental Activities (Max Points 10)	10
D. Institute Activities (Max Points 10)	10
E. ACR (Max Points 30)	10.6
F. Continuing Education (Max Points 15)	3
G. Contribution to Society (Max Points 05)	0
Total (Max Points 100)	69.9
Total on 10 Point scale	6.9

Date: 21/10/22 Signature of Faculty Member



SECTION B

Observations, Recommendation and Suggestions of Head of Department

Name	Syamamol T
Designation	AP
Department	CSE
Academic Year	2021-2022
Appraisal Score in 10 Point Scale	6.9

Observations: (In respect of the weightage of activities claimed):

Need improvement in ACR Activities, Continuing Education & Contribution to society

Recommendations/Remedial Measures suggested:

Has good score in Teaching process, Departmental & Institutional Contribution & Feedback

Date : 24/10/22 SEAL Signature of Head of Department

SECTION C

Recommendations / Approval of Director

Date : SEAL Signature of Director

FPADS Review Norms & Recommendations

MERIT LEVEL	CRITERIA	SUB CRITERIA	RECOMMENDATION
PLATINUM LEVEL	Merit Certificate in 3 category	Three Platinum	**Salary Increment**
		Two platinum + one Gold	
		One platinum + Two Gold	
		Three Gold	
		All others	
GOLD LEVEL	Merit certificate in 2 category	Two Platinum	
		One Platinum + One Gold	
		Two Gold	
		All others	
SILVER LEVEL	Merit Certificate in 1 category	One Platinum	**Appreciation Certificate**
		One Gold	
		One Silver	
No Certificate			**Mentoring by HOD / Principal**

Merit Certificate – Platinum Club

Ms.Jinu P Sainudeen receiving Merit certificate in Familiare 2022

Department Excellence Award – CSE , Familiare 2022

Conferences Organized

➢ *International Conferences Organized (ICCIDT) :4*

Academic Year	Name of Conference	Keynote Speaker	No. of papers published
2021-2022	ICCIDT 2K22	Prof.Jeba Shiney O, Professor-Chandigarh University	42
2020-2021	ICCIDT 2K21	Dr.Vishnu G Nair, Postdoctoral Fellow, University of Liege Belgium	33
2019-2020	ICCIDT 2K20	Mr.Balaji Rajan Principal Consultant, CISCO Systems, SouthAfrica	81
2018-2019	ICCIDT 2K19	Dr.Rohaya Latip HOD- Dept. of Communication & Technology, Putra Malaysia	56

International Conference on Computational Intelligence And Digital Technologies 2022 (ICCIDT 2k22)

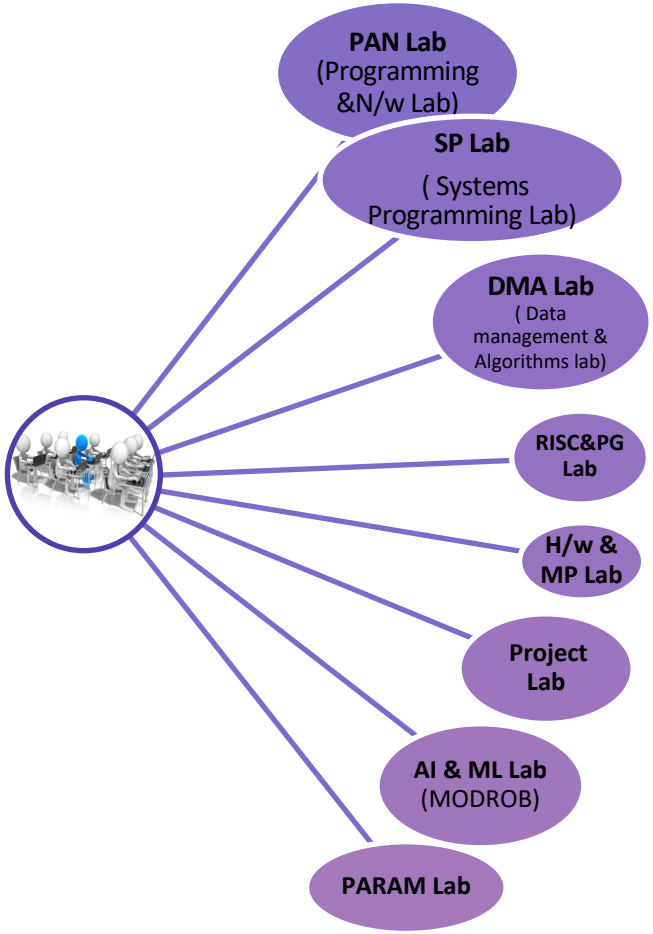
This conference will be a great platform for Researchers, academicians, students and Industries to come together and discuss on multiple real-time or classical problems and to suggest the possible solutions. The event took place from 3rd June 2022 through google meet online platform.

- Artificial Intelligence
- Data Analytics
- Internet of Things (IOT)
- Computing
- Computer Networks
- Security And Cryptography

Criterion 6: Facilities & Technical Support

Faculty Rooms	• COUNT 2 • *Well Furnished Individual Cabins with Wifi*
Class Rooms	•COUNT 07 •*Eco friendly – ICT Facilities*
Tutorial Rooms	•COUNT 03 •*Proper Seating capacity – ICT facilities*
Laboratories	•COUNT 07 •*Well equipped – latest technologies* • *318 Computers*
Seminar Hall	•COUNT 01 •*Multimedia projector and audio*
Conference Hall	• COUNT 01 •*Multimedia Projector*
Dept. Library	•COUNT 01 •*Sufficient reading space (Total 686 volumes)*
R&D Facility	•COUNT 01 •*Dedicated Lab – core i7 Machines*

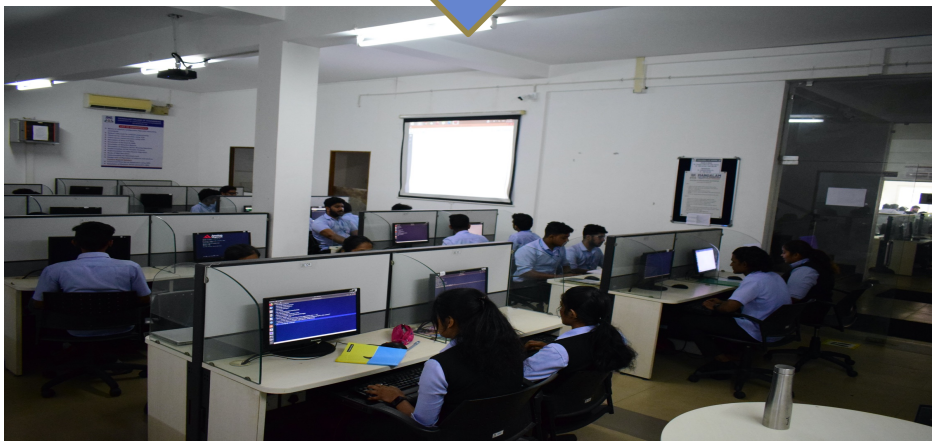
Supporting staff : 08



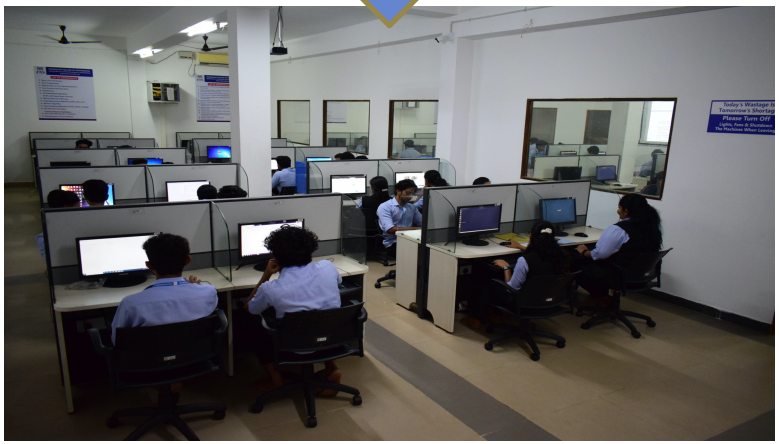
DATA MANAGEMENT &ALGORITHMS LAB

SYSTEM PROGRAMMING LAB

PROGRAMMING &NETWORKING LAB



PROJECT LAB



H/W &MICROPROCESSOR LAB

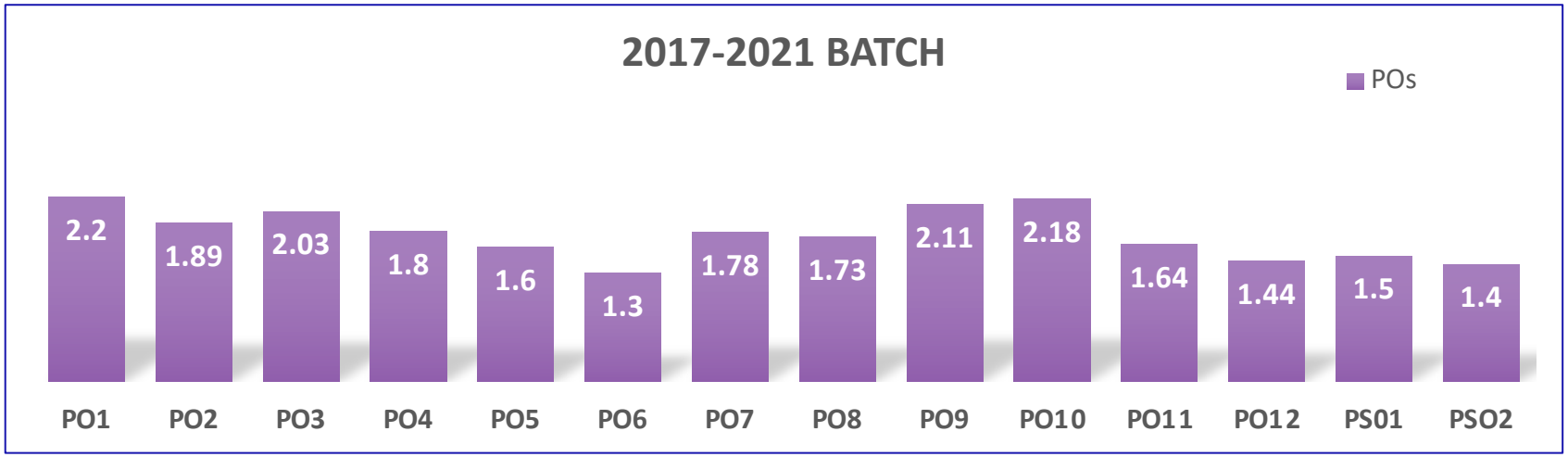
PARAM LAB

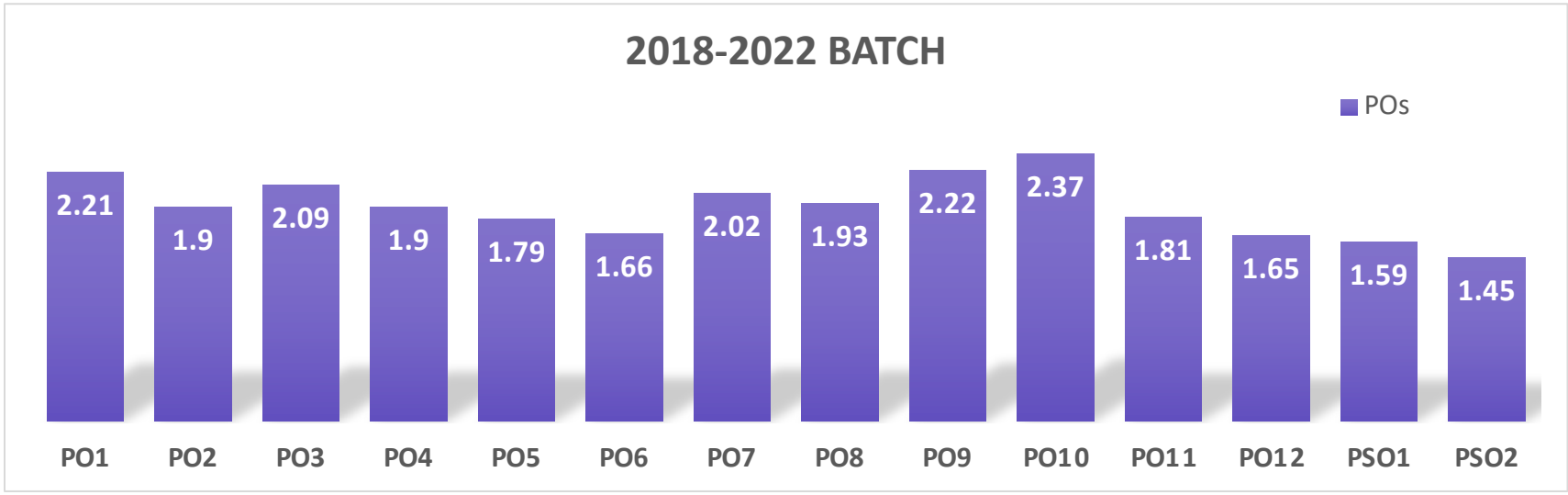
RISC LAB

AI&ML INTEGRATED IoT LAB

Criterion 7: Continuous Improvement

Overall attainment of POs





Action taken for the Improvement of POs & PSOs

Action Taken for the improvement: shorturl.at/hBH56

PO1: Engineering Knowledge

- ✓ Remedial Classes
- ✓ Tutorial Classes
- ✓ Peer to Peer Bridge Courses
- ✓ Workshops

PO2: Problem Analysis

- ✓ Remedial Classes
- ✓ Tutorial Classes
- ✓ Peer to Peer Bridge Course
- ✓ Question Banks given to students

PO3: Design/Development Solutions

- ✓ Teaching-Learning
- ✓ Projects
- ✓ Internships
- ✓ Industrial Visits

PO4 : Conduct of Complex Problems

- ✓ Laboratory Classes
- ✓ Projects
- ✓ Industrial Visit
- ✓ Internships
- ✓ Question Banks given to students

PO5 : Modern Tool Usage

- ✓ Expert Talks/Webinars
- ✓ Peer to Peer Bridge Course

PO6 : Engineer & Society

- ✓ Talks on environment & social problems.
- ✓ Organic farming club activity
- ✓ Extension activities
- ✓ Social Services

PO7 : Environment & Sustainability

- ✓ Expert talks on Sustainability
- ✓ Effective conduct of the course
- ✓ Introduction to Sustainable Engineering

PO8 : Ethics

- ✓ Motivational Talks
- ✓ Organize events to improve moral values

PO9 : Individual & Team work

- ✓ Organizing departmental events
- ✓ Placement activities
- ✓ Internships
- ✓ Project works

PO10 :Communication

- ✓ Soft skill Training
- ✓ Participation of students in Inter collegiate events.
- ✓ Project works, laboratory classes, Seminars

PO11: Project Management & Finance

- ✓ Organizing departmental events
- ✓ Internships
- ✓ Project works

PO12 :Lifelong learning

- ✓ Certification courses
- ✓ Awareness on Entrepreneurship talks.
- ✓ Encourage the students for higher studies.

PSO 1 :Computing

- ✓ Projects
- ✓ Tutorial Classes
- ✓ Value added courses
- ✓ Workshops/Guest Lectures

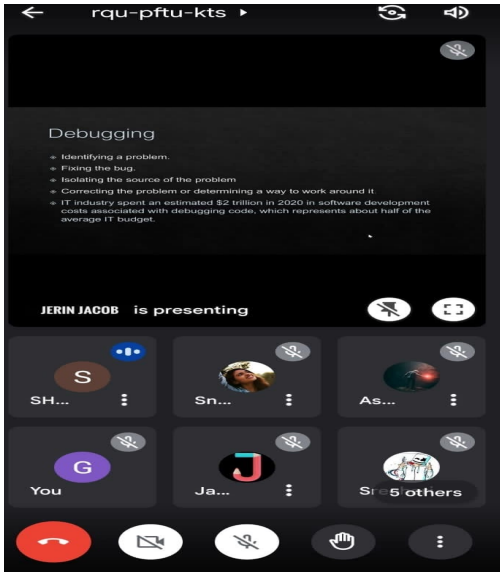
✓ PSO 2 : Futuristic Technologies

- ✓ Expert talk on advanced technologies
- ✓ Internships
- ✓ Industrial Visits
- ✓ Technical Fests

Sample for Program Outcome Improvement

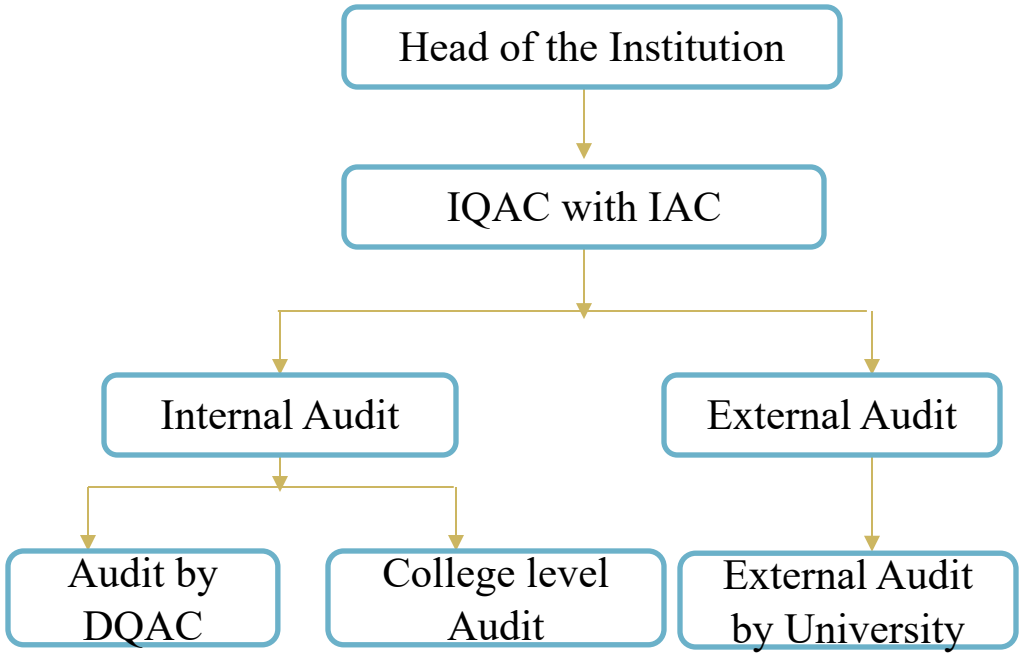
PO Improvement through the online workshops

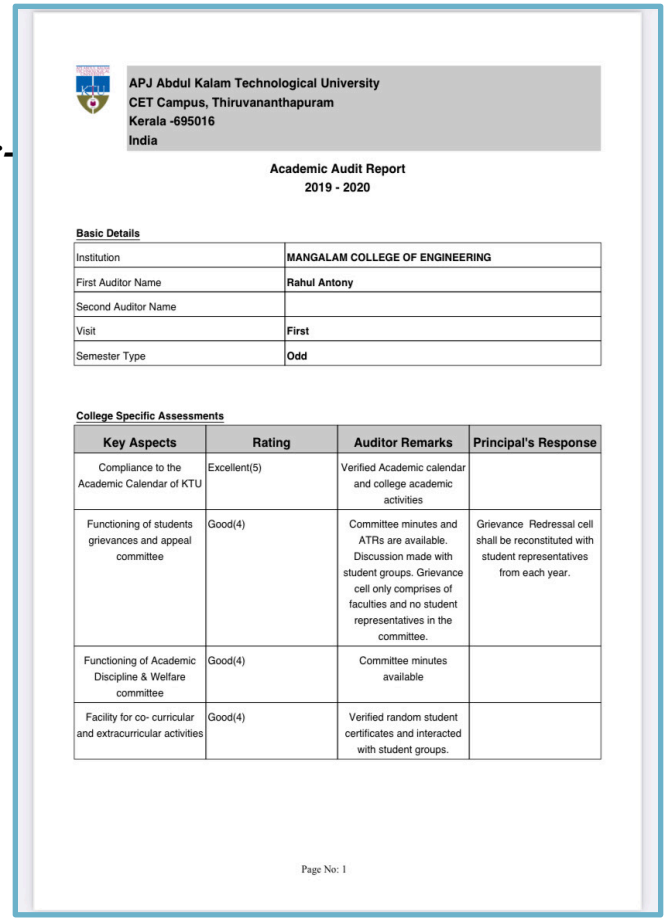
Academic Year/Sem	Course Code	Course Name	PO attainment
2019-2020 (S5)	CS 303	System Software	0.985
2020-2021 (S5)	CS 303	System Software	1.38



Academic Audits

- ***Academic Audits will be conducted based on following criteria:-***
  - (i) ***Course delivery and adherence***
  - (ii) ***Co-curricular and Extra-curricular activities***
  - (iii) ***Academic functioning of the college***





APJ Abdul Kalam Technological University
CET Campus, Thiruvananthapuram
Kerala -695016
India

Academic Audit Report
2019 - 2020

Basic Details

Institution	MANGALAM COLLEGE OF ENGINEERING
First Auditor Name	Rahul Antony
Second Auditor Name	
Visit	First
Semester Type	Odd

College Specific Assessments

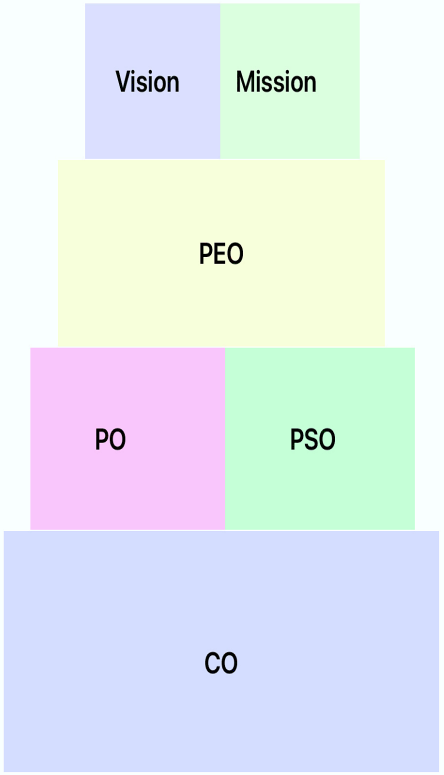
Key Aspects	Rating	Auditor Remarks	Principal's Response
Compliance to the Academic Calendar of KTU	Excellent(5)	Verified Academic calendar and college academic activities	
Functioning of students grievances and appeal committee	Good(4)	Committee minutes and ATRs are available. Discussion made with student groups. Grievance cell only comprises of faculties and no student representatives in the committee.	Grievance Redressal cell shall be reconstituted with student representatives from each year.
Functioning of Academic Discipline & Welfare committee	Good(4)	Committee minutes available	
Facility for co- curricular and extracurricular activities	Good(4)	Verified random student certificates and interacted with student groups.	

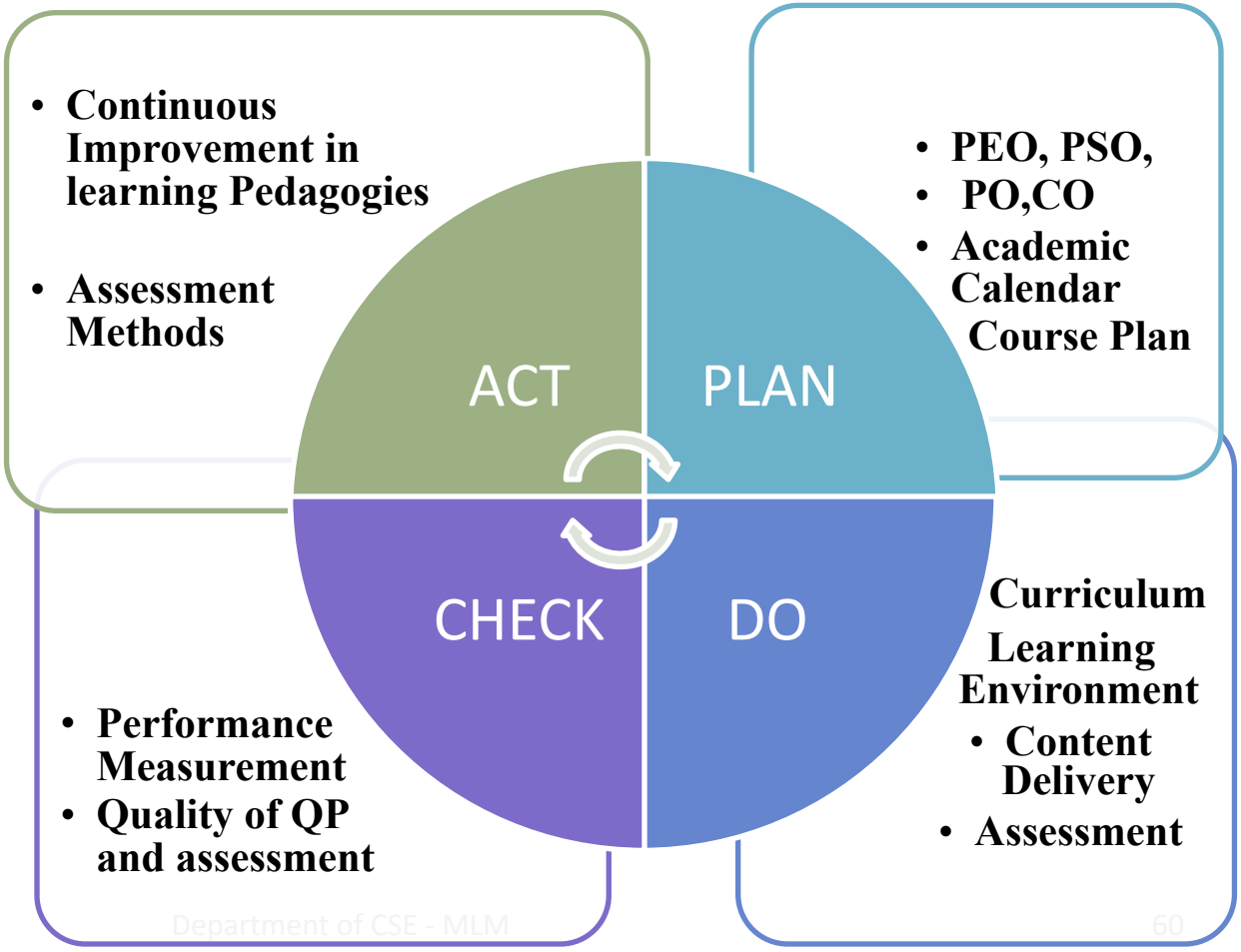
Page No: 1

Audit Report - University

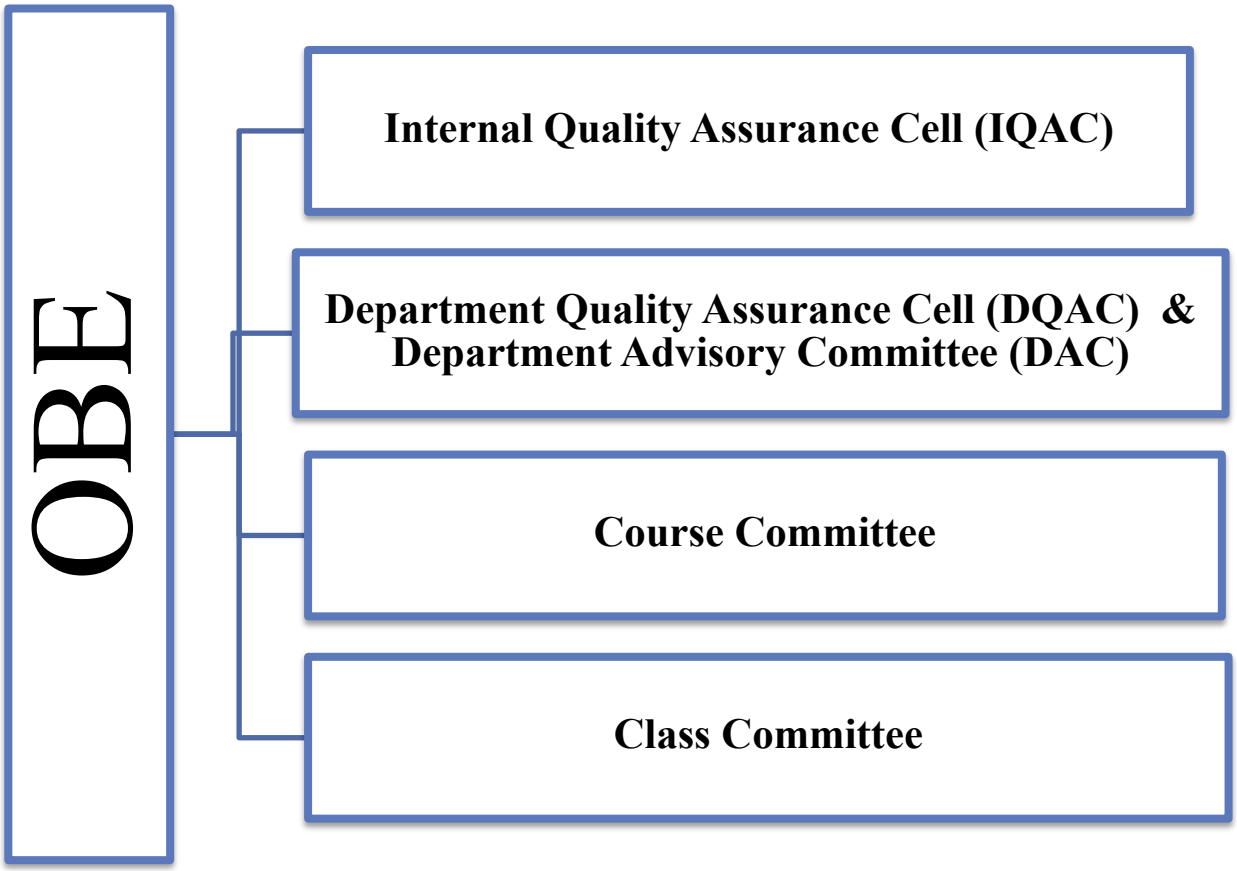
PART B - OBE Philosophy of the Department

- **The OBE of Department of Computer Science & Engineering aims to,**
- Measure the course outcomes (COs) of the courses through direct and indirect methods.
- Measure the program outcomes and program specific outcomes which are mapping with COs through direct and indirect methods.





Administrative System For OBE Implementation



Program Outcomes & Program Specific Outcomes

PSOs

PSO1:Apply the Principles of Computing in solving real world problems with sustainability.

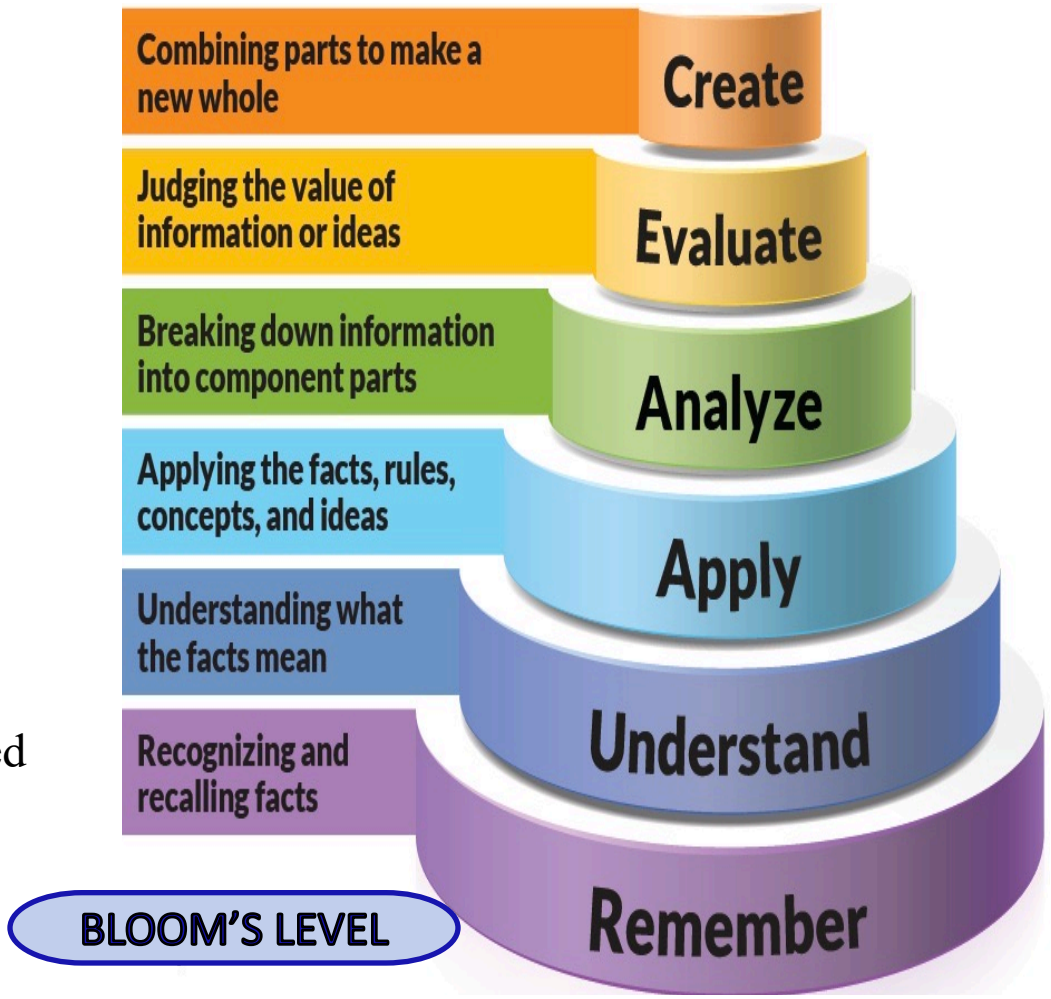
PSO2: Apply Futuristic technology in designing and developing hardware and software solutions.

Structure of Course Outcomes

Course Outcomes are statements, what a learner will be able to do as a result of a learning activity.

Course Outcome components:-

- An action word that identifies the performance to be demonstrated.
- Learning statement that specifies what learning will be demonstrated in the performance.

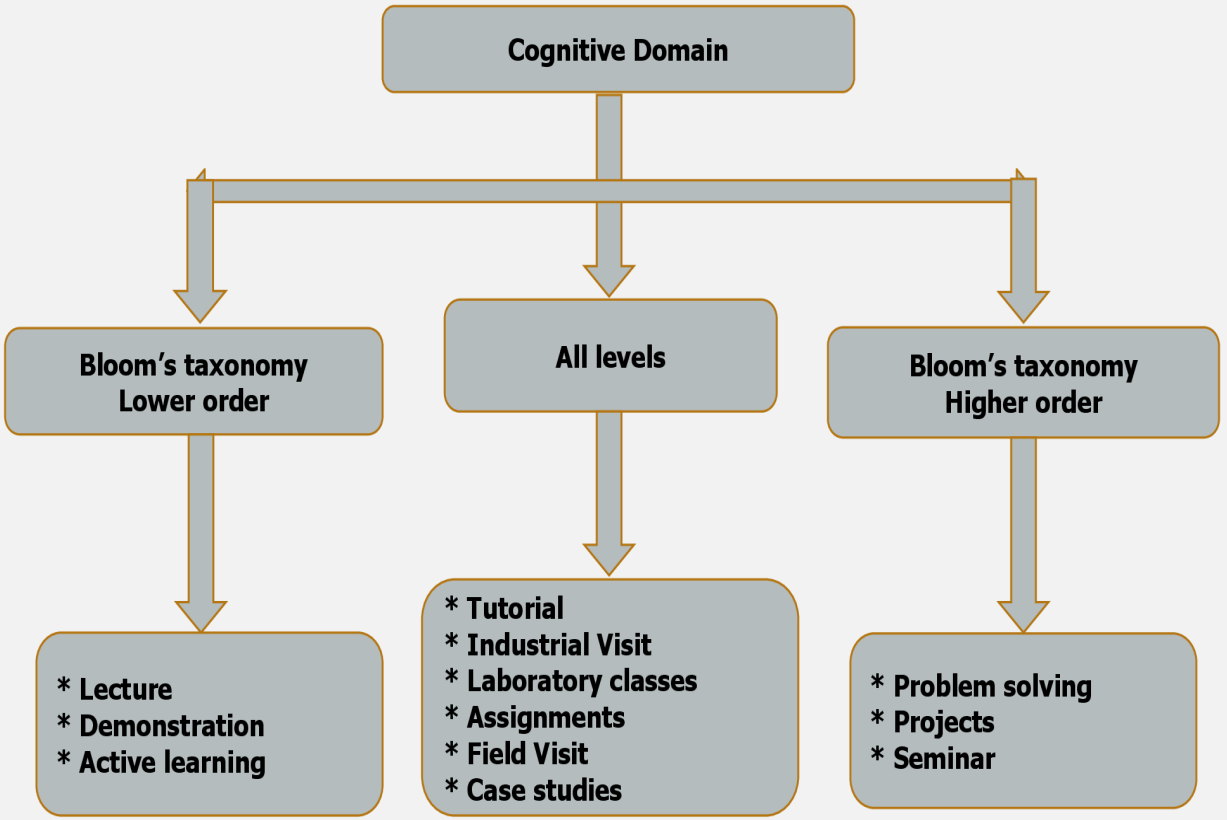


OBE

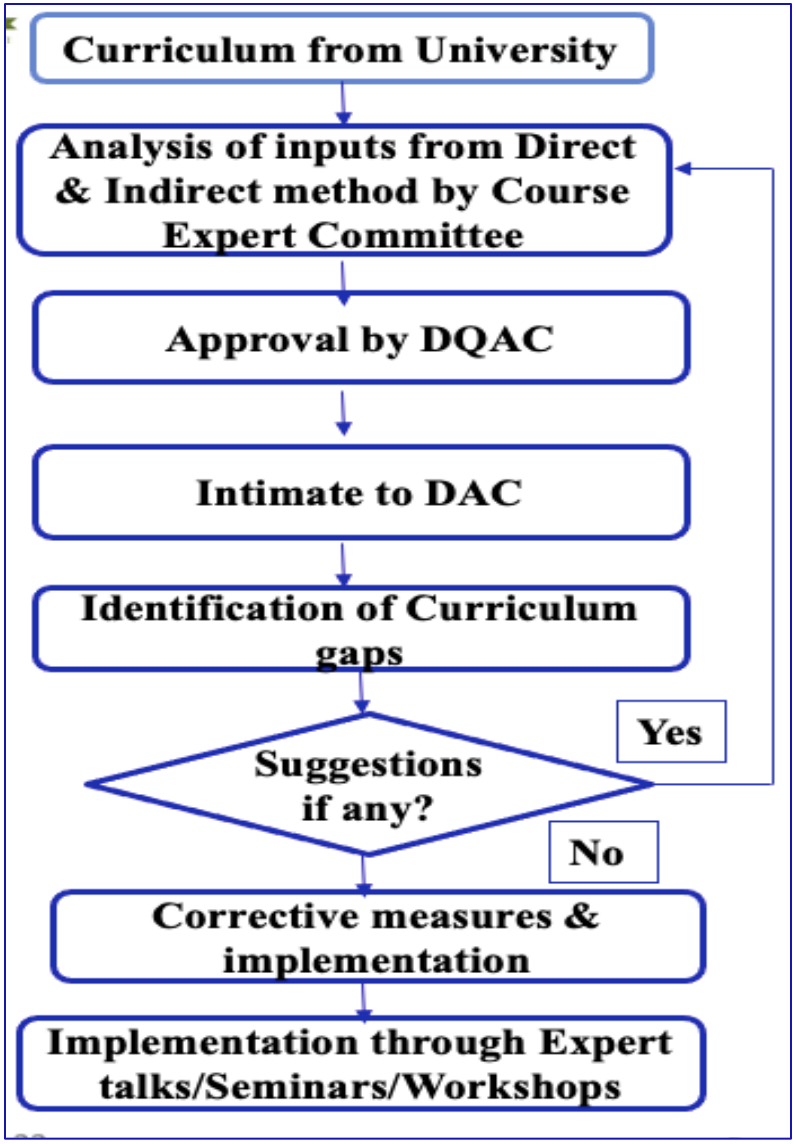
Program Articulation Matrix – Sample for 3rd year Courses

Course Code	PO1	PO2	PO 3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CS302	2	2	2	3	-	-	-	-	-	2	-	2.5	2.33	2.17
CS304	2.33	1.75	2	-	-	-	-	-	-	-	-	1	1	-
CS306	2.14	2.29	2	2	3	-	-	-	-	-	-	-	1.6	1.5
CS308	1.33	2	1	1.33	1.5	-	-	-	-	-	1	1.67	1	1.5
HS300	-	-	-	-	-	1.67	3	3	2.25	-	3	-	1	-
CS368	2	2.25	3	-	2.67	-	-	-	-	-	-	1	1.67	1.67
CS332	3	2	3	1	2	-	-	-	2	-	-	1	2	1
CS334	3	2	3	2	2	-	-	-	2	2	-	2	2	1
CS352	3	1	-	-	-	-	-	-	2	-	-	1	-	-

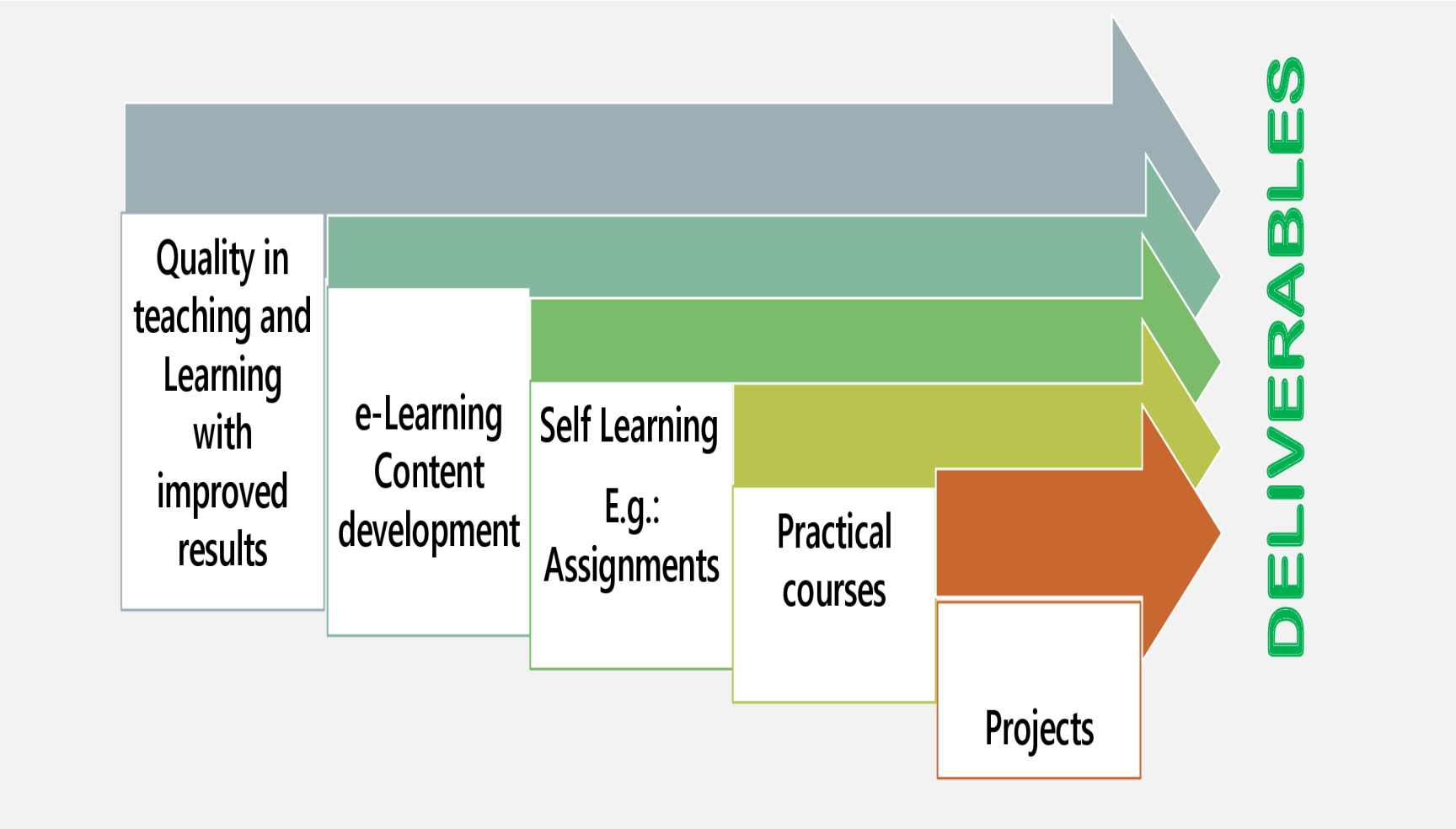
Instructional & Content Delivery Methodologies



Gap Identification & Content Beyond Syllabus Formulation



Deliverables of OBE Implementation in TLP



Quality in Teaching Learning with Improved Results

Attainment Improvement

Course Code & Course Name: CS409 Cryptography & Network Security

*The following Course attainment improved through the Workshop "**Enterprise level Information security mechanisms**"*

CO	2020-2021	2021-2022
CO1	2.74	2.98
CO2	2.74	2.96
CO3	2.74	2.96
CO4	2.72	2.96
CO5	2.76	3
CO6	2.74	3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COLLEGE OF ENGINEERING
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(Approved by AICTE, Affiliated to MGU / APJ Abdul Kalam Technological University, NAAC Accredited & ISO Certified Institution)

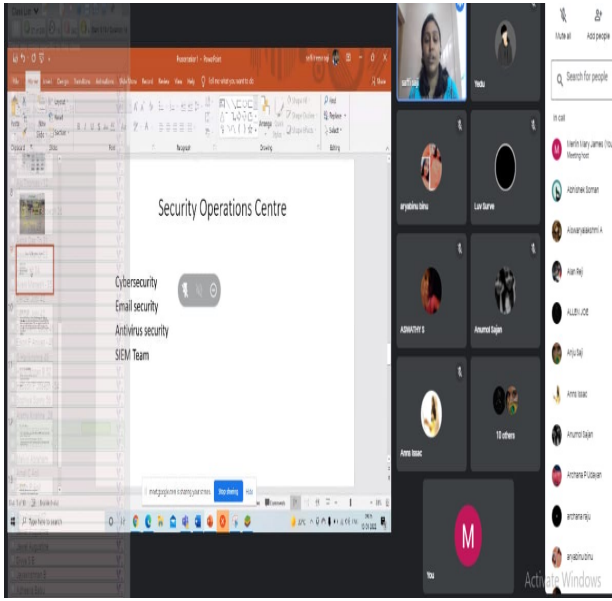
CERTIFICATE OF PARTICIPATION

THIS CERTIFIES THAT

LUV MICHAEL SURVE

has attended a one day online workshop on "**Enterprise level Information security Mechanisms**" organized by Department of Computer Science & Engineering in association with Computer Society of India - Mangalam College of Engineering Ettumanoor on 12th January 2022.

Ms.Merlin Mary James
Coordinator

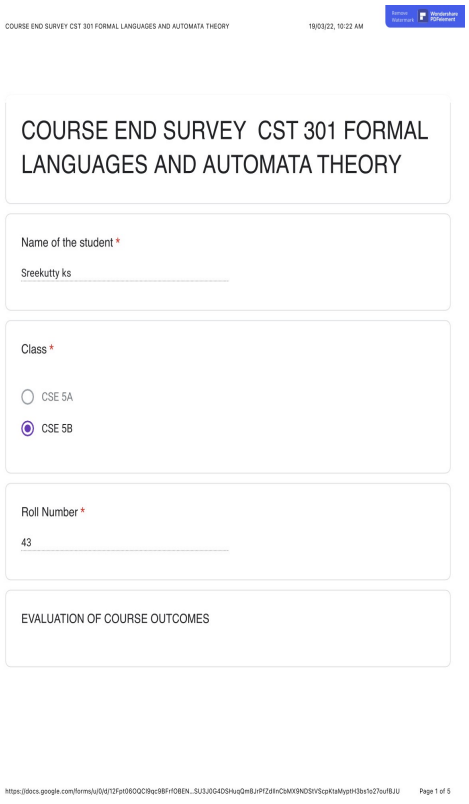


Assessment Methods Followed in CSE

DIRECT ASSESSMENT	INDIRECT ASSESSMENT
Internal Examination	Course End Survey
Assignment	Program Exit Survey
End Semester Examination	Activity Point

OBE

Samples of Indirect Assessment Practices



COURSE END SURVEY CST 301 FORMAL LANGUAGES AND AUTOMATA THEORY 19/03/22, 10:22 AM

COURSE END SURVEY CST 301 FORMAL LANGUAGES AND AUTOMATA THEORY

Name of the student *

Sreekutty ks

Class *

CSE 5A

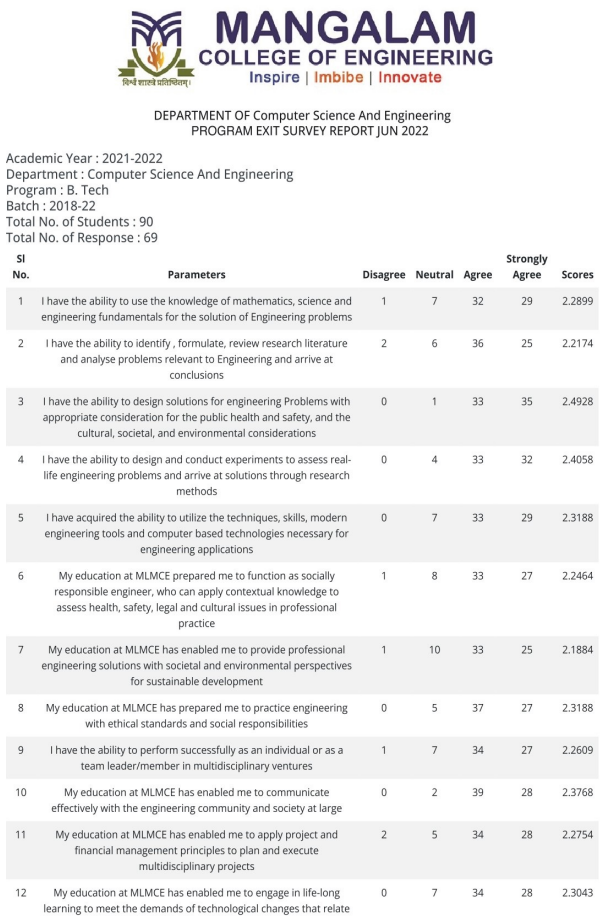
CSE 5B

Roll Number *

43

EVALUATION OF COURSE OUTCOMES

https://docs.google.com/forms/u/0/d/12Fpt06OQC9qc9BFrfOBEN...SU3JOG4DSHuqQmBJrPfZdlnCbMX9ND5tVScpKtaMyptH3bs1o27ouf8JU Page 1 of 5



MANGALAM COLLEGE OF ENGINEERING
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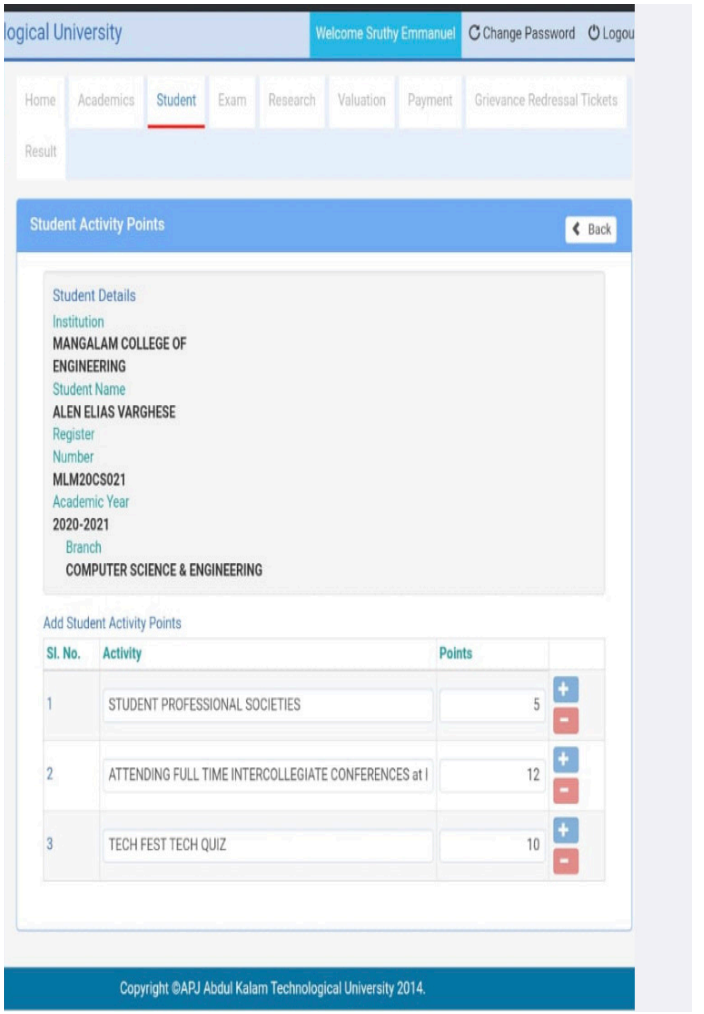
DEPARTMENT OF Computer Science And Engineering
PROGRAM EXIT SURVEY REPORT JUN 2022

Academic Year : 2021-2022
Department : Computer Science And Engineering
Program : B. Tech
Batch : 2018-22
Total No. of Students : 90
Total No. of Response : 69

Sl No.	Parameters	Disagree	Neutral	Agree	Strongly Agree	Scores
1	I have the ability to use the knowledge of mathematics, science and engineering fundamentals for the solution of Engineering problems	1	7	32	29	2.2899
2	I have the ability to identify , formulate, review research literature and analyse problems relevant to Engineering and arrive at conclusions	2	6	36	25	2.2174
3	I have the ability to design solutions for engineering Problems with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations	0	1	33	35	2.4928
4	I have the ability to design and conduct experiments to assess real-life engineering problems and arrive at solutions through research methods	0	4	33	32	2.4058
5	I have acquired the ability to utilize the techniques, skills, modern engineering tools and computer based technologies necessary for engineering applications	0	7	33	29	2.3188
6	My education at MLMCE prepared me to function as socially responsible engineer, who can apply contextual knowledge to assess health, safety, legal and cultural issues in professional practice	1	8	33	27	2.2464
7	My education at MLMCE has enabled me to provide professional engineering solutions with societal and environmental perspectives for sustainable development	1	10	33	25	2.1884
8	My education at MLMCE has prepared me to practice engineering with ethical standards and social responsibilities	0	5	37	27	2.3188
9	I have the ability to perform successfully as an individual or as a team leader/member in multidisciplinary ventures	1	7	34	27	2.2609
10	My education at MLMCE has enabled me to communicate effectively with the engineering community and society at large	0	2	39	28	2.3768
11	My education at MLMCE has enabled me to apply project and financial management principles to plan and execute multidisciplinary projects	2	5	34	28	2.2754
12	My education at MLMCE has enabled me to engage in life-long learning to meet the demands of technological changes that relate	0	7	34	28	2.3043



ogical University | Welcome Sruthy Emmanuel | Change Password | Logou

Home | Academics | Student | Exam | Research | Valuation | Payment | Grievance Redressal Tickets | Result

Student Activity Points | Back

Student Details
Institution
MANGALAM COLLEGE OF ENGINEERING
Student Name
ALEN ELIAS VARGHESE
Register Number
MLM20CS021
Academic Year
2020-2021
Branch
COMPUTER SCIENCE & ENGINEERING

Add Student Activity Points

Sl. No.	Activity	Points
1	STUDENT PROFESSIONAL SOCIETIES	5
2	ATTENDING FULL TIME INTERCOLLEGIATE CONFERENCES at I	12
3	TECH FEST TECH QUIZ	10

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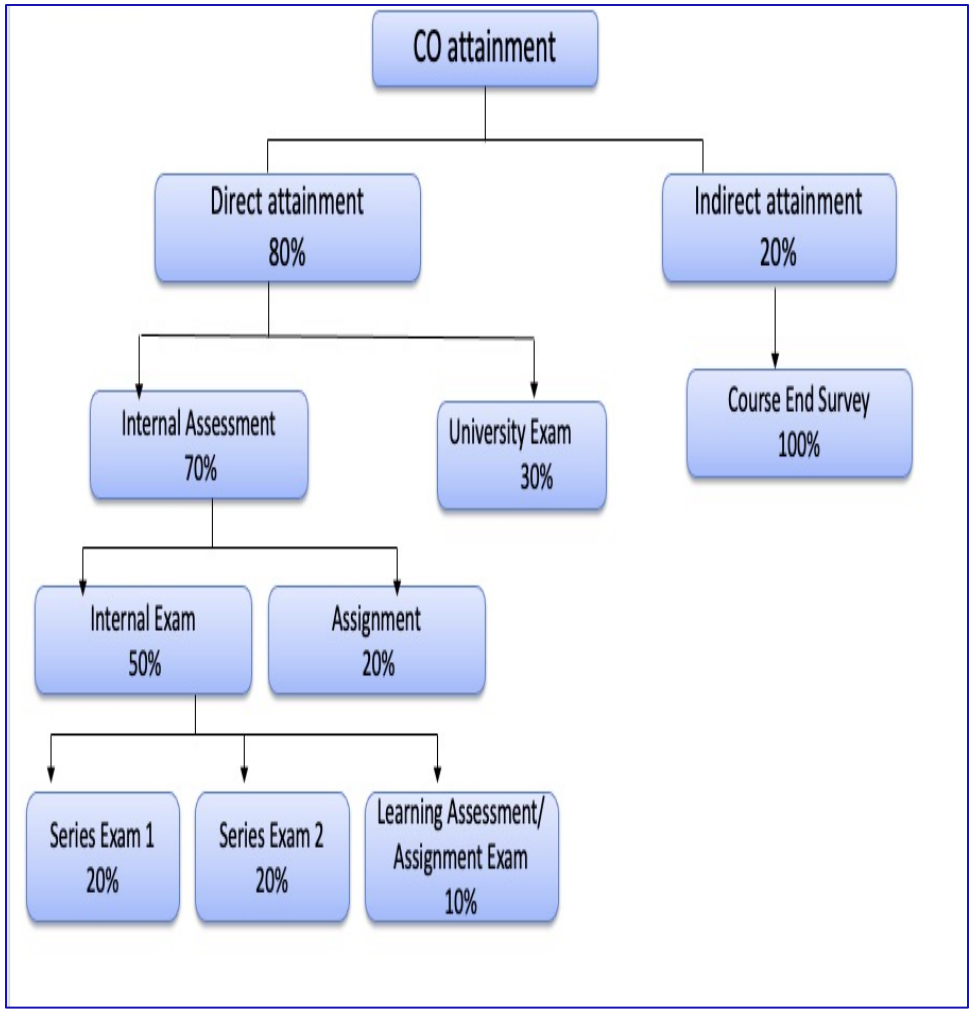
Course End Survey

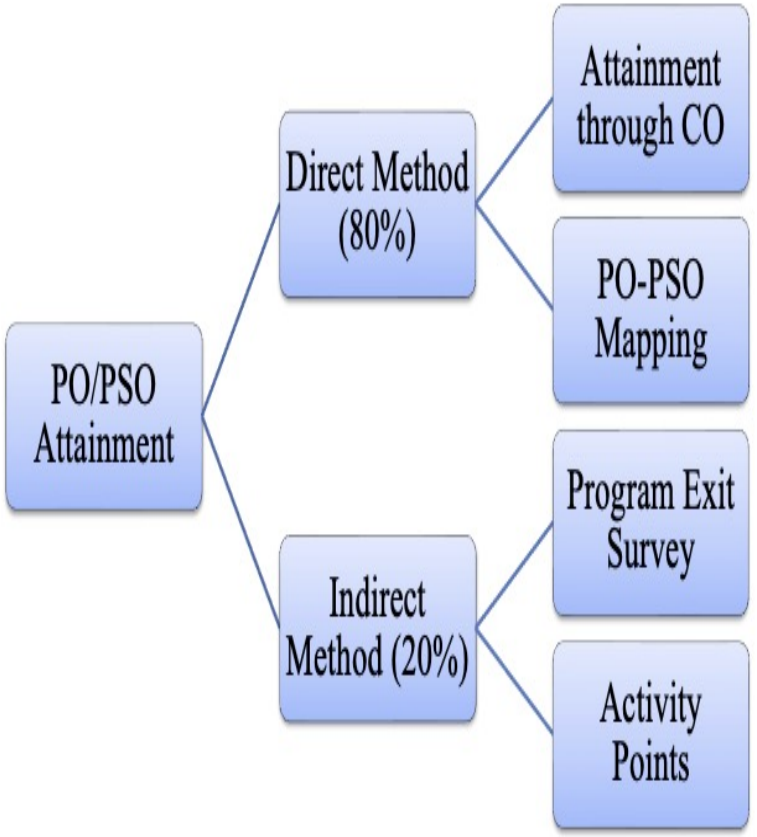
Program Exit Survey

Activity Points

Attainment Process



CO Attainment



PO/PSO Attainment

Sample Attainment Sheet

Course Outcome Attainment Sheet - THEORY (2019 Scheme)
MANGALAM COLLEGE OF ENGINEERING , Ettumanoor

Branch	Computer Science & Engg	Subject	Formal Languages and Automata Theory
Semester	V	Course code	CST301
Batch	A	No: of COs	5
No: of students	115	No: of POs	12
University Exam	YES	No: of PSOs	2
Assessment Year	2022-23	Faculty Name	Ms.Neethu Maria John/Ms.Parvathy Gopakuma

Assessment Tool	C.Test 1	C.Test 2	Asst 1	Asst 2	Asst 3	Asst 4	Asst 5	
No: of Questions	3	3	1	1	1	1	1	
Max Marks	50	50	10	10	10	10	10	
Weightage(%)	25	25	4	4	4	4	4	
Attainment Cut-off(%)	50	50	50	50	50	50	50	
Weaker Cut-off(%)	60	60	60	60	60	60	60	
Brighter Cut-off(%)	80	80	80	80	80	80	80	

Roll No	Name	C.Test 1 Q1 CST301.1 Remember 20	C.Test 1 Q2 CST301.2 Apply 20	C.Test 1 Q3 CST301.3 Understand 10	C.Test 2 Q1 CST301.3 Remember 20	C.Test 2 Q2 CST301.4 Understand 20	C.Test 2 Q3 CST301.5 Understand 10	Asst 1 Q1 CST301.1 Understand 10	Asst 2 Q1 CST301.2 Apply 10	Asst 3 Q1 CST301.3 Apply 10	Asst 4 Q1 CST301.4 Evaluate 10
1	ARAVIND P	8	8	4	13	10	7	10	10	10	10
2	ABDU SUBHAN	17	11	7	17	13	8	10	10	10	10
3	ABHIJITH V NAIR	11	11	6	15	10	7	10	10	10	10
4	ABHILASH NAIR	17	13	8	11	13	8	10	10	10	10
5	ABHISHEK PRATHAP	9	8	6	16	15	9	10	10	10	10
6	ABIJITH BIJU	9	12	6	14	13	6	10	10	10	10
7	ABIN MOSES ANDREWS	17	15	8	14	14	7	10	10	10	10
8	ABU ARAVIND	9	8	6	14	13	8	10	10	10	10
9	ADARSH P BAIJU	11	11	6	9	8	6	10	10	10	10
10	ADITHYA A NAIR	12	11	7	12	11	7	10	10	10	10
11	AJAY GEORGE	9	8	6	9	8	6	10	10	10	10
12	AJITH GEEVARGHESE MATHEW	10	9	6	14	13	8	10	10	10	10
13	AJU THOMAS	10	12	7	13	9	7	10	10	10	10
14	AKASH R NAIR	9	8	6	11	11	6	10	10	10	10
15	AKSHAYA ANISH KUMAR	17	15	8	16	18	9	10	10	10	10
16	ALBIN ABRAHAM GEORGE	12	11	7	15	14	7	10	10	10	10
17	ALBIN VARKEY	12	11	7	13	14	7	10	10	10	10
18	ALEN JOHNY	14	13	8	15	15	8	10	10	10	10
19	ALVIN ABRAHAM	14	13	8	15	14	7	10	10	10	10
20	AMAL K TOM	12	11	7	14	13	8	10	10	10	10
21	AMAL MOHANAN	14	13	8	15	14	7	10	9	8	8
22	ANAHA BABU	17	13	8	18	17	9	10	10	10	10


thank you