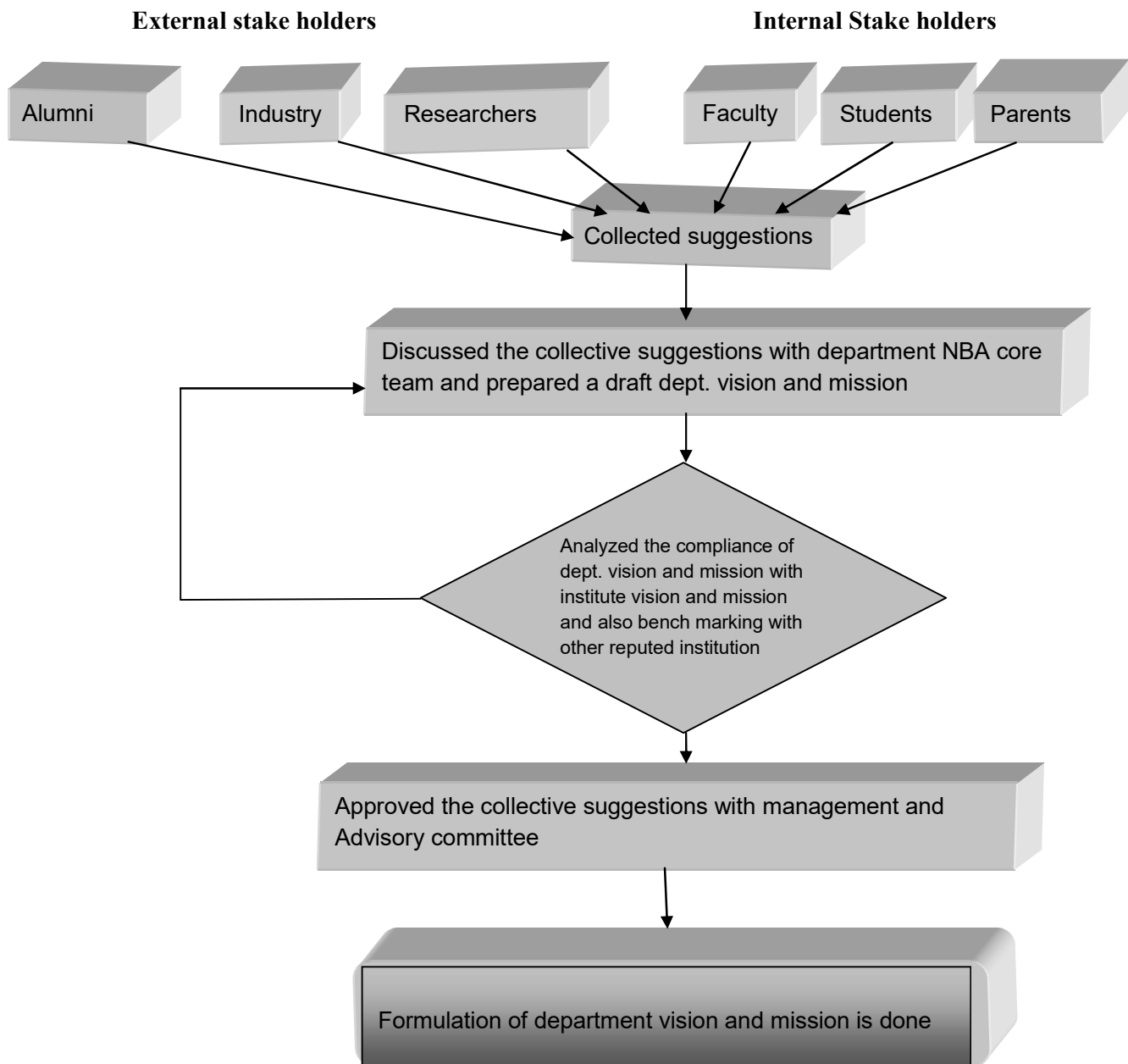
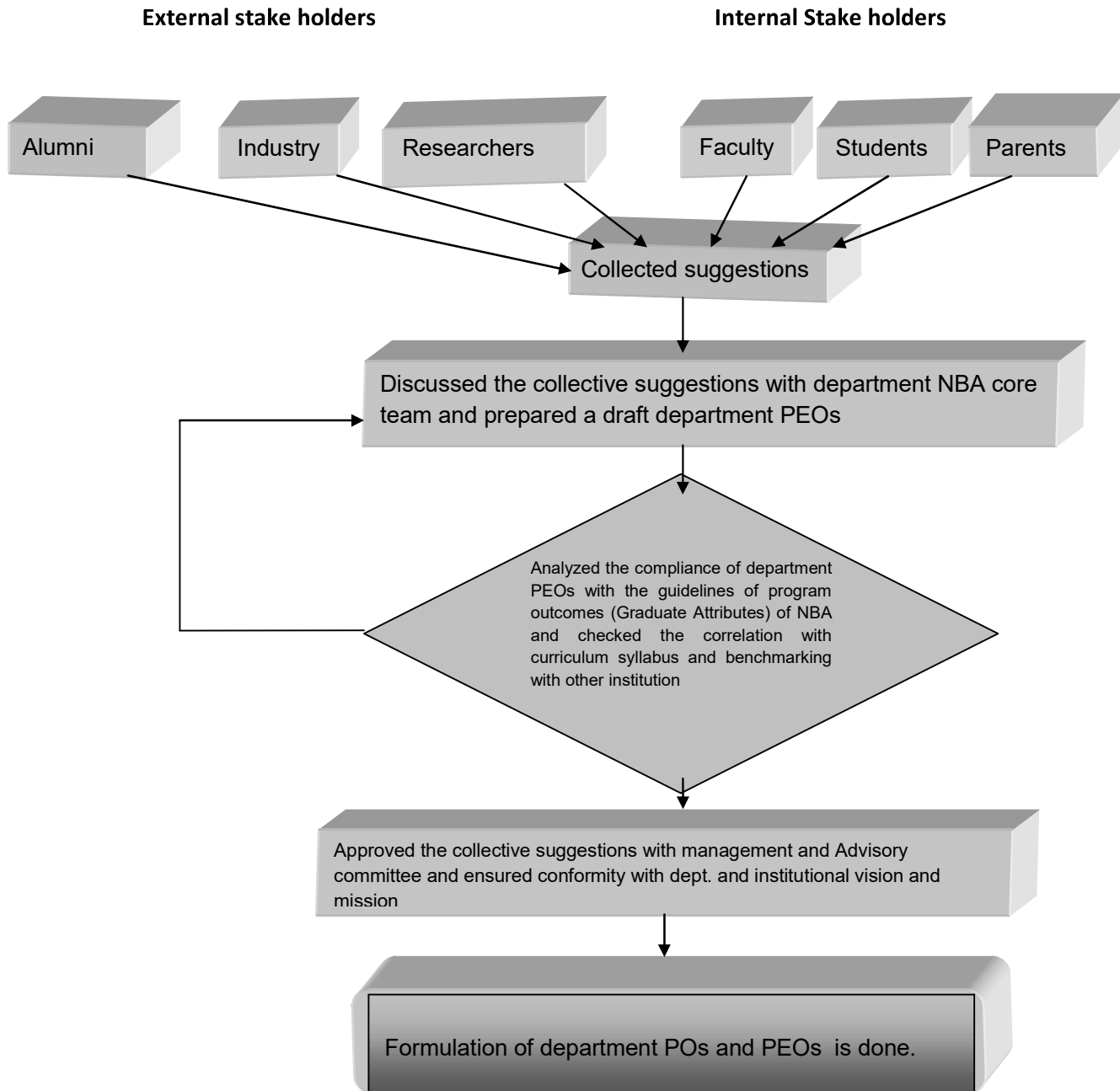


Process for defining the Vision and Mission of the Department



Step 1:	Suggestions from Alumni, Industry people and other researchers are invited.
Step 2:	Suggestions from faculty, students and parents are taken.
Step 3:	A common discussion on collective points from these groups is held with the management and department NBA core committee. They analyzed the compliance of dept vision and mission to the institutional mission and vision and also benchmarking with other reputed institution.
Step 4:	Formulation of Vision and mission is done in the final Advisory committee meeting which includes management representatives.

Process for defining the PEOs of the Program



Step 1:	Suggestions from Alumni, Industry people and other researchers are invited.
Step 2:	Suggestions from faculty, students and parents are taken.
Step 3:	A common discussion on collective points from these groups is held with the department NBA core committee. That dept NBA core committee analyzed the compliance of PEOs based on the guidelines of program outcomes (Graduate Attributes) from NBA, checked the correlation with curriculum syllabus and benchmarking with other institution.
Step 4:	Formulation of PEOs is done in the final Advisory committee meeting. They have ensured the conformity of department POs with dept and institutional mission and vision.

1.5. Establish consistency of PEOs with Mission of the Department (15)

PEO/Mission Statements	M1: To develop the department into a center of excellence by steadily building up resources and infrastructure of national standards.	M2: To develop the spirit of innovation and creativity by generating genuine interest in Electronics and Communication Engineering and allied branches of science and technology.	M3: To provide all possible support to develop a multidisciplinary research oriented environment with special emphasis on emerging areas like VLSI, Nano-electronics, Signal Processing and other allied areas to promote lifelong learning in the students.	M4: To stress the ethical and social responsibility aspects of engineering education by giving room for activities responding to societal needs.
PEO1: Excel in professional career and/or higher education by acquiring knowledge in area of Electronics and Communication Engineering.	3	3	3	2
PEO2: Analyze real life problems and design appropriate systems to provide solutions that are technically sound, economically feasible and socially acceptable.	3	3	3	2
PEO3: Exhibit professionalism, ethical attitude, communication skills and teamwork in the practice of profession, and adapt to current trends	2	2	2	3

by engaging in lifelong learning.				
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Note: M1, M2, . . Mn are distinct elements of Mission statement. Enter correlation levels 1, 2 or 3 as defined below:

1: Slight (Low)

2: Moderate (Medium)

3: Substantial (High)

It there is correlation, put “-”

JUSTIFICATION FOR CORRELATION OF PEO AND MISSION

PEO	JUSTIFICATIONS
PEO 1	M1 (High): Providing high quality education with state of the art facilities and conducive environment leads to understanding the principles well and excel in professional career and/or higher education.
	M2 (High): Developing the spirit of innovation and creativity by generating genuine interest in Electronics and Communication Engineering and allied branches of science and technology makes them proficient in their field
	M3 (High): Encouraging multidisciplinary research oriented environment with special emphasis on emerging areas makes them excel in their field
	M4 (Medium): By giving room for activities responding to societal needs does not ensure excellence in professional career and/or higher education
PEO 2	M1 (High): Giving them conducive environment to learn with state of the art facilities will lead them to develop meaningful solutions using modern techniques and tools.
	M2 (High): Developing the spirit of innovation and creativity and generating genuine interest in Electronics and Communication Engineering enables them to analyze real life problems and design appropriate systems to provide solutions to real life problems.
	M3 (High): Developing a multidisciplinary research oriented environment with special emphasis on emerging areas enables to design systems which

	are socially useful and economically feasible.
	M4(Medium): Instilling in them a feeling of social commitment and ethical values need t help them to design appropriate systems to provide solutions that are technically sound, economically feasible and socially acceptable.
PEO 3	M1 (Medium): Giving them facilities of high standards and equipping them with latest technologies ensure that they are have tendency of lifelong learning and are technically strong but we cannot ensure professional ethics, communication skills and a spirit of teamwork
	M2 (Medium): Developing the spirit of innovation and creativity by generating genuine interest in Electronics and Communication Engineering helps them to adapt to current trends by engaging in lifelong learning but we cannot ensure professional ethics , communication skills and a spirit of teamwork
	M3 (Medium): Support to develop a multidisciplinary research oriented environment with special emphasis on emerging areas helps them to adapt to current trends and have a thirst for lifelong learning but we can't ensure professional ethics , communication skills and a spirit of teamwork
	M4 (High): By stressing the ethical and social responsibility aspects of engineering education helps them to exhibit professionalism, ethical attitude, communication skills and teamwork in the practice of profession.

CRITERION 2	PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES	120
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2.1. Program Curriculum (20)

2.1.1. State the process used to identify extent of compliance of the University curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned in Annexure I. Also mention the identified curricular gaps, if any (10)

(State the process details; also mention identified curricular gaps).

PROGRAM OUTCOMES

Program outcomes are as follows: At the end of the program, the students will be able to

PO 1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO 2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO 3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO 4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to

	provide valid conclusions.
PO 5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO 6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO 7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO 8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO 9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO 11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage

	projects and in multidisciplinary environments.
PO 12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES

At the end of the program, the student will be able to

PSO 1	Familiarize and apply the software and hardware tools in Analog and Digital Electronic circuit design, Design of Digital filters, Modeling of Engineering systems, Programming of Microcontrollers and Hardware description language of Electronic circuits.
PSO 2	Use Communication Engineering technologies with electronic circuits and Embedded systems with the applications in areas like Image Processing, Signal processing, antenna

Processes to identify extent of compliance of the University curriculum for the attainment of POs & PSOs.

- State the structure of University curriculum
- Identify various streams of courses in the curriculum
- Categorize the courses in curriculum into identified streams
- Each stream in University Curriculum is mapped with POs & PSOs having correlation
- The attainment levels of each POs and PSOs are calculated
- Gaps are identified based on the calculated attainment levels of POs and PSOs

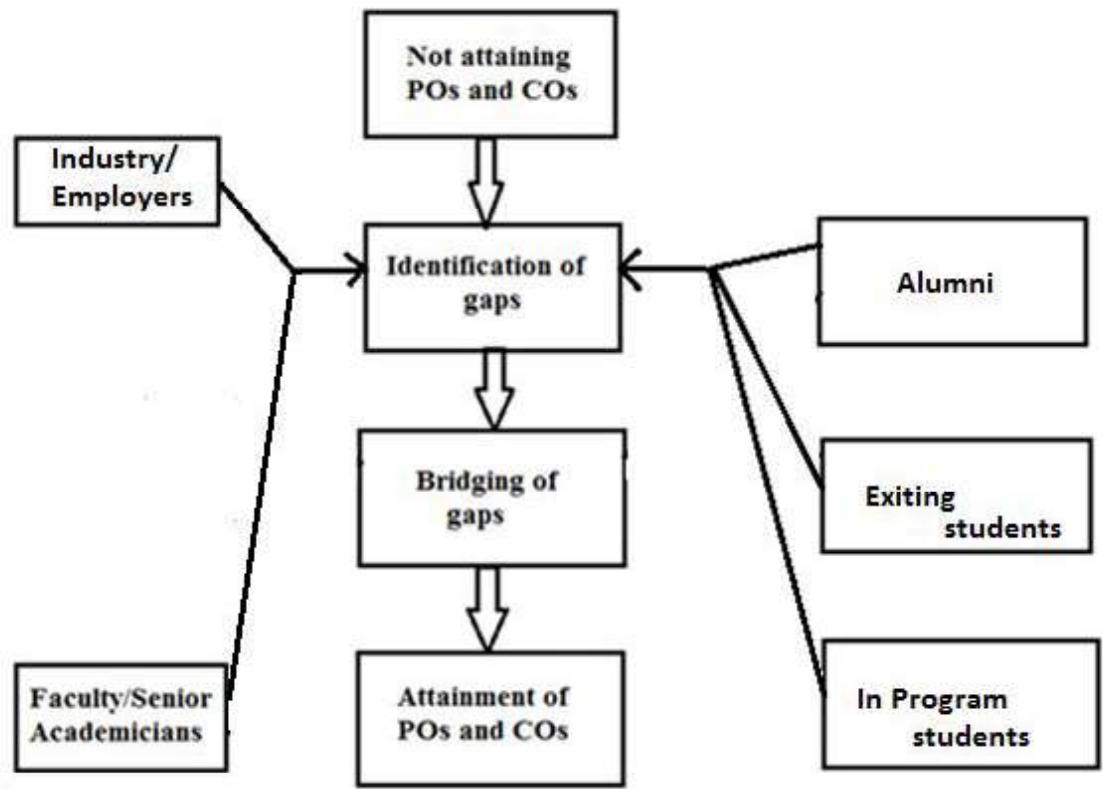
Structure of University Curriculum

- The curriculum for the program is basically designed as per the guidelines issued by AICTE/ UGC from time to time.
- The curriculum is periodically revised according to the industry requirements and

PROCESS TO IDENTIFY GAPS IN THE SYLLABUS:

Five different surveys are conducted at different frequencies from different stakeholders of the program.

- I. Process to identify curricular gaps for courses through surveys:
 1. Alumni Survey
 - Measures the degree to which past students believe they achieved program-level learning outcomes.
 - Overall satisfaction with the program.
 - Overall satisfaction with the program delivery.
 - Information on current professional or academic status.
 - Typically collected every three-four years.
 2. Industry/Employers Survey
 - Provides general information on current industry trends.
 - Desirable graduate attributes.
 - Overall perceptions of program quality.
 - Strengths and expectations of graduates.
 - Typically collected every three-four years.
 3. In Program Students Survey
 - Measures the degree to which current students believe they are achieving program-level learning outcomes.
 - Overall satisfaction with the program.
 - Overall satisfaction with the program delivery.
 - Typically collected every two years.
 4. Exiting Students Survey
 - Measures quality of the program and satisfaction with curriculum.
 - Overall perceptions of program delivery.
 - Collected annually.
 5. Senior Academicians/Faculty Survey
 - Provides general information on the quality of the program.
 - Strategic directions for program.
 - Satisfaction with curriculum.
 - Collected as required.



Process of identification of gaps for the attainment of POs and COs

Sample survey form-Alumni Survey

Alumni Survey

Department of ECE, Sahrdaya College of Engineering & Technology, Kodakara

Based on your B.Tech Curriculum as well as experience from industry/other career kindly rate the quality statements of our department as follows

* Required

1. Name *

2. Year in which you passed out from the Institution *

3. Name of organization you are currently working/doing higher studies

4. Your professional designation/academic status

Programme Outcomes (POs)

5. 1. Do you think the existing syllabus enable the students to apply the knowledge of mathematics, science, engineering fundamentals, and engineering specialization to the solution of complex engineering problems? *

Mark only one oval.

- ☐ Strongly agree
☐ Neutral
☐ Strongly disagree

6. 2. Are you able to analyse a problem using principles of mathematics, natural sciences, and engineering sciences? *

Mark only one oval.

- ☐ Strongly Agree
☐ Neutral
☐ Strongly disagree
☐ Other: _____

7. 3. Are you able to design solutions for complex engineering problems to meet the requirements? *

Mark only one oval.

- ☐ Strongly agree
☐ Neutral
☐ Strongly disagree

8. 4. Are you able to conduct investigations of complex engineering problems? *

Mark only one oval.

- ☐ Strongly agree
☐ Neutral
☐ Strongly disagree
☐ Other: _____

9. 5. Are you updated with modern tool usage? *

Mark only one oval.

- ☐ Yes
☐ Maybe
☐ No

10. 6. Can you apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice? *

Mark only one oval.

- ☐ Strongly agree
☐ Neutral
☐ Strongly disagree

11. 7. Are you able to incorporate sustainability (Consider Environment) in professional engineering solutions? *

Mark only one oval.

- ☐ Yes
☐ Maybe
☐ No

12. 8. Are you able to apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice? *

Mark only one oval.

- ☐ Yes
☐ Maybe
☐ No

13. **9. Are you able to become a good team player? ***

Mark only one oval.

- ☐ Yes
☐ May be
☐ No

14. **10. Are you able to communicate effectively complex engineering activities with the engineering community and with society ? ***

Mark only one oval.

- ☐ Strongly agree
☐ Neutral
☐ Strongly disagree

15. **11. Are you able to carry out your assigned work with adequate managerial skills? ***

Mark only one oval.

- ☐ Yes
☐ Maybe
☐ No

16. **12. Do you believe that courses, programs and other activities offered by institution helped you to become a life long learner? (Life long learner - Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.) ***

Mark only one oval.

- ☐ Yes
☐ Maybe
☐ No

Programme Specific Outcomes (PSOs)

17. **13. Are you confident enough to apply the software and hardware tools in areas like Analog and Digital Electronic circuit design, Design of Digital filters, Modeling of Engineering systems, Programming of Microcontrollers and Hardware description language of Electronic circuits etc? ***

Mark only one oval.

- ☐ Yes
☐ Maybe
☐ No

18. **14. Are you able to use Communication Engineering technologies with electronic circuits, Embedded systems with the applications in areas like Image Processing, Signal processing, antenna technologies etc? ***

Mark only one oval.

- ☐ Yes
☐ Maybe
☐ No

Programme Educational Objectives (PEOs)

19. **15. Do you believe that you excel in professional career and/or higher education by acquiring knowledge in area of Electronics and Communication Engineering? ***

Mark only one oval.

- ☐ Strongly agree
☐ Neutral
☐ Strongly disagree

20. **16. Do you believe that you are able to analyze real life problems and design appropriate systems to provide solutions that are technically sound, economically feasible and socially acceptable? ***

Mark only one oval.

- ☐ Strongly agree
☐ Neutral
☐ Strongly disagree

21. **17. Do you believe that you exhibit professionalism, ethical attitude, communication skills and teamwork in the practice of profession, and adapt to current trends by engaging in lifelong learning? ***

Mark only one oval.

- ☐ Strongly agree
☐ Neutral
☐ Strongly disagree

22. **Any suggestions for improving the quality of B.Tech programme?**

The different domains in Electronics and Communication Engineering are

- Signal Processing
- Communication Engineering
- Electronic Circuits
- Control & Instrumentation Engineering
- Microprocessor based system design

Gaps identified in the curriculum through surveys:

Domain	Course Name	Gaps in curriculum	Attainment of POs	Attainment of PSOs
Signal Processing	Digital Signal Processing	Practical exposure can be given	1,2,3,4,5	1,2
		Implementations using simulation software can be included		
Communication Engineering	Analog Communication Lab	More experiments based on advanced communication systems have to be included	1,2,3,4,5	2
	Digital Communication Lab	Advanced software simulation can		

		be added		
	Wireless mobile communication	Recent advances in wireless technology can be included		
	Optical Communication	Practical exposure to Optical Communication System design is negligible		
Electronics Circuits	Network Analysis	Detailed study of filter design	1,2,3,4,5	1,2
	Solid State Devices	Problems should be included		
	Electronics Circuits Lab	More application level examples of each circuits must be added.		
	Electronics Circuits	Product Based Implementation		
	Digital Electronics	Real time application of digital circuits		

Microp rocesso r Based System Design	Computer Organizatio n and Architecture	Green Computing	1,2,3,4,5	1
		Instead of 8085 a new controller can be included		
	Microproces sor and Microcontro ller	Details regarding higher level processors can also be included.		
		Practical Applications can be included		
	Microproces sor and Microcontro ller Lab	programs based on ARM PROCESSOR		
Control and Instru mentati on Engine ering	Control System	Industrial Application of control systems	1,2,3,4,5,6	1
	Biomedical Instrumenta tion	New technologies can be familiarized		

Other suggestions from the surveys are:

1. Practical Exposure shall be increased
2. Hands on sessions shall be done frequently
3. More industrial interactions shall be there
4. More application/design oriented problems should be discussed
5. Project reviews by Industrial persons can be adopted
6. Industrial trainings and exposures can be given to students at an earlier stage
7. Curriculum doesn't equip the students well in technical areas.

Note: *In case all POs are being demonstrably met through University Curriculum then 2.1.2 will not be applicable and the weightage of 2.1.1 will be 20.*

2.1.2. State the delivery details of the content beyond the syllabus for the attainment of POs and PSOs (10)

The gaps of different streams are identified and different actions are taken to achieve the POs and PSOs. The different actions include

1. Add On Courses

It was understood while mapping the programme objectives and course objectives of various courses offered by the department that confining the academic outlook only to the syllabus prescribed by the University will not help the students to improve their technical skills, it always leave some gap between the academics and the industrial expectations. To bridge this gap, the department organised add on courses for all the batch of ECE students. Workshops are organized in order to improve the practical exposure of the students and faculty.

2. Technical Talks

The department had invited academic and industrial experts to deliver technical talks on trends in the field of Electronics and Communication Engineering. Their rich experiences and wealth of knowledge provide abundant insights to the professionals of tomorrow. These enriching lectures provide a platform for students to clear their doubts, get answer to their innumerable questions, and even put forth their views on matters relevant to their studies and their careers.

3. Club Activities

During the Club activities students are expected to develop team work, presentation skill and faculty monitors the same.

4. Micro Project

Micro project included in second year of study, where the students are expected to do a small project, which starts with selection of the circuit, implementing it in the bread board, testing and converting it into a common PCB, soldering and casing. Entire work in the project is done so that this process will develop their skill for hands-on work. A report of the activity is also prepared by the students.

CAY (2016-2017)

S.No	GAP	Action Taken	Date- Month-Year	Resource Person with designation	% of students Present	Relevance to POs, PSOs
1	Application/design oriented problems	Embedded Systems (Add on Course)	19/07/16 - 21/07/16	Acharyaji Technologies	98%	PO -2,3,5 PSO-1,2
2	Higher level processors	Arduino Programming (Add on Course)	29/08/2016 - 30/08/2016	Bitsforge Technologies	96%	PO -1,3,5 PSO-1,2
3	Innovation and Research	Innovation and Research (Technical Talk)	30/08/2016	Prof. Gin Jose, University of Leeds	91%	PO -6,7 PSO-1,2
4	Orientation	Building up a new career in engineering field (Technical Talk)	12/08/2016	Support Engineering in IBS	93%	PO -6,7 PSO-1,2
5	Application/design oriented problems	MATLAB (Add on course)	21/03/2017	Faculty ECE	95%	PO -2,3,5 PSO-1,2
6	Hands on Training	3d Printer	31/03/2017	S4S program	96%	PO -2,3,5 PSO-1,2
7	Industry Exposure	Innovations in IBM (Technical Talk)	26/04/2017	Mr Vipin Vijayan, Application Architect, IBM China	92%	PO -6,7 PSO-1,2

CAYm1 (2015-2016)

S.No	GAP	Action Taken	Date- Month-Year	Resource Person with designation	% of students Present	Relevance to POs, PSOs
1	Electrical, Electronics and Communication Engineering to cover up some of the deficiencies in the programme objective	Add on Course	24/6/2015 - 26/06/2015	Live Wire Technologies	98%	PO -2,3,5 PSO-1,2
2	Story of radiation	Technical Talk	15/7/2015	Dr. Deepthi Das Krishna, Associate Professor,Rajagiri School of Engineering & Technology	99%	PO -1,7 PSO-1,2
3	Under water communication	Technical Talk	25/7/2015	Dr.Murali Krishna Scientist-F,NPOL,Kochin	100%	PO- 1,8 PSO-1,2
4	On the topic Robotics	Technical talk	3/8/2015	Mr.Sunil Paul, Co-Founder and CTO, Techjeeva	95%	PO- 1,8 PSO-1,4
5	Project based-workshop on Arduino	Workshop on Arduino	4/8/2015- 13/8/2015	Bitsforge Technologies	90%	PO -2,3,5 PSO-1,2
6	Introduction to Open CV	Training	11/9/2015	Ms. Silpa P A, Asst.Professor ,Dept. of ECE, Sahrdaya College of Engineering &	100%	PO -2,3,5 PSO-1,2

				Technology		
7	Practical application based on Microprocessors and Microcontrollers	Faculty Exchange Program- Topic: Microprocessor and Micro Controller	28/9/2015	Ms.Rekha M, Assistant Professor, Universal Engineering College	95%	PO -1 PSO-1,2
8	Wireless Communication materials(metamaterials)	Technical talk on	7/10/2015	Dr.R.Ratheesh, Scientist,CMETT hrissur	97%	PO -2,6 PSO-1,2
9	Innovative Product Development	Technical talk	09/10/2015	Mr.Jijo Paul, CEO,Resnova Technologies, Kochin	100%	PO -1,7 PSO-1,2
10	Embedded systems	workshop on	on 11/01/2016	Mr. Nithin, Mr.Rinas and Mr.Arun Rapid Technologies.	98%	PO -2,3,5 PSO-1,2
11	MATLAB for signal processing applications	Add on Course	29/02/2016 05/02/2016	Mr.Nitin Kumar Sharma, Technical Head,Archaryaji Technologies, Delhi	100%	PO -2,3,5 PSO-1,2

CAYm2 (2014-2015)

S.No	GAP	Action Taken	Date- Month-Year	Resource Person with designation	% of students Present	Relevance to POs, PSOs
1	Microcontroller s	add-on course	02/7/2014	Orion Technologies	98%	PO -2,3,5 PSO-1,2,4
2	Technology- past,present, future	Technical Talk	10/7/2014	Mr.Hariprasad Nair, CEO, Gadgeon Systems	90%	PO -1,7 PSO-1,3
3	Embedded android system development	Technical Talk	20/8/2014	startup village	93%	PO -1,2,3 PSO-1,3
4	Evolution of mobile technology with focus on 3G & 4G	Technical talk	29/8/2014	CEO of Matrix Technologies.	99%	PO -1,7 PSO-1,2
5	ARM based processor	technical talk	16/10/2014	Mr.Thomas CEO of Digital core technologies	97%	PO -1,5,6 PSO-1,2
6	Insight into an industry and selling ideas	Technical talk	17/10/2014	Dr.K.S Suresh nair CTO, Nest	98%	PO -1,5,6 PSO-1,2
7	Embedded Systems "	Workshop	15/01/2015	MEPITS	95%	PO -2,3,5 PSO-1,2
8	PSPICE software	Workshop	4/03/2015	Live Project Academy	98%	PO -2,3,5 PSO-1,2

2.2. Teaching-Learning Processes (100)

2.2.1. Describe Processes followed to improve quality of Teaching & Learning (25)

Teaching - Learning Processes

Teaching and learning actions are necessary to accomplish a goal in education. Effective teaching is one that will bring about the intended learning outcome. The different teaching learning process include formal lecture, Practicals, guest lectures, assignments, power point presentations during seminars by students, group task like Minor & Major projects and thesis work.


Every faculty member prepares a Teaching plan for every theory subject. The number of hours in the teaching plan is framed depending on the credits of the course. After each class each faculty has to enter the details of the class, attendance in the e-college software.

The Academic Calendar serves as an information source and planning document for students, faculty. The calendar includes registration dates, date for commencement of classes for different semesters, Public Holidays, Assignments, exam dates etc. Sahrdaya follows a well planned academic calendar and teaching plan.

SAMPLE OF FEED BACK PROCESS:

- ★ Feedback is collected from students for better understanding and improvement in Teaching Learning process.

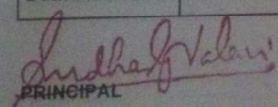
Feedback Form 1: STUDENTS FEEDBACK ON THOERY SUBJECTS:


SAHRDAYA
 Kodakara - Thrissur - 680684

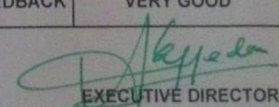
Name: Ros Marie C Cleetus Department: ECE
 Class: ECE_5_B Total Students: 62
 Course: B Tech Subject: EC14 504 Electromagnetic Field Theory

Attribute	Count	Excellent	Very Good	Good	Satisfactory	Not Satisfactory
PLANNING & KNOWLEDGE • Always well prepared for the class • Organizes the subject matter in a logical manner to suit the level of students • Very good subject knowledge in theory and practical	No.'s	44	12	6	0	0
	%	70.97	19.35	9.68	0.00	0.00
COMMUNICATION & PRESENTATION • Presentations and explanations are clear and effective • Teacher speaks clearly, audibly and writes, draws legibly • Teacher uses black board, LCD, Powerpoint etc effectively and explains in details • Teacher share teaching notes with students through intranet facility	No.'s	36	18	4	3	1
	%	58.06	29.03	6.45	4.84	1.61
CLASS MANAGEMENT & DISCIPLINE • Teacher is punctual in engaging classes • Teacher engage special classes to compensate missed classes • Teacher strictly follow rules and regulations of the college • Teacher has emotional maturity and maintain class discipline	No.'s	29	14	16	3	0
	%	46.77	22.58	25.81	4.84	0.00
STUDENTS INVOLVEMENT • Teacher encourage class participation • Asks questions and encourage raising questions and answer them well • Encourage learning, problem solving and conduct tutorial classes • Teacher is ready to offer support and help students even after class hours	No.'s	31	14	14	1	2
	%	50.00	22.58	22.58	1.61	3.23
ETHICS & ASSESSMENT • Teacher is sincere and impartial in dealing with students • Teacher's policy of assignment, series test answer paper evaluation and assessment of students are fair and impartial • Teacher's behavior inside and outside the class are appropriate to the teaching profession	No.'s	38	18	2	3	1
	%	61.29	29.03	3.23	4.84	1.61
PROFICIENCY & USAGE OF LANGUAGE • Have good communication skill • Teacher speak English fluently • Teacher help and encourage students to improve their communication skill	No.'s	37	18	4	3	0
	%	59.68	29.03	6.45	4.84	0.00

OVERALL MARK	1619 / 1860	TOTAL%	87.04	OVERALL FEEDBACK	VERY GOOD
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PRINCIPAL

DIRECTOR

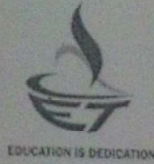

EXECUTIVE DIRECTOR

PERCENTAGE	90-100	80-90	60-80	40-60	LESS THAN 40
FEEDBACK	EXCELLENT	VERY GOOD	GOOD	SATISFACTORY	NOT SATISFACTORY

Suggestions: *More support and responsibility not only at college level in eng*

Actions Taken:

Feedback Form 2: STUDENTS FEEDBACK ON LABS



SAHRDAYA

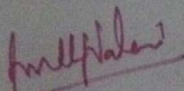
College of Engineering & Technology

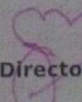
Faculty Feedback Report

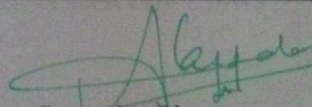
Name: Rose Marie C Cleetus
 Department: Electronics and Communication
 Class: S3 - Computer Science and Engineering B
 Subject: EC Lab
 Number of Students in Feedback: 56
 Date of Feedback: 23-10-2014

Attribute	Excellent	Very Good	Good	Satisfactory	Not Satisfactory
Planning & Knowledge	19	10	26	1	0
	33.93%	17.86%	46.43%	1.79%	0%
Communication & Presentation	16	13	26	0	1
	28.57%	23.21%	46.43%	0%	1.79%
Class Management & Discipline	17	9	28	2	0
	30.36%	16.07%	50%	3.57%	0%
Student Involvement	15	11	28	1	1
	26.79%	19.64%	50%	1.79%	1.79%
Ethics & Assessment	18	8	29	1	0
	32.14%	14.29%	51.79%	1.79%	0%
Proficiency & Usage of Language	15	8	31	1	1
	26.79%	14.29%	55.36%	1.79%	1.79%

Overall Mark	1255 / 1680	Overall Percentage	74.7 %	Overall Feedback	Good
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Principal


Director


Executive Director

Feedback Criteria

Percentage	90-100	80-90	60-80	40-60	Less than 40
Feedback	Excellent	Very Good	Good	Satisfactory	Not Satisfactory

EVALUATION ATTRIBUTES

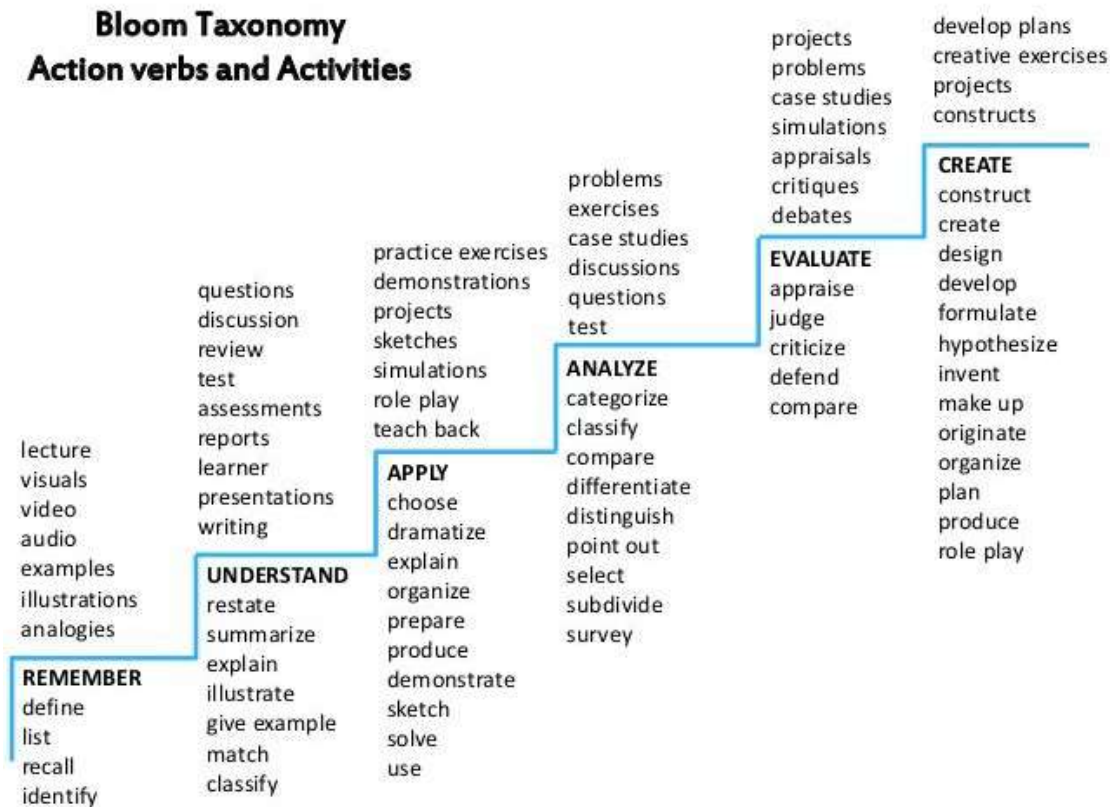
PLANNING AND KNOWLEDGE	<ul style="list-style-type: none">• Always well prepared for the class• Organizes the subject matter in a logical manner to suit the level of students• Very good subject knowledge in theory and practical
COMMUNICATION AND PRESENTATION	<ul style="list-style-type: none">• Presentations and explanations are clear and effective• Teacher speaks clearly, audibly and writes, draws legibly• Teacher uses black board, LCD, Powerpoint etc effectively and explains in details• Teacher share teaching notes with students through intranet facility
CLASS MANAGEMENT AND DISCIPLINE	<ul style="list-style-type: none">• Teacher is punctual in engaging classes• Teacher engage special classes to compensate missed classes• Teacher strictly follow rules and regulations of the college• Teacher has emotional maturity and maintain class discipline
STUDENT INVOLVEMENT	<ul style="list-style-type: none">• Teacher encourage class participation• Asks questions and encourage raising questions and answer them well• Encourage learning, problem solving and conduct tutorial classes• Teacher is ready to offer support and help students even after class hours
ETHICS AND ASSESSMENT	<ul style="list-style-type: none">• Teacher is sincere and impartial in dealing with students• Teacher's policy of assignment, series test answer paper evaluation and assessment of students are fair and impartial• Teacher's behavior inside and outside the class are appropriate to the teaching profession
PROFICIENCY AND USAGE OF LANGUAGE	<ul style="list-style-type: none">• Have good communication skill• Teacher speak English fluently• Teacher help and encourage students to improve their communication skill

2.2.2. Quality of internal semester Question papers, Assignments and Evaluation (20)

(Mention the initiatives, implementation details and analysis of learning levels related to quality of semester question papers, assignments and evaluation)

Internal exams and assignments are conducted based on the academic calendar. For 2009 & 2014 schemes, there are three internal exams and one supplementary exam. For KTU scheme, there are two internal exams and one supplementary exam. Students who were absent on any of the internal exams, they will get the chance to write supplementary internal exam. The question papers for each subject are prepared in such a way that it maps to the Course Outcomes of the respective subject and six levels of learning – Remember, Understand, Apply, Analyze, Evaluate and Create as per Blooms taxonomy. The continuous assessment of the students is carried out by calculating mark of student in the internal exams and assignments. After each internal exam, faculties of each course are publishing result analysis and it is being compared with that of previous exam. Based on that, concerned faculties supposed to submit action plan to take. The continuous assessment marks counts up to a total of fifty marks for 2014 and KTU scheme. Whereas it is 30 marks for 2009 scheme.

Bloom's Taxonomy is used for setting up of Question Papers of Internal Exams and Assignments



INTERNAL EXAMS-ASSESSMENT PROCEDURES

2009 scheme : Internal Exam Conduction & Evaluation Pattern

Internal Continuous Assessment (30 marks)

60% - Average of three series

30% - Average of two assignments

10% - Regularity in the class

The question pattern for the internal tests : Question pattern for the internal test, based on 70 mark University exam which is converted into 25 mark

PART A: Two questions carrying 2 marks

PART B: Two questions carrying 5 marks

PART C: Two questions carrying 11 marks. Student has to answer one question out of two questions.

Question Paper Format -2009 Scheme

SAHRDAYA COLLEGE OF ENGINEERING & TECHNOLOGY, KODAKARA

.....st/nd/rd SERIES EXAMINATION –Month Year

Sem:	Branch:	BATCH:	Sub Code:	Total Marks:	Time:
Subject Name:					

PART A (Answer all questions) (2 Marks Each)

- 1.
- 2.

PART B (Answer all questions) (5 Marks Each)

- 3.
- 4.

PART C (Answer any one question) (11 Marks)

- 5.
- 6.

Assessment Rubric Format-2009, 2014, KTU schemes

SAHRDAYA COLLEGE OF ENGINEERING & TECHNOLOGY, KODAKARA

.....st/nd/rd SERIES EXAMINATION – Month Year

SERIES EXAM ASSESSMENT RUBRIC

SUBJECT NAME:

Q NO.	KEY/ POINTS	MARK DISTRIBUTION	TOTAL MARKS
1			
2			
3			
4			
5			
6			

Quality Specification Table (Mapping of Questions with COs of course using Bloom taxonomy)

Format- 2009, 2014, KTU schemes

SAHRDAYA COLLEGE OF ENGINEERING & TECHNOLOGY

.....st/nd/rd SERIES EXAMINATION – Month Year

Table of Exam Quality Specification

SEM :	Branch :	Subject code and name
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Course Outcomes (COs) No	Qn Numbers addressing different Levels of Learning						Total No of Qns
	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating	
Total No of Levels addressed							

	Mark Scored								
Course out comes	QN 1	QN 2	QN 3	QN 4	QN 5	QN 6	QN 7	QN 8	MARKS
CO1									
CO2									
CO3									
CO4									
CO5									
CO6									
TOTAL MARKS (25)									

Result Analysis Format-2009,2014,KTU Schemes

AC36A (01)

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY,
KODAKARA

COURSE LEVELSERIES TEST RESULT ANALYSIS

DEPT:ECE SEMESTER: BATCHO

COURSE NAME (WITH CODE)	:	
DATE OF SERIES TEST	:	
CLASS STRENGTH	:	
NO.OF STUDENTS ATTENDED THE TEST	:	
TOTAL MARKS	:	
CLASS AVERAGE MARK	:	
NO.OF STUDENTS PASSED	:	(% OF PASS :%)
NO.OF STUDENTS FAILED	:	(% OF FAIL :%)
HIGHEST MARK SCORED	:	
LOWEST MARK SCORED	:	
NO.OF STUDENTS SECURED	:	

86-100%	76-85%	66-75%	56-65%	46-55%	40-45%	<40%

TOP SCORERS IN THE COURSE (WITH %) :

1

2

3

NAMES OF FAILED STUDENTS (WITH %) :

NAMES OF ABSENTEES :

ACTION PLAN TO IMPROVE THE RESULT
(Evidence to be kept in Course File) :

FACULTY IN CHARGE :

SIGNATURE :

DATE :

REMARKS BY HOD :

Sample Question paper: 2009 Scheme

SAHRDAYA COLLEGE OF ENGINEERING & TECHNOLOGY, KODAKARA

SECOND SERIES EXAMINATION – MARCH 2016

Sem:VI	Branch: EC	BATCH:B	Sub Code:603	Total Marks: 25	Time: 1 Hr
Subject Name: Radiation & Propagation					

PART A (Answer all questions) (2 Marks Each)

1. Compare Binomial and Dolph-Chebyshev arrays
2. Explain super directive arrays

PART B (Answer all questions) (5 Marks Each)

3. Summarize the operation of rectangular arrays
4. Discuss the operation of continuous arrays

PART C (Answer any one question) (11 Marks)

5. Formulate the expression for directivity of an Endfire array
6. Design a Dolph-Chebyshev array of 7 elements, where the spacing between the adjacent elements is $\lambda/2$ and the side lobe level down the main lobe level is 26 dB. Find the optimum pattern.

Sample Assessment rubrics :2009 scheme

SAHRDAYA COLLEGE OF ENGINEERING & TECHNOLOGY, KODAKARA
SECOND SERIES EXAMINATION – MARCH 2016
SERIES EXAM ASSESSMENT RUBRIC
 EC09 603 Radiation & Propagation –B batch

Q NO.	KEY/ POINTS	MARK DISTRIBUTION	TOTAL MARKS
1	Comparison-2 points	1 1	2
2	Definition Explanation	1 1	2
3	Figure Explanation	2 3	5
4	Figure Explanation Derivation	1 2 2	5
5	Introduction Derivation	3 8	11
6	4 steps Final answer	2*4=8 3	11

Sample Quality Specification Table (Mapping of Questions with COs of course and Blooms taxonomy): 2009 Scheme

SAHRDAYA COLLEGE OF ENGINEERING & TECHNOLOGY

SECOND SERIES EXAMINATION – MARCH 2016

Table of Exam Quality Specification

SEM : 6th	Branch : ECE B	EC09 603 Radiation & Propagation
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Course Outcomes (COs) No	Qn Numbers addressing different Levels of Learning						Total No of Qns
	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating	
3		1,2,3,4		5		6	6
Total No of Levels addressed		4		1		1	6

Sample Result analysis: 2009 scheme

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA						
COURSE LEVEL 2nd SERIES TEST RESULT ANALYSIS						
DEPT:	ECE	SEMESTER VI			BATCH (A/B):B	
COURSE NAME (WITH CODE)		:EC09 603 RADIATION & PROPAGATION				
DATE OF SERIES TEST		:16/03/2016				
CLASS STRENGTH		:62				
NO.OF STUDENTS ATTENDED THE TEST		:61				
TOTAL MARKS		:25				
CLASS AVERAGE MARK		:19.74				
NO.OF STUDENTS PASSED		:61			(% OF PASS : 98.38 %)	
NO.OF STUDENTS FAILED		:1			(% OF FAIL :1.62%)	
HIGHEST MARK SCORED		:25				
LOWEST MARK SCORED		:10				
NO.OF STUDENTS SECURED						
86-100%	76-85%	66-75%	56-65%	46-55%	40-45%	<40%
26	14	11	2	4	4	0
TOP SCORERS IN THE COURSE (WITH MARKS)						
				1 Sonu Jose P (100 %)		
				2 Neethu james,Krishna ,Rahna,Sinta (98 %)		
				3 Queen,Riya rajan,Neethu Devassy,Neenu varghese,Neethu Saju,Megha Varghese (96 %)		
NAMES OF FAILED STUDENTS (WITH MARKS)		: nil				
NAMES OF ABSENTEES		:P.Seethalakshmi				
ACTION PLAN TO IMPROVE THE RESULT (Evidence to be kept in Course File)		: Special care will be given to the absentee				
FACULTY IN CHARGE		: Ros Marie C Cleetus				
SIGNATURE		:				
DATE		: 30/03/2016				
REMARKS BY HOD		:				

2014 Scheme : Internal Exam Conduction & Evaluation Pattern

Internal Continuous Assessment (50 marks)

60% - Average of three series

30% - Average of two assignments

10% - Regularity in the class

The question pattern for the internal tests : Question pattern for the internal test is based on 100 mark University exam, converted into 25 mark

PART A: Three questions carrying 5 marks. Student has to answer two questions out of three questions.

PART B: Two questions carrying 15 marks. Student has to answer one question out of two questions.

Question Paper format- 2014 scheme

SAHRDAYA COLLEGE OF ENGINEERING & TECHNOLOGY, KODAKARA

FIRST SERIES EXAMINATION – Month Year

Sem:	Branch:	BATCH:	Sub Code:	Total Marks:	Time:
Subject Name:					

PART A (Answer any 2 questions) (5 Marks Each)

- 1.
- 2.
- 3.

PART B (Answer any one question) (15 Marks)

- 4.
- 5.

Sample question paper-2014 scheme

SAHRDAYA COLLEGE OF ENGINEERING & TECHNOLOGY, KODAKARA

THIRD SERIES EXAMINATION – OCTOBER 2015

Sem: III	Branch: ECE	Batch: B	Sub Code: EC 14 304	Total Marks: 25	Time: 1 Hr
Subject Name: Solid State Devices					

PART A (Answer any 2 questions) (5 Marks Each)

1. A lightly doped diode under gone a break down in strong reverse bias condition. According to your opinion what type of break down mechanism happened in the diode? Explain detail about that breakdown mechanism and derive the equation for multiplication factor 'M'
2. Assume that you are giving constant Emitter Base voltage (V_{EB}) and increasing Collector Base (V_{CB}) voltage. Then what will happen to collector current I_C and base current I_B (increase or decrease)? What is the name of this effect? Explain detail about this effect with diagrams?
3. How do we can increase the rate of movement minority carriers in base of transistor with Drift in Base region?

PART B (Answer any one question) (15 Marks)

- 4.A.) Derive the expression current passing through ideal long diode with proper explanation? (8 mark)
B.) Explain the working of Tunnel diode? (7 mark)
- OR
5. How can you represent a transistor as diode coupled with current source? Explain with proper diagrams? (15 marks)

Sample Assessment rubrics-2014 scheme

SAHRDAYA COLLEGE OF ENGINEERING & TECHNOLOGY, KODAKARA

THIRD SERIES EXAMINATION – OCTOBER 2015

<u>Sem:III</u>	Branch: ECE	Batch: B	Sub Code: EC 14 304	Total Marks: 25	Time: 1 Hr
Subject Name: Solid State Devices					

Answer Key/ Assessment Rubrics

PART A (Answer any 2 questions) (5 Marks Each)

- Diagram (1.5 marks)
Explanation of avalanche break down (2 marks),
Derivation (1.5 marks)
- Diagram (2 marks)
Explanation of early effect (3 marks)
- Diagram (2 marks)
Explanation (3 marks)

Sample Quality Specification Table (Mapping of Questions with COs of course and Bloom taxonomy)- 2014 scheme

Table of Quality Specification

Course Outcomes (COs) No	Qn Numbers addressing different Levels of Learning						Total No of Qns
	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating	
1		<u>Qn 2, Qn 4A</u>		<u>Qn 1</u>			3
2		<u>Qn 2</u>		<u>Qn 1</u>			2
3			<u>Qn 5B</u>				1
4			<u>Qn 5A</u>				1
5			<u>Qn 5A</u>				1
6		<u>Qn 5B</u>					1
7							0
8							0
9				<u>Qn 3</u>			1
10							0
11			<u>Qn 4B</u>				1
12							0
13							0
Total No of Levels addressed	0	4	4	3	0	0	11

Sample Result analysis-2014 scheme

AC36A (01)						
SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA						
COURSE LEVEL THIRD SERIES TEST RESULT ANALYSIS						
DEPT:	EC	SEMESTER: S3			BATCH (B)	
COURSE NAME (WITH CODE)		: SOLID STATE DEVICES (EC 14 304)				
DATE OF SERIES TEST		: 12/10/15				
CLASS STRENGTH		: 62				
NO.OF STUDENTS ATTENDED THE TEST		: 62				
TOTAL MARKS		: 25				
CLASS AVERAGE MARK		: 16.13 (64.52%)				
NO.OF STUDENTS PASSED		: 58		(% OF PASS : 93.5%)		
NO.OF STUDENTS FAILED		: 4		(% OF FAIL : 6.5%)		
HIGHEST MARK SCORED		: 21.5				
LOWEST MARK SCORED		: 5				
NO.OF STUDENTS SECURED						
86-100%	76-85%	66-75%	56-65%	46-55%	40-45%	<40%
3	15	15	15	6	4	4
TOP SCORERS IN THE COURSE (WITH %) : 1. VISMAYA .JOJY.A (86%)						
2 SIMMI THOMAS (86%)						
3 SMRUTHY T P (86%)						
NAMES OF FAILED STUDENTS (WITH %)		: MELWIN PV (34%), ROSY MARIYA (32%) WALDA SIDHARTHAN P (26%), PRINCYMOL FRANCIS (20%)				
NAMES OF ABSENTEES		: nil				
ACTION PLAN TO IMPROVE THE RESULT (Evidence to be kept in Course File)		: Give more concentration to weaker students				
FACULTY IN CHARGE		: Emmanuel Tom				
SIGNATURE		:				
DATE		: 15/12/15				
REMARKS BY HOD		:				

KTU Scheme : Internal Exam Conduction & Evaluation Pattern

Internal Continuous Assessment (50 marks)

80% - Average of three series

20% - Average of two assignments

Question paper of different subjects have different format, as per KTU scheme.

Question Paper format- KTU scheme

SAHRDAYA COLLEGE OF ENGINEERING & TECHNOLOGY, KODAKARA

.....st/nd/rd SERIES EXAMINATION – Month Year

Sem:	Branch:	Batch:	Sub Code:	Total Marks:	Time:
Subject Name:					

PART A (5 Marks Each)

- 1.
- 2.
- 3.

PART B (Answer any one question) (10 Marks)

- 4.
- 5.

OR

Sample question paper-KTU Scheme

SAHRDAYA COLLEGE OF ENGINEERING & TECHNOLOGY, KODAKARA FIRST SERIES EXAMINATION – MARCH 2015

Sem:II	Branch: EC	Sub Code: EC 100	Batch : A	Total Marks: 20	Time: 1 Hr
Subject Name : Basics of Electronics Engineering					

PART A (Answer all questions) (2 Marks Each)

1. Arun have got a resistor with I colour band as black, II band as black, III band as black and IV band with out any colour. Could you please help him to find the value of the respective resistor.
2. "Inductors can be classified based on their core materials" Support the statement with suitable explanations.
3. Construct an aluminum electrolytic capacitor for bypassing the ac signals.
4. Differentiate between Zener and avalanche breakdown.
5. A silicon diode has reverse saturation current of $2.5\mu\text{A}$ at 300K. Find the forward voltage for a forward current of 10mA.

PART B (Answer any Question) (10 Marks Each)

6. Differentiate the capacitor based on the types of dielectric used and explain their constructions. Give the specifications of a capacitor in general.

OR

7. Sketch the forward and reverse characteristics of a pn junction diode. Explain the formation of depletion region and current conduction through the pn junction diode.

Sample assessment rubrics-KTU Scheme

SAHRDAYA COLLEGE OF ENGINEERING & TECHNOLOGY, KODAKARA

FIRST SERIES EXAMINATION – SEPTEMBER 2015

Series Exam Assessment Rubric



<i>Qn No</i>	<i>Key/ Solution/ Points</i>	<i>Mark Distribution</i>	<i>Total Marks</i>
1	A) Working principle of a transformer – 1 B) Constructional figure – 1	1, 1	2
2	A) classification of inductors based on core – 1 B) Explanation of inductors – 1	1,1	2
3	A) Designing the basic construction of aluminum capacitor – 1 B) Specification of aluminum electrolytic capacitor – 1	1 1	2
4	classifying and differentiating solids based on conductivity – 1 Energy band diagram - 1	1 1	2
5	A) Discussing intrinsic semiconductor – 1 B) Basic figure - 1	1 1	2
6	A) Resistors – 2 B) Types of resistors – 3	2 3	10

Sample Quality Specification Table (Mapping of Questions with COs of course and Bloom taxonomy)-KTU scheme

SAHRDAYA COLLEGE OF ENGINEERING & TECHNOLOGY, KODAKARA

FIRST SERIES EXAMINATION – SEPTEMBER 2015

Table of Exam Quality Specification

<u>Sem</u> : 1	Branch: ECE A,B	Course Code & Name: BE101 INTRODUCTION TO ELECTRONICS ENGINEERING
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Course Outcomes (COs) No	Qn Numbers addressing different Levels of Learning						Total No of Qns Addressing COs
	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating	
1		2,6	3	4	6	3	3
2	1	1	...				1
3	4,7	5	...		5,7		3
			
..	
...	
Total No of Qns addressing various Levels	3	4	1	1	3	1	

Sample of Result analysis-KTU Scheme

AC36A (01)						
SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY, KODAKARA						
COURSE LEVEL FIRST SERIES TEST RESULT ANALYSIS						
DEPT:ECE		SEMESTER: S1			BATCH A	
COURSE NAME (WITH CODE)				BE101-04 INTRODUCTION TO ELECTRONICS ENGINEERING		
DATE OF SERIES TEST				9/7/2015		
CLASS STRENGTH				53		
NO.OF STUDENTS ATTENDED THE TEST				53		
TOTAL MARKS				20		
CLASS AVERAGE MARK				17		
NO.OF STUDENTS PASSED				:53	(% OF PASS :100%)	
NO.OF STUDENTS FAILED				:0	(% OF FAIL :0%)	
HIGHEST MARK SCORED				19.5		
LOWEST MARK SCORED				9		
NO.OF STUDENTS SECURED						
86-100%	76-85%	66-75%	56-65%	46-55%	40-45%	<40%
16	18	11	1	5	2	0
TOP SCORERS IN THE COURSE (WITH %) : 1.Amala Jude,Arunjo - 97.5%						
2. Gopika K S - 96.25%						
3.Athira Varghese - 95%						
NAMES OF FAILED STUDENTS (WITH %)				:NIL		
NAMES OF ABSENTEES				:NIL		
ACTION PLAN TO IMPROVE THE RESULT (Evidence to be kept in Course File)				:MORE ACTIVITIES WILL INCLUDE IN TUTORIALS.		
FACULTY IN CHARGE				DEEPAK JOSEPH		
SIGNATURE				:		
DATE				:	15/09/15	
REMARKS BY HOD				:		

ASSIGNMENTS-ASSESSMENT PROCEDURES

Assignment Conduction & Evaluation Pattern

Based on 2009, 2014, and KTU schemes, students should appear minimum two assignments for each course per semester.. Questions will be given in advance of minimum one week. Students have to prepare and write it on corresponding dates.

Assignment Format- 2009,2014, KTU schemes

SAHRDAYA COLLEGE OF ENGINEERING AND TECHNOLOGY

.... SEMESTER B.TECH DEGREE (Year)

SUBJECT CODE AND NAME

ASSIGNMENT – I/II/III (CLASS, BATCH)

Time:

Marks:

(Answer all the questions)

- | | |
|----|------------|
| 1. | (...Marks) |
| 2. | (...Marks) |
| 3. | (...Marks) |
| 4. | (...Marks) |