VIDYA JYOTHI
Institute of Technology
AN AUTONOMOUS INSTITUTION

Dr. K. Vasanth

Head of The Department, ECE

VIDYA JYOTHI
Institute of Technology
AN AUTONOMOUS INSTITUTION

Welcome to
NBA Expert Team

25th - 27th February 2022

About the Department

Year	Significant Milestones
1999	Started B.Tech (ECE) with an Intake of 40.
2011	B.Tech. (ECE) is accredited by NBA, New Delhi.
2012	Introduced M.Tech. (VLSI SD) and M.Tech. (ES)
2013	B.Tech (ECE) Intake was increased to 240.
2015	VJIT became Autonomous
2016	• MOU with Eduvance was signed for Arm university Program • MOU with National Instruments was signed for Setting up of LabVIEW Academy • NI LabView Academy was Adjudged Top 2nd LabVIew Academy Award of the country by National Instruments
2017	MOU with CISCO was signed
2018	B.Tech. (ECE) is reaccredited by NBA, New Delhi.
2019	Conducted DST funded Workshop
2020	Conducted AICTE funded STTP & FDP, Awarded Best IETE (ISF) Chapter in Hyderabad
2021	Visits for R&D Center is over Awaiting approval
2022	MoU with ITCA- TSC for design and launch of Nanosatellite

Department Achievements

- **IETE Student chapter of ECE** was adjudged **Best ISF IETE of Hyderabad by IETE for AY 2020-21**

- Department of ECE has a **Center of excellence** on **Embedded & IOT in association** with Eduvance and **Cypress Semiconductors**, 2020

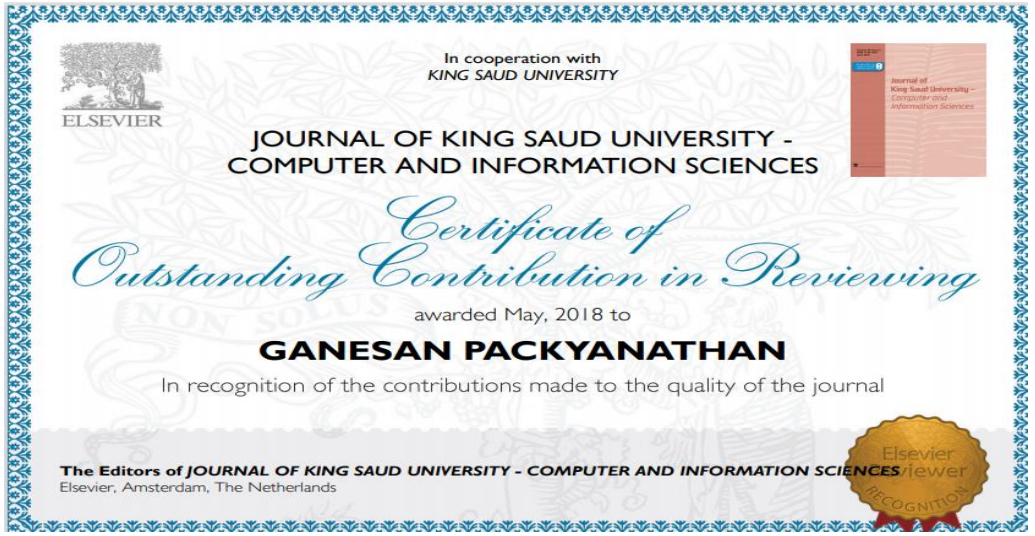
- Department of ECE has **won Regional Viswakarma Awards in Telangana** and **represented** the department at **Chatra Viswakarma Awards @ Newdelhi in 2019 edition**

Faculty Achievements

- Dr. P. Ganesan ,Professor, ECE had **won outstanding contribution Awards** in 2018 from **Elsevier** for his excellent contribution towards **reviewing research articles**

- Dr.K.Vasanth ,Professor ,ECE has won **Research Excellence Award 2019** from **Institute of Scholars Award** for exemplary contribution in a **research paper** titled " **A Self Assistive Device for Deaf & Blind People Using IOT**", Journal of medical Systems, 2019.

- Bagged **Best Paper Award** by Mr. M. Rajendra Prasad, Associate Professor in a **International Conference on Emerging Trends in Circuit Branch Technologies and Application ETCTA -2021** held virtually at Chaitanya Bharathi Institute of Technology, Hyderabad.


In cooperation with
KING SAUD UNIVERSITY

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JOURNAL OF KING SAUD UNIVERSITY - COMPUTER AND INFORMATION SCIENCES

Certificate of Outstanding Contribution in Reviewing

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In recognition of the contributions made to the quality of the journal

The Editors of JOURNAL OF KING SAUD UNIVERSITY - COMPUTER AND INFORMATION SCIENCES
Elsevier, Amsterdam, The Netherlands


CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (A)

COMMITTED TO RESEARCH, INNOVATION AND EDUCATION 42 years

International Conference on "Emerging Trends in Circuit branch Technologies and Applications (ETCTA-2021)

April 3rd–4th, 2021

CERTIFICATE OF APPRECIATION

This is to certify that Mr. / Ms. / Dr. ***M. Rajendra Prasad, D.Krishna Reddy*** have received **Session** (VLSI and Embedded Systems) **Best Paper** award for the paper titled ***Trust Computational Methodology for an Internet of things*** in the International Conference on **"Emerging Trends in Circuit branch Technologies and Applications"** virtually on 3rd-4th April 2021 at **Chaitanya Bharathi Institute of Technology (A)**, Hyderabad – 500 075, Telangana, India.

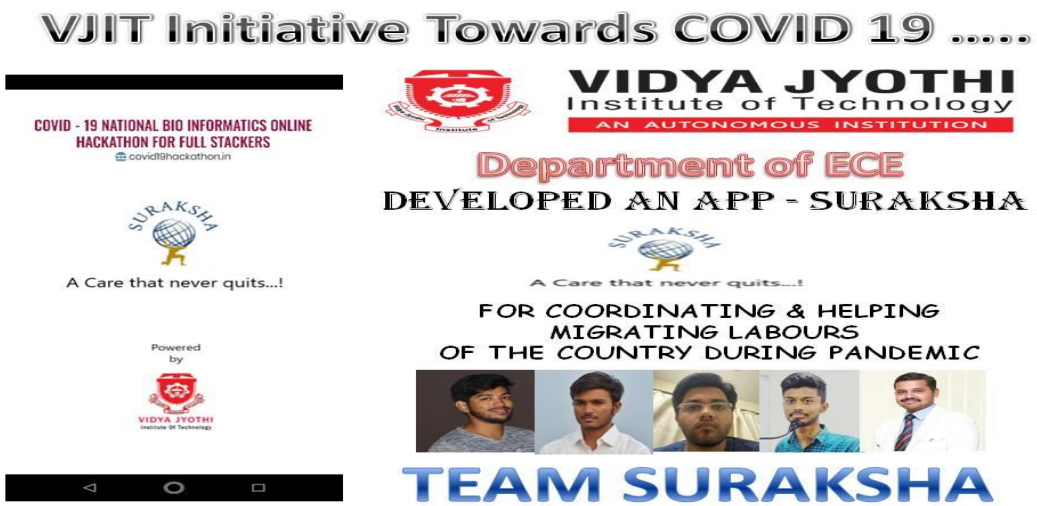
Convener
ETCTA-2021

Dr. A.D. Sarma
Technical Advisor
Director, R&D

Dr. G.P. Saradhi Varma
Conference Chair
Principal, CBIT

Student Achievements

- DVN Kameswari of IV Year ECE **Won the Research Excellence award in UG** National Level category under **IEI BLC – FCRIT Excellence award** on January 16,2021
- Nikhil and team of IV year students **won the state level citation** for developing an app titled **"Suraksha"** that gave a solution for pandemic and natural disaster in a **National Hackathon conducted by Anna University & Government of India**
- Sai Krithick of III Year ECE was **adjudged the top contributor** in the month of April 2020 for his **performance in Machine learning Hackathon (Janta Hack) conducted by Vidya Analytics**



Criteria 1- Vision, Mission and Program Educational Objectives

Vision & Mission of the Department

Vision Of the Department

"The Electronics & Communication Engineering department intends to be a leader in creating the high quality engineers in the field of electronics and associated technologies to cater for national and global technological needs promoting the human prosperity and well being"

Mission Of the Department

M1: Providing an infrastructure and conducive environment to the students, faculty and researchers for attaining domain knowledge and expertise in Electronics & Communication Engineering.

M2: Enable the students to develop into outstanding professionals with high ethical standards capable of creating, developing and managing global engineering enterprises.

M3: Inculcate the spirit of lifelong learning by interacting with outside world and strengthen professional, communication skills.

PSOs & PEOs of the Department

Program Specific Outcomes

PSO1: To impart knowledge in the field of Electronics & Communication Engineering by training the students in contemporary technologies which meet the needs of industry.

PSO 2: To confide information on thrust areas of semiconductor technologies for students to pursue research in their field of interest.

Program Educational Objectives

PEO1: To impart the students solid foundation in basic sciences and Electronics & Communication Engineering with an attitude to pursue continuing education by meeting industry requirements **(Continuing Education)**

PEO2: To prepare engineering graduates proficient and competent in application domains: Communication, Signal Processing, Embedded Systems and Solid state electronics **(Excellence in Career)**

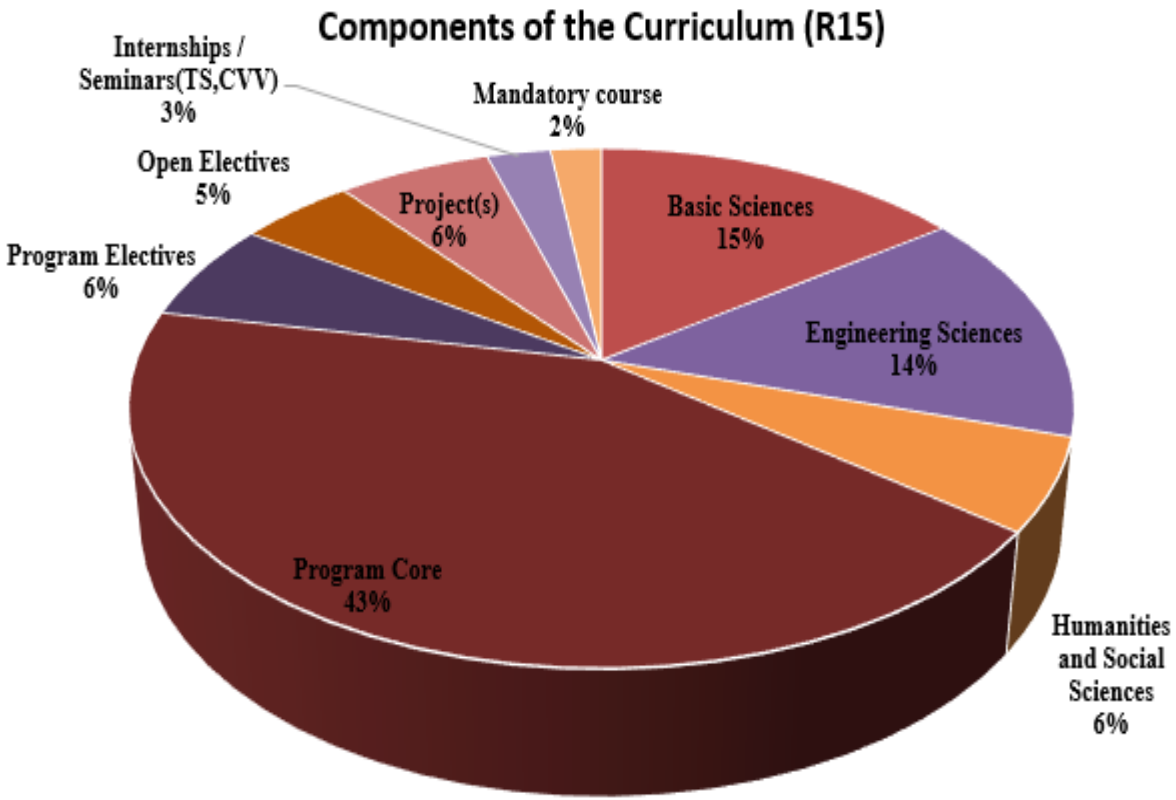
PEO3: To develop the students with professional skills to function as members of multi-Disciplinary teams in engineering and to achieve leadership role with innovative skills **(Multi-Disciplinary Engineering and Leadership)**

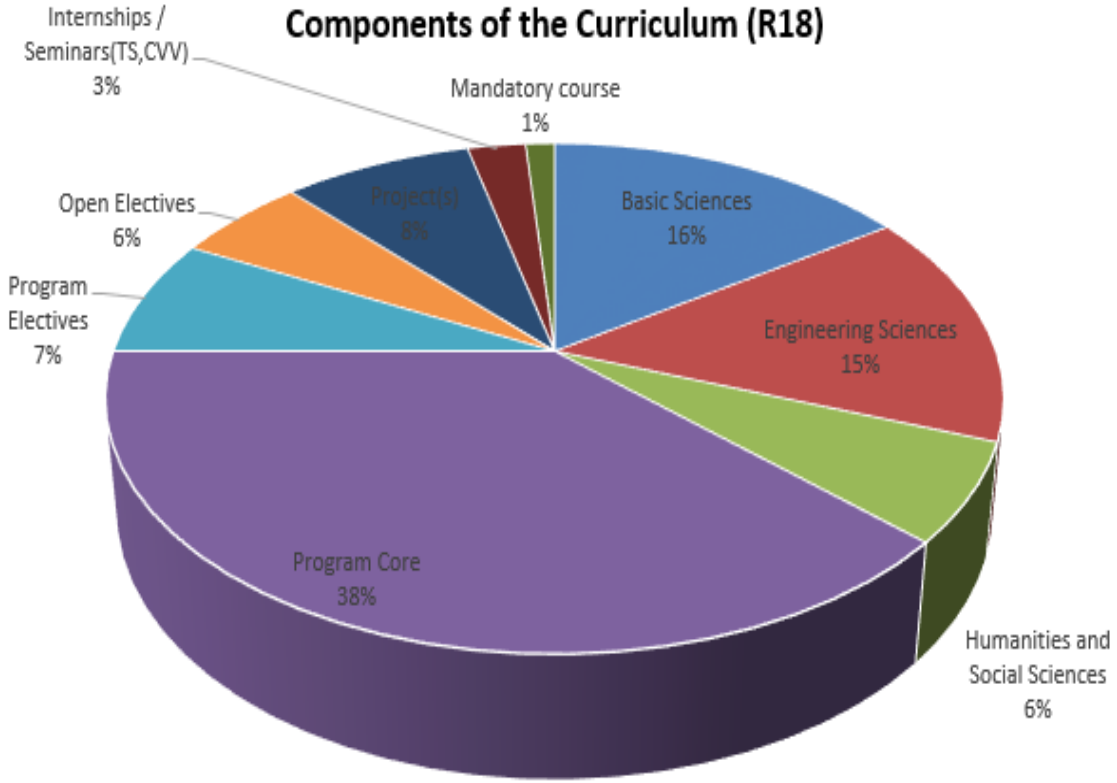
PEO4: To prepare engineering graduates engaged in lifelong learning with professional honesty and integrity together with an appreciation of social responsibility **(Contribution to Society).**

Criteria 2- Program Curriculum and Teaching – Learning Processes

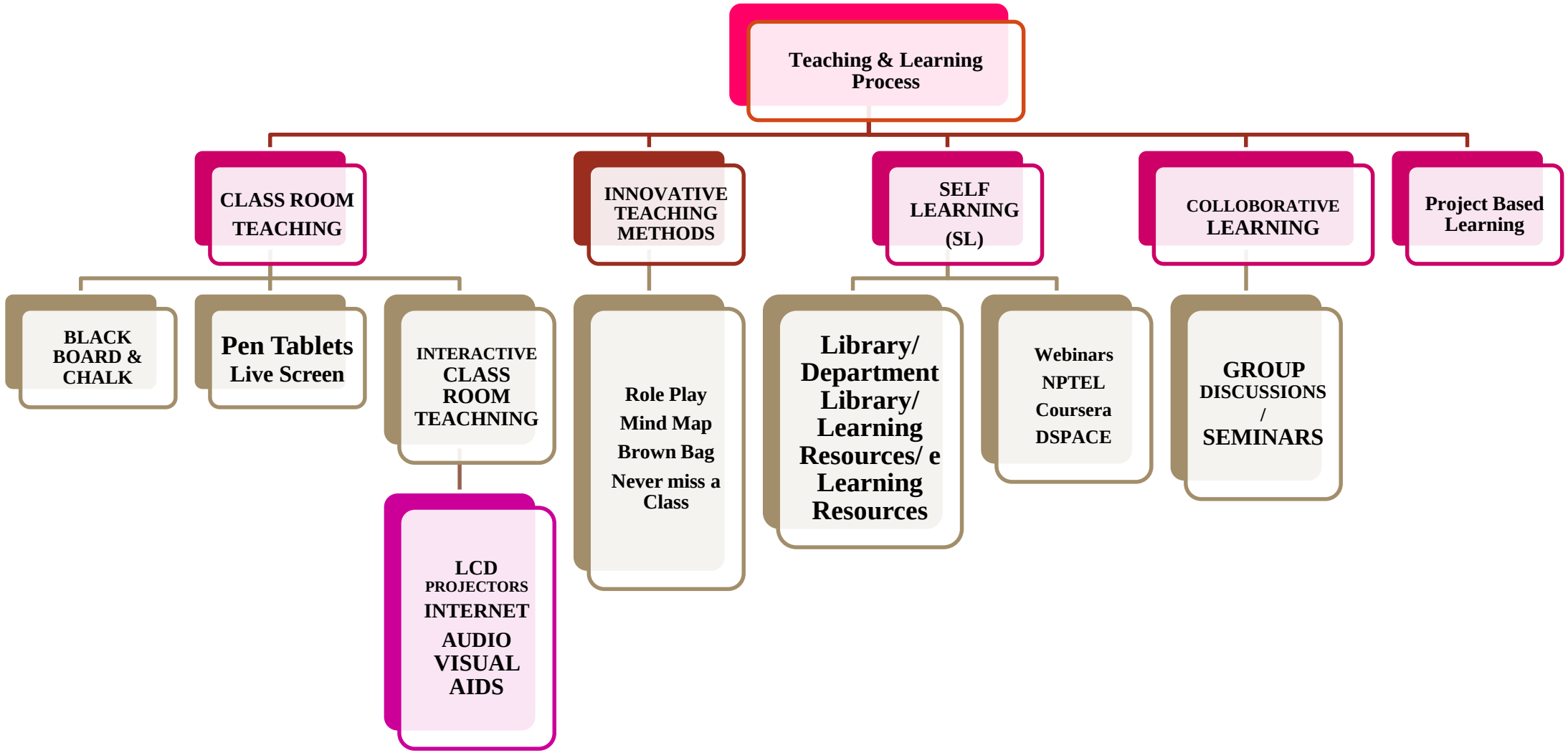
Program Curriculum

- AICTE Based Model Curriculum is Adopted with Choice Based Credit System



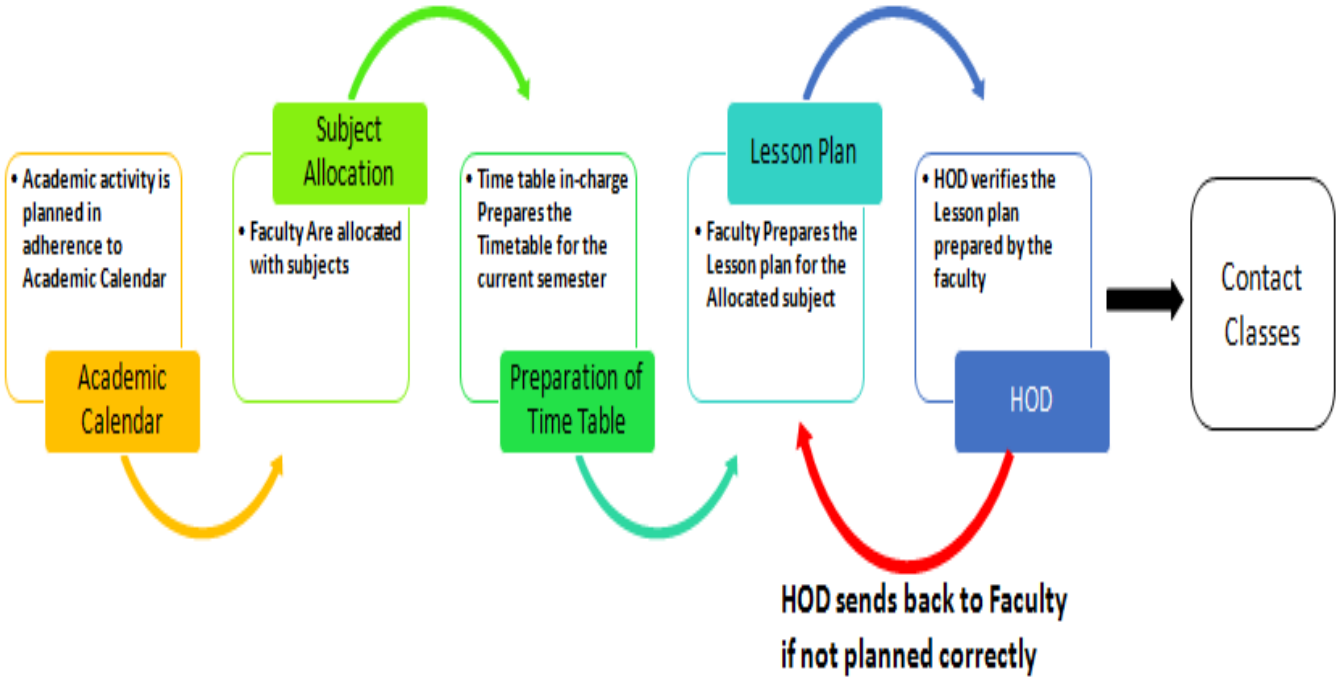


Teaching & Learning Process Adopted



Contact Classes & Its Evaluation

Preparation of Contact Classes



Evaluation of Contact Classes

1. Continuous Internal Exams
2. Semester End Exams

Sample CIE Question papers

Vidya Jyothi Institute of Technology (Autonomous)

(Accredited by NAAC & NBA, Approved By A.I.C.T.E., New Delhi, Permanently Affiliated to JNTU, Hyderabad)

(Aziz Nagar, C.B.Post, Hyderabad -500075)

II & III B.Tech II Semester MID II Examination, August/Sep-2021

Subject: **Branch:**
Time: 90 Minutes **Max Marks: 20**

Note: This question paper contains two *Parts A and B*.
Part A is compulsory which carries 6 Marks.
Part B consists of 3 questions. Answer all the questions.

Bloom's Level:

Remember	I
Understand	II
Apply	III
Analyse	IV
Evaluate	V
Create	VI

Question papers adhering to Blooms Taxonomy

	PART-A (3Q×2M =6Marks)	Outcomes		Bloom's Level	Marks
ANSWER ALL THE QUESTIONS		CO	PO		
1.a)	UNIT-III (Second Half)				
	[OR]				
b)	UNIT-III (Second Half)				
2.a)	UNIT-IV				
	[OR]				
b)	UNIT-IV				
3.a)	UNIT-V				
	[OR]				
b)	UNIT-V				
	PART-B (4+5+5= 14 Marks)	Outcomes		Bloom's Level	Marks
ANSWER ALL THE QUESTIONS		CO	PO		
4. a)	UNIT-III (Second Half)				
	[OR]				
b)	UNIT-III (Second Half)				
5. i) a)	UNIT-IV				
b)	UNIT-IV				
	[OR]				
ii. a)	UNIT-IV				
b)	UNIT-IV				
6.i) a)	UNIT-V				
b)	UNIT-V				
	[OR]				
ii) a)	UNIT-V				
b)	UNIT-V				

VJIT(A)

Laboratory Classes & its Evaluation

Lab Continuous Process

- Students are Grouped into 3 in a Batch
- Students are questioned based on the experiment allotted
- Validate the theoretical aspects by questioning them
- Demonstrating the experiment
- Observing the Outcome of the experiments
- Validating the result
- Submitting the observation and record for correction

Continuous day to day evaluation sheet

Vidya Jyothi Institute of Technology (An Autonomous Institution)
(Accredited by NAAC, Approved by AICTE New Delhi & Permanently Affiliated to JNTUH)
Aziznagar Gate, C.B. Post, Hyderabad-500 075
Department of Electronics and Communication Engineering (Accredited by NBA)
LAB ASSESSMENT

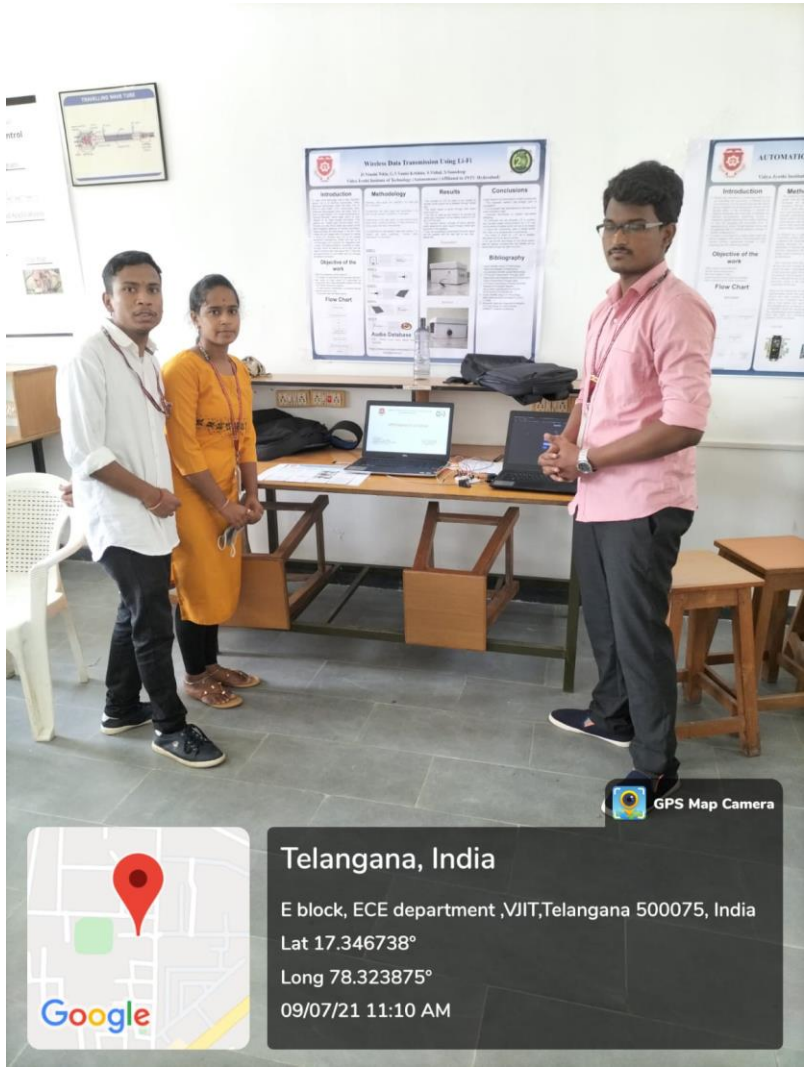
Name of the Laboratory: Batch: Year/Sem: Page:

S.Nos.	Roll Number	Day to Day Assessment															Day To Day Assessment Average(10M)	Record 5 Marks	Internal Exam 10 Marks	Total Marks 25
		Week																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				

Page 1

Signature of the Faculty HOD - ECE

Project as exhibition & its Outcome



Types of Relevance	Number of Projects related in AY 2018-19	Number of Projects related in AY 2019-20	Number of Projects related in AY 2020-21
Society	20	17	20
Environment	2	06	3
Health	6	07	12
Safety	3	16	3
Culture	0	2	0
Security	25	6	3

Outcomes of the Projects

S.No	Academic Year	Number of Publications
1	2020-21	3
2	2019-20	10
3	2018-19	1

Academic Year	Number of Products
2020-21	3
2018-19	1

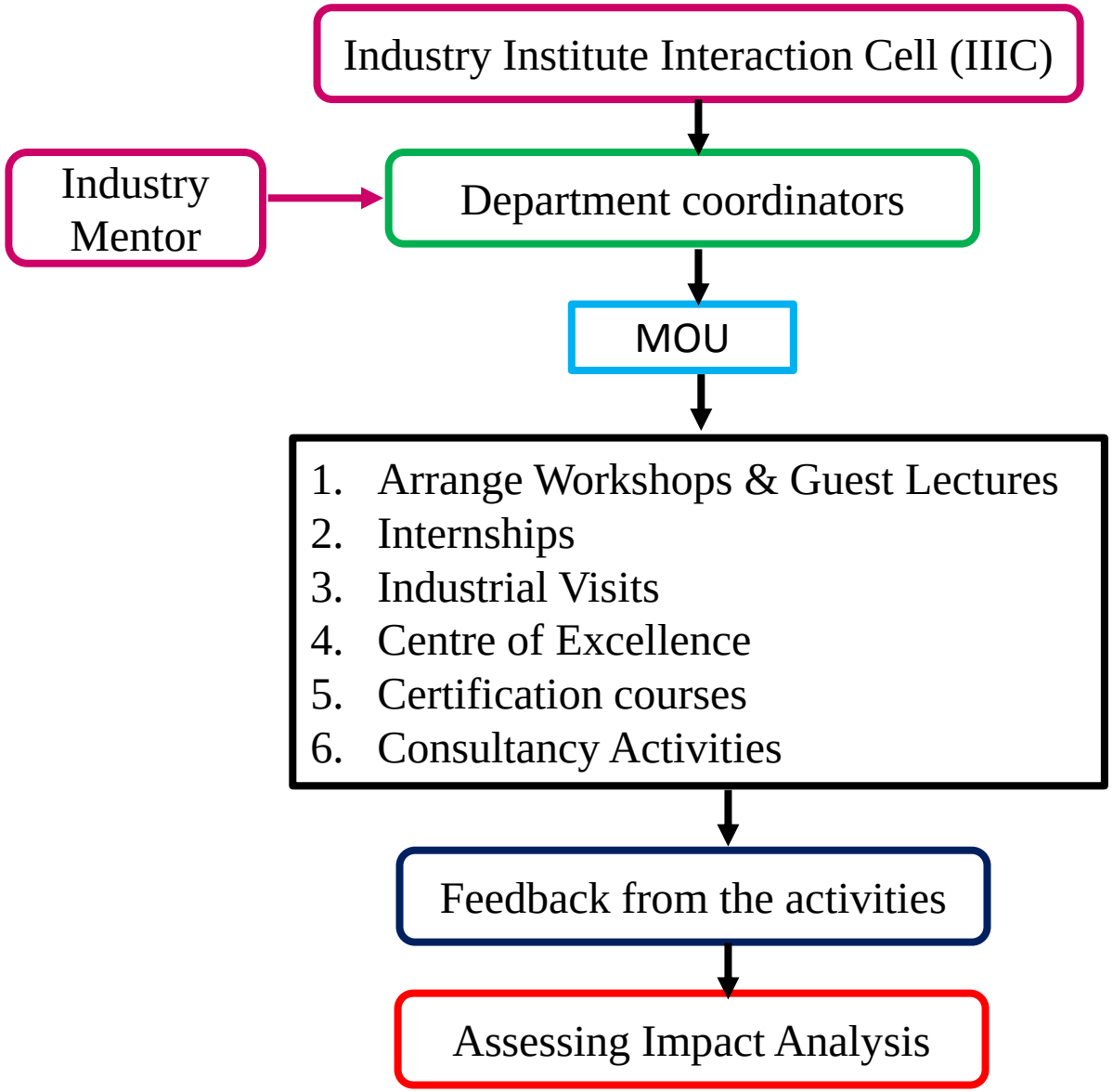
- **Students winning in Hackathon, Project Expo, Ideathon in India**

Industry Institute Interaction Cell - initiatives

Industry Internships

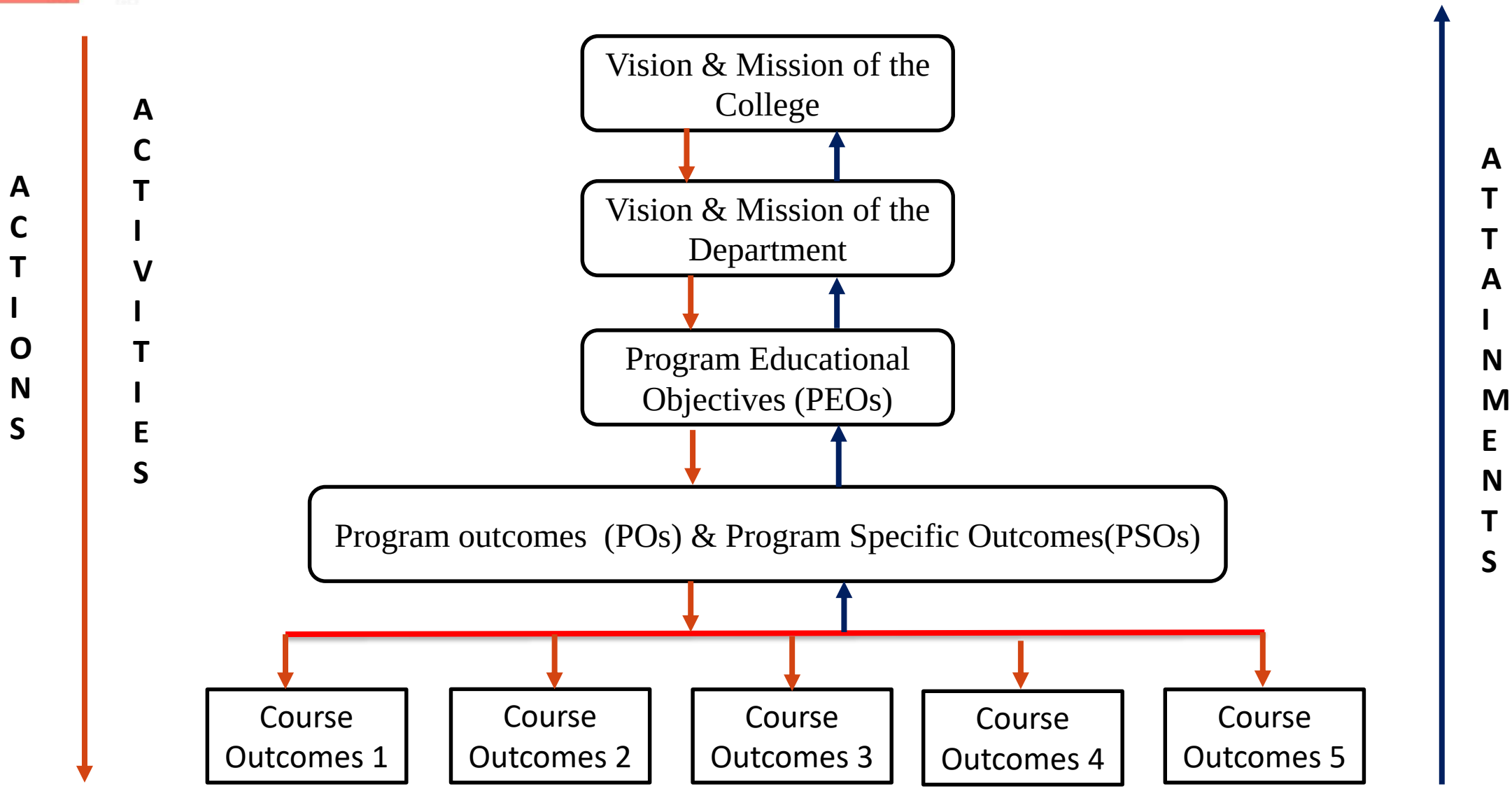
Academic Year	Number of Industries offered Internship	Number of students undergone Internship
2018-2019	01	51
2019-2020	14	110
2020-2021	14	44

Industrial Visits

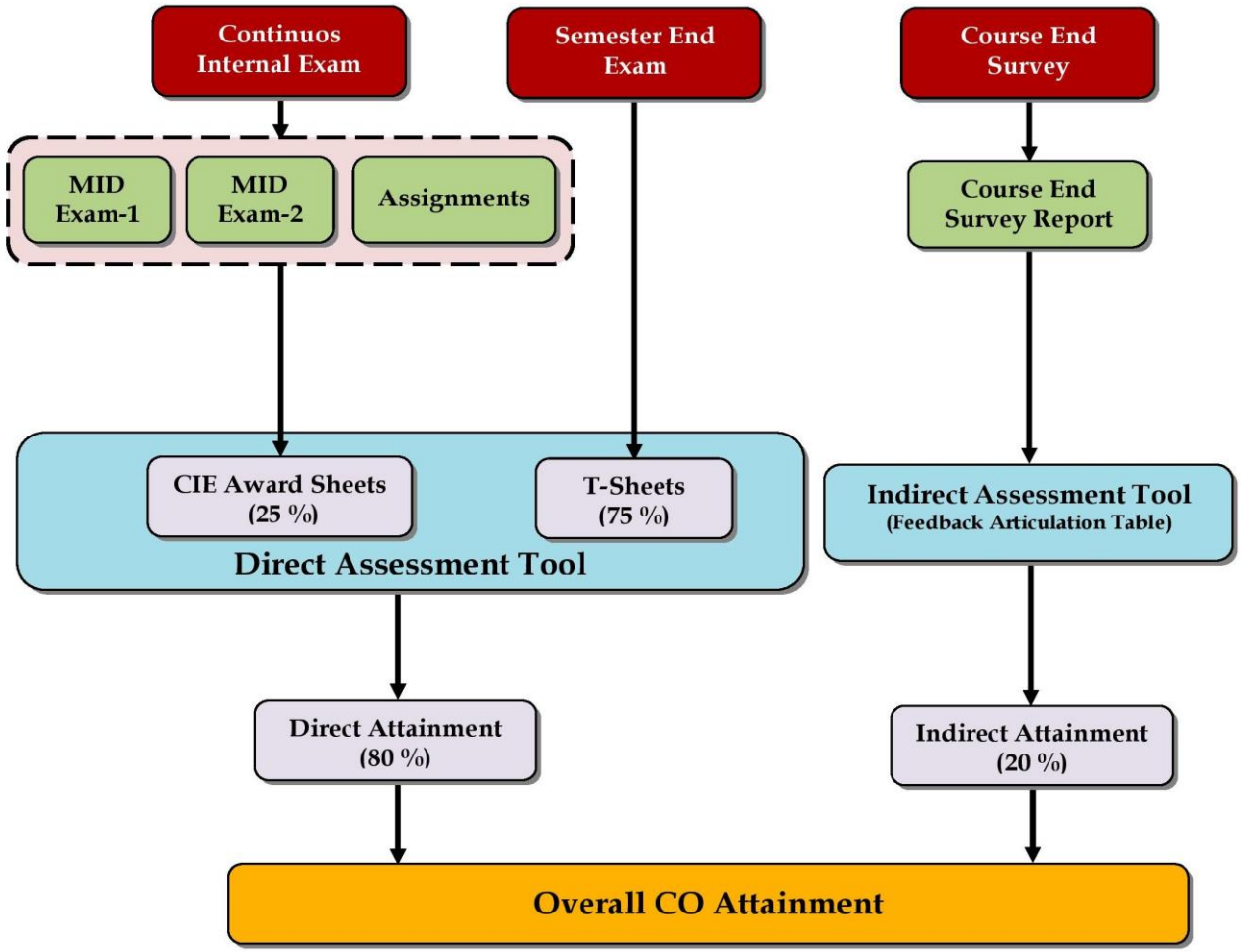


Criteria 3 - Program Outcomes and Course Outcomes

Outcome Based Education in ECE



Course Outcomes – Attainment Process



The collection of data for evaluation of course outcomes are as follows:

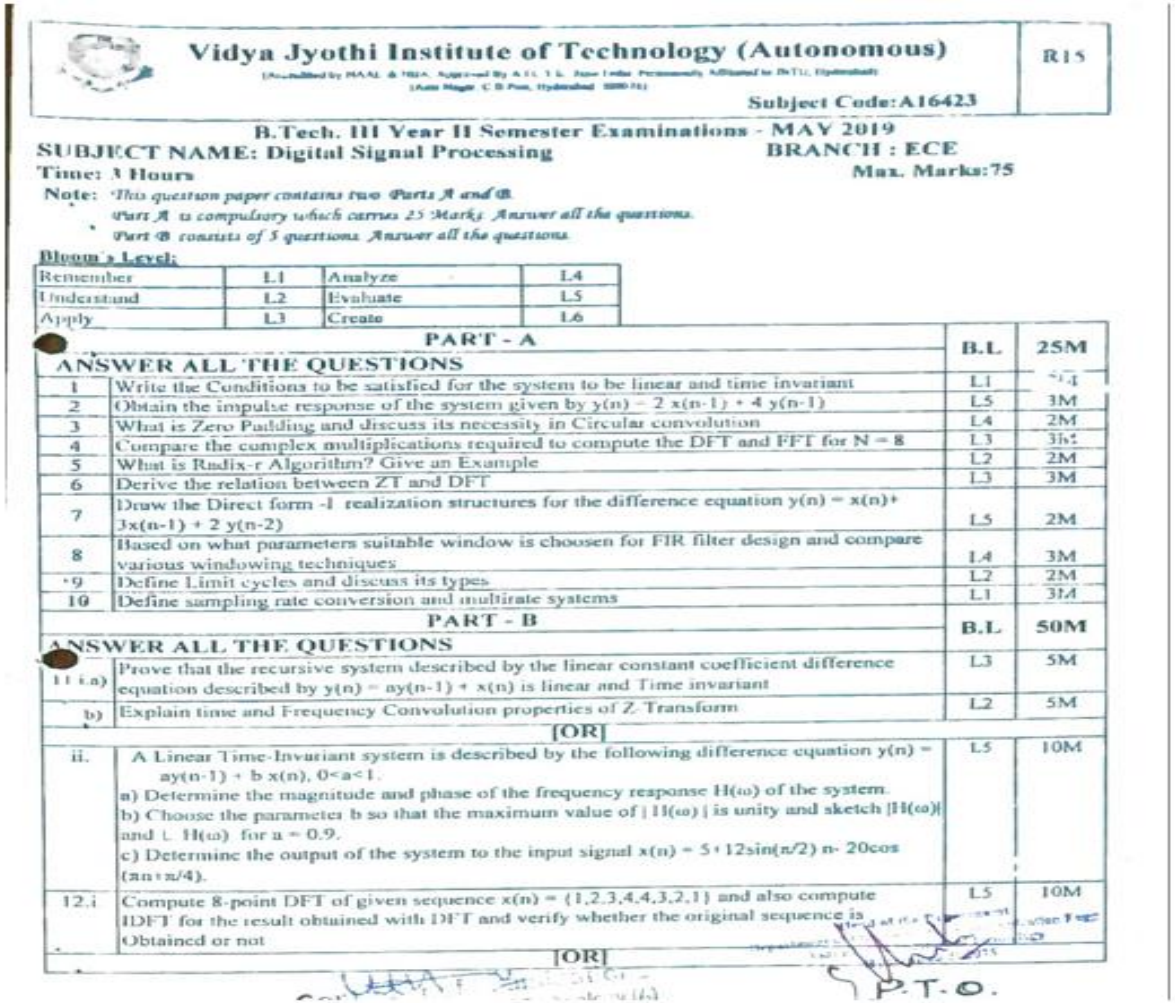
1. Cumulative Internal Examinations (CIE)
2. Semester End Examinations (SEE)
3. Laboratories
4. Industry Oriented Mini Project
5. Major Project
6. Technical Seminar
7. Comprehensive Viva

Sample CIE and SEE Question papers

Sample CIE Question Paper

	PART-A (3Q×2M = 6Marks)	Course Outcomes		Bloom Levels	Marks
	ANSWER ALL THE QUESTIONS	CO	PO		
1	UNIT-I	CO1			2
2	UNIT-II	CO2			2
3	UNIT-III	CO3			2
	PART-B (5+5+4= 14 Marks)	Course Outcomes		Bloom Levels	Marks
	ANSWER ALL THE QUESTIONS	CO	PO		
4.i)	UNIT-I	CO1			5
	[OR]				
4.ii)	UNIT-I	CO1			5
5.i.	UNIT-II	CO2			5
	[OR]				
5.ii	UNIT-II	CO2			5
6.i.	UNIT-III	CO3			4
	[OR]				
6.ii	UNIT-III	CO3			4

Sample SEE Question Paper



Vidya Jyothi Institute of Technology (Autonomous) R15

Subject Code: A16423

B.Tech. III Year II Semester Examinations - MAY 2019

SUBJECT NAME: Digital Signal Processing BRANCH : ECE

Time: 3 Hours Max. Marks: 75

Note: *This question paper contains two Parts A and B.*
Part A is compulsory which carries 25 Marks. Answer all the questions.
Part B consists of 5 questions. Answer all the questions.

Bloom's Level:

Remember	L1	Analyze	L4
Understand	L2	Evaluate	L5
Apply	L3	Create	L6

	PART - A	B.L	25M
	ANSWER ALL THE QUESTIONS		
1	Write the Conditions to be satisfied for the system to be linear and time invariant	L1	2M
2	Obtain the impulse response of the system given by y(n) = 2 x(n-1) + 4 y(n-1)	L5	3M
3	What is Zero Padding and discuss its necessity in Circular convolution	L4	2M
4	Compare the complex multiplications required to compute the DFT and FFT for N = 8	L3	3M
5	What is Radix-r Algorithm? Give an Example	L2	2M
6	Derive the relation between ZT and DFT	L3	3M
7	Draw the Direct form -I realization structures for the difference equation y(n) = x(n)+ 3x(n-1) + 2 y(n-2)	L5	2M
8	Based on what parameters suitable window is choosen for FIR filter design and compare various windowing techniques	L4	3M
9	Define Limit cycles and discuss its types	L2	2M
10	Define sampling rate conversion and multirate systems	L1	3M
	PART - B	B.L	50M
	ANSWER ALL THE QUESTIONS		
11 i.a)	Prove that the recursive system described by the linear constant coefficient difference equation described by y(n) = ay(n-1) + x(n) is linear and Time invariant	L3	5M
b)	Explain time and Frequency Convolution properties of Z Transform	L2	5M
	[OR]		
ii.	A Linear Time-Invariant system is described by the following difference equation y(n) = ay(n-1) + b x(n), 0<a<1. a) Determine the magnitude and phase of the frequency response H(ω) of the system. b) Choose the parameter b so that the maximum value of |H(ω)| is unity and sketch |H(ω)| and ∠ H(ω) for a = 0.9. c) Determine the output of the system to the input signal x(n) = 5+12sin(π/2) n- 20cos (2πn+π/4).	L5	10M
12.i	Compute 8-point DFT of given sequence x(n) = {1,2,3,4,4,3,2,1} and also compute IDFT for the result obtained with DFT and verify whether the original sequence is Obtained or not	L5	10M
	[OR]		

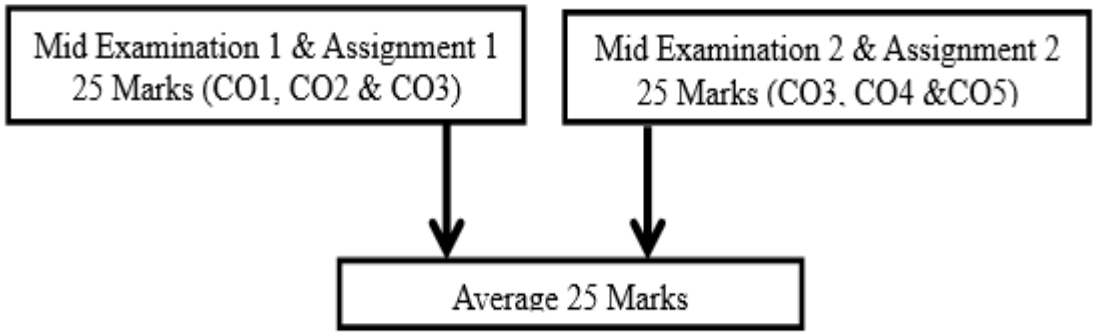
P.T.O.

Assessment Tools for the Attainments

Assessment Tools	Assessment Frequency	Assessed by	Reviewed by
Direct Assessment Tools			
Mid Examinations	Twice in Semester	Course Faculty	HOD
Assignments	Twice in Semester	Course Faculty	Course Faculty
Laboratory Examination	Once in Semester	Course Faculty	HOD
Semester End Examination	Once in Semester	Institute, Exam Branch, Department Faculty	Institute, Exam Branch
Seminar	Once in Semester	Seminar Coordinator	HOD
Mini Projects	In Third Year Second Semester	Mini Projects Coordinator	HOD
Major Projects	In Fourth Year Second Semester	Major Projects Coordinator	HOD
Indirect Assessment Tools			
Course End Survey	Once in Semester	Coordinators, PAC	PAC, DAB
Graduate Exit Survey	At the end of Fourth Year Second Semester	Coordinators, PAC	PAC, DAB
Industrial Visits, Internships and Value added courses	In Second, Third and Fourth Year	Coordinators, PAC	PAC, DAB

CO Direct Attainments

1. Cumulative Internal Examinations
(Mid Examinations & Assignments)



- Total Duration: 90 Minutes
- Subjective Paper -20 Marks
- Assignment-5M
- Minimum Expected Marks for Course Attainment: 60% of Maximum Marks (25) is 15

After the CIE, Award Sheet will have the internal marks of all the students

2. Semester End Examinations (SEE)

- Total Duration: 3 Hours
- Total Marks:75
- Minimum Marks for Pass:26M (35% of Maximum Marks 75)
- Minimum Expected Marks for course Attainment:45M (60% of Maximum Marks 75)

After the SEE, T Sheets will have the End Examination marks of all the students

3. Attainment Levels Using Thresholding Process

Attainment level Criteria	Set Attainment level
At least 70% of attempted students exceed threshold level (60%) marks	3
At least 60%-69% of attempted students exceed threshold level (60%) marks	2
At least 50%-59% of attempted students exceed the threshold level (60%) marks	1

CO Direct Attainments

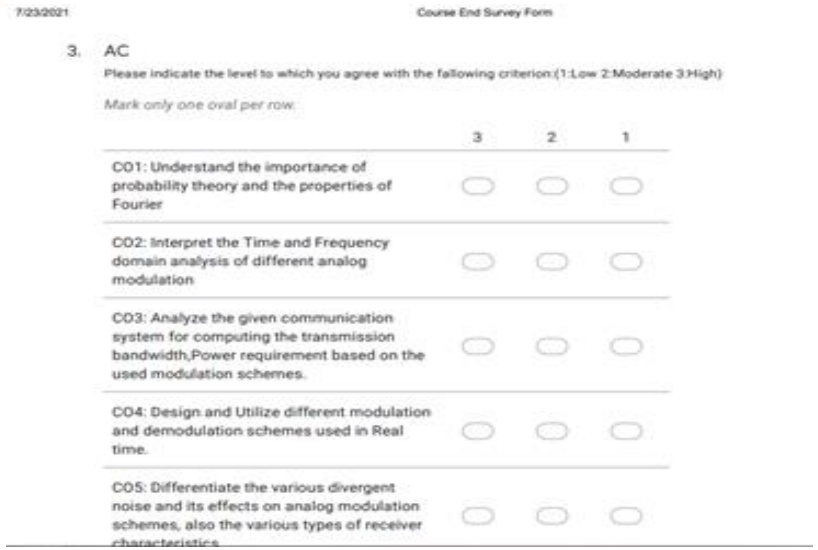
Attainment of course outcomes of all courses with respect to set attainment levels

Course outcome	Course outcome attainment level from internal assessment	Course outcome attainment level from university exams	DCO Direct Attainment	CO Indirect Attainment	Over all CO Attainment
CO Attainment	a_1 average CO Attainment level (Mid-1+ Mid-2 + Two Assignments)	b_1	c1= (0.25 (a_1) + 0.75 (b_1))	d1=((1*X) +(2*Y) +(3*Z)) / (X+Y+Z)	0.8(c1) +0.2(d1)

Sample Form for Direct Attainment Calculation

S.No	Reg.No	MID I Threshold 60%							MID II Threshold 60%							Threshold 60% (45M)
		ASM - I (5)	PART-A			PART-B			ASM - II (5)	PART-A			PART-B			End Exam (75M)
			Q1(2M)CO1	Q2(2M)CO2	Q3 (2M)CO3	Q4(5M) CO1	Q5(5M) CO2	Q6(4M) CO3		Q1(2M)CO3	Q2(2M) CO4	Q3(2M)CO5	Q4(4M) CO3	Q5(5M) CO4	Q6(5M) CO5	
1	15911A0401	5	2	1	1	2	1		4	2	2		5			47
2	15911A0402	5	1		2	2				2	2		3	2		13
3	15911A0403	3	2	1	1	4	3	4	4	2	2		5			26
4	15911A0404	5	2	2	1	2	3	4	1	1	2	2	4	5	4	41
5	15911A0405	5	2	2	1	5	5		4	1	2		2	5	4	40
278	16915A0447	3	2	2	3	5	5		3	2	2	2	3			16
Average marks		3.17	1.87	1.70	1.52	3.71	4.16	3.48	2.79	1.78	1.74	1.41	4.21	4.56	3.07	41.70
No of students attemped		276	249	260	276	274	211	176	274	272	273	272	241	211	159	273
%of students scored 60% and above		68.84	99.20	96.15	88.04	70.44	62.00	93.18	98.54	100.00	59.00	80.15	99.59	90.52	49.00	56.04
CO ATTAINMENT LEVEL		2	3.0	3.0	3.0	3.0	2.0	3.0	3	3.0	1.0	3.0	3.0	3.0	0.0	1.0

CO Indirect Attainments



7/23/2021 Course End Survey Form

3. AC

Please indicate the level to which you agree with the fallowing criterion:(1:Low 2:Moderate 3:High)

Mark only one oval per row.

	3	2	1
CO1: Understand the importance of probability theory and the properties of Fourier			
CO2: Interpret the Time and Frequency domain analysis of different analog modulation			
CO3: Analyze the given communication system for computing the transmission bandwidth,Power requirement based on the used modulation schemes.			
CO4: Design and Utilize different modulation and demodulation schemes used in Real time.			
CO5: Differentiate the various divergent noise and its effects on analog modulation schemes, also the various types of receiver characteristics			

- A course End Survey is collected before SEE
- A consolidated Report of the survey is done and number of students given Options for Low (X), Moderate (Y) and High(Z) is calculated

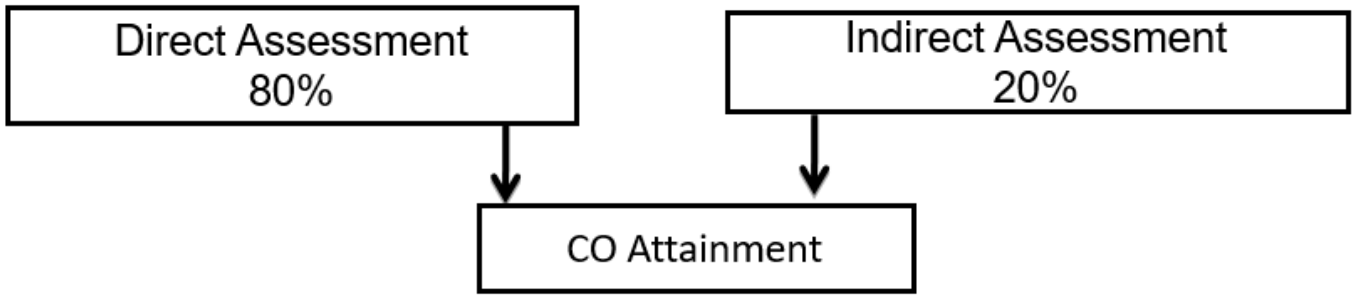
$$\text{Indirect CO Attainment} = \frac{(1*X)+(2*Y)+(3*Z)}{X+Y+Z}$$

Sample Indirect Co Attainment Report from Course End Survey

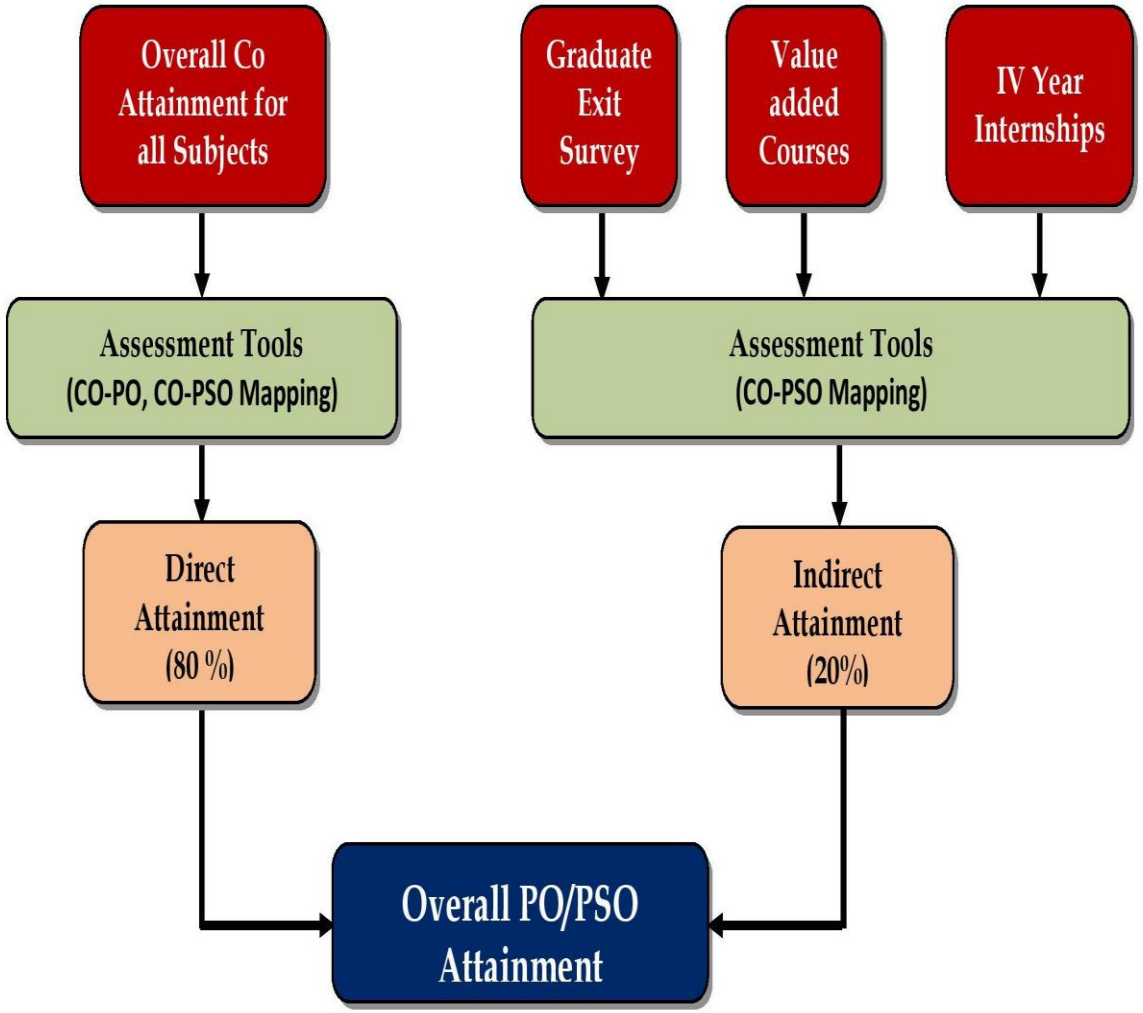
Name of the Subject	Slight(Low) - 1	Moderate (Medium) - 2	Substantial (High) - 3	Total	Attainment
CO1	0	18	121	139	2.87
CO2	1	29	109	139	2.78
CO3	2	26	111	139	2.78
CO4	1	40	98	139	2.70
CO5	0	28	110	138	2.78
Average					2.78

- **20% of the Attainment value is taken for Overall CO attainment**

CO Overall Attainments



PO,PSO Attainment – Direct Attainment



PO Direct Attainment

- Perform CO – PO,PSO Mapping by assigning Weights For each course

CO	PO1	PO2	PO3- PO12	PSO1	PSO2
CO1 –CO5					

$$\textbf{PO ATTAINMENT} = \frac{CO-PO\ MAPPING\ WEIGHTAGE * CO\ Attainment}{3}$$

- Perform attainment for all the subject

Subject	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Subject 1-n														
Avg PO DIrect Attainment	2.3	2.4	2.5	3	1.8	--	--	--	--	--	--	--	2.1	2.3

- Find Average PO Direct Attainment for Each Subject

PO,PSO Attainment – Indirect Attainment

Graduate Exit Survey: At the end of 4 years after graduation, a questionnaire is given to graduates to obtain feedback on program outcomes/ program specific outcomes.

PO/PSO INDIRECT ATTAINMENT

i. **Graduate Exit Survey**
ii. **Industrial Visits**
iii. **Internships**
iv. **Value added Courses**

- A Graduate Exit Survey is collected after the completion of Program
- A consolidated Report of the survey is done and number of students given options for Low (X), Moderate (Y) and High(Z) is calculated

Sample Indirect Po Attainment Report from Graduate Exit Survey

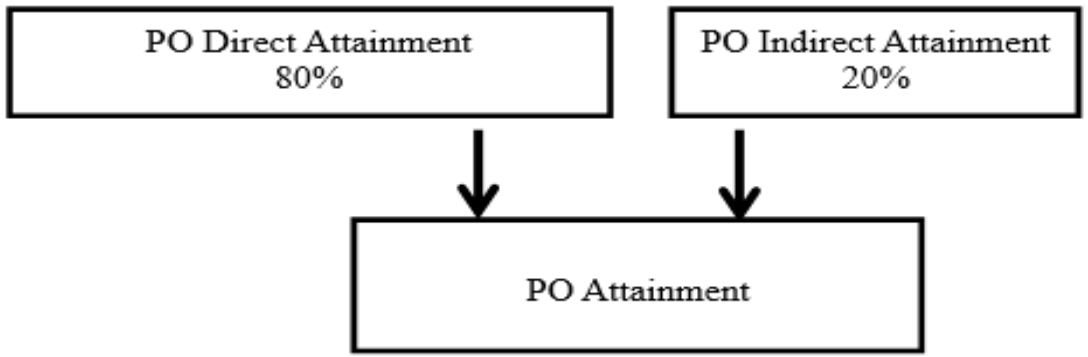
PO/ PSO	LOW -1	MEDIUM -2	SUBSTANTIAL HIGH-3	Total No. of students	Attainment
PO1	3	62	66	131	2.48

Sample Indirect Po Attainment Report from Feedback Collected

Title	PO/PSO Mapping	Slight (Low) - 1	Moderate (Medium) – 2	Substantial (High) - 3	Total	Attainment value
Internships						
Industrial Visits						
Value added Courses						

- **20% of the Attainment value is taken for Overall PO attainment**

PO,PSO Overall Attainment



Criteria 4 - Students' Performance

Student Enrollment & Performance

STUDENTS ENROLLMENT

Item	CAY (2020-21)	CAYm1 (2019-20)	CAYm2 (2018-19)
Sanctioned intake of the program (N)	240	240	240
Total number of students admitted in first year minus number of students migrated to other programs / institutions plus no. of students migrated to this program (N1)	217	225	240
Enrolment Ratio= (N1/N)*100	90.41	93.75	100
AVERAGE ENROLLMENT RATIO :(ER1+ER2+ER3)/3	**94.72**		

SUCCESS RATE WITHOUT BACKLOGS

Item	LYG (2016-20)	LYGm1 (2015-19)	LYGm2 (2014-18)
Number of students admitted in the corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	271	287	254
Number of students who have graduated without backlogs in the stipulated period	162	169	141
Success Index (SI)	0.6	0.59	0.56
Average Success Index SI	0.58		
Success rate without backlogs in any year of study = 15 × Average SI	(0.58 * 15) = 8.7		

Student Performance

SUCCESS RATE WITH BACKLOGS

Item	LYG (2016-20)	LYGm1 (2015-19)	LYGm2 (2014-18)
Number of students admitted in the Corresponding First Year + admitted in 2nd year via lateral entry and separate division, if applicable	271	287	254
Number of students who have graduated with backlog in the stipulated period	230	242	212
Success Index (SI)	0.85	0.84	0.83
Average Success Index	0.84		
Success rate = 5 × Average SI	0.84*5=4.2		

ACADEMIC PERFORMANCE IN SECOND YEAR

Academic Performance	CAYm1 (2019-20)	CAYm2 (2018-19)	CAYm3 (2017-18)
Mean of CGPA or Mean Percentage of all successful students (X)	7.03	7.48	7.4
Total no. of successful students (Y)	255	233	249
Total no. of students appeared in the examination (Z)	256	252	267
API = X* (Y/Z)	7.00	6.92	6.9
Average API = (AP1 + AP2 + AP3)/3	6.94		
Assessment(1.5 * Average API)	10.41		

Student Progression -Placements

S.No	Academic Year	Students placed in core Jobs at various companies	No of students placed in Core jobs	No of students placed in software jobs	Total Number of Students Placed
1	2018-19	Wipro, ZenQ, TCS, HCL,OPPO Digilogic, Optimized Solutions, SuryaTech	25	116	141
2	2019-20	Sion semiconductors, CISCO, TCS, Antal, OPPO Amdocs	29	71	100
3	2020-21	HCL, Qspider, BlueArcus, SPR Human Capital	19	100	119

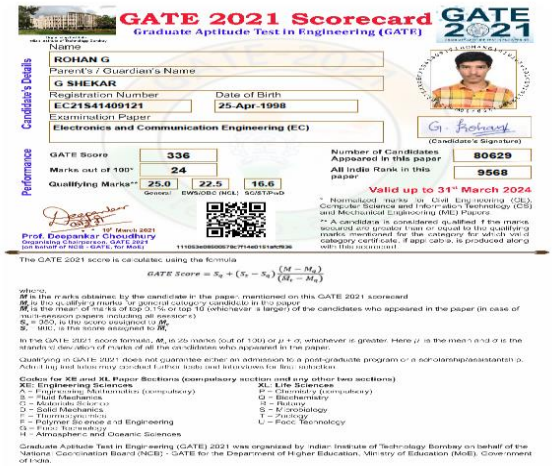
CORE RECRUITERS

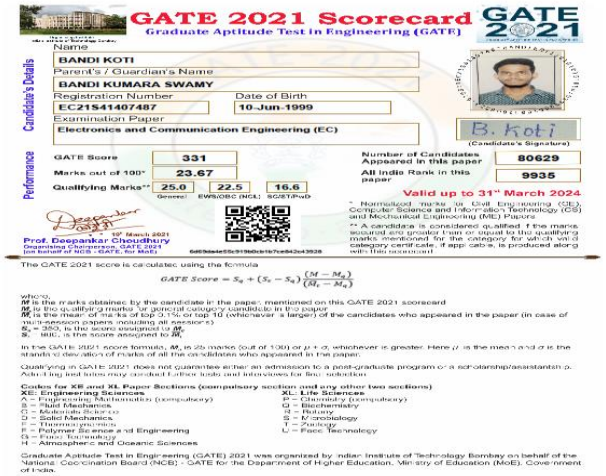
IT RECRUITERS

Student Progression – Higher Studies

Item	Academic Year 2020-21	Academic Year 2019-20	Academic Year 2018-19	Academic Year 2017-18
Number of the students admitted in various Colleges for Higher studies	14	19	6	6

CRACKING GATE


GATE 2021 Scorecard
Graduate Aptitude Test in Engineering (GATE)
Name: ROHAN G
Parent's / Guardian's Name: G SHEKAR
Registration Number: EC21S41409121
Date of Birth: 25-Apr-1998
Examination Paper: Electronics and Communication Engineering (EC)
GATE Score: 336
Marks out of 100*: 24
Qualifying Marks**: 25.0 (Gen/EWS/OBC (NCL): 22.5, SC/ST/PwD: 16.6)
Number of Candidates Appeared in this paper: 80629
All India Rank in this paper: 9568
Valid up to 31st March 2024
Prof. Deepankar Choudhury


GATE 2021 Scorecard
Graduate Aptitude Test in Engineering (GATE)
Name: BANDI KOTI
Parent's / Guardian's Name: BANDI KUMARA SWAMY
Registration Number: EC21S41407487
Date of Birth: 10-Jun-1999
Examination Paper: Electronics and Communication Engineering (EC)
GATE Score: 331
Marks out of 100*: 23.67
Qualifying Marks**: 25.0 (Gen/EWS/OBC (NCL): 22.5, SC/ST/PwD: 16.6)
Number of Candidates Appeared in this paper: 80629
All India Rank in this paper: 9935
Valid up to 31st March 2024
Prof. Deepankar Choudhury

STUDENTS CLEARING COMPETTIVE EXAMS

EXAM	2020-21	2019-20	2018-19
GATE	3	4	0
GRE	10	11	4
IELTS	7	10	6
TOEFL / DULINGO	3	2	0
PGECET	1	-	-

ADMISSIONS IN REPUTED UNIVERSITIES

Student Progression - Entrepreneurs

PHOTO OF THE CANDIDATE	NAME OF THE STUDENT	COMPANY NAME	TYPE OF SERVICE	REGD. NUM /TIN NUM.
	Vamsi badavath	Vestal electrical company	Manufacturing switches, sockets and regulator	Udyam-ts-27-0003252
	J.Rakshit kumar	Pets.In	Pet service	Applied
	Sagar gupta	Ms modular and kitchen	Delivery of modular furniture	Tin no: 36avfpvg2938m1za
	Devesh kanikaram	Weebster customs	Digital media services	--
	A.Sri charan reddy	Sai tirumala steel traders	Supplying steel products	Tin No: 36adyfs7594q1zf
	Srinath goud	Order_gift online customized gift store	Photo mobile pouches, Photo frames, pillows, cups, pens	Udyam-ts-09-0013052


REGISTRATION CERTIFICATE

Our small hands to make you LARGE

UDYAM REGISTRATION NUMBER	UDYAM-TS-27-0003252
NAME OF ENTERPRISE	M/S.VESTAL ELECTRICAL COMPANY
TYPE OF ENTERPRISE *	MICRO
MAJOR ACTIVITY	MANUFACTURING
SOCIAL CATEGORY OF ENTREPRENEUR	ST

S.No.	Udyog Aadhaar Memorandum	Unit(s) Name
1	TS27B0001346	M/S.VESTAL ELECTRICAL COMPANY
2		DITTA TRADING CO.

OFFICIAL ADDRESS OF ENTERPRISE	Flat/Door/Block No.	11-145/50/26/D/1/1/F	Name of Premises/ Building	TEACHERS COLONY
	Village/Town	KODAD	Block	BLOCK NO 11
	Road/Street/Lane	TEACHERS COLONY	City	KODAD
	State	TELANGANA	District	SURYAPET , Pin 508206
	Mobile	8328210666	Email:	B.udaykumar007@gmail.com

DATE OF INCORPORATION / REGISTRATION OF ENTERPRISE	07/02/2019
DATE OF COMMENCEMENT OF PRODUCTION/BUSINESS	07/02/2019

SNo.	NIC 2 Digit	NIC 4 Digit	NIC 5 Digit	Activity
1	20 - Manufacture of chemicals and chemical products	2023 - Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	20233 - Manufacture of detergent and similar washing agents excluding soap	Manufacturing
2	22 - Manufacture of rubber and plastics products	2220 - Manufacture of plastics products	22207 - Manufacture of moulded industrial accessories of plastics [including electrical insulating fitting of plastics]	Manufacturing
3	27 - Manufacture of electrical equipment	2732 - Manufacture of other electronic and electric wires and cables	27320 - Manufacture of other electronic and electric wires and cables (insulated wire and cable made of steel, copper, aluminium)	Manufacturing
4	27 - Manufacture of electrical equipment	2740 - Manufacture of electric lighting equipment	27400 - Manufacture of electric lighting equipment	Manufacturing

NATIONAL INDUSTRY CLASSIFICATION CODE(S)

5/3/2021 Print : Udyam Registration Certificate


भारत सरकार
Government of India
सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय
Ministry of Micro, Small and Medium Enterprises

MSME

UDYAM
REGISTRATION CERTIFICATE

Our small hands to make you LARGE

TYPE OF ENTERPRISE	Micro	SERVICES
UDYAM REGISTRATION NUMBER	UDYAM-TS-09-0013052	
NAME OF ENTERPRISE	ORDER GIFT	
SOCIAL CATEGORY OF ENTREPRENEUR	OBC	

SNo.	Units Name
1	Order Gift

OFFICIAL ADDRESS OF ENTERPRISE	Flat/Door/Block No.	H.No 4-2-146	Name of Premises/ Building	NFC Colony
	Village/Town	Kalimandir	Block	Plot No 2
	Road/Street/Lane	Road No 7	City	Bandlaguda Jagir
	State	TELANGANA	District	RANGA REDDI , Pin 500086
	Mobile	9553440820	Email:	rbegariorisoft@gmail.com

DATE OF INCORPORATION / REGISTRATION OF ENTERPRISE	01/02/2021
DATE OF COMMENCEMENT OF PRODUCTION/BUSINESS	

SNo.	NIC 2 Digit	NIC 4 Digit	NIC 5 Digit	Activity
1	17 - Manufacture of paper and paper products	1709 - Manufacture of other articles of paper and paperboard	17092 - Manufacture of printing, writing and photocopying paper ready for use	Manufacturing

NATIONAL INDUSTRY CLASSIFICATION CODE(S)

DATE OF UDYAM REGISTRATION 16/04/2021

Disclaimer: This is computer generated statement, no signature required.
Printed from https://udyamregistration.gov.in

For any assistance, you may contact:
1. DIC RANGAREDDY
2. MSME-DI HYDERABAD

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https://udyamregistration.gov.in/PrintApplication.aspx?fudm=d32H4GA7zIJ+LNBKtwklg==

Professional Bodies - Initiatives

- IEEE (Signal Processing Society (SPS) Chapter)
- IEEE Women in engineering Society
- IETE Students Forum

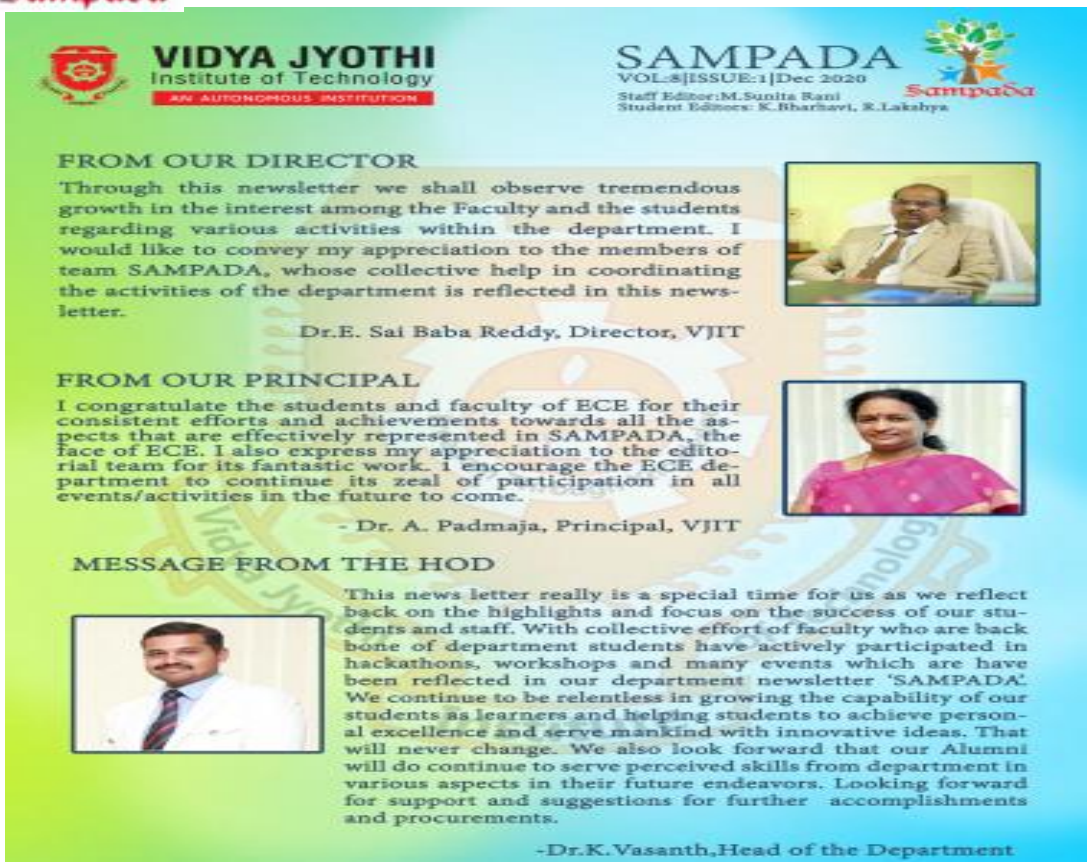
Events Conducted

Academic Year	IEEE	IETE	TOTAL
2020-2021	3	10	13
2019-2020	5	6	11
2018-2019	3	3	6

Snapshot of events conducted through Professional bodies in online and offline respectively

Students Activities

Sampada – Department Newsletter



VIDYA JYOTHI Institute of Technology
AN AUTONOMOUS INSTITUTION

SAMPADA
VOL:8|ISSUE:1|Dec 2020
Staff Editor:M.Sunita Rani
Student Editors: K.Bharhavi, R.Lakshya

FROM OUR DIRECTOR

Through this newsletter we shall observe tremendous growth in the interest among the Faculty and the students regarding various activities within the department. I would like to convey my appreciation to the members of team SAMPADA, whose collective help in coordinating the activities of the department is reflected in this newsletter.

Dr.E. Sai Baba Reddy, Director, VJIT

FROM OUR PRINCIPAL

I congratulate the students and faculty of ECE for their consistent efforts and achievements towards all the aspects that are effectively represented in SAMPADA, the face of ECE. I also express my appreciation to the editorial team for its fantastic work. I encourage the ECE department to continue its zeal of participation in all events/activities in the future to come.

- Dr. A. Padmaja, Principal, VJIT

MESSAGE FROM THE HOD

This news letter really is a special time for us as we reflect back on the highlights and focus on the success of our students and staff. With collective effort of faculty who are back bone of department students have actively participated in hackathons, workshops and many events which are have been reflected in our department newsletter 'SAMPADA'. We continue to be relentless in growing the capability of our students as learners and helping students to achieve personal excellence and serve mankind with innovative ideas. That will never change. We also look forward that our Alumni will do continue to serve perceived skills from department in various aspects in their future endeavors. Looking forward for support and suggestions for further accomplishments and procurements.

-Dr.K.Vasanth,Head of the Department

Sampada – Highlights Department progress - edited by Students

Akasavani – Students HAM Club

HAM Club of ECE that gives hands on opportunity for students to access frequencies

Criteria 5 - Faculty Information and Contributions

Programme offered & Faculty Strength

Programme Offered with Sanctioned Intake

Program Offered	Year	Intake
B. Tech. (ECE)	1999	40
	2001	60
	2002	90
	2006	120
	2012	180
	2013 onwards	240
M. Tech. **(VLSI System Design)**	2012	24
M.Tech. **(Embedded System)**	2012	24

Programme wise Designation

AY Year	UG	PG1	PG2	Designation
2020-21	4	1	1	Professor
	5	-	-	Asso. Professor
	38	2	2	Asst.Prof
2019-20	4	1	1	Professor
	5	-	-	Asso. Professor
	40	2	2	Asst.Prof
2018-19	4	1	1	Professor
	5	-	-	Asso. Professor
	38	2	2	Asst.Prof

Faculty Information

Student Faculty Ratio

Year	CAY (2020-21)	CAYm1 (2019-20)	CAYm2 (2018-19)
Total No. of Students in the department (S)	895	898	921
No. of Faculty in the Department (F)	53	55	53
Student Faculty Ratio (SFR)	16.89	16.33	17.38
Average SFR	16.87		

Faculty Cadre Proportion

Academic Year	Professors	Associate Professors	Assistant Professors
CAY(2020-21)	6	5	42
CAYm1(2019-20)	6	5	44
CAYm2(2018-19)	6	5	42

Faculty Qualifications & Retention

Academic Year	Number of Faculty with		Total Number of Faculty	Number of Faculty Retained
	Ph.D	M.Tech		
CAY (2020-21)	11	42	53	43
CAYm1 (2019-20)	11	44	55	46
CAYm2 (2018-19)	11	42	53	47

Faculty Certifications

Faculty Development Programme (FDP) / Workshops/ Short Term Training Program (STTP)

ACADEMIC YEARS	Number of Days of FDP Attended		TOTAL
	between 2 to 4 DAYS	Greater than 5 DAYS	
2020-2021	12	43	55
2019-2020	39	42	81
2018-2019	6	25	31

Coursera Certifications: 385

NPTEL Certifications

Academic year	Total number of faculty Successfully Completed / Elite / Silver / Gold
2020-2021	6
2019-2020	23
2018-2019	45 Topper of 2% in this course(1) Topper of 5% in this course(2)

Faculty Guiding & Completed Research

Name of the faculty	Number of Research Scholars Guiding
Dr K.Vasanth	8
Dr M. Vadivel	7
Dr V. G. Siva Kumar	3

Doctoral Candidates Completed by Guiding

Name of the Supervisor	Name of the Research Scholar	Title of the Thesis	Year of Completion	Name of the University
Dr.K.Vasanth	S. Celin	Studies on automated algorithms for detection of arrhythmias	2020	Sathyabama Institute of Science and Technology

Doctoral Candidates Completed While Working in VJIT

Name of the Faculty	Title of the Thesis	Year of Completion	Name of the University
Dr.M.Girish Kumar	Investigations in CNT and Graphene Interconnects for Deep submicron Technologies	2018	NIT, Hamirpur
Dr.Shaik Maznu	Encoded Binary Hybrid PSK / FSK Spread Spectrum Signal design for LPIPoly Alphabetic Radar Detection	2022	JNTU, Kakinada

Research Publications

Type of Pub. /Year	International Journals	International Conferences	National Journals	Book Chapters	Books Written	Total
2020-21	39	03	-	06	-	48
2019-20	29	07	-	10	2	48
2018-19	34	16	01	06	-	57
Total	102	26	01	22	2	153

Quality Publications

Indexing / Year	Scopus	WoS	SCI	UGC
2020-21	47	08	02	48
2019-20	32	15	04	48
2018-19	34	12	05	57
Total	113	35	11	153

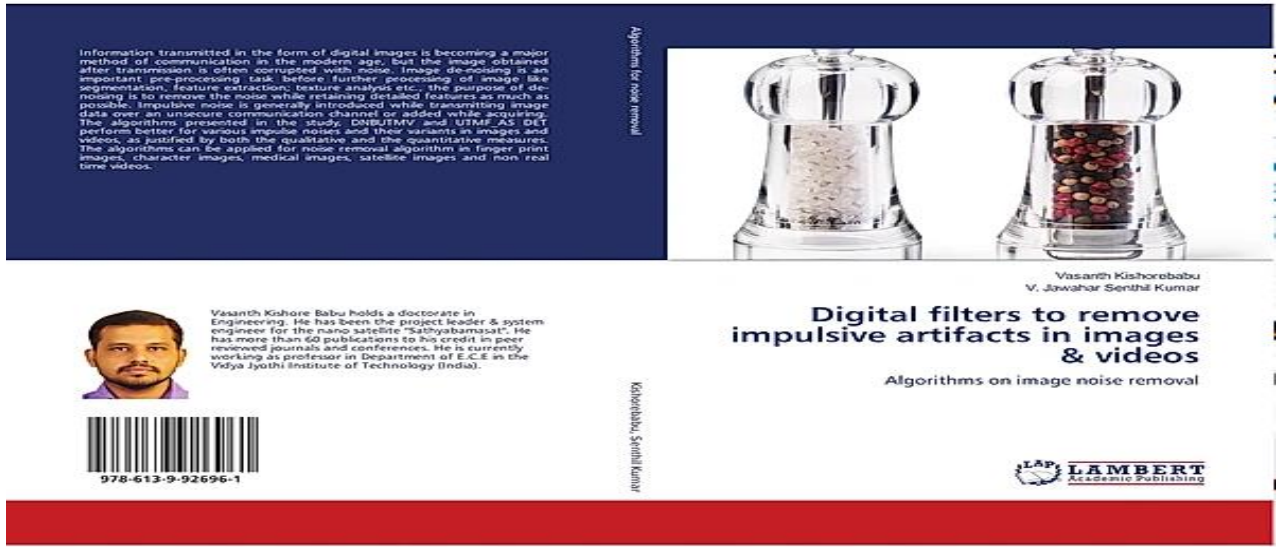
Citations

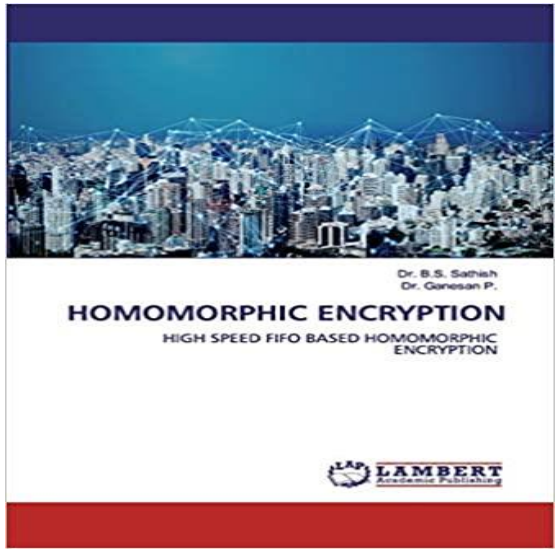
Academic Year	2018 - 19	2019-20	2020-21	Total
No. of Publications in Scopus	34	32	47	113
No. of Publications in WoS	12	15	08	35
No. of citations in Scopus	88	25	27	140
No. of citations in WoS	09	13	05	27

Average Citation Index: 1.12
H Index: 5

Books Authored & Patents

Books Authored





Patents Filed & Published

Academic Year	Number of Patents	Number of Patents filed	Number of Patents Published
2020-21	6	--	6
2019-20	2	--	2
2018-19	4	4	--

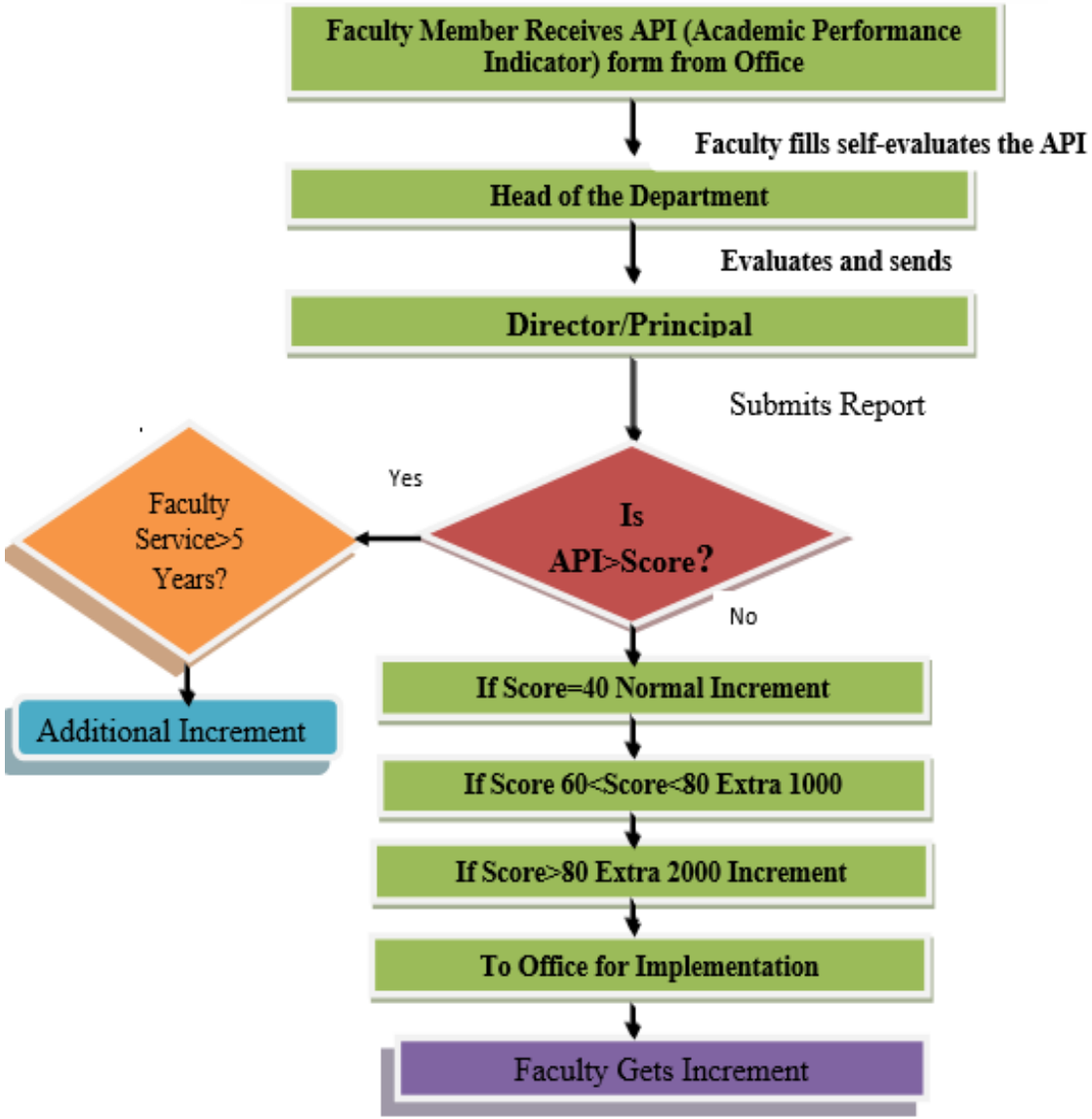
Research Grants from Government Agencies

Name of the Principal Investigator	Name of the Funding agency	Type Government	Year of Award	Funds provided (INR in Lakhs)	Duration of the project
Dr. M. Girish Kumar	DST-NIMAT	Government	2018-19	1.0	15 Days
Mr. A. Laxman	DST	Government	2018-19	7.0	3 Days
Dr.M.Vadivel	DST-NIMAT	Government	2019-20	0.2	3Days
Dr.M.Vadivel	AICTE-STTP	Government	2019-20	2.64	1Week
Dr.P.Ganesan	AICTE-STTP	Government	2019-20	3.6	1Week
Dr.P.Ganesan	AICTE-FDP	Government	2019-20	4.08	2Week
Total				18.52	

Consultancy

Academic Year	Amount in Rupees
2020-21	10,29,906
2019-20	4,34,262
2018-19	2,55,920
2017-18	7,15,406

Faculty Performance Appraisal



Criteria 6 - Facilities and Technical Support – Teaching Labs and Special Laboratories

Infrastructure & Facilities

Name of the lab	Acronym of the Lab
Electronic Devices and circuits	EDC lab
Electronic Devices and Circuits & Digital Logic Design	EDC & DLD Lab
Linear and Digital integrated Circuits applications	LDICA Lab
Digital signal Processing	DSP lab
Basic Simulation	BS lab
VLSI	VLSI Lab
Embedded System Design	ESD Lab
Microprocessor and microcontroller	MPMC Lab
Analog communication	AC Lab
Digital Communication	DC Lab
Antenna and Microwave Engineering	AME Lab
Analog and Pulse circuits	APC Lab

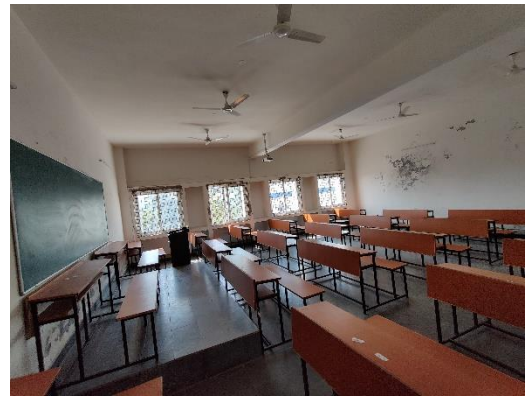
- Spacious Department with ample water supply and Uninterrupted Electricity Back up
- Well Maintained and clean Ambience

- Number of Class room with ICT facilities: 13
- Number of Department Library: 01
- Number of Laboratories: 12
- Number of Research Laboratories: 06
- Number of Staff Rooms: 03
- Number of Professor Rooms: 02
- Meeting Room / Board Room: 01

Infrastructure & Facilities

SNAP SHOT OF LABORATORIES

PROFESSOR ROOMS



CLASS ROOMS

SNAP SHOT OF LABORATORIES

STAFF ROOMS

DEPARTMENT LIBRARY

Special Labs

Name of the Additional Lab	Major Equipments Available
NI LABVIEW ACADEMY SCHOOL	NI Lab VIEW License Software, MYDAC, MYRIO
CISCO Networking Academy	Packet Tracer, WS-C2960+24TC-L, FOC2117Y1TZ, FOC2113Y4R7, FOC2117A0E5, RV130W-E-G5-K9 (Wireless Router), CCQ20210KV4, CCQ20210KUL HWIC-2T, FOC24512J85, FOC14512K6Y,FOC19073J0P
CYPRESS Embedded & IOT	FRDM Kits, Wifi Module, Sensors Module, IOT Module
Signal and Image Processing	Matlab 2019a – 30 Users
VLSI	Xilinx Vivado Software, Nexus 4A7 FPGA Board, Zynq Development Board, PMOD Pack, FMC PCam Camera Module with Adapter, Mentor Graphics Software- Nanometer (40) Users Personal Computers (30),Cadence Software (10) Users, LT spice XVII(Open Source Software),Pattern generator (32 Channel), Logic Analyzer
Antennas	NEC2 Open Source Software

OPEN SOURCE SOFTWARES

- MASM
- Keil Software
- Arm Mbed Online Compiler
- Think Speak
- LTSPice XVI

Criteria 7 – Continuous Improvement

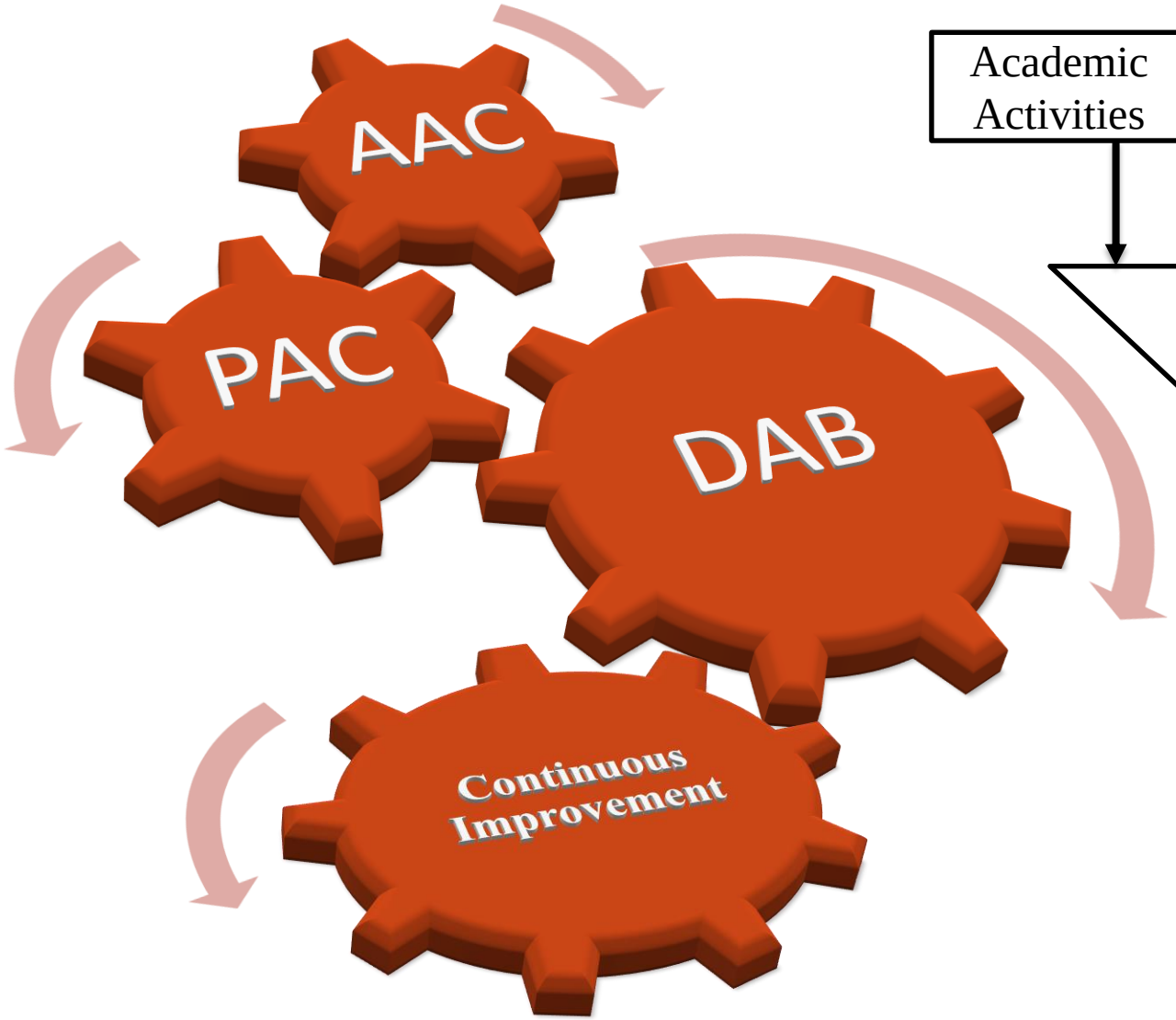
Continuous Improvement

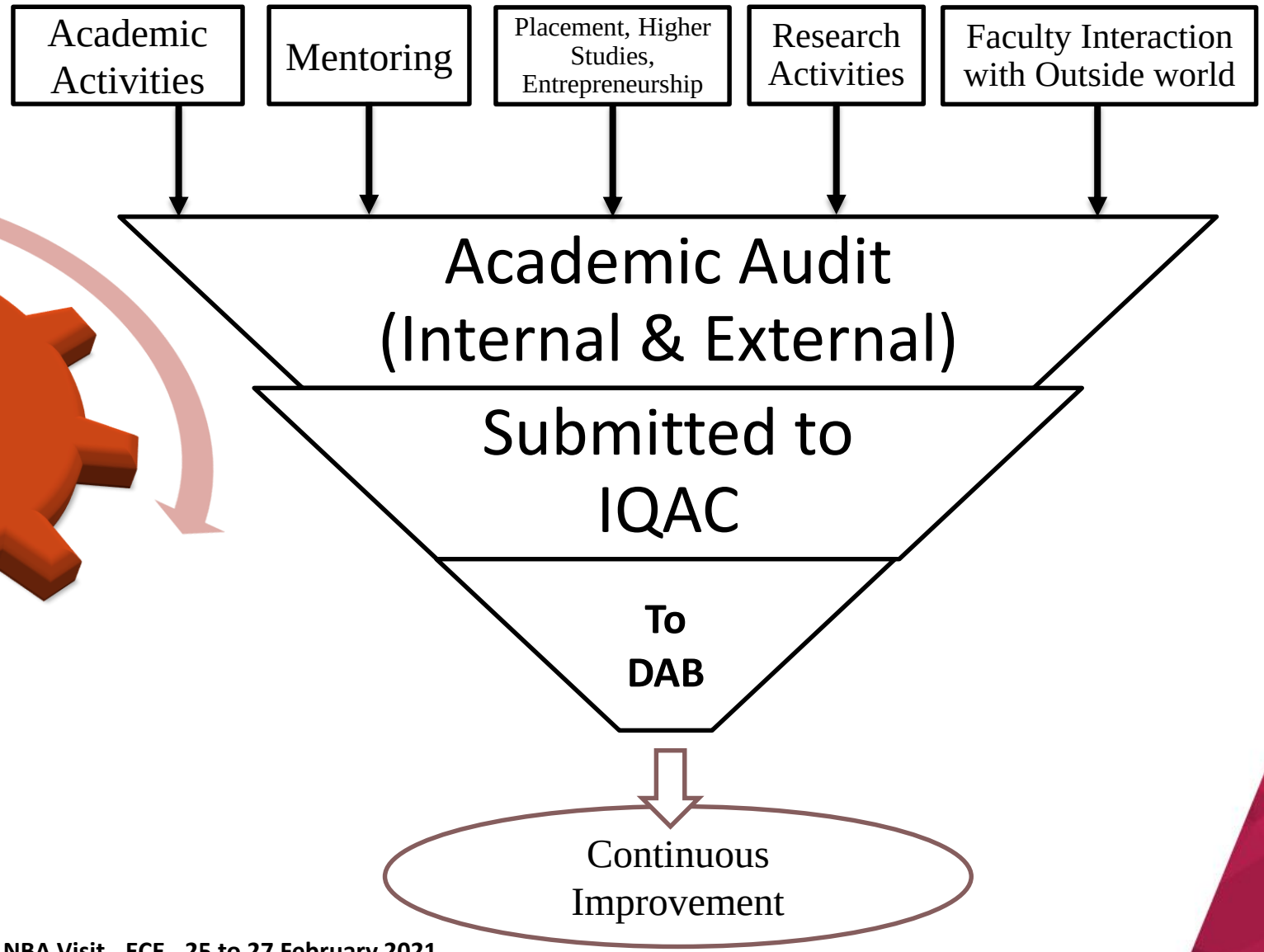
AY / PO	2020-21		2019-20		2018-19		Actions Taken
	Target	Achieved	Target	Achieved	Target	Achieved	
PO1	2.4	2.57	2.36	2.48	2.3	2.4	• **Design and development of Solutions (PO3)** (Workshop, Industrial visit (IV), Value Added course (VAC), Internships) • **Investigations on Complex Problems (PO4)** (Hackathons, Project Expo) • **Modern Tool usage (PO5)** (Workshops, VAC) • **Engineer & Society (PO6)** (IV, Internships) • **Environment & Sustainability (PO7)** (IV, Internships) • **Ethics (PO8)**(IV, Internships)
PO2	2.4	2.46	2.36	2.40	2.3	2.32	
PO3	2.4	2.46	2.36	2.35	2.3	2.3	
PO4	2.4	2.35	2.36	2.28	2.3	2.2	
PO5	2.4	2.44	2.36	2.36	2.3	2.33	
PO6	2.4	2.40	2.36	2.35	2.3	2.33	
PO7	2.4	2.42	2.36	2.36	2.3	2.34	
PO8	2.4	2.51	2.36	2.54	2.3	2.49	
PO9	2.4	2.52	2.36	2.49	2.3	2.42	
PO10	2.4	2.58	2.36	2.52	2.3	2.49	
PO11	2.4	2.43	2.36	2.35	2.3	2.27	
PO12	2.4	2.53	2.36	2.45	2.3	2.37	
PSO1	2.5	2.63	2.45	2.53	2.4	2.46	
PSO2	2.5	2.58	2.45	2.44	2.4	2.40	

Continuous Improvements

S.no	Parameter	2018-19	2019-20	2020-21
1	Students Placed	141	100	92
2	Students appearing GRE/IELTS/GMAT /GATE	11	26	28
3	Entrepreneur	1	4	1
4	Students Professional Body Membership(IETE)	255	258	254
5	Percentage of Projects completed in house	97	98	100
6	Number of Students went for Industrial Visit	432	270	-
7	Number of Students went for Internship	51	110	44
8	Students Publications	23	8	28
9	IETE Events	5	8	10
10	IEEE Events	2	3	3
11	Student Achievements - National	0	10	38
12	Student Participation - National	4	10	38
13	Products Developed	0	4	5
14	Higher Studies	6	18	10
15	Spoken Tutorial	400	302	250
16	Cisco certifications	300	38	66

Academic Audit



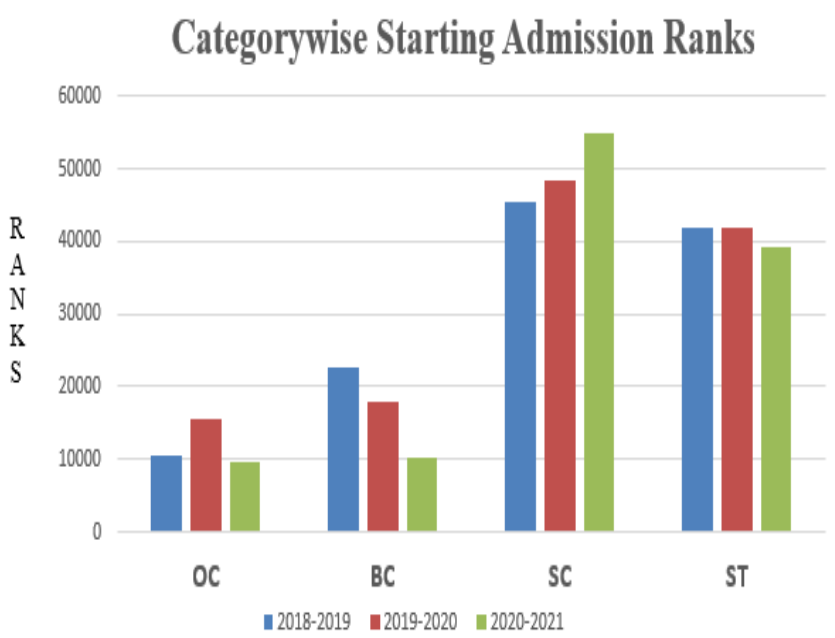


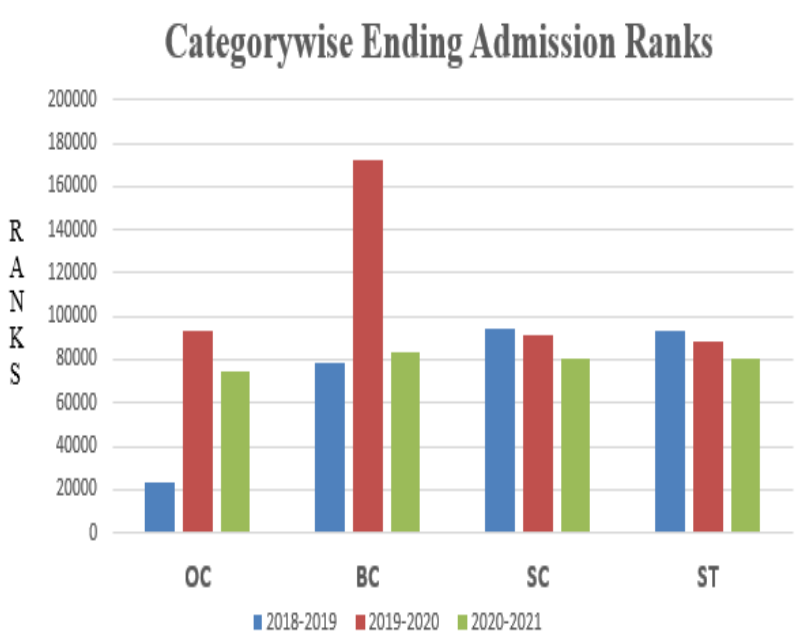
Improvement in Placement, Higher Studies & Entrepreneur

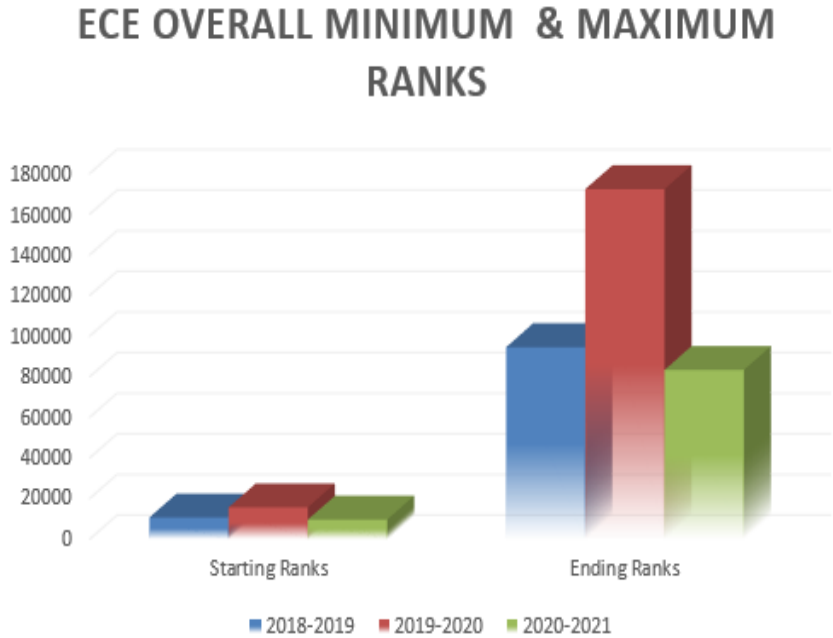
Item	CAY 2020-21	CAYm1 2019-20	CAYm2 2018-19	CAYm3 2017-18
Total Number of Final year Students	244	237	253	221
Number of students placed in companies or Government Sector(x)	119	100	141	140
Number of Students placed in core	19	29	25	8
Average Salary (LPA)	3.5	7.3	2.5	2.2
Maximum Salary(LPA)	7	11.3	04	3.8
No. of students qualifying score in GATE, GRE, GMAT, CAT, TOFEL, IELTS	24	26	11	12
No. of Students admitted to higher studies with valid qualifying scores (GATE or equivalent state or National Level Tests, GRE, GMAT,etc., (y)	14	19	6	6
No. of Students turned Entrepreneur in Engineering / Technology	1	5	1	0

Improvement in Ranks for Admission

Category	OC		BC		SC		ST	
ACY	STARTING RANK	ENDING RANK	STARTING RANK	ENDING RANK	STARTING RANK	ENDING RANK	STARTING RANK	ENDING RANK
2018-2019	10557	22841	22588	78579	45397	94400	42025	93278
2019-2020	15581	93454	17810	172223	48270	91273	41848	88822
2020-2021	9547	74948	10241	83184	54856	80471	39331	80823

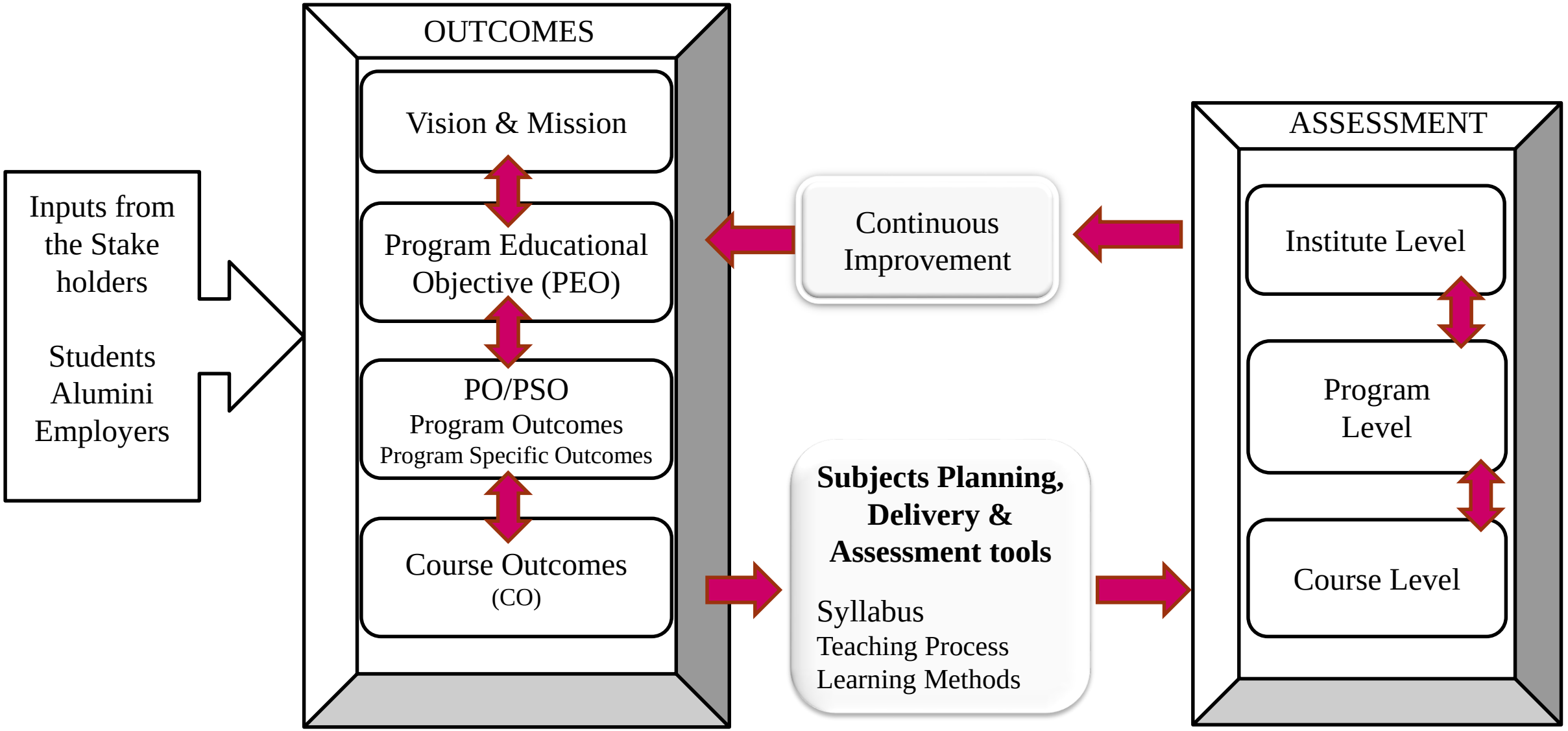






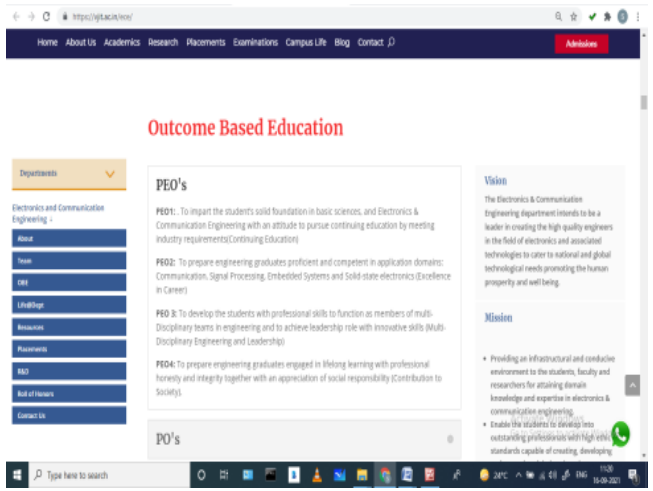
OUTCOME BASED EDUCATION IN ECE

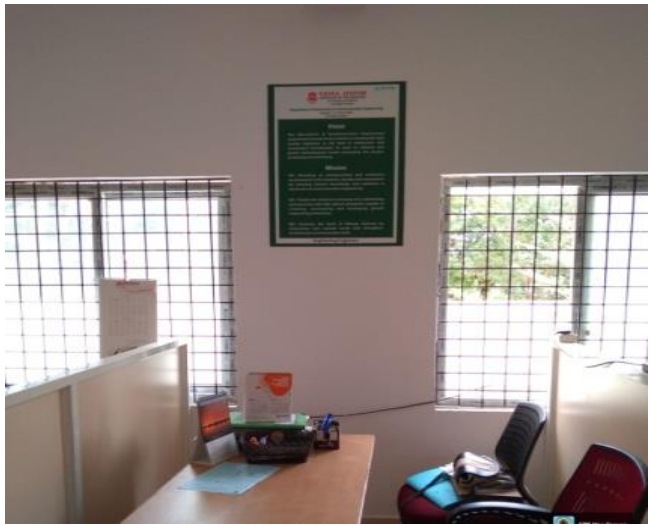
Outcome Based Education in ECE

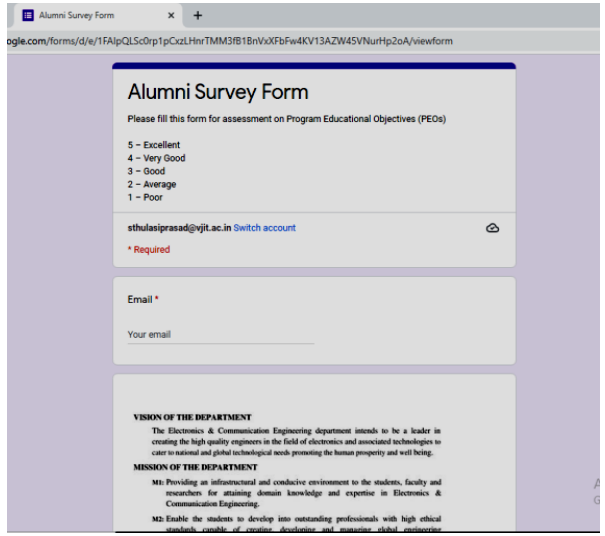


Vision & Mission Disseminated with Stake Holders

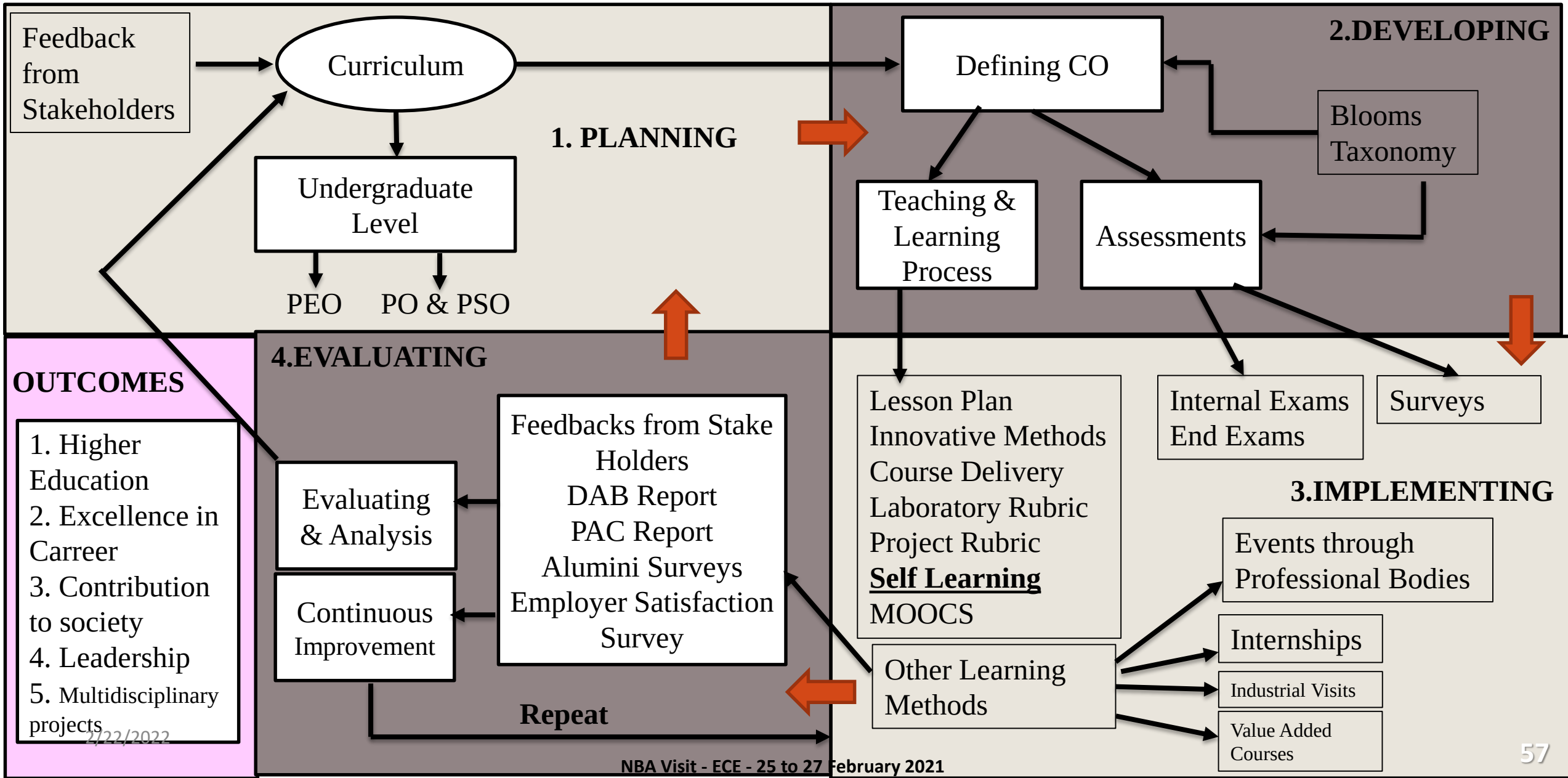
- Institute website : https://vjit.ac.in/about-us/#vision
- Department website : https://vjit.ac.in/ece/
- HoD cabin
- Departmental Notice Boards
- Departmental Corridors
- Class Rooms
- Faculty Rooms, Department Library, Laboratories
- Course files
- Prominent locations in the institution
- Information brochure
- Curriculum / Syllabus books
- Lab Manuals
- Alumni Survey Form
- Employers Survey form,
- e Mail Correspondence by faculty



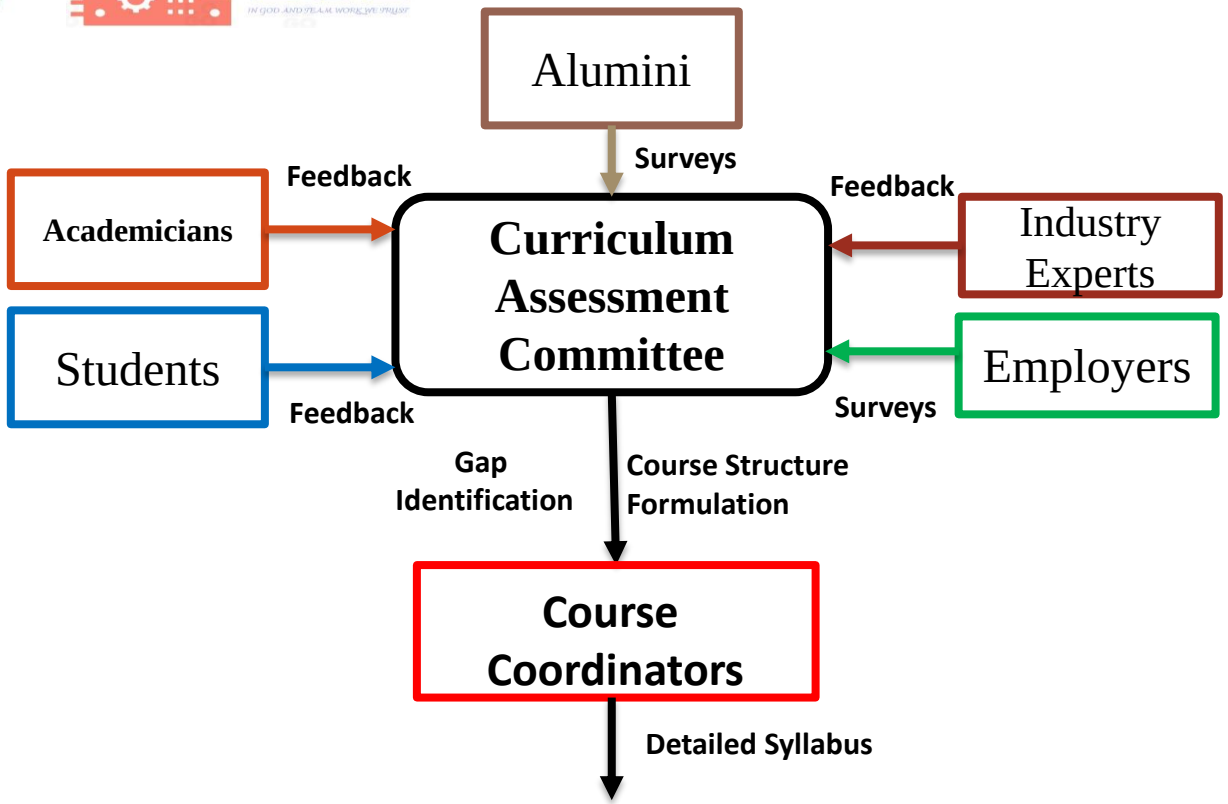




OBE Model Used



Curriculum Design



Committees Involved in curriculum Design - Department Level

1. Curriculum Assessment Committee (CAC)
2. Program Assessment Committee (PAC)
3. Department Advisory Board(DAB)
4. Board of Studies (BOS)

Gap Identified

- Few Program Outcomes were not Mapping during CO-PO Mapping

Extent of Compliance for attaining PO & PSO

- Planning Internships with industries
- Industrial visit with core industries
- Conducting events through Professional Bodies

Outcome of the action taken for scope of Attainment

- Design and development of Solutions (Workshop, Industrial visit (IV), Value Added course (VAC), Internships)
- Investigations on Complex Problems (Hackathons, Project Expo)
- Modern Tool usage (Workshops, VAC)
- Engineer & Society (IV, Internships)
- Environment & Sustainability (IV, Internships)
- Ethics (IV, Internships)

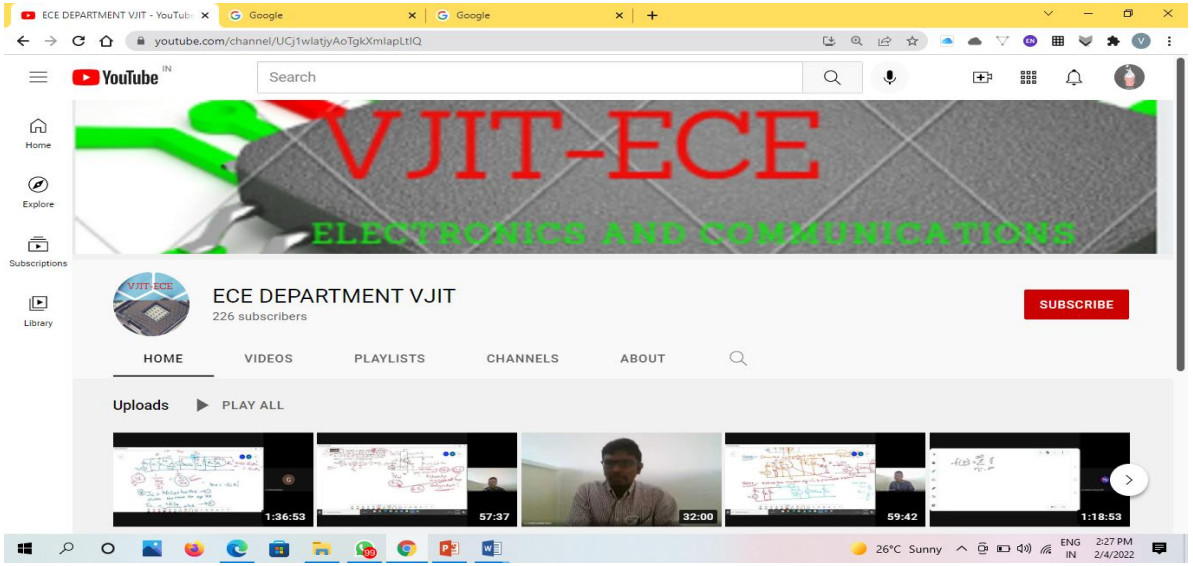
Enhancing Teaching Learning Process

Hosted Teaching Material

The instructional materials of each subject are made available in the link provided to students. They can download for learning. The link is given by http://172.16.0.131/jspui/handle/1/2978

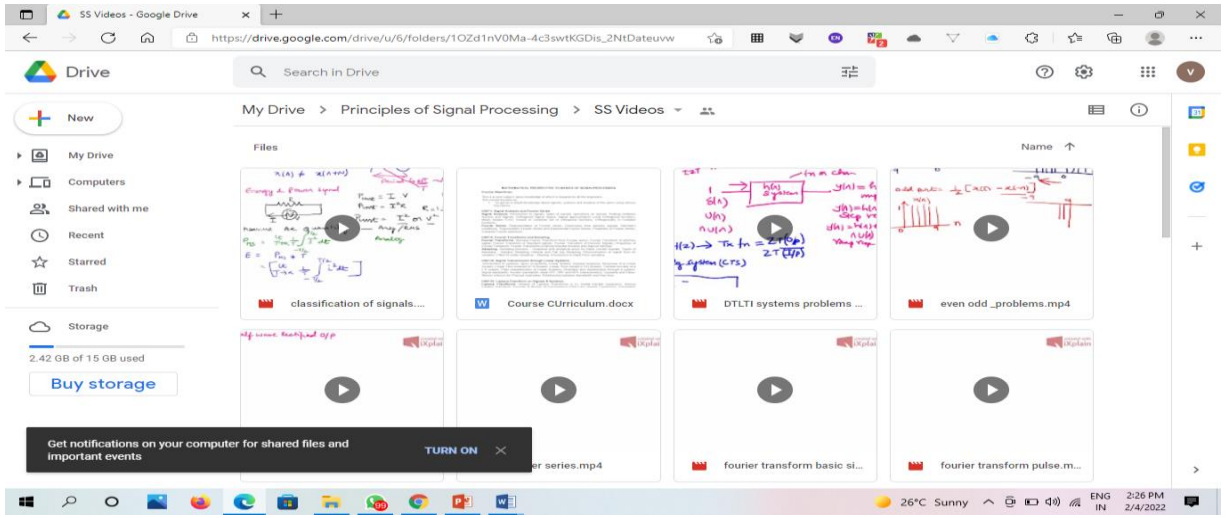
Youtube Channel of ECE

The Department has a YouTube channel in which video lectures have been hosted, Students can access to this lectures anytime. The link is given by https://www.youtube.com/channel/UCj1wlatjyAoTgkXmlapLtIQ



Drive Hosted Videos

The Department has access to videos of problems solved for different subjects. Students can access to these videos via link given https://drive.google.com/drive/folders/1TIP0YQbWt1VTu8FSkX_BGRPWRxhhM5wR?usp=sharing



Feedback on Teaching & Learning Process

Dedicated Feedback on Teaching & Learning Process in Place

IQAC Calls For Feedback on TLP

↓

HOD Summons the TLP Process In the department

↓

Year In charges collects the Feedback from the Students

↓

Submits back to IQAC for Analysis & Action

Impact Factors Identified after the Feedback

Impact Parameter
Time Management
Subject Preparedness
Subject Delivery
Student Interaction
Unbiased Approach of teacher towards students
Student Involvement & Progression

Rubrics for Assessment

LAB RUBRICS

S. No	Parameter	RUBRIC Wise Marks
1	Basic Knowledge about subject	2
2	The way in which students maintains his/her work table	2
3	Skill of doing experiment	2
4	Accuracy of the Results	2
5	Inference of Results	2

Rubrics used for Day to Day Evaluation in Lab

Outcomes:

This Helped the student to exhibit him as a skilled craftsman

PROJECT RUBRICS

S. No	Criteria	LEVEL(Level: 3-Excellent , Level2-Good, Level1-Poor)	Marks
1	Oral Communication		6
2	Writing skills		6
3	Social and Ethical awareness		5
4	Content Knowledge		7
5	Student Participation		6
6	Technical and Analytical Skills		7
7	Practical Knowledge		7
8	Understanding of Engineering Core		6

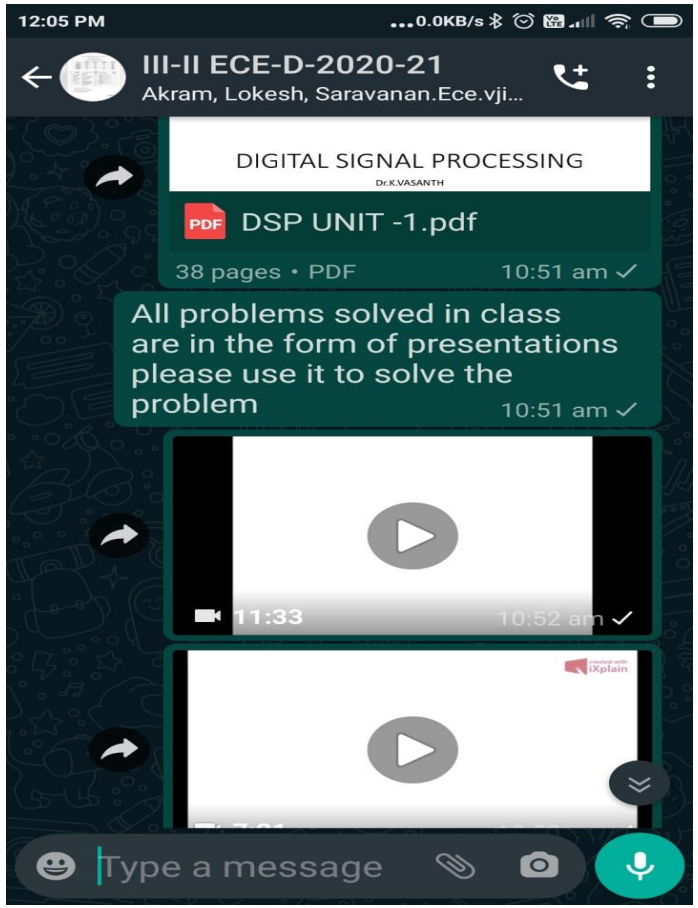
Rubrics used for Project Evaluation

Outcomes:

This enhanced the students activity to work as an individual and as a Team

Innovation in Teaching & Evaluation

Ultimate aim is to aid conventional Teaching & Deliver Engineering concepts in a Understandable way



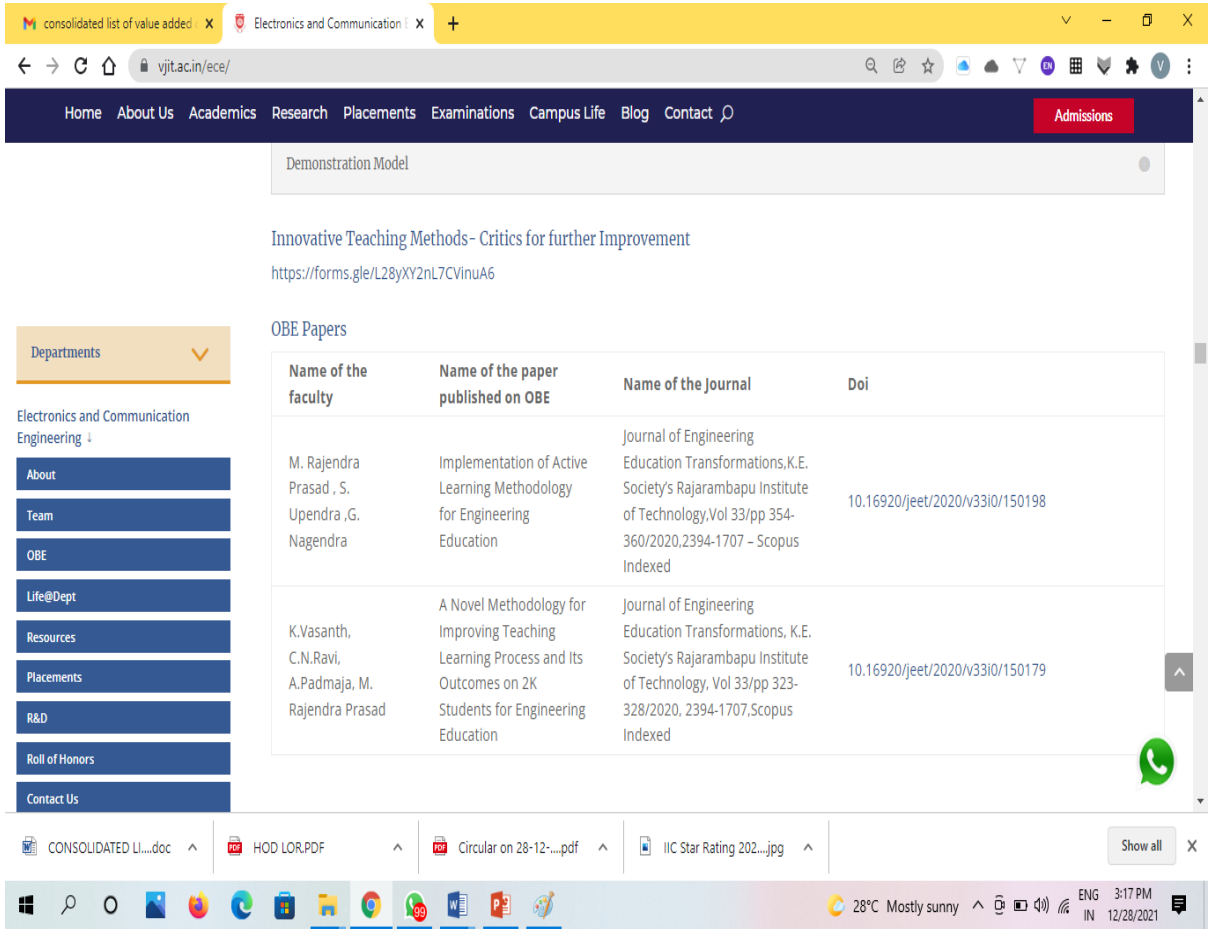
Never Miss a Class

Think Pair Share

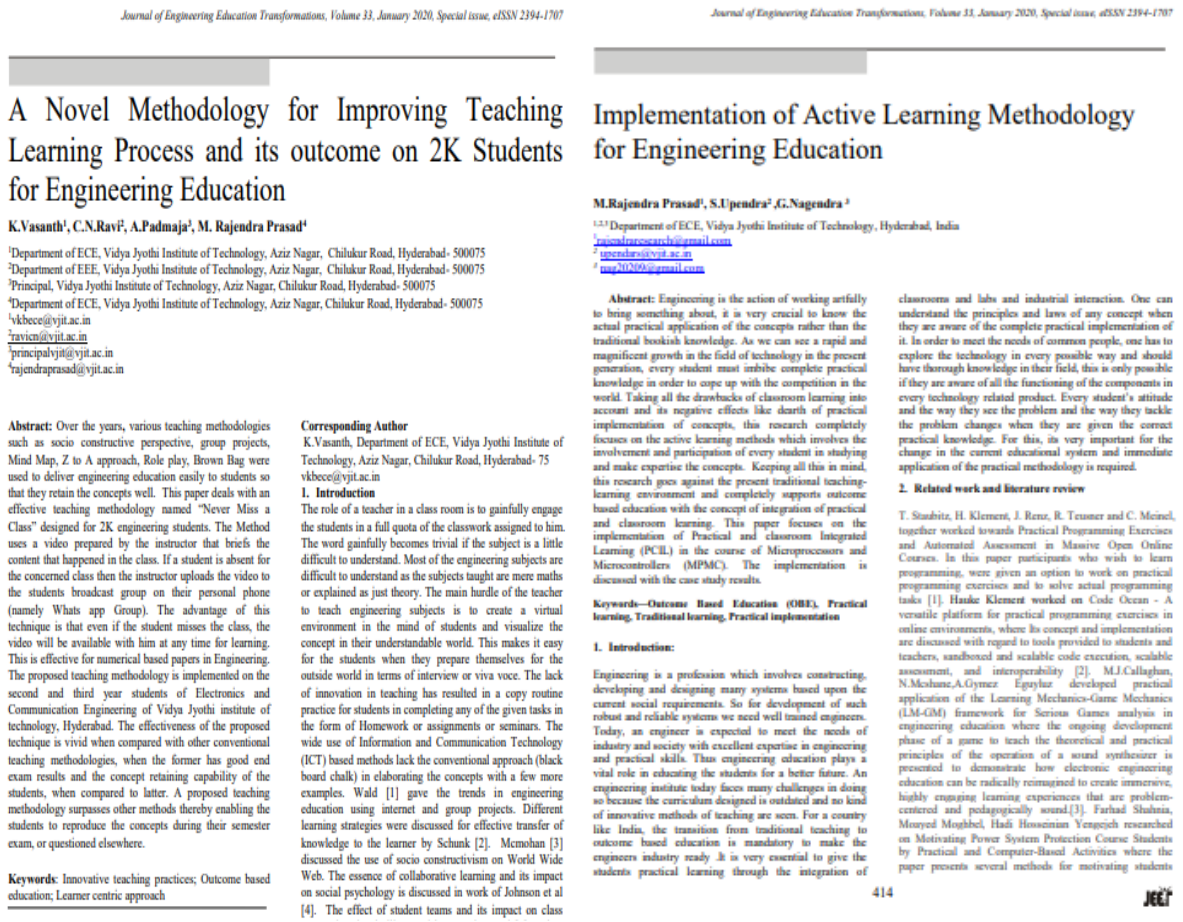
Mind Map

Game Based Learning and Evaluation

Reforms in Teaching Methods



Teaching Methods Available in Website for Critics



Journal of Engineering Education Transformations, Volume 33, January 2020, Special issue, eISSN 2394-1707

A Novel Methodology for Improving Teaching Learning Process and its outcome on 2K Students for Engineering Education

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[2]Department of EEE, Vidya Jyothi Institute of Technology, Aziz Nagar, Chilukur Road, Hyderabad- 500075
[3]Principal, Vidya Jyothi Institute of Technology, Aziz Nagar, Chilukur Road, Hyderabad- 500075
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Abstract: Over the years, various teaching methodologies such as socio constructive perspective, group projects, Mind Map, Z to A approach, Role play, Brown Bag were used to deliver engineering education easily to students so that they retain the concepts well. This paper deals with an effective teaching methodology named "Never Miss a Class" designed for 2K engineering students. The Method uses a video prepared by the instructor that briefs the content that happened in the class. If a student is absent for the concerned class then the instructor uploads the video to the students broadcast group on their personal phone (namely Whats app Group). The advantage of this technique is that even if the student misses the class, the video will be available with him at any time for learning. This is effective for numerical based papers in Engineering. The proposed teaching methodology is implemented on the second and third year students of Electronics and Communication Engineering of Vidya Jyothi institute of technology, Hyderabad. The effectiveness of the proposed technique is vivid when compared with other conventional teaching methodologies, when the former has good end exam results and the concept retaining capability of the students, when compared to latter. A proposed teaching methodology surpasses other methods thereby enabling the students to reproduce the concepts during their semester exam, or questioned elsewhere.

Keywords: Innovative teaching practices; Outcome based education; Learner centric approach

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vkbece@vjit.ac.in

1. Introduction

The role of a teacher in a class room is to gainfully engage the students in a full quota of the classwork assigned to him. The word gainfully becomes trivial if the subject is a little difficult to understand. Most of the engineering subjects are difficult to understand as the subjects taught are mere maths or explained as just theory. The main hurdle of the teacher to teach engineering subjects is to create a virtual environment in the mind of students and visualize the concept in their understandable world. This makes it easy for the students when they prepare themselves for the outside world in terms of interview or viva voce. The lack of innovation in teaching has resulted in a copy routine practice for students in completing any of the given tasks in the form of Homework or assignments or seminars. The wide use of Information and Communication Technology (ICT) based methods lack the conventional approach (black board chalk) in elaborating the concepts with a few more examples. Wald [1] gave the trends in engineering education using internet and group projects. Different learning strategies were discussed for effective transfer of knowledge to the learner by Schunk [2]. Mcmohan [3] discussed the use of socio constructivism on World Wide Web. The essence of collaborative learning and its impact on social psychology is discussed in work of Johnson et al [4]. The effect of student teams and its impact on class

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Implementation of Active Learning Methodology for Engineering Education

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[2] upendrasli@vjit.ac.in
[3] nag703509@gmail.com

Abstract: Engineering is the action of working artfully to bring something about, it is very crucial to know the actual practical application of the concepts rather than the traditional bookish knowledge. As we can see a rapid and magnificent growth in the field of technology in the present generation, every student must imbibe complete practical knowledge in order to cope up with the competition in the world. Taking all the drawbacks of classroom learning into account and its negative effects like dearth of practical implementation of concepts, this research completely focuses on the active learning methods which involves the involvement and participation of every student in studying and make expertise the concepts. Keeping all this in mind, this research goes against the present traditional teaching-learning environment and completely supports outcome based education with the concept of integration of practical and classroom learning. This paper focuses on the implementation of Practical and classroom Integrated Learning (PCIL) in the course of Microprocessors and Microcontrollers (MPMC). The implementation is discussed with the case study results.

Keywords—Outcome Based Education (OBE), Practical learning, Traditional learning, Practical implementation

1. Introduction:

Engineering is a profession which involves constructing, developing and designing many systems based upon the current social requirements. So for development of such robust and reliable systems we need well trained engineers. Today, an engineer is expected to meet the needs of industry and society with excellent expertise in engineering and practical skills. Thus engineering education plays a vital role in educating the students for a better future. An engineering institute today faces many challenges in doing so because the curriculum designed is outdated and no kind of innovative methods of teaching are seen. For a country like India, the transition from traditional teaching to outcome based education is mandatory to make the engineers industry ready .It is very essential to give the students practical learning through the integration of classrooms and labs and industrial interaction. One can understand the principles and laws of any concept when they are aware of the complete practical implementation of it. In order to meet the needs of common people, one has to explore the technology in every possible way and should have thorough knowledge in their field, this is only possible if they are aware of all the functioning of the components in every technology related product. Every student's attitude and the way they see the problem and the way they tackle the problem changes when they are given the correct practical knowledge. For this, its very important for the change in the current educational system and immediate application of the practical methodology is required.

2. Related work and literature review

T. Staubitz, H. Klement, J. Renz, R. Teusner and C. Meinel, together worked towards Practical Programming Exercises and Automated Assessment in Massive Open Online Courses. In this paper participants who wish to learn programming, were given an option to work on practical programming exercises and to solve actual programming tasks [1]. **Hauke Klement worked on** Code Ocean - A versatile platform for practical programming exercises in online environments, where its concept and implementation are discussed with regard to tools provided to students and teachers, sandboxed and scalable code execution, scalable assessment, and interoperability [2]. M.J.Callaghan, N.Mcshane,A.Gymez Eguyluz developed practical application of the Learning Mechanics-Game Mechanics (LM-GM) framework for Serious Games analysis in engineering education where the ongoing development phase of a game to teach the theoretical and practical principles of the operation of a sound synthesizer is presented to demonstrate how electronic engineering education can be radically reimagined to create immersive, highly engaging learning experiences that are problem-centered and pedagogically sound.[3]. Farhad Shahnia, Meisyed Moghbel, Hadi Hosseinian Yengejeh researched on Motivating Power System Protection Course Students by Practical and Computer-Based Activities where the paper presents several methods for motivating students

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Research Papers on Teaching & Learning Process

Industry Ready Certifications

National Instruments LabView Certified Associate Developer course is conducted for students of ECE

Center of Excellence on Embedded & IOT was established in association with Cypress semiconductors and Eduvance. Certification on ARM university program was offered for FRDM & PSOC

Networking academy in association with cisco will offer online courses on Networking, Python , C Programming

Impact Analysis on Industry initiatives

Industry Internships

Feedback Questionnaire Parameter	Desired Outcome
1. Opportunity for you to learn the approach to solve real world problems in the training.	Design & Development of solutions
2. Are you able to develop the techniques applicable to the engineering discipline from this internship?	
3. How well can you develop a problem statement?	Complex problem investigation
4. How much are you motivated to learn and use modern computational concepts and tools?	Modern Tool usage
5. To what extent was the student made aware of the modern tools used in the industry?	
6. Do you think the training had scope to enhance the design and thinking capability for real time engineering problems related to public health & safety?	Engineers and society
7. Do you think it is important to consider health & safety of people while having an industry near to habilitated locations.	
8. How important is it to design solution for the problems with social & environmental considerations.	
9. Is the student able to understand the process of giving estimation of the engineering activities utilizing appropriate techniques & resources.	Design and Development of solutions
10. Whether the internship is helpful in understanding necessity of modern tool usage in finding solutions to Engineering problems	Modern Tool usage
11. How do you rate the safety measures followed at the organization on health & safety?	Engineers and society
12. Did the student understand the precautionary measures taken by the industry towards the health of the society	
13. How appropriate do you think the industry is located in a suitable industrial area?	Environment and sustainability
14. Whether the student is able to identify the impact of industry on environment	
15. Did you understand the necessity of sustainable development	
16. Did you learn the professional ethics required at workplace and understand the ethical responsibilities of an engineer?	Professional Ethics
17. The overall impact of Internships	OBE Achievement

Impact Analysis on Industry initiatives

Industrial Visits

Feedback Questionnaire Parameter	Impact Parameter	Feedback Questionnaire Parameter	Impact Parameter
Whether the student got an insight into investigation techniques for real world problems from the industrial visits.	Design & Development of Solutions PO3	Whether the industrial visits is helpful in understanding necessity of modern tool usage in finding solutions to Engineering problems	Modern Tool Usage PO5
Is the student able to learn to solve real world problems in the industrial visits?		Did the student followed the safety measures of industry on health & safety	Environment & Sustainability PO7
Able to develop the techniques applicable to the engineering discipline from these industrial visits.	Investigation of Complex Problems PO4	Did the student understand the precautionary measures taken by the industry towards the health of the society.	
Can the student is able to develop a problem statement?		Do you think the industry is located in a suitable industrial area?	
Whether the student is motivated to learn and use modern computational concepts and tools	Modern Tool Usage PO5	Whether the student is able to identify the impact of industry on environment	
Is the student aware of the modern tools used in the industry?		Did the student understand the necessity of sustainable development	Ethics PO8
Are the students able to enhance the design and thinking capability for real time engineering problems related to public health & safety?	Engineers & Society PO6	Did you learn the professional ethics required at workplace	
Can the students design solution for the problems with social & environmental considerations.		Does student understand the ethical responsibilities of an engineer?	
Is the student able to understand the process of giving estimation of the engineering activities utilizing appropriate techniques & resources.	Design & Development of Solutions PO3		

Value Added Courses as Learning Process Outcomes

Students are introduced to Variety of Self Learning and instructor taught Courses in association with industries

Coursera Certificates : 2000+ (2020)
NPTEL Certificates: 183

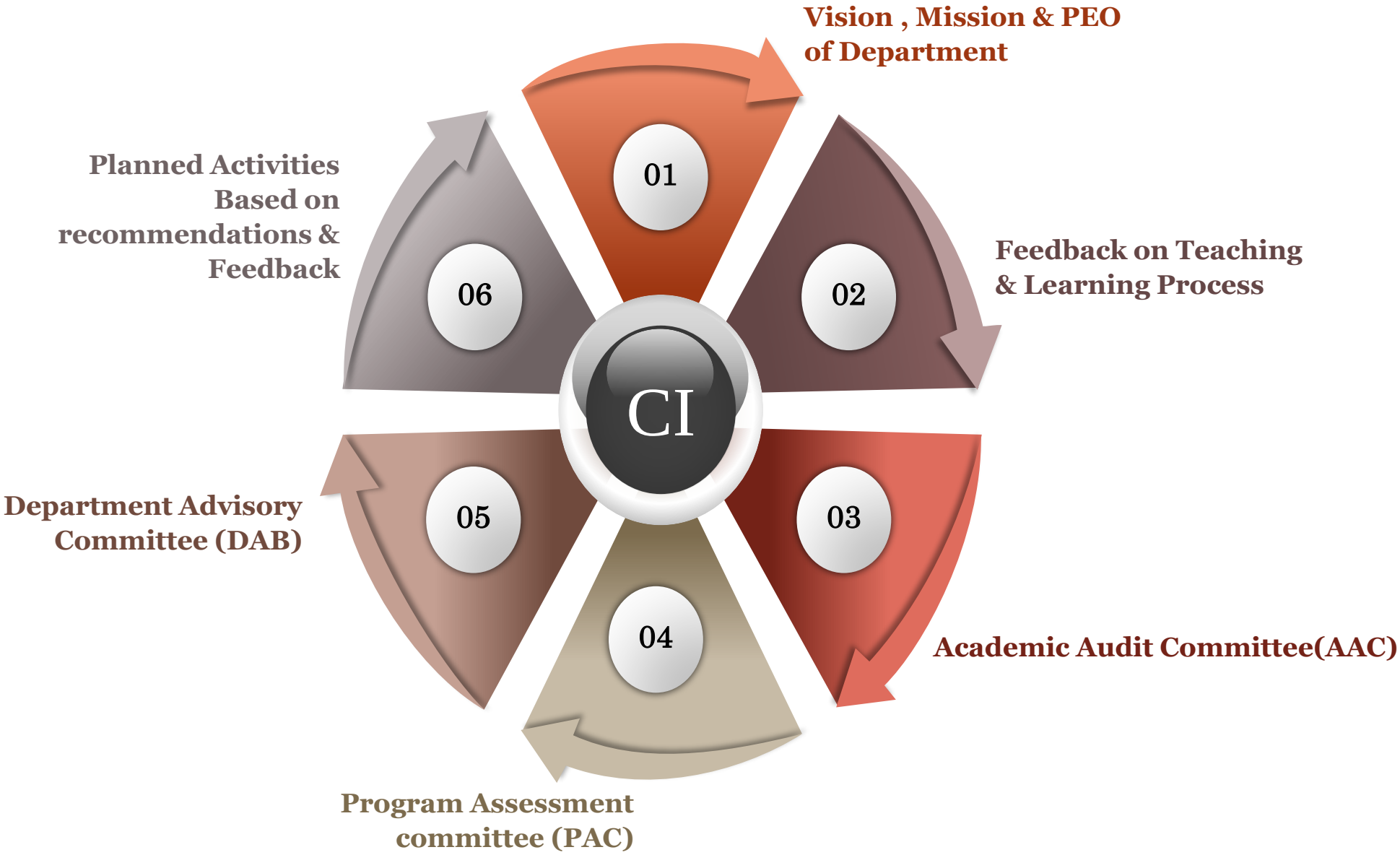
ASSESMENT YEAR	TOTAL CERTIFICATIONS
2018-19	151
2019-20	276
2020-21	772
2021-22	320

It was made Mandatory for students to complete At least 2 certificates in a academic Year

OUTCOMES

It gave scope for students to comply with Program and Program Specific Outcomes

Continuous Improvement (CI)



Continuous Improvement (CI) impact

Students & their Allied Activities

S.no	Parameter	2017-2018 I Cycle	2018-2019 II Cycle	2019-2020 II Cycle	2020-21 II Cycle
1	Number of Students for (2,3,4 Year)	753	754	726	728
2	Percentage of Placements	140	141	100	92
3	Students appearing GRE/IELTS/GMAT /GATE	5	11	26	28
4	Entrepreneur		1	4	1
5	Students Professional Body Membership(IEEE)		24	29	
6	Students Professional Body Membership(IETE)	272	255	258	254
7	Percentage of Projects completed in house	95	97	98	100
8	Industrial Visit	408	432	270	
9	Internship	14	51	110	44
10	Students Publications	39	23	8	28
11	Enrolment Ratio	98.75	100	93.75	90.41
12	IETE Events – Institution	0	0	5	4
13	IETE Events – State	3	1	0	1
14	IETE Events – National	2	2	1	5

Continuous Improvement (CI) impact

Students & their Allied Activities

S.no	Parameter	2017-2018 I Cycle	2018-2019 II Cycle	2019-2020 II Cycle	2020-21 II Cycle
15	IEEE Events – Institution	0	2	2	-
16	IEEE Events – State	0	1	1	1
17	IEEE Events – National	0	1	2	2
18	Student Achievements – National	0	0	4	21
19	Student Achievements – State	0	0	6	17
20	Student Achievements – Regional	0	4	4	3
21	Student Participation – National	6	0	4	21
22	Student Participation – State	0	0	6	17
23	Student Participation – Regional	0	4	4	3
24	Products Developed	0	0	4	5
25	Students Starting Ranks	11243	10557	15581	9547
26	Students Ending Ranks	39948	94400	91273	83184
27	Higher Studies	39	6	18	10
28	Spoken Tutorial	0	400	302	250
29	Cisco certifications	0	300	38	66

Continuous Improvement (CI) impact

Staff & their Allied Activities

S.no	Parameter	2017-2018 I Cycle	2018-2019 II Cycle	2019-2020 II Cycle	2020-21 II Cycle
1	Number of Faculty – Doctorates	7	11	11	11
2	Number of Faculty with M.Tech	52	42	44	42
3	Faculty (For UG)	59	47	49	47
4	Faculty (For PG)	4	6	6	6
5	Number of Faculty pursuing PhD	2	5	7	7
6	Percentage of Faculty Retained	88.1	88.68	83.63	81.13
7	Sponsored projects	1	2	3	-
8	Consultancy Work	7	3	2	7
9	Patents filed / granted	0	4	6	2
10	Research Paper (Journals)	57	35	30	39
11	Research Paper(Conferences)	11	16	7	3
12	Book chapter	0	6	11	6
13	FDP Attended	13	27	56	57
14	Number of Adjunct Faculty	1	2	2	1
15	Faculty Interaction with outside World - Reviewer	0	30	36	36
16	Faculty Interaction with outside World - Advisory Committee/Programme committee	0	0	1	1
17	Faculty Interaction with outside World - Editorial Board Members	0	1	2	3

Continuous Improvement (CI) impact

Staff & their Allied Activities

S.no	Parameter	2017-2018 I Cycle	2018-2019 II Cycle	2019-2020 II Cycle	2020-21 II Cycle
26	Faculty Interaction with outside World - Lectures Delivered	0	2	1	3
27	Research Excellence Awards	0	1	1	0
28	Amount Sanctioned by Non-Government Agencies for STTP/ FDP	12.82L	8L	10.48L	-
29	Events Organized	5	7	9	4
30	IAENG Membership	0	0	36	0
31	IETE Staff Membership	1	2	2	2
32	Scopus Publications	12	34	32	47
33	WOS Publications	2	12	15	8
34	SCI/SCIE Publications	1	5	4	2

Outcomes from the initiatives

The Institution of Engineers (India)

Belapur Local Center

&

Fr. C. Rodrigues Institute of Technology, Vashi

This is to certify that **Ms. V. N. Kameswari** of **Vidya Jyothi Institute of Technology, Hyderabad** has been awarded the Special Recognition for **Research Excellence in UG (National) Category** under ***IEI BLC-FCRIT Excellence Award.*** The award has been jointly presented by **The Institution of Engineers (India),** Belapur Local Center and Fr. C. Rodrigues Institute of Technology, Vashi during ICNTE 2021, held at Fr. C. Rodrigues Institute of Technology, Vashi on January 16, 2021.

Mr. Keshav Varkhedkar
Chairman, IEI, BLC

Mr. S. M. Khot
Principal, FCRIT

Research Excellence Awards for UG student

ECE VJIT Students have bagged first, second and consolation prizes in Woman Hackathon Event

Outcomes from the initiatives

TELANGANA STATE POLICE HACKATHON – Internship Winners Developed a Product called "Valerie" – Pitching in front of Commissioner of police, TS

The team was also helped to have Startup by WEHUB,Govt of Telangana initiative

TELANGANA STATE POLICE HACKATHON – Internship Winners Developed a Product called "NAARI" – Pitching in front of Commissioner of police, TS

Outcomes from the initiatives

Sheik Karishma, Sai Alekhya, Kiranmayee and Monika of **IV year won consolation prize** in **JHUB Innovation Challenge 2021**. More than 400+ Teams participated in the event

Winners of JHUB Innovation Challenge 2021

TOP 5 TEAMS

Sl. No.	Name of the Idea	Name of the Team Lead	College Name
1	Surface Disfinfection System	Myson Sunny	Geethanjali College of Engineering and Technology
2	SOLAR CONTROLLED INTEGRATED PEST MANAGEMENT SYSTEM	Ch.Divya Sri	Priyadarshini institute of science and technology for women
3	QUALITY MONITORING OF MID DAY MEAL	B V LAKSHMI	Malla Reddy Engineering College For Women
4	Safety SHOE	Akanksha Kacham	BVRIT HYDERABAD College of Engineering for Women
5	Vaari -Solution to save water	G tharuni	sreenidhi institute of science and technology

Consolation Prize

Sl. No.	Name of the Idea	Name of the Team Lead	College Name
1	DPK(Dhanyam Panchae Kiosk)	Sai Alekhya Chitturi	Vidya Jyothi Institute of Technology

Outcomes from the initiatives

Sai Charan of IV Year ECE was **funded 2200 USD** from **SPIE society**, for presenting his **research findings at International conference, USA**

SPIE. SPIE. DIGITAL LIBRARY SPIE. CAREER CENTER opticsorg

SPIE. DIGITAL LIBRARY

CONFERENCE PROCEEDINGS

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Translator Disclaimer

1 August 2021

Use of deep learning in transport services for maintaining safety and regulating unauthorized drivers

Sai Krithik P. V., Adarsh Raghavan M. T., Sai Pratyusha K., Vasanth K., Mahesh R., Anand Pandarinath M.

Author Affiliations +

Proceedings Volume 11843, Applications of Machine Learning 2021; 1184310 (2021)

https://doi.org/10.1117/12.2594149

Event: SPIE Optical Engineering + Applications, 2021, San Diego, California, United States

Sai Krithik, Adarsh & Pratyuksha of III Year ECE published their **Machine Learning research paper** in **International Conference** conducted by **SPIE society, USA**

Outcomes - Products Developed

A Group of Final year ECE students developed a product titled “COCO KASAYA”

Third Year ECE students developed a product titled “DPK Unit” – Automatic Rice Vending Machine

PEO Attained

Name of the Student	Working Place	Type of Achievements	PEO
D. Srilaxmi 	Rockwell Collins	Outstanding effort award towards IDCDMS Team	PEO2
		Pat on the Back Award M204 Green Label OMST Delivery	PEO2
		SPOT Award helping TAWS Team	PEO2
		STAR Award for GL Delivery	PEO2
		Award for Development , Verification and Certification Activities	PEO2
		Award for Pat on the Back OMST Delivery	PEO2
B. Himaja 	Wells Fargo	Highest Employee Recognition Program – Golden Spoke Award for Exceptional Contribution	PEO3
Tarun 	CISCO	Our people deal award in conducting team events	PEO2
		Promotion to Grade 006	PEO3
		Benefit every one award for getting good customer feedbacks	PEO2
		Connecting everything for award for Excellent delivery in quarter two	PEO2

PEO Attained

Name of the Student	Working Place	Type of Achievements	PEO
Sindhu 	CISCO	Promotion to Grade 006	PEO3
Vaishnavi 	CISCO	Data Science award for Bottom line detection	PEO2
Ramya 	Oppo R&D	Star Employee of the month - Outstanding Performance, Efficiency, Result Oriented approach	PEO2

PEO Attained

Name of the Student	Working Place	Type of Achievements	PEO
Madhuri 	Capgemeini	Rising Star Award for her services in Capgemeini	PEO2
Dharani 	TCS	SPOT Awards from TCS	PEO2
Lahari K 	Collin Aerospace	Promoted as Graduate Trainee Star Award for Graduate Trainee	PEO3
Bashetty Nikhil Kumar 	VB Engineering	Developed an APP for VB Engineering company. Now available at Google Play store	PEO3

VJIT ECE

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National Instruments LabVIEW Academy

DEPARTMENT OF ECE ANTENNAS LAB

"LETS BE THE CHANGE"

Akasavani
VJIT ECE HAM RADIO CLUB