HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution, Affiliated to Anna University, Chennai)

(Approved by AICTE, Accredited by NBA and NAAC with 'A' Grade)

Valley Campus, Pollachi Highway, Coimbatore 641 032.

OUTCOME BASED EDUCATION MANUAL
R-2016 & R-2019

December 2020

NBA-OBE Co-ordinators **IQAC Co-ordinator** **DEAN- Academics** **PRINCIPAL**

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY
COIMBATORE – 641 032

OUTCOME BASED EDUCATION – MANUAL (R-2016 & R-2019)

ABOUT THE INSTITUTE

Hindusthan College of Engineering and Technology was established in the year 2000. The college is approved by the All India Council of Technical Education (AICTE), New Delhi and affiliated to Anna University, Chennai. Five UG programmes: (i) CSE (ii) MECH (iii) ECE (iv) EEE (v) IT has been accredited by NBA for three years from 2017.The Institution have been accredited with 'A' grade by NAAC. The College is certified with ISO 9001:2015. Also the institution is Autonomous from the academic year 2016-2017 onwards. The institution offers 15 UG Programmes namely CSE, IT, ECE, EEE, MECH, AERO, CIVIL, MECHATRONICS, E&I, AUTO, Bio-Medical, Food Technology, Agri, AI&ML, Chemical and 7 PG Programmes. The department of MECH, CSE, ECE and EEE are recognized as research centers by Anna University Chennai to offer Ph.D programmes.

HICET works with the vision of producing qualified Engineering Professionals adorned with moral values and technical skill to uphold jobs at global level. The strength of the institution is the team of well experienced Professors who involve themselves in grooming the students on par with global standard. The institution offers outcome based curriculum and student centric learning.

The Hindusthan Educational team is led by our Chairman Shri.T.S.R. Khannaiyann, an industrialist and philanthropist. The Managing Trustee Smt. Sarasuwathi Khannaiyann, a well-known Educationalist and leading Entrepreneur in Coimbatore and she has been a proud recipient of many prestigious awards like Bharath Gauyrav Award, Rajiv Gandhi Shironmani Award, Indira Gandhi Sadbavana Award, Best Entrepreneur Award and Life Time Education Award. She also holds her honorary doctorate from International Tamil University for her active contribution towards education. She has a great passion and keen interest with perseverance on Women Education and Women Empowerment. Hence the Institution houses nearly 30% of the total as girl students and more women employees, out of which many of our girl students and

women employees are from rural area. Dr.Priya Sathish Prabu, Executive Trustee and Secretary is presently taking care of the institution operations efficiently.

PREFACE

This manual is a reference to help faculty members and Stakeholders to understand the Outcome Based Education (OBE) system implemented at Hindusthan College of Engineering and Technology (HICET) since 2014. This manual provides a detailed description of Outcome Based Education implementation at all the four stages of educational process including Curriculum design, Teaching and Learning process, Assessment & Evaluation and Continuous quality improvement. Also it provides suitable guidelines for the faculty members to develop the course plan, assessment plan etc., in the process to measure the outcome of the students during their course of study and also after their graduation.

INSTITUTE – VISION

To become a premier institution by producing professionals with strong technical knowledge, innovative research skills and high ethical values.

INSTITUTE – MISSION

IM1: To provide academic excellence in technical education through novel teaching methods.
IM2: To empower students with creative skills and leadership qualities.
IM3: To produce dedicated professionals with social responsibility.

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1. PRIMARY DEFINITIONS AND NOMENCLATURE

Vision: A vision statement is a document that states the current and future objectives of a Department. The vision statement is intended as a guide to help the department make decisions that align with its philosophy and declared set of goals.

Mission: The mission statement should define the broad purposes the program /department is aiming to achieve, describe the community the program /department is designed to serve, and state the values and guiding principles which define its standards.

Program educational objectives (PEOs): PEOs are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve. Knowledge, Skill and Attitude are the three behavioral elements based on which PEOs are constructed.

Program Outcomes (POs): Program outcomes are statements that describe what students are expected to know and be able to do upon graduating from the program. These relate to the skills, knowledge, analytical ability, attitude and behavior that students acquire through the program.

Program Specific Outcomes (PSOs): Program Specific Outcomes are statements that describe what the graduates of a specific engineering program should be able to do.

Course Outcomes (COs) : It is a detailed description of what a student must be able to do at the conclusion of a course.

Course Information Sheet (CIS): This sheet summarizes the information of a particular course and it gives the overall view of how the COs and POs are mapped in each unit.

Continuous Internal Assessment (CIA): Continuous Internal assessment is a form of educational examination that evaluates a student's progress throughout a prescribed course.

End Semester Examinations (ESE): ESE means the examinations to be held at the end of each semester separately for theory & practical part on such dates as the University/College may determine.

2.OUTCOME BASED EDUCATION (OBE) :

It is a process that involves the restructuring of curriculum, assessment and reporting practices in education to reflect the achievement of higher order learning and mastery rather than the accumulation of course credits.

Outcome-Based Education (OBE) model is being adopted in Engineering colleges now-a-days as per AICTE guidelines. It is considered as a giant leap forward to improve technical education in India and help Engineers compete with their global counterparts. .

Outcome based education (OBE) is student-centered instruction model that focuses on measuring student performance through outcomes. Outcomes include knowledge, skills and attitudes. Its focus remains on evaluation of outcomes of the program by stating the knowledge, skill and behavior a graduate is expected to attain upon completion of a program and after 4 – 5 years of graduation. In the OBE model, the required knowledge and skill sets for a particular engineering degree is predetermined and the students are evaluated for all the required parameters (Outcomes) during the course of the program.

The induction of India in the Washington Accord in 2014 with the permanent signatory status of the National Board of Accreditation (NBA) is considered a big leap forward for the higher-education system in India. It means that an Engineering graduate from India can be employed in any one of the other countries who have signed the accord. For Indian Engineering Institutions to get accredited by NBA according to the pacts of the accord, it is compulsory that engineering institutions follow the Outcome Based Education (OBE) model. So, for an Engineering Institution to be accredited by NBA it should compulsorily follow the OBE model.

2.1 Features of OBE

- OBE is an educational process that focuses on what students can do or the qualities they should develop after they are taught.

- OBE involves the restructuring of curriculum, assessment and reporting practices in education to reflect the achievement of higher order learning and mastery rather than accumulation of course credits.
- Both structures and curricula are designed to achieve those capabilities or qualities.
- Discourages traditional education approaches based on direct instruction of facts and standard methods.
- It requires that the students demonstrate that they have learnt the required skills and content.

2.2 Deficiencies in Traditional education

- Provides students with a learning environment with little attention to whether or not students ever learn the material.
- Students are given grades and rankings compared to each other – students become exam oriented or CGPA driven.
- Graduates are not completely prepared for the workforce.
- Lack of emphasis on soft skills needed in jobs e.g. communication skills, interpersonal skills, analytical skills, working attitude etc.

2.3 Expectations of students under OBE – the outcome

- Students are expected to be able to do more challenging tasks other than memorize and reproduce what was taught.
- Students should be able to: write project proposals, complete projects, analyze case studies, give case presentations, show their abilities to think, question, research, and make decisions based on the findings.
- Be more creative, able to analyze and synthesize information.
- Able to plan and organize tasks, able to work in a team as a community or in entrepreneurial service teams to propose solutions to problems and market their solutions.
- Students should be enriched on three dimensional scales of knowledge, skill and attitude throughout the course.

3.PROCESS OF DEFINING VISION AND MISSION OF THE DEPARTMENT

The following steps are followed to establish Vision and Mission of Department.

Step 1. The Vision & Mission of the Institute is taken as the basis.

Step 2: The Department conducts brain-storming sessions with the faculty on the skill-set required by the local and global employers, Industry Advances in Technology and R & D, and the draft copy of the Vision and Mission of the Department is drafted.

Step 3: The views from Parents, Professional Bodies, Industry representatives, Board of Studies (BOS) and Department Advisory Committee (DAC) are collected and incorporated to revise the draft version based on their inputs.

Step 4: The accepted views are analyzed and reviewed to check the consistency with the vision and mission of the institute.

4. PROCESS OF DEFINING PSOs AND PEOs OF THE DEPARTMENT

- The Program curriculum is designed by incorporating inputs from members of Board of Studies, Curriculum Development Council and Academic council constituted by members from various academic institutions, R&D organizations and industry.

- Inputs are obtained from alumni and other stake holders. Also the inputs are considered from reports like WEF's Future of Jobs, India skills, FICCI and Deloitte.

- Besides, a skill in demand analysis is carried out periodically at the Academic council, Programme Assessment Committee and Department Advisory committee to identify the core areas in the Program domain that are consistent with industry needs.

- The Centre of Excellence in the department is established based on core areas in the program .

- ❖ PSOs are defined based on the Centre of Excellence of the Department. A list of 2 to 4 Program Specific Outcomes (PSOs) that the graduates of the program will attain will be listed here.

- ❖ The PEOs are established to reflect the career and professional accomplishments of the graduates based on the three behavioral elements of Knowledge, Skill and Attitude .

5. THE PROGRAM OUTCOMES (POS) DEFINED BY NATIONAL BOARD OF ACCREDITATION (NBA)

The POs essentially indicate what the students can do from subject-wise knowledge acquired by them during the program. As such, POs define the professional profile of an engineering graduate. NBA has defined the following twelve POs for an engineering graduate. These are in line with the Graduate Attributes as defined by the Washington Accord.

1. **Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, an engineering specialization to the solution of complex engineering problems.

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.

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.

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 for complex problems.

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.

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.

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.

8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. **Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

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.

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.

12. **Life-long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

6.PUBLICATION AND DISSEMINATION :

The Vision, Mission statement of the Department and Institution, CO statements, PSO statements, PO and PEO statements are reached to all the students and stake holders of the department. The process of publication and dissemination is described below.

- College Website
- Principal Room
- Department
- HOD Chamber
- Laboratories
- Department Library
- Classrooms

- Curriculum and Syllabi
- Lab Manuals
- Course files
- News Letter
- Department Magazines

The OBE model measures the progress of the graduate in four parameters, which are

- Program Educational Objectives (PEO)
- Program Outcomes (PO)
- Program Specific Outcomes (PSO)
- Course Outcomes (CO)

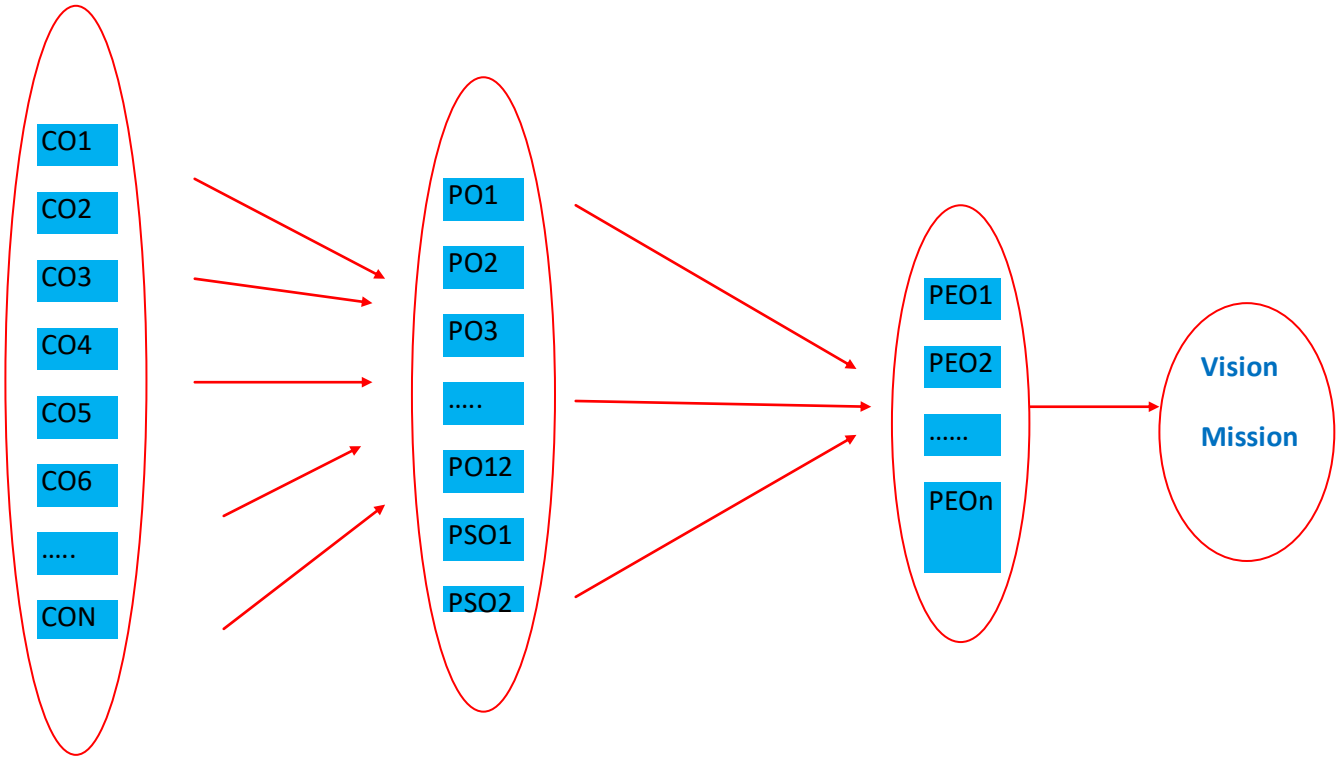


Figure 1. Parameters of Outcome Based Education (OBE)

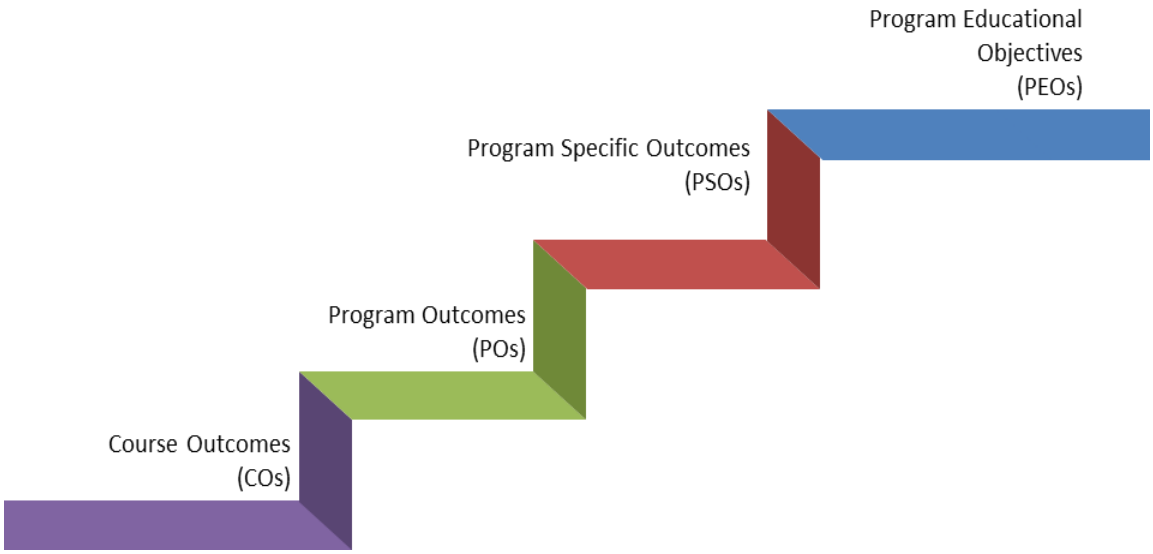


Figure 2 : Process for the evaluation of Programme Outcomes POs, PSOs and PEOs

7.COURSE OUTCOME STATEMENTS

7.1 Course Outcomes (COs): Statements indicate , what a student can do after the successful completion of a course. Every Course leads to some Course Outcomes. The CO statements are defined by considering the course content covered in each module of a course. For every course there may be 5 or 6 COs. The keywords used to define COs are based on Bloom's Taxonomy.

7.2 CO – PO and CO – PSO mapping of courses

All the courses in the curriculum must cover all the POs (and PSOs). For a course, we map the COs to POs through the CO-PO matrix and to PSOs through the CO-PSO matrix in Course Information Sheet (CIS). The various correlation levels are:

- **"1"** – Slight (Low) Correlation
- **"2"** – Moderate (Medium) Correlation
- **"3"** – Substantial (High) Correlation
- **"-"** indicates there is no correlation.

*Course Information Sheet (CIS) is attached as Annexure I

7.3 Process involved in CO-PO Mapping

The role of CO-PO mapping will be assigned to the faculty involved in the teaching-learning

process of that particular course. After the course (subject) allotment by the department, the course co-ordinator of the course has to write appropriate COs for their corresponding course discussing with subject handling faculty members. It should be narrower and measurable statements. By using the action verbs of learning levels (Bloom's Taxonomy), CO's will be designed. CO statements should describe what the students are expected to know and able to do at the end of each course, which are related to the skills, knowledge and behavior that students will acquire through the course.

After writing the CO statements, CO will be mapped with PO of the department. The Course Outcome attainment coordinator has to consolidate the CO's of the respective year and maintain the documentation of the CO attainment level of the respective year courses as well as documentation of the individual students extra-curricular and co-curricular activities for PO attainment evaluation.

BLOOM'S TAXONOMY

Bloom's Taxonomy was created in 1956 under the leadership of educational psychologist Dr. Benjamin Bloom in order to promote higher forms of thinking in education, such as analyzing and evaluating concepts, processes, procedures, and principles, rather than just remembering facts. It is most often used when designing educational, training, and learning processes.

BLOOM'S TAXONOMY		
Domains	**Keywords**	**Example**
Remembering: Recall or retrieve previous learned information.	defines, describes, identifies, knows, labels, lists, matches, names, outlines, recalls, recognizes, reproduces, selects, states	Recite a policy. Quote prices from memory to a customer. Recite the safety rules.

Understanding: Comprehending the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words.	comprehends, converts, defends, distinguishes, estimates, explains, extends, generalizes, gives an example, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates	Rewrite the Principles of test writing. Explain in one's own words the steps for performing a complex task. Translate an equation into a computer spreadsheet.
Applying: Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the workplace.	applies, changes, computes, constructs, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses	Use a manual to calculate an employee's vacation time. Apply laws of statistics to evaluate the reliability of a written test.
Analyzing: Separates material or concepts into component parts so that its organizational structure may be understood. Distinguishes between facts and inferences.	analyzes, breaks down, compares, contrasts, diagrams, deconstructs, differentiates, discriminates, distinguishes, identifies, illustrates, infers, outlines, relates, selects, separates	Troubleshoot a piece of equipment by using logical deduction. Recognize logical fallacies in reasoning. Gathers information from a department and selects the required tasks for training.
Evaluating: Make judgments about the value of ideas or materials.	appraises, compares, concludes, contrasts, criticizes, critiques, defends, describes, discriminates, evaluates, explains, interprets, justifies, relates, summarizes, supports	Select the most Effective solution. Hire the most qualified candidate. Explain and justify a new budget.
Creating: Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure.	categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes	Write a company Operations or process manual. Design a machine to perform a specific task. Integrates training from several sources to solve a problem. Revises and process to improve the outcome.

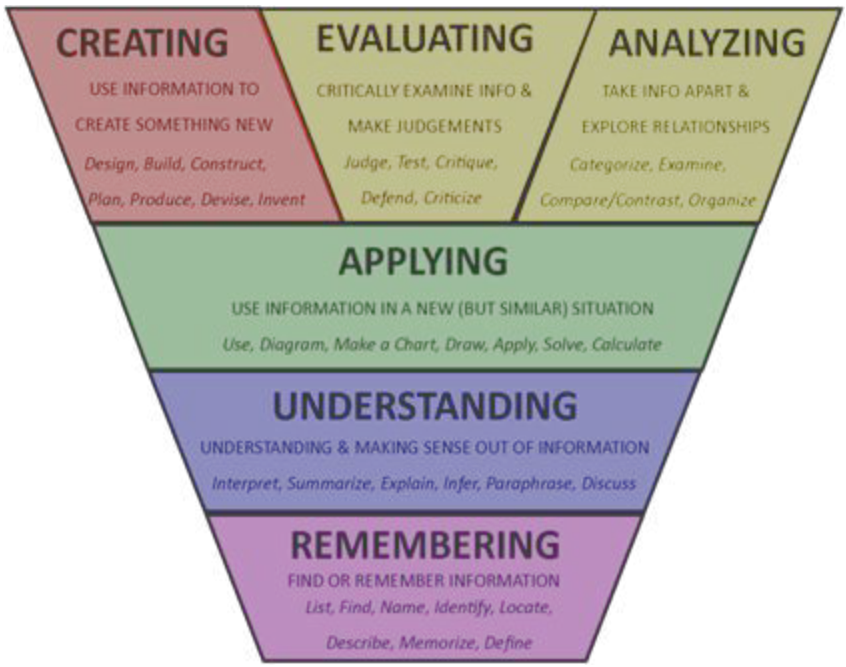


Figure 3: BLOOM'S TAXONOMY

7.4 Methods of CO attainment assessment

Both direct and indirect method of assessment is followed for Course Outcome (CO) attainment assessment. The weightage for direct attainment is 80% while that for Indirect attainment is 20%. The various assessment tools for direct attainment assessments are Internal Tests, Mid -Semester and End Semester Examination and Assignments .The Indirect tool used is Course Exit survey.

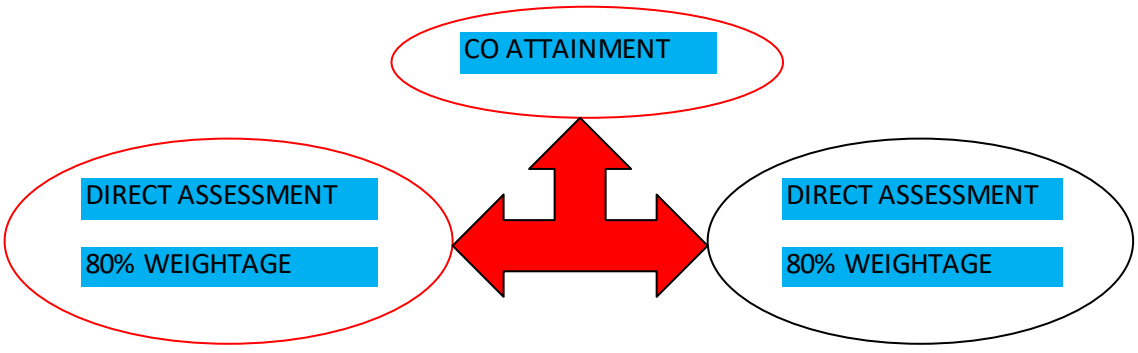


Figure 4: CO Attainment

7.5 CO assessment process for various courses in the curriculum

The curriculum is a bundle of various components like Theory courses, Theory with Lab components, Laboratory courses, Mini-Projects, Projects and Internships /Implant training / Technical seminar

THEORY COURSES				Regulation
METHOD	**ASSESSMENT TOOLS**	**MARKS**	**WEIGHTAGE**	
Direct Assessment	a. Internal Examinations and Mid-Semester Examination CO1 & CO2 – Internal Exam I & Mid semester CO2 & CO3 – Internal Exam II & Mid semester CO4 & CO5 - Mid semester & Internal Exam III	15	80%	R-2016
	b. Assignment CO1 & CO2 – Assignment 1 CO2 & CO3 - Assignment 2 CO4 & CO5 - Assignment 3	5		
	c. Attendance	5		
	d. End Semester Examinations	75		
	Total Marks	100		
Indirect Assessment	Course Exit Survey	5	20%	

***CO attainment sheet for theory courses is attached as ANNEXURE II**

THEORY COURSES				REGULATION
METHOD	**ASSESSMENT TOOLS**	**MARKS**	**WEIGHTAGE**	
Direct Assessment	a. Internal Examinations and Mid-Semester Examination CO1 & CO2 – Internal Exam I CO3 – Mid semester Exam CO4 & CO5 - Internal Exam II	15	80%	R-2019
	b. Assignment CO1 & CO2 – Assignment 1 CO3 - Assignment 2 CO4 & CO5 - Assignment 3	5		
	c. Attendance	5		
	d. End Semester Examinations	75		
	Total Marks	100		
Indirect Assessment	Course Exit Survey	5	20%	

THEORY WITH LAB COMPONENT COURSES				REGULATION
METHOD	**ASSESSMENT TOOLS**	**MARKS**	**WEIGHTAGE**	
Direct Assessment	**ASSESSMENT OF THEORY COURSE**			**R-2016**
	a. Internal Examinations and Mid-Semester Examination CO1 & CO2 – Internal Exam I & Mid semester CO2 & CO3 – Internal Exam II & Mid semester CO4 & CO5 - Mid semester & Internal Exam III	15	80%	
	b. Assignment CO1 & CO2 – Assignment 1	5		

	CO2 & CO3 - Assignment 2 CO4 & CO5 - Assignment 3			
	c. Attendance	5		
	d. End Semester Examinations	75		
	Total Marks	100 (CONVERTED TO 50)		
	ASSESSMENT OF LAB COURSE			
	CO1 to CO5 is assessed through Continuous Internal Assessment of each experiment in Laboratory	25		
	Model Examination	25		
	Total Marks	50		
Indirect Assessment	Course Exit Survey	5	20%	

***CO attainment sheet for theory with Lab component courses is attached as ANNEXURE III**

THEORY WITH LAB COMPONENT COURSES				**REGULATION**
METHOD	**ASSESSMENT TOOLS**	**MARKS**	**WEIGHTAGE**	
Direct Assessment	**ASSESSMENT OF THEORY COURSE**			
	a. Internal Examinations and Mid-Semester Examination CO1 & CO2 – Internal Exam I CO3 – Mid semester CO4 & CO5 - Internal Exam III	15		
	b. Assignment CO1 & CO2 – Assignment 1 CO3 - Assignment 2 CO4 & CO5 - Assignment 3	5		**R-2019**

	c. Attendance	5	80%	
	Total Marks	**25**		
	ASSESSMENT OF LAB COURSE			
	CO1 to CO5 is assessed through Continuous Internal Assessment of each experiment in Laboratory	5		
	Model Examination	25		
	Total Marks	**25**		
	End Semester Examinations	50		
Indirect Assessment	Course Exit Survey	5	20%	

PRACTICAL COURSES				**REGULATION**
METHOD	**ASSESSMENT TOOLS**	**MARKS**	**WEIGHTAGE**	
DIRECT	a. CO1 to CO5 is assessed through Continuous Internal Assessment of each experiment.	**25**	**80%**	**R-2016 & R-2019**
	b. Model Exam	**25**		
	c. End Semester Exam	**50**		
	Total Marks	**100**		
INDIRECT	Course Exit Survey	**5**	**20%**	

***CO attainment sheet for practical courses is attached as ANNEXURE IV**

MINI PROJECTS				
METHOD	**ASSESSMENT TOOLS**	**MARKS**	**WEIGHTAGE**	**REGULATION**
Direct Assessment	a.CO1, CO2 & CO3 is assessed through Continuous Internal Assessment from Review I, Review II & Review III based on Rubrics.	50	80%	R-2016 & R-2019
	b.End Semester Exam	50		
Indirect Assessment	Course Exit Survey	5	20%	
MAIN PROJECT				
METHOD WEIGHTAGE	**ASSESSMENT TOOLS**	**MARKS**	**WEIGHTAGE**	**REGULATION**
Direct Assessment	a.CO1, CO2 & CO3 is assessed through Continuous Internal Assessment from Review I, Review II & Review III based on Rubrics.	100	80%	R-2016 & R-2019
	b.End Semester Exam	100		
Indirect Assessment	Course Exit Survey	5	20%	

***CO attainment sheet for Mini-Project and Main Project is attached as ANNEXURE V & VI**

INTERNSHIP/INPLANT TRAINING & TECHNICAL SEMINAR				REGULATION
METHOD	**ASSESSMENT TOOLS**	**MARKS**	**WEIGHTAGE**	
Direct Assessment	a. End Semester Exam	100	80%	R-2016
Indirect Assessment	b.Course Exit Survey	5	20%	

***CO attainment sheet for Technical seminar is attached as ANNEXURE VII**

Attainment Levels:

Course outcomes of all courses are assessed with the help of above mentioned assessment tools and attainment level is evaluated based on set attainment rubrics. The target (or set) attainment level should be fixed by the Course coordinator based on the previous year results and quality of current batch of students.

If 80% and more students scored above set attainment level then the Course attainment level is 3.
If 70 to 79 % of students scored above set attainment level, then the Course attainment level is 2.
If less than 60 % of students scored above set attainment level, then the Course attainment level is 1.

If the average attainment of a particular course in the previous two consecutive years is greater than 80% of the maximum attainment value (i.e. 80% of 3 = 2.4), then for that particular course the current rubrics for attainment must be changed to analyze continuous improvement.

8. PROGRAM OUTCOME (PO)/PROGRAM SPECIFIC OUTCOME (PSO) Assessment

At the end of the each program, the PO/PSO assessment is done from the CO attainment of all curriculum components. As per NBA guidelines, program can appropriately define the attainment level. The attainment level may be set by the particular program or commonly by the institution. The attainment can be made as best the choice by the institution or the program by analyzing the student's knowledge. This can be achieved by using different supporting activities. This attainment is mainly for the purpose of making an esteemed engineer with good analytical, practical and theoretical knowledge about the program by attaining the PO's and PSO's of the program and the institution. For the evaluation and assessment of PO's and PSO's, assessment tools are used.

The figure 5 depicts the assessment tools used for the evaluation of program outcomes.

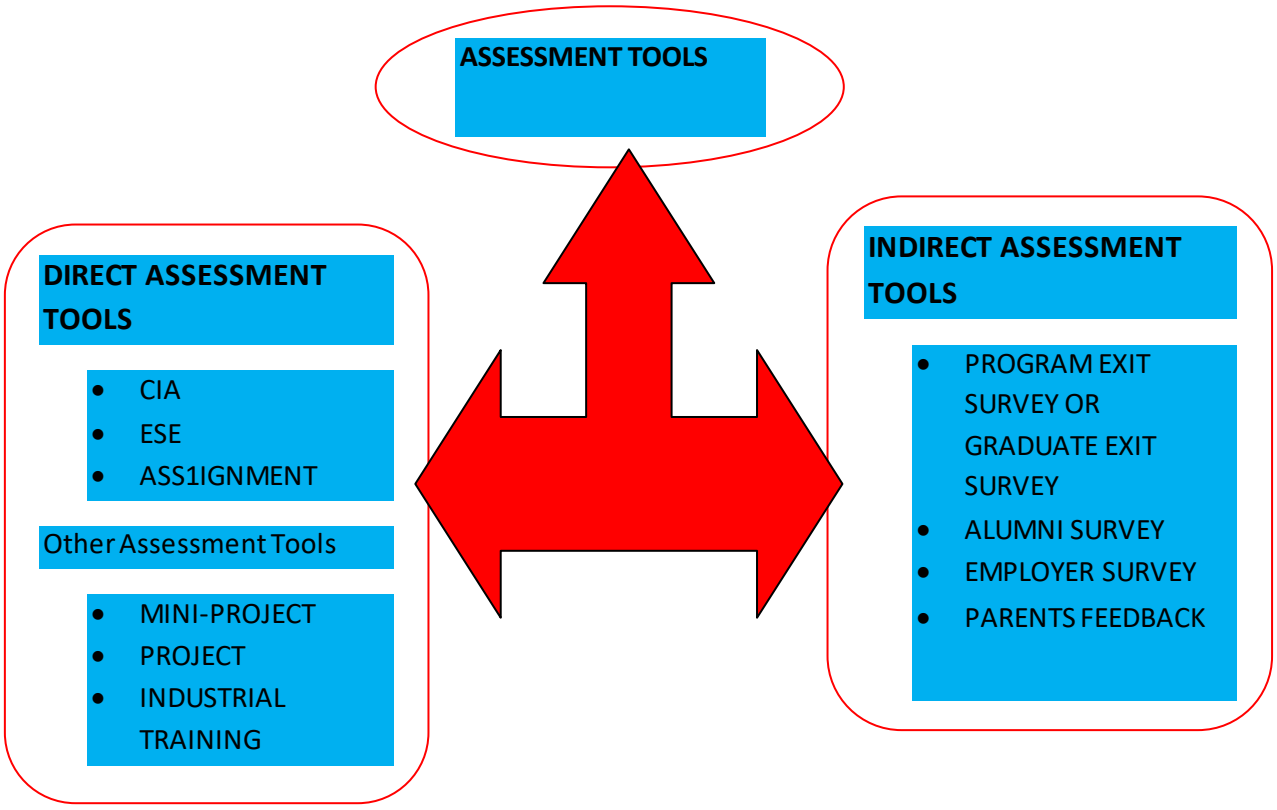


Figure 5 : Assessment Tools for Evaluation of Program Outcomes

The Program Outcome (PO) attainment and Program Specific Outcome (PSO) attainments are evaluated by direct method with 80% weightage and indirect method with 20% weightage. The Direct attainment level of Particular PO /PSO is determined by taking average of all course outcomes mapping that program Outcome. Indirect attainment level of PO/PSO is determined based on Surveys and Co-curricular activities. Out of 100%, 30% weightage is given to co-curricular activities and 70% weightage to Surveys. This 100% weightage is converted to 20 % scale for PO attainment calculation. The various Surveys taken are Student exit survey, Employer survey, Alumni survey and Parents feedback. The co-curricular activities are Value added Courses, Workshops etc related to the unattained POs(less mapped POs in CO-PO matrix). The PO/PSO Attainment Level is fixed as Maximum level of 3 & Minimum level of 1.

Course – end Survey:

The course –end survey is based on the feedback taken from the students after studying each course.

* Attached as ANNEXURE VIII

Graduate Exit survey:

The graduate exit survey is based on the feedback collected from graduates at the end of the program.

* Attached as ANNEXURE IX

Alumni Feedback

This feedback is about how effectively they can able to implement their knowledge acquired through BE- Programme in their workplace.

* Attached as ANNEXURE X

Employer Feedback:

This feedback is about how alumni of department can able to implement their knowledge in the company.

* Attached as ANNEXURE XI

Parent's Feedback :

This feedback is collected from the parents about their satisfaction in the knowledge ,skill and employment level of their wards.

* Attached as ANNEXURE XII

Co-curricular activities:

- Workshops
- Placement training programs
- Value added courses in Modern trends

9.PROGRAM EDUCATIONAL OBJECTIVE(PEO) ASSESSMENT

Assessment of achievement of the program educational objectives (PEOs) is done by indirect measurements. Placement record, higher studies and survey forms like alumni survey and employer survey are used to assess the attainment of PEOs. The PEOs are formally reviewed by the Department advisory committee every year. As described above, we solicit feedback from alumni and their employer through formal and informal mechanisms.

ANNEXURE I

Hindusthan College of Engineering And Technology
(An Autonomous Institution, Affiliated to Anna University, Chennai)
Valley Campus, Pollachi Highway
Coimbatore – 641 032

COURSE INFORMATION SHEET

1. **Academic Year** : 2020 – 2021(EVEN)
2. **Name of faculty(s)** : Dr.P.Rajeswari,Mr.P.Suresh Kumar & Ms.R.Vanitha
3. **Department** : Electronics and Communication Engineering.
4. **Programme** : B.E., Electronics and Communication Engineering.
5. **Class and semester** : II year and IV Semester.
6. **Course code and title** : 19EC4251-Control Systems.
7. **Regulations** : AUTONOMOUS
8. **Core / Elective** : Core
9. **Contact hours** : 45(L30 + P15)
10. **Type of course** : Analytical
11. **Number of credits** : 3

12. **Course pre-requisites**:
    (i) 19MA1103 – Calculus and Differential Equations
    (ii) 19MA3102- Fourier Analysis and Transforms
    (iii) 19EC3202 - Signals and Systems
13. **Course learning objectives**:
    (i) An ability to understand the mathematical modeling of control systems.
    (ii) An ability to gain knowledge in the time response analysis of first and second order systems.
    (iii) An ability to examine the various frequency response plots.
    (iv) An ability to enumerate the concept of different stability analysis techniques.
    (v) An ability to describe the concept of state variable analysis.

14. Expected outcome of the course:

Course Outcomes:

Upon successful completion of this course, the student will be able to:

CO1	To analyze different control systems mathematically and understood the concept of Transfer Function.
CO2	To derive different time domain specifications and analyze the steady state error concept.
CO3	To analyze the polar, bode and Nichols frequency response plots.
CO4	To analyze the stability of closed loop system applying different techniques.
CO5	To understand the concept of state space modeling of continuous time systems and controllability and observability.

15. Course Syllabus:

	UNIT I MATHEMATICAL MODELING OF CONTROL SYSTEMS	**6+3**
CO1	Basic components of Control System – Open loop and Closed loop systems – Introduction to Differential equation -Transfer function- Modeling of Electrical and Mechanical systems- Block diagram reduction methods - Signal flow graph. **Experimental study- Digital simulation of linear systems.**	
	UNIT II TIME RESPONSE ANALYSIS	**6+3**
CO2	Time response - Order and Type of the Systems – Standard test signals-Unit step Response analysis of first and second order systems – Time domain specifications-Steady state errors – Introduction to P, PI, PD and PID controllers. **Experimental study- Response of Proportional controllers.**	
	UNIT FREQUENCY RESPONSE ANALYSIS	**6+3**
CO3	Frequency Response - Frequency Domain specifications -Bode Plot, Polar Plot – Constant M and N Circles –Introduction to Lead, Lag, and Lead Lag Compensators. **Experimental study- Frequency response analysis of bode plot.**	
	UNIT IV STABILITY ANALYSIS	**6+3**
CO4	BIBO Stability, Routh-Hurwitz Criterion, Root Locus Technique, Construction of Root Locus, Application of Root Locus Diagram - Nyquist Stability Criterion. **Experimental study- Stability analysis of linear system using root locus.**	
	UNIT V STATE VARIABLE ANALYSIS	**6+3**
CO5	State space representation of Continuous Time systems – State equations – Physical, Phase and Canonical variable forms-Transfer function from State Variable Representation- Concepts of Controllability and Observability. **Experimental study- State space representation of Continuous Time systems**.	

TOTAL: 45 PERIODS

16. Text Books and Reference Books:

T1- J.Nagrath and M.Gopal, “Control System Engineering”, New Age International Publishers, 6th Edition, 2018.
T2- Benjamin.C.Kuo, “Automatic control systems”, Wiley, 9th Edition,2014.
R1- KatsushikoOgata, “Modern control engineering”, Pearson education,5th Edition, 2010.
R2- Schaum’s Outline Series, “Feed back and Control Systems” ,Tata McGraw-Hill, 2nd Edition,2013.
R3- A.Nagoorkani, “Control Systems Engineering”, RBA publications, First edition,2014.
R4- John J.D Azzo & Constantine H.Houpis, “Linear Control System Analysis and Design”, TMH, 1995.

VIDEO LINKS:

https://www.youtube.com/watch?v=FurC2unHeXI
https://www.youtube.com/watch?v=5NVjIIi9fkY
https://www.youtube.com/watch?v=wkfEZmsQqiA
https://www.youtube.com/watch?v=IRdDcSO_fQw&list=PLBlnK6fEyqRhqzJT87LsdQKYZBC93ezDo&index=23

17. Course Plan:

S.No	Topic	Text/Ref Book	Time Required	Teaching Methods	Teaching Aids	Delivery	
						Date	Period
UNIT I							
GROUP - I							
1	Basic components of Control System	T1,R1,R3	1	PPT	Presentation		
2	Open loop and Closed loop systems	T1,R1,R3	1	Video reference	Youtube		
3	Introduction to Differential equation - Transfer function	T1,R1,R3	1	PPT	Presentation		
GROUP - II							
5	Modeling of Electrical and Mechanical systems	T1,R1,R3	1	PPT	Presentation		
6	Block diagram reduction	T1,R1,R3	1	Quiz	Kahoot		

	methods						
7	Signal flow graph	T1,R1,R3	1	Quiz	Kahoot		
GROUP - III							
8	**Experimental study -Digital simulation of linear systems.**		3	Simulation software	MATLAB		
Planned date of completion of Unit: **Actual date of completion of Unit:**							
S.No	**Topic**	**Text/Ref Book**	**Time Required**	**Teaching Methods**	**Teaching Aids**	**Delivery**	
						Date	**Period**
UNIT II							
GROUP - I							
1	Time response	T1,R1,R3	1	PPT	canva		
2	Order and Type of the Systems	T1,R1,R3		PPT	canva		
3	Standard test signals	T1,R1,R3		PPT	canva		
GROUP - II							
5	Unit step Response analysis of first order system	T1,R1,R3	1	Flipped Classroom	PPT		
6	second order systems	T1,R1,R3	1	Flipped Classroom	PPT		
7	Time domain specifications	T1,R1,R3	1	Flipped Classroom	PPT		
GROUP - III							
9	Steady state errors	T1,R1,R3	1	Flipped Classroom	PPT		
10	Introduction to P, PI, PD and PID controllers	T1,R1,R3	1	Flipped Classroom	PPT		
11	**Experimental study- Response of Proportional**		3	Simulation software	MATLAB		

	controllers						
Planned date of completion of Unit: **Actual date of completion of Unit:**							
S.No	**Topic**	**Text/Ref Book**	**Time Required**	**Teaching Methods**	**Teaching Aids**	**Delivery**	
						Date	**Period**
UNIT III							
GROUP - I							
1	Frequency Response	T1,R1,R3	1	Quiz	Polling method		
2	Frequency Domain specifications	T1,R1,R3	1	Quiz	Google forms		
3	Bode Plot	T1,R1,R3	1	Quiz	Quizz		
GROUP - II							
5	Polar Plot	T1,R1,R3	1	Flipped Classroom	PPT		
6	Constant M and N Circles	T1,R1,R3	1	Flipped Classroom	PPT		
GROUP - III							
9	Introduction to P, PI, PD and PID controllers.	T1,R1,R3	1	Flipped Classroom	PPT		
10	**Experimental study- Response of Proportional controllers**			Simulation software	MATLAB		
Planned date of completion of Unit: **Actual date of completion of Unit:**							
S.No	**Topic**	**Text/Ref Book**	**Time Required**	**Teaching Methods**	**Teaching Aids**	**Delivery**	
						Date	**Period**
UNIT IV							
GROUP - I							
1	BIBO Stability	T1,R1,R3	1	Presentation	PPT		
2	Routh-Hurwitz Criterion	T1,R1,R3	1	Presentation	PPT,Quizziz		
GROUP - II							
5	Root Locus	T1,R1,R3	1	Presentation	PPT		

	Technique						
6	Construction of Root Locus, Diagram	T1,R1,R3	1	Presentation	PPT		
7	Application of Root Locus	T1,R1,R3	1	Quiz	Kahoot		
GROUP - III							
9	Nyquist Stability Criterion	T1,R1,R3	1	Presentation	PPT		
10	**Experimental study- Stability analysis of linear system using root locus.**		3	Simulation software	MATLAB		
Planned date of completion of Unit: **Actual date of completion of Unit:**							
S.No	**Topic**	**Text/Ref Book**	**Time Required**	**Teaching Methods**	**Teaching Aids**	**Delivery**	
						Date	**Period**
UNIT V							
GROUP - I							
1	State space representation of Continuous Time systems	T1,R1,R3	1	Presentation	PPT		
2	State equations	T1,R1,R3	1	Presentation	PPT		
3	Physical, Phase and Canonical variable forms-	T1,R1,R3	1	Presentation	PPT, Kahoot		
GROUP - II							
5	Transfer function from State Variable Representation	T1,R1,R3	1	Presentation	PPT		
6	Concepts of Controllability and Observability	T1,R1,R3	2	Presentation	PPT, Kahoot		

GROUP - III							
9	**Experimental study- State space representation of Continuous Time systems**.		3	Simulation software	MATLAB		
Planned date of completion of Unit: **Actual date of completion of Unit:**							

S.No	Name of the topic	No of Hours	cum Hours	Text/ Reference books
UNIT I – MATHEMATICAL MODELING OF CONTROL SYSTEMS				
1	Basic components of Control System – Open loop and Closed loop systems	1	1	T1,T2,R1,R2,R3
2	Introduction to Differential equation - Transfer function.	1	2	T1,T2,R1,R2,R3
3	Modeling of Electrical and Mechanical systems	1	3	T1,T2,R1,R2,R3
4	Block diagram reduction methods	3	6	T1,T2,R1,R2,R3
5	Signal flow graph.	3	9	T1,T2,R1,R2,R3
UNIT II TIME RESPONSE ANALYSIS				
6	Time response.	1	10	T1,T2,R1,R2,R3
7	Order and Type of the Systems.	1	11	T1,T2,R1,R2,R3
8	Standard test signals.	1	12	T1,T2,R1,R2,R3
9	Unit step Response analysis of first and second order systems.	3	15	T1,T2,R1,R2,R3
10	Time domain specifications.	1	16	T1,T2,R1,R2,R3
11	Steady state errors.	1	17	T1,T2,R1,R2,R3
12	Introduction to P, PI, PD and PID controllers	1	18	T1,T2,R1,R2,R3
UNIT III FREQUENCY RESPONSE ANALYSIS				
13	Frequency Response, Frequency Domain specifications.	1	19	T1,T2,R1,R2,R3, R5
14	Bode Plot, Polar Plot.	3	22	T1,T2,R1,R2,R3, R5

15	Constant M and N Circles.	2	24	T1,T2,R1,R2,R3, R5
16	Nichols chart.	2	26	T1,T2,R1,R2,R3, R5
17	Introduction to Lead, Lag, and Lead Lag Compensators.	1	27	T1,T2,R1,R2,R3, R5
UNIT IV STABILITY ANALYSIS				
18	BIBO Stability,	1	28	T1,T2,R1,R2,R3, R5
19	Routh-Hurwitz Criterion.	2	30	T1,T2,R1,R2,R3, R5
20	Root Locus Technique- Construction of Root Locus.	3	33	T1,T2,R1,R2,R3, R5
21	Application of Root Locus Diagram.	1	34	T1,T2,R1,R2,R3, R5
22	Nyquist Stability Criterion.	2	36	T1,T2,R1,R2,R3,R5
UNIT V STATE VARIABLE ANALYSIS				
23	State space representation of Continuous Time systems- State equations	1	37	T1,T2,R1,R2,R3,R4
24	Physical, Phase and Canonical variable forms	2	39	T1,T2,R1,R2,R3,R4
25	Transfer function from State Variable Representation	3	42	T1,T2,R1,R2,R3,R4
26	Concepts of Controllability and Observability	2	45	T1,T2,R1,R2,R3,R4

Total No. of Lecture Hours: 45

18. Weightage of Unit Contents:

Factors considered,

F1 - Number of periods allotted for teaching the unit and weightage per hour is equal to 1

F2 - Usefulness of the content matter of the unit in the student's learning point of view and its weightage is equal to 1 if useful otherwise zero

F3 - Usefulness of the content matter of the unit in understanding other units of the same subject and its weightage is equal to 1 if useful otherwise zero

F4 - Usefulness of the content matter of the unit in understanding other subjects prescribed for the programme and its weightage is equal to 1 if useful otherwise zero

Topic	**F_1**	**F_2**	**F_3**	**F_4**	**A_1**	**A_2**
Unit- I MATHEMATICAL MODELING OF CONTROL SYSTEMS					**(Weightage)**	**(%)**
Basic components of Control System – Open	9	1	1	0	**21**	**24.72**

loop and Closed loop systems.						
Introduction to Differential equation - Transfer function.		1	1	1		
Modeling of Electrical and Mechanical Systems.		1	1	0		
Block diagram reduction methods.		1	1	0		
Signal flow graph.		1	1	1		
Unit – II TIME RESPONSE ANALYSIS						
Time response. Order and Type of the Systems. Standard test signals.	9	1	1	0	**17**	**20**
Unit step Response analysis of first and second order systems.		1	0	0		
Time domain specifications. Steady state errors.		1	1	0		
Introduction to P, PI, PD and PID controllers		1	1	1		
UNIT III FREQUENCY RESPONSE ANALYSIS						
Frequency Response, Frequency Domain specifications.	9	1	1	0	**16**	**18.82**
Bode Plot, Polar Plot.		1	1	0		
Constant M and N Circles.		1	0	0		
Nichols chart. Introduction to Lead, Lag, and Lead Lag Compensators.		1	1	0		
UNIT IV STABILITY ANALYSIS						
BIBO Stability.	**9**	**1**	0	1	**16**	**18.82**
Routh-Hurwitz Criterion.		1	0	0		
Root Locus Technique- Construction of Root Locus.		1	1	0		
Application of Root Locus Diagram. Nyquist Stability Criterion.		1	1	0		
UNIT V STATE VARIABLE ANALYSIS						
State space representation of Continuous Time systems- State equations.	9	1	0	0	**15**	**17.64**
Physical, Phase and Canonical variable forms.		1	1	0		
Transfer function from State Variable Representation.		1	1	0		
Concepts of Controllability and Observability.		1	0	0		

	85	**100%**
A_2 – % of Weightage		

19. Mapping Syllabus with Bloom's Taxonomy LOT and HOT:

Lower Order Thinking		
R	Remembering	Students are expected to **Recall** the information through recognizing, listing, describing, retrieving, naming, finding
U	Understanding	Students are expected to **Explain** an ideas or concepts through Interpreting, summarizing, paraphrasing, classifying, explaining
Ap	Applying	Students are expected to **Use** the information in another familiar situation through implementing, carrying out, using, executing
Higher Order Thinking		
A	Analyzing	Students are expected to **Break** the information into parts to explore understandings and relationships through comparing, organizing, deconstructing, interrogating, finding
E	Evaluating	Students are expected to **Evaluate** the justifying a decision or course of action through checking, hypothesizing, experimenting, judging
C	Creating	Students are expected to **Generate** new ideas, products, or ways of viewing things through Designing, constructing, planning, producing, inventing.

Unit – I MATHEMATICAL MODELING OF CONTROL SYSTEMS (Weightage 24.72%)							
Sl.No	Name of the Topic			Process verb		Types of thinking	
1	Basic components of Control System – Open loop and Closed loop systems.			Retrieve		Remembering CO1	
2	Introduction to Differential equation - Transfer function.			Retrieve		Remembering CO1	
3	Modeling of Electrical and Mechanical Systems.			Interpret		Understanding CO1	
4	Block diagram reduction methods.			Implementing		Applying CO1	
5	Signal flow graph.			Relate /Correlation		Understanding CO1	
	R	**U**	**Ap**	**A**	**E**	**C**	**Total**
Type of thinking in Nos	2	2	1	0	0	0	5
Weightage,%	**9.89**	**9.89**	**4.94**	**0**	**0**	**0**	**24.72**

Unit – II TIME RESPONSE ANALYSIS (Weightage 20%)

Sl.No	Name of the Topic	Process verb	Types of thinking
1	Time response. Order and Type of the Systems. Standard test signals.	Explain	Understanding **CO2**
2	Unit step Response analysis of first and second order systems.	Interpret	Understanding **CO2**
3	Time domain specifications. Steady state errors.	Describe	Remembering **CO2**
4	Introduction to P, PI, PD and PID controllers	Describe	Remembering **CO2**

	R	**U**	**Ap**	**A**	**E**	**C**	**Total**
Type of thinking in Nos	2	2	0	0	0	0	4
Weightage,%	**10**	**10**	**0**	**0**	**0**	**0**	**20**

Unit – III FREQUENCY RESPONSE ANALYSIS (Weightage 18.82%)

Sl.No	Name of the Topic	Process verb	Types of thinking
1	Frequency Response, Frequency Domain specifications.	Describe	Remembering CO3
2	Bode Plot, Polar Plot.	Implementing	Applying C03
3	Constant M and N Circles.	Explain	Understanding CO3
4	Nichols chart. Introduction to Lead, Lag, and Lead Lag Compensators.	Interpret	Understanding C03

	R	**U**	**Ap**	**A**	**E**	**C**	**Total**
Type of thinking in Nos	1	2	1	0	0	0	4
Weightage,%	**4.705**	**9.41**	**4.705**	**0**	**0**	**0**	**18.82%**

Unit – IV STABILITY ANALYSIS (Weightage 18.82%)

Sl.No	Name of the Topic	Process verb	Types of thinking
1	BIBO Stability	Explain	Understanding CO4
2	Routh-Hurwitz Criterion.	Implementing	Applying C04
3	Root Locus Technique- Construction of Root Locus.	Implementing	Applying C04
4	Application of Root Locus Diagram. Nyquist Stability Criterion.	Explain	Understanding C04

	R	**U**	**Ap**	**A**	**E**	**C**	**Total**

Type of thinking in Nos	0	2	2	0	0	0	4
Weightage,%	**0**	**9.41**	**9.41**	**0**	**0**	**0**	**18.82%**

Unit- V – STATE VARIABLE ANALYSIS (Weightage 17.64%)

Sl.No	Name of the Topic	Process verb	Types of thinking
1	State space representation of Continuous Time systems- State equations	Describe	Remembering CO5
2	Physical, Phase and Canonical variable forms	Describe	Remembering C05
3	Transfer function from State Variable Representation	using	Applying CO5
4	Concepts of Controllability and Observability	Explain	Understanding CO5

	R	U	Ap	A	E	C	Total
Type of thinking in Nos	2	1	1	0	0	0	4
Weightage,%	**8.82**	**4.41**	**4.41**	**0**	**0**	**0**	**17.64%**

	R	U	AP	A	E	C	TOTAL
UNIT 1	**9.89**	**9.89**	**4.94**	**0**	**0**	**0**	**24.72**
UNIT 2	**10**	**10**	**0**	**0**	**0**	**0**	**20**
UNIT 3	**4.705**	**9.41**	**4.705**	**0**	**0**	**0**	**18.82%**
UNIT 4	**0**	**9.41**	**9.41**	**0**	**0**	**0**	**18.82%**
UNIT 5	**8.82**	**4.41**	**4.41**	**0**	**0**	**0**	**17.64%**
TOTAL	**33.415**	**43.12**	**23.465**	**0**	**0**	**0**	**100 %**
Lower Order Thinking				**100 %**			
Higher Order Thinking				**0 %**			

20. Correlation between Course Outcome with Bloom's Taxonomy LOT and HOT:

	R	U	Ap	A	E	C
CO1	✓✓	✓✓	✓			
CO2	✓✓	✓✓				
CO3	✓	✓✓	✓			
CO4		✓✓	✓✓			
CO5	✓✓	✓	✓			

21. Mapping of Course Outcomes with Program Outcomes (Pos) and Program Specific Outcomes (PSOs):

Programme Outcomes

POs	Program Outcomes	Descriptions
PO1	Engineering Knowledge	Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	Problem Analysis	Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
PO3	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.
PO4	Conduct Investigations on 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.
PO5	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.
PO6	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
PO7	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.
PO8	Ethics	Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and Team Work	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	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.

PO11	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
PO12	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:

PSO1: Graduates will be able to provide solutions for real time embedded systems using Internet of Things to meet the global needs.

PSO2: Graduates will have the perseverance to design and develop product using cutting edge technologies in Signal processing and Communication systems.

PO & PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	3	2	3	2	-	-	-	-	-	2	**3**
CO2	3	3	3	3	2	2	2	-	-	-	-	-	2	2
CO3	3	2	2	3	2	2	2	-	-	-	-	-	2	-
CO4	3	3	3	2	2	2	2	-	-	-	-	-	-	3
CO5	3	2	2	2	2	3	2	-	-	-	-	-	2	-

3	**High Level**	2	**Moderate Level**	1	**Low Level**

22. Mapping with Programme Educational Objectives:

Preparing the graduates to,

1. PEO 1: To prepare the graduates to solve, analyze and develop real time engineering products by providing strong foundation in the fundamentals of Electronics and Communication Engineering.
2. PEO 2: To prepare the graduates to succeed in multidisciplinary dimensions by providing adequate trainings and exposure in emerging technologies.
3. PEO 3: To prepare the graduates to become a successful leader and innovator following ethics with the sense of social responsibility for providing engineering solutions.

Course	PEO1	PEO2	PEO3
Control Systems	High Level	Moderate Level	High Level

3	High Level	2	Moderate Level	1	Low Level

23. Course Assessment Methods:

Monthly test: 15 Marks

Objective	To Identify What Students Have Learned and also to identify students strength and weakness
Product	Answer scripts
Frequency	Monthly
Format	Part –A 6 x 2 = 12 Marks Part –B 2 x 14 = 28 Marks Part – C 1 x 10 = 10 Marks Total marks= 50 Duration : 1 Hour and 30 Minutes
Evaluation	Based on answer given in the scripts
criteria	Pass mark – 50% Minimum pass percentage: 75% If not, remedial action will be taken.

Assignment: 5 marks

Objective	To enhance students' understanding of a particular reading
Product	Hand written assignment/tutorial sheets
Frequency	After completing one unit
Format	Important questions from each units
Evaluation	Based on rubrics
Criteria	No. of assignments: 3 Submit on or before the date of submission

Attendance: 5 marks

Objective	To make all students to attend the class throughout the course
Product	Record of class work
Frequency	All working days
Format	Record of class work format
Evaluation	Based on attendance earned by the students
Criteria	Marks will be awarded according to attendance percentage of students. 91 and above 5.0 86 – 90 4.0 81 – 85 3.0 75 – 80 2.0 Less than 75 0

End semester exam: 50 marks

Objective	**To assess the each student's knowledge of the course**
Product	Result analysis
Frequency	Semester
Format	Part –A 10 x 2= 20 marks Part –B 5 x 14= 70 marks Part – C 1 x 10 = 10 Marks Total marks= 100 Duration : 3 Hours
Evaluation criteria	Based on answer given in the scripts Minimum pass percentage: 75% If not, remedial action will be taken.

Laboratory Internal Assessment: 25 marks

Objective	**To assess the each student's Practical knowledge of the course**
Product	Result analysis
Frequency	Semester
Format	Practical Model Exam Total marks= 100 reduced to 25 Duration : 3 Hours
Evaluation criteria	Based on answer given in the scripts Minimum pass percentage: 75% If not, remedial action will be taken.

Faculty in-charge **HOD/ECE** **DEAN-Academics**

ANNEXURE II

ENTRY MAPPING OF COs and POs:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO-1	PSO-2	
CO1	3	-	2	1	2	2	-	-	2	-	-	2	3	2	1
CO2	3	3	3	3	2	3	-	-	2	-	-	2	3	2	2
CO3	3	2	3	3	2	2	-	-	2	-	-	2	3	2	3
CO4	3	3	2	2	2	2	-	-	2	-	-	2	3	2	-
CO5	3	2	2	2	2	3	-	-	2	-	-	2	2	2	
AVG	3	2.5	2.4	2.2	2	2.4	-	-	2	-	-	2	2.8	2	

Indirect Survey

CO	Excellent (3)	Good (2)	Poor (1)	Percentage %
CO1	38	9	0	93.67
CO2	30	14	3	85.67
CO3	39	8	0	94.33
CO4	37	10	0	93
CO5	35	11	1	90.67

COURSE NAME & CODE	16EC6203 / DIGITAL IMAGE PROCESSING
SECTION	A
Name of the Faculty	J.RAMYA
Department	DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEE
Batch	2016-2020
Question Expected Level of Attainment -	50%
	No of students scores upto expected level
	% of scoring above the attainment level

Faculty Signature

[J.RAMYA]

HOD

[Dr.P.Rajeswari]

DEAN-ACADEMICS

[Dr. MAGUDESWARAN P N]

			Total Strength 10 Total Attended 10										Total Strength 10 Total Attended 9										Total Strength 10 Total Attended 10										Total Strength 10 Total Attended 10										10 9	10 10	10 10	10 10	
INTERNAL TEST			I INTERNAL TEST										II INTERNAL TEST										III INTERNAL TEST										MID SEMESTER EXAM										END SEMEST	ASSIGNMENT			ATTEDANCE
			CO1	CO1	CO1	CO1	CO2	CO2	CO1	CO2	CO1		CO2	CO2	CO3	CO3	CO3	C03	C02	C03	C03		CO4	CO4	CO4	CO5	CO5	CO5	CO4	CO5	CO5		CO1	CO1	CO1	CO1	CO2	CO2	CO3	CO3	CO4	CO4							
S. No	Univ Reg No	Name	Q1	Q2	Q3	Q4	Q5	Q 6	Q7/ Q8	Q9/ Q10	Q11/ Q12	TOTAL SCORE	Q1	Q2	Q3	Q4	Q5	Q 6	Q7/ Q8	Q9/ Q10	Q11/ Q12	TOTAL SCORE	Q1	Q2	Q3	Q4	Q5	Q 6	Q7/ Q8	Q9/ Q10	Q11/ Q12	TOTAL SCORE	Q1	Q2	Q3	Q4	Q5	Q 6	Q7	Q8	Q9	Q10	Q11/Q12	Q13/ Q14	Q15/Q16	Q17/Q18	Q19/Q20	Q21/Q22	TOTAL SCORE	ES Grade	I	II	III	100
Question Maximum Marks			2	2	2	2	2	2	14	14	10	50	2	2	2	2	2	2	14	14	10	50	2	2	2	2	2	2	14	14	10	50	2	2	2	2	2	2	2	2	2	14	14	14	14	14	10	100		5	5	5	
1	16106001	AARTHI GR	2		1	0	1		13		2	19					0		12	4	9	25	1	0	0	1	0	0		7	0	9	2	2		2						13	12	13	13		2	59	RA	5	5	5	87.7
2	16106002	ABHINANDH M	2	2		2		1	14	7	8	36	2	1		2	0		13	1	9	28							4	12	1	17	2	2	1	1	1	1	2	2		2	13	13	13	13	8	6	80	A	5	4	4	91.2
3	16106003	ABHIVARNA C	2	1		0	1	1	13			18	1	1	1		0		13		9	25	1	1		1	1	0	1			5	2	2		2	1	1		1		1	13	12	7	13	2		57	B	5	3	3	68.4
4	16106004	ABISHA.B	2	1	2	2			14	2	8	31	0	2	2	2			13	4	9	32	2	2		2			14	10	4	34	2	2		2	1		2	0		1	14	13	13	13	14	10	87	B+	5	4	5	96.5
5	16106005	ADITHYA							11	7	3	21	2	2		2	0	2	13	7	9	37	2	2	0	2	2	1	12	7	2	30	2	2		2	0	2	2	0	0					4		14	B+	5	4	5	89.5
6	16106006	AKHAASH A	1	0		1						2										0	0									0	0	1		0											1	AB	2	3	4	61.4
7	16106007	AMISHA VERMA	2	2		2		2	14	13	0	35	2	2	1	2	1		14	4	9	35	2			2	2	2	9	10	8	35	2	2		2	2	2	2	2			14	13	13	13	7	7	81	B+	5	5	5	86
8	16106009	ARAVINDRAJ G	1	0					7	8	4	20	2	1		2			14		9	28							2	1		3	0			1		1		2			13	13	7	13	13	9	72	B	5	3	4	73.7
9	16106011	ARUN I	2	2		2	2	2	14	4	9	37	2	2	0	1	1	0	14	14	10	44	1	2	0	2	2	0	10			17	0	2	1	2	1	2	2	2	0	1	14	13	14	12	9	9	84	B+	5	4	5	87.7
10	16106803	MAHENDRAN.P	0	0		0	0	0	1			1	ab	ab	ab	ab	ab	ab	ab	ab	ab	AB		0	0	0	0	1	0			1	0	0		0	0		0	0		0	2	0	1			0	3	RA	2	3	3	71.9

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

I INTERNAL TEST

Each Question Expected Level of Attainment - 50%

COURSE NAME & CODE : 16EC6203 / DIGITAL IMAGE PROCESSING

SECTION : A

Name of the Faculty : J.RAMYA

Batch : 2016-2020

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Q1	Q2	Q3	Q4	Q5	Q 6	Q7/Q8	Q9/Q10	Q11/Q12	Test Score
			2	2	2	2	2	2	14	14	10	
		Expected Marks to Attainment	1.0	1.0	1.0	1.0	1.0	1.0	7.0	7.0	5.0	
1	16106001	AARTHI GR	2		1	0	1		13		2	19
2	16106002	ABHINANDH M	2	2		2		1	14	7	8	36
3	16106003	ABHIVARNA C	2	1		0	1	1	13			18
4	16106004	ABISHA.B	2	1	2	2			14	2	8	31
5	16106005	ADITHYA							11	7	3	21
6	16106006	AKHAASH A	1	0		1						2
7	16106007	AMISHA VERMA	2	2		2		2	14	13	0	35
8	16106009	ARAVINDRAJ G	1	0					7	8	4	20
9	16106011	ARUN I	2	2		2	2	2	14	4	9	37
10	16106803	MAHENDRAN.P	0	0		0	0	0	1			1
		Each Question Expected Level of Attainment - (50%)	**8**	**5**	**2**	**5**	**3**	**4**	**8**	**4**	**3**	
		No of students scores upto expected level	**80.00**	**50.00**	**20.00**	**50.00**	**30.00**	**40.00**	**80.00**	**40.00**	**30.00**	
		Mapping with CO	**CO1**	**CO1**	**CO1**	**CO1**	**CO2**	**CO2**	**CO1**	**CO2**	**CO1**	
		ATTAINMENT LEVEL OF ALL CO	CO1		CO2							
			51.67		**36.67**							

No of Student Passed =	4	No of Student (Single Digit) =	2	Pass Percentage (%)	40.00	Total Strength : 10
No of Student Failed =	6	No of Student (Zero) =	0			Total Attended : 10

Faculty Signature
[J.RAMYA]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr. MAGUDESWARAN P N]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

II INTERNAL TEST

Each Question Expected Level of Attainment - 50%

COURSE NAME & CODE : 16EC6203 / DIGITAL IMAGE PROCESSING

SECTION : A

Name of the Faculty : J.RAMYA

Batch : 2016-2020

Total Strength : 10

Total Attended : 9

S.No	REG.No.	Name	Q1	Q2	Q3	Q4	Q5	Q 6	Q7/Q8	Q9/Q10	Q11/Q12	Test Score
			2	2	2	2	2	2	14	14	10	
		Expected Marks to Attainment	1.0	1.0	1.0	1.0	1.0	1.0	7.0	7.0	5.0	
1	16106001	AARTHI GR					0		12	4	9	25
2	16106002	ABHINANDH M	2	1		2	0		13	1	9	28
3	16106003	ABHIVARNA C	1	1	1		0		13		9	25
4	16106004	ABISHA.B	0	2	2	2			13	4	9	32
5	16106005	ADITHYA	2	2		2	0	2	13	7	9	37
6	16106006	AKHAASH A										0
7	16106007	AMISHA VERMA	2	2	1	2	1		14	4	9	35
8	16106009	ARAVINDRAJ G	2	1		2			14		9	28
9	16106011	ARUN I	2	2	0	1	1	0	14	14	10	44
10	16106803	MAHENDRAN.P	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
		Each Question Expected Level of Attainment - (50%)	**6**	**7**	**3**	**6**	**2**	**1**	**8**	**2**	**8**	
		No of students scores upto expected level	**66.67**	**77.78**	**33.33**	**66.67**	**22.22**	**11.11**	**88.89**	**22.22**	**88.89**	
		Mapping with CO	**CO2**	**CO2**	**CO3**	**C03**	**C03**	**C03**	**C02**	**C03**	**C03**	
		ATTAINMENT LEVEL OF ALL CO	CO2		CO3							
			72.22		**33.33**							

No of Student Passed =	8	No of Student (Single Digit) =	1	Pass Percentage (%)	88.89	Total Strength : 10
No of Student Failed =	1	No of Student (Zero) =	1			Total Attended : 9

Faculty Signature
[J.RAMYA]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr. MAGUDESWARAN P N]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

III INTERNAL TEST

Each Question Expected Level of Attainment - 50%

COURSE NAME & CODE : 16EC6203 / DIGITAL IMAGE PROCESSING

SECTION : A

Name of the Faculty : J.RAMYA

Batch : 2016-2020

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Q1	Q2	Q3	Q4	Q5	Q 6	Q7/Q8	Q9/Q10	Q11/Q12	Test Score
			2	2	2	2	2	2	14	14	10	
		Expected Marks to Attainment	1.0	1.0	1.0	1.0	1.0	1.0	7.0	7.0	5.0	
1	16106001	AARTHI GR	1	0	0	1	0	0		7	0	9
2	16106002	ABHINANDH M							4	12	1	17
3	16106003	ABHIVARNA C	1	1		1	1	0	1			5
4	16106004	ABISHA.B	2	2		2			14	10	4	34
5	16106005	ADITHYA	2	2	0	2	2	1	12	7	2	30
6	16106006	AKHAASH A	0									0
7	16106007	AMISHA VERMA	2			2	2	2	9	10	8	35
8	16106009	ARAVINDRAJ G							2	1		3
9	16106011	ARUN I	1	2	0	2	2	0	10			17
10	16106803	MAHENDRAN.P		0	0	0	0	1	0			1
		Each Question Expected Level of Attainment - (50%)	**6**	**4**	**0**	**6**	**4**	**3**	**4**	**5**	**1**	
		No of students scores upto expected level	**60.00**	**40.00**	**0.00**	**60.00**	**40.00**	**30.00**	**40.00**	**50.00**	**10.00**	
		Mapping with CO	**CO4**	**CO4**	**CO4**	**CO5**	**CO5**	**CO5**	**CO4**	**CO5**	**CO5**	
		ATTAINMENT LEVEL OF ALL CO	CO4		CO5							
			35.00		**38.00**							

No of Student Passed =	3	No of Student (Single Digit) =	5	Pass Percentage (%)	30.00	Total Strength : 10
No of Student Failed =	7	No of Student (Zero) =	1			Total Attended : 10

Faculty Signature
[J.RAMYA]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr. MAGUDESWARAN P N]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

MID SEMESTER EXAM

Each Question Expected Level of Attainment - 50%

COURSE NAME & CODE : 16EC6203 / DIGITAL IMAGE PROCESSING

SECTION : A

Name of the Faculty : J.RAMYA

Batch : 2016-2020

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Q1	Q2	Q3	Q4	Q5	Q 6	Q7	Q8	Q9	Q10	Q11/Q12	Q13/Q14	Q15/Q16	Q17/Q18	Q19/Q20	Q21/Q22	Test Score
			2	2	2	2	2	2	2	2	2	2	14	14	14	14	14	10	
		Expected Marks to Attainment	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7.0	7.0	7.0	7.0	7.0	5.0	
1	16106001	AARTHI GR	2	2		2							13	12	13	13		2	59
2	16106002	ABHINANDH M	2	2	1	1	1	1	2	2		2	13	13	13	13	8	6	80
3	16106003	ABHIVARNA C	2	2		2	1	1		1		1	13	12	7	13	2		57
4	16106004	ABISHA.B	2	2		2	1		2	0		1	14	13	13	13	14	10	87
5	16106005	ADITHYA	2	2		2	0	2	2	0	0						4		14
6	16106006	AKHAASH A	0	1		0													1
7	16106007	AMISHA VERMA	2	2		2	2	2	2	2			14	13	13	13	7	7	81
8	16106009	ARAVINDRAJ G	0			1		1		2			13	13	7	13	13	9	72
9	16106011	ARUN I	0	2	1	2	1	2	2	2	0	1	14	13	14	12	9	9	84
10	16106803	MAHENDRAN.P	0	0		0	0		0	0		0	2	0	1			0	3
		Each Question Expected Level of Attainment - (50%)	6	8	2	8	5	6	5	5	0	4	7	7	7	7	5	5	
		No of students scores upto expected level	60	80	20	80	50	60	50	50	0	40	70	70	70	70	50	50	
		Mapping with CO	CO1	CO1	CO1	CO1	CO2	CO2	CO3	CO3	CO4	CO4	CO1	CO2	CO3	CO3	CO4	CO4	
		ATTAINMENT LEVEL OF ALL CO	CO1		CO2		CO3		CO4										
			62.00		60.00		60.00		35.00										

No of Student Passed = : 7	No of Student (Single Digit) = 2	Pass Percentage (%) 70.00	Total Strength : 10
No of Student Failed = : 3	No of Student (Zero) = 0		Total Attended : 10

Faculty Signature
[J.RAMYA]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr. MAGUDESWARAN P N]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

END SEMESTER EXAM

Each Question Expected Level of Attainment - 50%

COURSE NAME & CODE : 16EC6203 / DIGITAL IMAGE PROCESSING — Batch : 2016-2020

SECTION : A — Total Strength : 10

Name of the Faculty : J.RAMYA — Total Attended : 9

S.No	REG.No.	Name	GRADE	MARK
				100
			Expected Marks to Attainment	50.00
1	16106001	AARTHI GR	RA	-
2	16106002	ABHINANDH M	A	79
3	16106003	ABHIVARNA C	B	59
4	16106004	ABISHA.B	B+	69
5	16106005	ADITHYA	B+	69
6	16106006	AKHAASH A	AB	-
7	16106007	AMISHA VERMA	B+	69
8	16106009	ARAVINDRAJ G	B	59
9	16106011	ARUN I	B+	69
10	16106803	MAHENDRAN.P	RA	-
			Each Question Expected Level of Attainment - (50%)	7
			No of students scores upto expected level	77.78

Faculty Signature
[J.RAMYA]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr. MAGUDESWARAN P N]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ATTENDANCE AND ASSIGNMENT MARKS

Each Question Expected Level of Attainment - 50%

COURSE NAME & CODE : 16EC6203 / DIGITAL IMAGE PROCESSING — Batch : 2016-2020

SECTION : A — Total Strength : 10

Name of the Faculty : J.RAMYA

S.No	REG.No.	Name	ASSIGNMENT						ATTENDANCE PERCENTAGE %	ATTENDANCE MARKS
			I	II	III	TOTAL	WEIGHTAGE 7.5	ASSIGNMENT PERCENTAGE %		5
		Expected Marks to Attainment	2.5	2.5	2.5	7.5	3.75			2.50
1	**16106001**	AARTHI GR	5	5	5	15	5	100	87.72	4
2	**16106002**	ABHINANDH M	5	4	4	13	4.33	86.6	91.23	5
3	**16106003**	ABHIVARNA C	5	3	3	11	3.67	73.4	68.42	0
4	**16106004**	ABISHA.B	5	4	5	14	4.67	93.4	96.49	5
5	**16106005**	ADITHYA	5	4	5	14	4.67	93.4	89.47	4
6	**16106006**	AKHAASH A	2	3	4	9	3	60	61.4	0
7	**16106007**	AMISHA VERMA	5	5	5	15	5	100	85.96	4
8	**16106009**	ARAVINDRAJ G	5	3	4	12	4	80	73.68	0
9	**16106011**	ARUN I	5	4	5	14	4.67	93.4	87.72	4
10	**16106803**	MAHENDRAN.P	2	3	3	8	2.67	53.4	71.93	0
		OVER ALL ASSIGNMENT AND ATTENDANCE	8.00	10.00	10.00	**#WERT!**		**83.36**	**81**	**2.60**
		No of students scores upto expected level	80.00	100.00	100.00					
		Mapping with CO	CO1 CO2	CO2 CO3	CO4 CO5					

OVERALL ATT % & ASSING % CALCULATION SHOULD BE DONE DEPENDING ON CLASS STRENGTH

ATTENDANCE % SHOULD BE TAKEN FROM ECAMPUS AND DISTRIBUTE THE MARKS ACCORDING TO THE SPLIT UP'S

Faculty Signature
[J.RAMYA]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr. MAGUDESWARAN P N]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CO AND PO MAPPING

COURSE NAME & CODE : 16EC6203 / DIGITAL IMAGE PROCESSING

Batch : 2016-2020

Name of the Faculty : J.RAMYA

SECTION : A

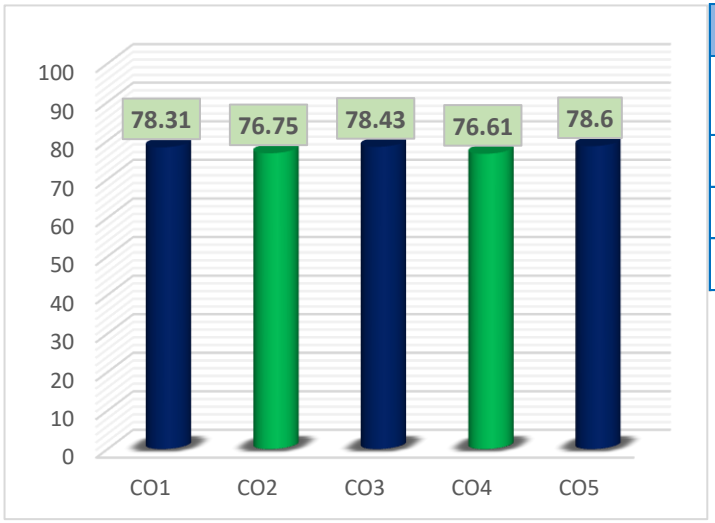
CO Attainment

CO's	INT I	INT II	MID SEM	INT III	ASSIGN	INT (100%)	INT (25%)	END SEM (100%)	END SEM (75%)	DA (100%)	DA (80%)	IDA (20%)	Attainment (100%)	AL
CO1	51.7		62.0		80.0	64.6	16.1	77.8	58.3	74.5	59.6	18.7	78.3	2
CO2	36.7	72.2	60.0		90.0	64.7	16.2	77.8	58.3	74.5	59.6	17.1	76.8	2
CO3		33.3	60.0		100.0	64.4	16.1	77.8	58.3	74.5	59.6	18.9	78.4	2
CO4			35.0	35.0	100.0	56.7	14.2	77.8	58.3	72.5	58.0	18.6	76.6	2
CO5				38.0	100.0	69.0	17.3	77.8	58.3	75.6	60.5	18.1	78.6	2

CO-PO Mapping

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	-	2	1	2	2	-	-	2	-	-	2	3	2
CO2	3	3	3	3	2	3	-	-	2	-	-	2	3	2
CO3	3	2	3	3	2	2	-	-	2	-	-	2	3	2
CO4	3	3	2	2	2	2	-	-	2	-	-	2	3	2
CO5	3	2	2	2	2	3	-	-	2	-	-	2	2	2

Graphical Representation - CO Attainment



Scale	
Weightage	Attainment Level
>= 80 %	3
>=70 & < 80	2
>=60 & < 70	1

PO Attainment

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	-	1.3	0.7	1.3	1.3	-	-	1.3	-	-	1.3	2	1.3
CO2	2	2	2	2	1.3	2	-	-	1.3	-	-	1.3	2	1.3
CO3	2	1.3	2	2	1.3	1.3	-	-	1.3	-	-	1.3	2	1.3
CO4	2	2	1.3	1.3	1.3	1.3	-	-	1.3	-	-	1.3	2	1.3
CO5	2	1.3	1.3	1.3	1.3	2	-	-	1.3	-	-	1.3	1.3	1.3
	2	1.7	1.6	1.5	1.3	1.6	-	-	1.3	-	-	1.3	1.9	1.3

*DA - Direct Assessment

*AL - Attainment Level

*IDA - Indirect Assessment

Faculty Signature

[J.RAMYA]

HOD

[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Consolidated Internal Marks

COURSE NAME & CODE : 16EC6203 / DIGITAL IMAGE PROCESSING

Batch : 2016-2020

SECTION : A

Total Strength : 10

Name of the Faculty : J.RAMYA

S.No	REG.No.	Name	INT 1 5 Marks	INT 2 5 Marks	INT 3 5 Marks	Internal 10 Marks	MID SEM 5 Marks	Attd 5 Marks	Assign 5 Marks	Total 25 Marks
1	16106001	AARTHI GR	1.9	2.5	0.9	4.4	2.95	4	5	16.35
2	16106002	ABHINANDH M	3.6	2.8	1.7	6.4	4	4	5	19.4
3	16106003	ABHIVARNA C	1.8	2.5	0.5	4.3	2.85	4	5	16.15
4	16106004	ABISHA.B	3.1	3.2	3.4	6.6	4.35	4	5	19.95
5	16106005	ADITHYA	2.1	3.7	3	6.7	0.7	4	5	16.4
6	16106006	AKHAASH A	0.2	0	0	0.2	0.05	4	5	9.25
7	16106007	AMISHA VERMA	3.5	3.5	3.5	7	4.05	4	5	20.05
8	16106009	ARAVINDRAJ G	2	2.8	0.3	4.8	3.6	4	5	17.4
9	16106011	ARUN I	3.7	4.4	1.7	8.1	4.2	4	5	21.3
10	16106803	MAHENDRAN.P	0.1	0	0.1	0.2	0.15	4	5	9.35

Faculty Signature
[J.RAMYA]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr. MAGUDESWARAN P N]

ANNEXURE III

ENTRY MAPPING OF COs and POs:														
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	**PSO-1**	**PSO-2**
CO1	1	3	1	1	1	1	1	1	-	-	-	-	1	1
CO2	3	1	2	1	-	-	-	-	-	-	-	-	2	2
CO3	-	3	3	2	-	-	-	-	1	-	-	-	3	3
CO4	-	1	1	-	-	-	-	-	-	-	-	-	1	1
CO5	2	2	2	2	-	-	-	-	-	-	-	1	2	2
AVG	2	2	1.8	1.5	1	1	1	1	1	-	-	1	1.8	1.8

COURSE NAME & CODE	16EC5203-DATA COMMUNICATION AND NETWORKS
SECTION	A
Name of the Faculty	T.NIVETHITHA
Department	DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
Batch	2017 - 2018
ach Question Expected Level of Attainment -	50%
	No of students scores upto expected level
	% of scoring above the attainment level

Faculty Signature

[T.Nivethitha]

HOD

[Dr.P.Rajeswari]

DEAN-ACADEMICS

[Dr. MAGUDESWARAN P N]

	Indirect Survey				
	CO	**Excellent (3)**	**Good (2)**	**Poor (1)**	**Percentage %**
1	CO1	35	10	2	90
2	CO2	37	8	2	91.33
3	CO3	36	10	1	91.33
-	CO4	45	2	0	98.67
	CO5	40	5	2	93.67

			Total Strength 10 Total Attended 10										Total Strength 10 Total Attended 10										Total Strength 10 Total Attended 10										Total Strength 10 Total Attended 10										10 10	10	10	10	10	10
INTERNAL TEST			I										II										III										MID SEMESTER										END SEMESTER	ASSIGNMENT			ATTEDANCE	LAB Model Marks
			CO2	CO2	CO2	CO2	CO2	CO1	CO1	CO2	CO1		CO2	CO2	CO2	CO2	CO2	CO3	CO2	CO2	CO2		CO4	CO4	CO4	CO5	CO5	CO5	CO4	CO5	CO4		CO4	CO5	CO3	CO2	CO2	CO1	CO1	CO1	CO1	CO1	CO1		CO2	CO2	CO2	CO1	CO1	CO1									
S.No	Univ Reg No	Name	Q1	Q2	Q3	Q4	Q5	Q6	Q7/Q8	Q9/Q10	Q11/Q12	TOTAL SCOR	Q1	Q2	Q3	Q4	Q5	Q6	Q7/Q8	Q9/Q10	Q11/Q12	TOTAL SCOR	Q1	Q2	Q3	Q4	Q5	Q6	Q7/Q8	Q9/Q10	Q11/Q12	TOTAL SCOR	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11/Q12	Q13/Q14	Q15/Q16	Q17/Q18	Q19/Q20	Q21/Q22	TOTAL SCOR	ESGrade	I	II	III	100	100
Question Maximum Marks			2	2	2	2	2	2	14	14	10	50	2	2	2	2	2	2	14	14	10	50	2	2	2	2	2	2	14	14	10	50	2	2	2	2	2	2	2	2	2	14	14	14	14	10	100		5	5	5		
1	16106041	HEMA PREETHI D	1	1	0	0	2		11	11	1	27	2	1	2	1	2	1	8	10	2	29										13										12	10	11	11	12		66	B	5	5	5	86	70
2	16106042	INDHUJA A	1						13	4	3	21							11	12	2	25	0	2	0				10		1	13										10	11		12			33	Ra	5	5	5	85	96
3	16106043	JANANI A	1	2	2	1	2	2	13	9	3	35	2	2	2	2	2	2	12	13	7	44	2	2	2	2	2	2	12	12	9	45	2	2	2	1	2	2	2	2	2	2	13	11	11	13	12	9	88	B	5	5	5	84	94
4	16106044	JAYAKUMAR .S	2	2	1	1	2		9	6	5	28	2	1	0	1	2	1	10	10	3	30	2	2	2	2	2	2	4		9	25	2	2	2	2	2	2	2	1	2	13	13	11	11	10	4	81	B	5	5	5	81	88
5	16106045	JAYA PRAKASH L	1	1	1	1	0	2	0	2		8	2	1	0	1	1	0	3		3	11	0	0	0	0	0	1			2	3	0	1	1	1	1	1	0	1	1	1	2	2	0				12	B	5	5	5	80	92
6	16106046	JAYASHREE J	2	2	2	2	2	2	13	9	4	38	2	1	2	2	2	2	12	12	7	42				2	2			13	10	27	2	2	2	2	2	2	2	2	2	2	13	11	12	13	11	4	84	B+	5	5	5	100	90
7	16106047	JAYSHREE.K	2	2	2	2	2	2	11	10	3	36	2	1	2	2	2	1	4	12	2	27	2	2	2	2	2	2	12	13	7	44	2	2	2	2	2	2	2	2	2	2	14	13	13	12	12	6	90	B+	5	5	5	91	66
8	16106048	JEEVA P	2	1	0	0			5		1	9			0	0			2		0	2							0		1	1	1		1						0	0	0				2	B	5	5	5	90	98
9	16106801	ADITHVATHSHAN R	0	1	1	1	0	2	4	1	2	12										0	1	1	1	1	1	1			2	8	1	1	1				1			1	5	3	1				14	B	5	5	5	89	98
10	16106803	MAHENDRAN. P	0	0	0		0			2		2	0	0	0	0	0	0	0			0	0	0	0	1	0				2	3		1								3	1					5	RA	5	5	5	60	74

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

I

Each Question Expected Level of Attainment - 50%

COURSE NAME & CODE : 16EC5203-DATA COMMUNICATION AND NETWORKS

SECTION : A

Name of the Faculty : T.NIVETHITHA

Batch : 2017 - 2018

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Q1	Q2	Q3	Q4	Q5	Q 6	Q7/Q8	Q9/Q10	Q11/Q12	Test Score
			2	2	2	2	2	2	14	14	10	
		Expected Marks to Attainment	1.0	1.0	1.0	1.0	1.0	1.0	7.0	7.0	5.0	
1	16106041	HEMA PREETHI D	1	1	0	0	2		11	11	1	27
2	16106042	INDHUJA A	1						13	4	3	21
3	16106043	JANANI A	1	2	2	1	2	2	13	9	3	35
4	16106044	JAYAKUMAR .S	2	2	1	1	2		9	6	5	28
5	16106045	JAYA PRAKASH L	1	1	1	1	0	2	0	2		8
6	16106046	JAYASHREE J	2	2	2	2	2	2	13	9	4	38
7	16106047	JAYSHREE.K	2	2	2	2	2	2	11	10	3	36
8	16106048	JEEVA P	2	1	0	0			5		1	9
9	16106801	ADITHVATHSHAN R	0	1	1	1	0	2	4	1	2	12
10	16106803	MAHENDRAN.P	0	0	0		0			2		2
		Each Question Expected Level of Attainment - (50%)	**8**	**8**	**6**	**6**	**5**	**5**	**6**	**4**	**1**	
		No of students scores upto expected level	**80.00**	**80.00**	**60.00**	**60.00**	**50.00**	**50.00**	**60.00**	**40.00**	**10.00**	
		Mapping with CO	**CO2**	**CO2**	**CO2**	**CO2**	**CO2**	**CO1**	**CO1**	**CO2**	**CO1**	
		ATTAINMENT LEVEL OF ALL CO	CO1		CO2							
			40.00		**61.67**							

No of Student Passed =	5	No of Student (Single Digit) =	3	Pass Percentage (%)	50.00	Total Strength : 10
No of Student Failed =	5	No of Student (Zero) =	0			Total Attended : 10

Faculty Signature
[T.Nivethitha]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr. MAGUDESWARAN P N]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

II

Each Question Expected Level of Attainment - 50%

COURSE NAME & CODE : 16EC5203-DATA COMMUNICATION AND NETWORKS

SECTION : A

Name of the Faculty : T.NIVETHITHA

Batch : 2017 - 2018

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Q1	Q2	Q3	Q4	Q5	Q 6	Q7/Q8	Q9/Q10	Q11/Q12	Test Score
			2	2	2	2	2	2	14	14	10	
		Expected Marks to Attainment	1.0	1.0	1.0	1.0	1.0	1.0	7.0	7.0	5.0	
1	16106041	HEMA PREETHI D	2	1	2	1	2	1	8	10	2	29
2	16106042	INDHUJA A							11	12	2	25
3	16106043	JANANI A	2	2	2	2	2	2	12	13	7	44
4	16106044	JAYAKUMAR .S	2	1	0	1	2	1	10	10	3	30
5	16106045	JAYA PRAKASH L	2	1	0	1	1	0	3		3	11
6	16106046	JAYASHREE J	2	1	2	2	2	2	12	12	7	42
7	16106047	JAYSHREE.K	2	0.5	2	2	2	1	3.5	12	2	27
8	16106048	JEEVA P			0	0			2		0	2
9	16106801	ADITHVATHSHAN R										0
10	16106803	MAHENDRAN.P	0	0	0	0	0	0	0			0
		Each Question Expected Level of Attainment - (50%)	**6**	**5**	**4**	**6**	**6**	**5**	**5**	**6**	**2**	
		No of students scores upto expected level	**60.00**	**50.00**	**40.00**	**60.00**	**60.00**	**50.00**	**50.00**	**60.00**	**20.00**	
		Mapping with CO	**CO2**	**CO2**	**CO2**	**CO2**	**CO2**	**CO3**	**CO2**	**CO2**	**CO2**	
		ATTAINMENT LEVEL OF ALL CO	CO2		CO3							
			50.00		**50.00**							

No of Student Passed =	6	No of Student (Single Digit) =	3	Pass Percentage (%)	60.00	Total Strength : 10
No of Student Failed =	4	No of Student (Zero) =	2			Total Attended : 10

Faculty Signature
[T.Nivethitha]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr. MAGUDESWARAN P N]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

III

Each Question Expected Level of Attainment - 50%

COURSE NAME & CODE : 16EC5203-DATA COMMUNICATION AND NETWORKS

SECTION : A

Name of the Faculty : T.NIVETHITHA

Batch : 2017 - 2018

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Q1	Q2	Q3	Q4	Q5	Q 6	Q7/Q8	Q9/Q10	Q11/Q12	Test Score
			2	2	2	2	2	2	14	14	10	
		Expected Marks to Attainment	1.0	1.0	1.0	1.0	1.0	1.0	7.0	7.0	5.0	
1	16106041	HEMA PREETHI D							13			13
2	16106042	INDHUJA A	0	2	0				10		1	13
3	16106043	JANANI A	2	2	2	2	2	2	12	12	9	45
4	16106044	JAYAKUMAR .S	2	2	2	2	2	2	4		9	25
5	16106045	JAYA PRAKASH L	0	0	0	0	0	1			2	3
6	16106046	JAYASHREE J				2	2			13	10	27
7	16106047	JAYSHREE.K	2	2	2	2	2	2	12	13	7	44
8	16106048	JEEVA P							0		1	1
9	16106801	ADITHVATHSHAN R	1	1	1	1	1	1			2	8
10	16106803	MAHENDRAN.P	0	0	0	1	0				2	3
		Each Question Expected Level of Attainment - (50%)	**4**	**5**	**4**	**6**	**5**	**5**	**4**	**3**	**4**	
		No of students scores upto expected level	**40.00**	**50.00**	**40.00**	**60.00**	**50.00**	**50.00**	**40.00**	**30.00**	**40.00**	
		Mapping with CO	**CO4**	**CO4**	**CO4**	**CO5**	**CO5**	**CO5**	**CO4**	**CO5**	**CO4**	
		ATTAINMENT LEVEL OF ALL CO	CO4		CO5							
			42.00		**47.50**							

No of Student Passed =	4	No of Student (Single Digit) =	4	Pass Percentage (%)	40.00	Total Strength : 10
No of Student Failed =	6	No of Student (Zero) =	0			Total Attended : 10

Faculty Signature
[T.Nivethitha]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr. MAGUDESWARAN P N]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

MID SEMESTER EXAM

Each Question Expected Level of Attainment - 50%

COURSE NAME & CODE : 16EC5203-DATA COMMUNICATION AND NETWORKS

SECTION : A

Name of the Faculty : T.NIVETHITHA

Batch : 2017 - 2018

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Q1	Q2	Q3	Q4	Q5	Q 6	Q7	Q8	Q9	Q10	Q11/Q12	Q13/Q14	Q15/Q16	Q17/Q18	Q19/Q20	Q21/Q22	Test Score
			2	2	2	2	2	2	2	2	2	2	14	14	14	14	14	10	
		Expected Marks to Attainment	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7.0	7.0	7.0	7.0	7.0	5.0	
1	16106041	HEMA PREETHI D	2	2	1	0	2	0	0	2		1	12	10	11	11	12		66
2	16106042	INDHUJA A											10	11		12			33
3	16106043	JANANI A	2	2	2	1	2	2	2	2	2	2	13	11	11	13	12	9	88
4	16106044	JAYAKUMAR .S	2	2	2	2	2	2	2	2	1	2	13	13	11	11	10	4	81
5	16106045	JAYA PRAKASH L	0	1	1	1	1	1	0	1	1	1	2	2	0				12
6	16106046	JAYASHREE J	2	2	2	2	2	2	2	2	2	2	13	11	12	13	11	4	84
7	16106047	JAYSHREE.K	2	2	2	2	2	2	2	2	2	2	14	13	13	12	12	6	90
8	16106048	JEEVA P	1		1								0	0	0				2
9	16106801	ADITHVATHSHAN R	1	1	1				1			1	5	3	1				14
10	16106803	MAHENDRAN.P		1									3	1					5
		Each Question Expected Level of Attainment - (50%)	7	8	8	5	6	5	5	6	5	7	6	6	5	6	5	2	
		No of students scores upto expected level	70.00	80.00	80.00	50.00	60.00	50.00	50.00	60.00	50.00	70.00	60.00	60.00	50.00	60.00	50.00	20.00	
		Mapping with CO	CO4	CO5	CO3	CO2	CO2	CO1	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO1	CO1	CO1	
		ATTAINMENT LEVEL OF ALL CO	CO1		CO2		CO3		CO4										
			51.25		56.00		80.00		70.00										

No of Student Passed = : 5	No of Student (Single Digit) =	2	Pass Percentage (%) 50.00	Total Strength : 10
No of Student Failed = : 5	No of Student (Zero) =	0		Total Attended : 10

Faculty Signature
[T.Nivethitha]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr. MAGUDESWARAN P N]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ATTENDANCE AND ASSIGNMENT MARKS

Each Question Expected Level of Attainment - 50%

COURSE NAME & CODE : 16EC5203-DATA COMMUNICATION AND NETWORKS

Batch : 2017 - 2018

SECTION : A

Total Strength : 10

Name of the Faculty : T.NIVETHITHA

S.No	REG.No.	Name	ASSIGNMENT						ATTENDANCE PERCENTAGE %	ATTENDANCE MARKS
			I	II	III	TOTAL	WEIGHTAGE	ASSIGNMENT PERCENTAGE %		
							7.5			5
		Expected Marks to Attainment	2.5	2.5	2.5	7.5	3.75			2.50
1	**16106041**	HEMA PREETHI D	5	5	5	15	5	100	86	4
2	**16106042**	INDHUJA A	5	5	5	15	5	100	85	3
3	**16106043**	JANANI A	5	5	5	15	5	100	84	3
4	**16106044**	JAYAKUMAR .S	5	5	5	15	5	100	81	3
5	**16106045**	JAYA PRAKASH L	5	5	5	15	5	100	80	2
6	**16106046**	JAYASHREE J	5	5	5	15	5	100	100	5
7	**16106047**	JAYSHREE.K	5	5	5	15	5	100	91	5
8	**16106048**	JEEVA P	5	5	5	15	5	100	90	4
9	**16106801**	ADITHVATHSHAN R	5	5	5	15	5	100	89	4
10	**16106803**	MAHENDRAN.P	5	5	5	15	5	100	60	0
OVER ALL ASSIGNMENT AND ATTENDANCE			10.00	10.00	10.00	**#WERT!**		**100.00**	**85**	**3.30**
No of students scores upto expected level			100.00	100.00	100.00					
Mapping with CO			CO1 CO2	CO2 CO3	CO4 CO5					

OVERALL ATT % & ASSING % CALCULATION SHOULD BE DONE DEPENDING ON CLASS STRENGTH

ATTENDANCE % SHOULD BE TAKEN FROM ECAMPUS AND DISTRIBUTE THE MARKS ACCORDING TO THE SPLIT UP'S

Faculty Signature
[T.Nivethitha]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr. MAGUDESWARAN P N]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CO AND PO MAPPING

COURSE NAME & CODE : 16EC5203-DATA COMMUNICATION AND NETWORKS

Batch : 2017 - 2018

Name of the Faculty : T.NIVETHITHA

SECTION : A

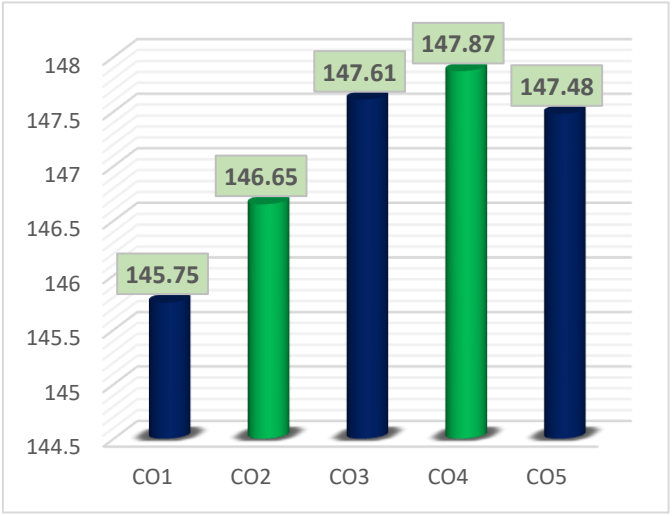
CO Attainment

CO's	LAB EXP %	LAB Model	INT I	INT II	MID SEM	INT III	ASSIGN MENT	INT (100%)	INT (50%)	END SEM	END SEM (50%)	DA (100%)	DA (80%)	IDA (20%)	Attainment (100%)	AL
CO1	730.00	100.00	40.0		51.3		100.0	239.4	119.69	80.0	40	159.7	127.8	18.0	145.8	3
CO2	730.00	100.00	61.7	50.0	56.0		100.0	241.0	120.48	80.0	40	160.5	128.4	18.3	146.7	3
CO3	720.00	100.00		50.0	80.0		100.0	243.3	121.67	80.0	40	161.7	129.3	18.3	147.6	3
CO4	720.00	100.00			70.0	42.0	100.0	240.3	120.17	80.0	40	160.2	128.1	19.7	147.9	3
CO5	720.00	100.00				47.5	100.0	241.9	120.94	80.0	40	160.9	128.8	18.7	147.5	3

CO-PO Mapping

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	3	1	1	1	1	1	1	-	-	-	-	1	1
CO2	3	1	2	1	-	-	-	-	-	-	-	-	2	2
CO3	-	3	3	2	-	-	-	-	1	-	-	-	3	3
CO4	-	1	1	-	-	-	-	-	-	-	-	-	1	1
CO5	2	2	2	2	-	-	-	-	-	-	-	1	2	2

Graphical Representation - CO Attainment



Scale	
Weightage	Attainment Level
>= 80 %	3
>=70 & < 80	2
>=60 & < 70	1

PO Attainment

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	3	1	1	1	1	1	1	-	-	-	-	1	1
CO2	3	1	2	1	-	-	-	-	-	-	-	-	2	2
CO3	-	3	3	2	-	-	-	-	1	-	-	-	3	3
CO4	-	1	1	-	-	-	-	-	-	-	-	-	1	1
CO5	2	2	2	2	-	-	-	-	-	-	-	1	2	2
	2	2	2	2	1	1	1	1	1	-	-	1	1.8	2

*DA - Direct Assessment *AL - Attainment Level

*IDA - Indirect Assessment

Faculty Signature

[T.Nivethitha]

HOD

[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE OUTCOME 1

COURSE NAME & CODE : 16EC5203-DATA COMMUNICATION AND NETWORKS

SECTION : A

Batch : 2017 - 2018

Name of the Faculty : T.NIVETHITHA

Total Strength : 10

			Ex 1					TOTAL							
S.No	**Univ Reg No**	**Name**	**Rubric1**	**Rubric2**	**Rubric3**	**Rubric4**	**Rubric5**	**Rubric1**	**Rubric2**	**Rubric3**	**Rubric4**	**Rubric5**	**Percentage**	**Score on Grade**	**Target ≥ : 50 %**
1	16106041	HEMA PREETHI D	25			15	10	25			15	10	50	0	Y
2	16106042	INDHUJA A	25			15	10	25			15	10	50	0	Y
3	16106043	JANANI A	25			15	10	25			15	10	50	0	Y
4	16106044	JAYAKUMAR .S	25			15	10	25			15	10	50	0	Y
5	16106045	JAYA PRAKASH L	25			15	10	25			15	10	50	0	Y
6	16106046	JAYASHREE J	25			15	10	25			15	10	50	0	Y
7	16106047	JAYSHREE.K	25			15	10	25			15	10	50	0	Y
8	16106048	JEEVA P	25			15	10	25			15	10	50	0	Y
9	16106801	ADITHVATHSHAN R	25			15	10	25			15	10	50	0	Y
10	16106803	MAHENDRAN.P	25			15	10	25			15	10	50	0	Y

Total Number of students	10
Number of students Attained	73
Percentage of Attainment	730
Attainment Level of Course Outcome 1	3

Faculty Signature

[T.Nivethitha]

HOD

[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE OUTCOME 2

COURSE NAME & CODE : 16EC5203-DATA COMMUNICATION AND NETWORKS

SECTION : A

Batch : 2017 - 2018

Name of the Faculty : T.NIVETHITHA

Total Strength : 10

			Ex 1					Average							
S.No	**Univ Reg No**	**Name**	**Rubric1**	**Rubric2**	**Rubric3**	**Rubric4**	**Rubric5**	**Rubric1**	**Rubric2**	**Rubric3**	**Rubric4**	**Rubric5**	**Percentage**	**Score on Grade**	**Target ≥ : 50 %**
1	16106041	HEMA PREETHI D	25			15	10	25			15	10	50	0	Y
2	16106042	INDHUJA A	25			15	10	25			15	10	50	0	Y
3	16106043	JANANI A	25			15	10	25			15	10	50	0	Y
4	16106044	JAYAKUMAR .S	25			15	10	25			15	10	50	0	Y
5	16106045	JAYA PRAKASH L	25			15	10	25			15	10	50	0	Y
6	16106046	JAYASHREE J	25			15	10	25			15	10	50	0	Y
7	16106047	JAYSHREE.K	25			15	10	25			15	10	50	0	Y
8	16106048	JEEVA P	25			15	10	25			15	10	50	0	Y
9	16106801	ADITHVATHSHAN R	25			15	10	25			15	10	50	0	Y
10	16106803	MAHENDRAN.P	25			15	10	25			15	10	50	0	Y
													Total Number of students		10
													Number of students Attained		73
													Percentage of Attainment		730
													Attainment Level of Course Outcome 2		3

Faculty Signature

[T.Nivethitha]

HOD

[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE OUTCOME 3

COURSE NAME & CODE : 16EC5203-DATA COMMUNICATION AND NETWORKS

SECTION : A

Batch : 2017 - 2018

Name of the Faculty : T.NIVETHITHA

Total Strength : 10

			Ex 1					TOTAL							
S.No	**Univ Reg No**	**Name**	**Rubric1**	**Rubric2**	**Rubric3**	**Rubric4**	**Rubric5**	**Rubric1**	**Rubric2**	**Rubric3**	**Rubric4**	**Rubric5**	**Percentage**	**Score on Grade**	**Target ≥ : 50 %**
1	16106041	HEMA PREETHI D	25			15	10	25			15	10	50	0	Y
2	16106042	INDHUJA A	25			15	10	25			15	10	50	0	Y
3	16106043	JANANI A	25			15	10	25			15	10	50	0	Y
4	16106044	JAYAKUMAR .S	25			15	10	25			15	10	50	0	Y
5	16106045	JAYA PRAKASH L	25			15	10	25			15	10	50	0	Y
6	16106046	JAYASHREE J	25			15	10	25			15	10	50	0	Y
7	16106047	JAYSHREE.K	25			15	10	25			15	10	50	0	Y
8	16106048	JEEVA P	25			15	10	25			15	10	50	0	Y
9	16106801	ADITHVATHSHAN R	25			15	10	25			15	10	50	0	Y
10	16106803	MAHENDRAN.P	25			15	10	25			15	10	50	0	Y
													Total Number of students		10
													Number of students Attained		72
													Percentage of Attainment		720
													Attainment Level of Course Outcome 3		3

Faculty Signature

[T.Nivethitha]

HOD

[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE OUTCOME 4

COURSE NAME & CODE : 16EC5203-DATA COMMUNICATION AND NETWORKS

SECTION : A

Batch : 2017 - 2018

Name of the Faculty : T.NIVETHITHA

Total Strength : 10

			Ex 1					TOTAL							
S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 50 %
1	16106041	HEMA PREETHI D	25			15	10	25			15	10	50	0	Y
2	16106042	INDHUJA A	25			15	10	25			15	10	50	0	Y
3	16106043	JANANI A	25			15	10	25			15	10	50	0	Y
4	16106044	JAYAKUMAR .S	25			15	10	25			15	10	50	0	Y
5	16106045	JAYA PRAKASH L	25			15	10	25			15	10	50	0	Y
6	16106046	JAYASHREE J	25			15	10	25			15	10	50	0	Y
7	16106047	JAYSHREE.K	25			15	10	25			15	10	50	0	Y
8	16106048	JEEVA P	25			15	10	25			15	10	50	0	Y
9	16106801	ADITHVATHSHAN R	25			15	10	25			15	10	50	0	Y
10	16106803	MAHENDRAN.P	25			15	10	25			15	10	50	0	Y

Total Number of students	10
Number of students Attained	72
Percentage of Attainment	720
Attainment Level of Course Outcome 4	3

Faculty Signature

[T.Nivethitha]

HOD

[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE OUTCOME 5

COURSE NAME & CODE : 16EC5203-DATA COMMUNICATION AND NETWORKS

SECTION : A — Batch : 2017 - 2018

Name of the Faculty : T.NIVETHITHA — Total Strength : 10

			Ex 1					Average							
S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade	Target ≥ : 50 %
1	16106041	HEMA PREETHI D	25			15	10	25			15	10	50	0	Y
2	16106042	INDHUJA A	25			15	10	25			15	10	50	0	Y
3	16106043	JANANI A	25			15	10	25			15	10	50	0	Y
4	16106044	JAYAKUMAR .S	25			15	10	25			15	10	50	0	Y
5	16106045	JAYA PRAKASH L	25			15	10	25			15	10	50	0	Y
6	16106046	JAYASHREE J	25			15	10	25			15	10	50	0	Y
7	16106047	JAYSHREE.K	25			15	10	25			15	10	50	0	Y
8	16106048	JEEVA P	25			15	10	25			15	10	50	0	Y
9	16106801	ADITHVATHSHAN R	25			15	10	25			15	10	50	0	Y
10	16106803	MAHENDRAN.P	25			15	10	25			15	10	50	0	Y

Total Number of students	10
Number of students Attained	72
Percentage of Attainment	720
Attainment Level of Course Outcome 5	3

Faculty Signature
[T.Nivethitha]

HOD
[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Model Marks

Each Question Expected Level of Attainment - : 50%

COURSE NAME & CODE : 16EC5203-DATA COMMUNICATION AND NETWORKS

SECTION : A

Batch : 2017 - 2018

Name of the Faculty : T.NIVETHITHA

Total Strength : 10

S.No	Univ Reg No	Name	GRADE	Target ≥ : 50 %
1	16106041	HEMA PREETHI D	70	Y
2	16106042	INDHUJA A	96	Y
3	16106043	JANANI A	94	Y
4	16106044	JAYAKUMAR .S	88	Y
5	16106045	JAYA PRAKASH L	92	Y
6	16106046	JAYASHREE J	90	Y
7	16106047	JAYSHREE.K	66	Y
8	16106048	JEEVA P	98	Y
9	16106801	ADITHVATHSHAN R	98	Y
10	16106803	MAHENDRAN.P	74	Y
		Total Number of students	10	
		Number of students Attained	10	
		Percentage of Attainment	100	
		University Attainment Level	3	

Faculty Signature

[T.Nivethitha]

HOD

[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

END SEMESTER EXAM

Each Question Expected Level of Attainment - 50%

COURSE NAME & CODE : 16EC5203-DATA COMMUNICATION AND NETWORKS | Batch : 2017 - 2018

SECTION : A | Total Strength : 10

Name of the Faculty : T.NIVETHITHA | Total Attended : 10

S.No	REG.No.	Name	GRADE	MARK
				100
		Expected Marks to Attainment		50.00
1	16106041	HEMA PREETHI D	B	59
2	16106042	INDHUJA A	RA	-
3	16106043	JANANI A	B	59
4	16106044	JAYAKUMAR .S	B	59
5	16106045	JAYA PRAKASH L	B	59
6	16106046	JAYASHREE J	B+	69
7	16106047	JAYSHREE.K	B+	69
8	16106048	JEEVA P	B	59
9	16106801	ADITHVATHSHAN R	B	59
10	16106803	MAHENDRAN.P	RA	-
			Each Question Expected Level of Attainment - (50%)	8
			No of students scores upto expected level	80.00

Faculty Signature
[T.Nivethitha]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr. MAGUDESWARAN P N]

ANNEXURE IV

ENTRY MAPPING OF COs and POs:															
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	**PSO-1**	**PSO-2**	
CO1	3	2	2	3	3	1	2	2	3	2	2	2	1	1	1
CO2	3	2	3	2	-	-	-	-	-	-	-	-	2	2	2
CO3	-	3	3	2	2	-	2	3	1	-	-	-	3	3	3
CO4	-	1	1	-	-	-	-	-	-	-	-	-	1	1	-
CO5	3	3	2	2	-	-	-	-	-	-	-	1	2	2	
AVG	3	2.2	2.2	2.25	2.5	1	2	2.5	2	2	2	1.5	1.8	1.8	

Indirect Survey					
CO	**Excellent**	**Good**	**Poor**	**Efficient**	**Percentage %**
CO1	37	10	0	2.79	93
CO2	35	5	7	2.6	86.7
CO3	40	5	2	2.81	93.7
CO4	37	10	0	2.79	93
CO5	35	19	2	2.59	86.3

COURSE NAME & CODE	16EC7001 EMBEDDED SYSTEM LABORATORY
SECTION	A
Name of the Faculty	R VANITHA
Department	DEPARTMENT OF ELECTRONICS AND COMMUNICATI
Batch	2016 - 2020
xpected Level of Attainment -	60%
	No of students scores upto expected level
	% of scoring above the attainment level

Faculty Signature HOD DEAN PRINCIPAL

[R.Vanitha] [Dr.P.Rajeswari] [Dr.P.N Magudeswaran] [Dr.K.Karunakaran]

	A	B	C	D	E	F
1						
2				Total Strength	47	47
3				Total Attended	47	47
4		**S.No**	**Univ Reg No**	**Name**	**Model Exam(100)**	**UNIV GRADE**
5		1	16106001	AARTHI GR	60	A+
6		2	16106002	ABHINANDH M	92	O
7		3	16106003	ABHIVARNA C	75	O
8		4	16106004	ABISHA.B	96	O
9		5	16106005	ADITHYA NATHAN.B	92	O
10		6	16106006	AKHAASH A	55	A
11		7	16106007	AMISHA VERMA	92	O
12		8	16106009	ARAVINDRAJ G	94	O
13		9	16106011	ARUN RAJESH KANNAN I	85	O
14		10	16106012	ASWIN KRRISHNAN.S	80	O
15		11	16106013	AVINASH P	60	A
16		12	16106014	BALAMURUGAN.P	90	O
17		13	16106015	BASKAR R	72	A+
18		14	16106016	BAVITHRA MEENA .V	92	O
19		15	16106017	BENITA S	74	A+
20		16	16106018	CYNTHIA SOPHIE R	60	A+
21		17	16106019	DEEBIKA S	70	A+
22		18	16106020	DEVARAJ V	86	O
23		19	16106021	DHANALAKSHMI A	92	O
24		20	16106022	DHANYA VARSHINI V	95	O
25		21	16106023	DHIVAGAR V	60	A+
26		22	16106024	DHIYANESH R	74	A+
27		23	16106025	DINA CYNTHYA R	91	O
28		24	16106026	DINESH S V	52	B+

	A	B	C	D	E	F
29		25	16106027	FARHANAH.M.S	92	O
30		26	16106029	GANESA MOORTHY	72	A+
31		27	16106030	GAYATHRI .S	94	O
32		28	16106031	GIRITHARAKARTHIKEYAN M	82	A+
33		29	16106032	GOUDAM M	80	A+
34		30	16106033	GOWTHAM R	62	O
35		31	16106034	HAREESH KUMAR T S	82	O
36		32	16106035	HARI PRASAD P	70	A
37		33	16106036	HARIRAM P S	74	O
38		34	16106037	HARISH N	72	A+
39		35	16106038	HARISH V	62	A+
40		36	16106039	HARSHA V	80	A
41		37	16106040	HARSHINI M S	80	O
42		38	16106041	HEMA PREETHI D	84	O
43		39	16106042	INDHUJA A	82	A
44		41	16106043	JANANI A	88	O
45		41	16106044	JAYAKUMAR .S	74	O
46		42	16106045	JAYA PRAKASH L	0	B+
47		43	16106046	JAYASHREE J	95	O
48		44	16106047	JAYSHREE.K	92	O
49		45	16106048	JEEVA P	65	A
50		46	16106801	ADITHVATHSHAN R	72	A+
51		47	16106803	MAHENDRAN.P	80	B+

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE OUTCOME 1

COURSE NAME & CODE : 16EC7001 EMBEDDED SYSTEM LABORATORY

SECTION : A

Batch : 2016 - 2020

Name of the Faculty : R VANITHA

Total Strength : 47

			Ex 1					EX2					Average							
S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %
1	16106001	AARTHI GR	20	20	20	16		22	22	22	16		21	21	21	16		79	2	Y
2	16106002	ABHINANDH M	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
3	16106003	ABHIVARNA C	25	25	25	21		21	21	23	23		23	23	24	22		92	3	Y
4	16106004	ABISHA.B	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
5	16106005	ADITHYA NATHAN.B	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
6	16106006	AKHAASH A	20	15	15	0		22	16	15	0		21	16	15			51.5	0	
7	16106007	AMISHA VERMA	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
8	16106009	ARAVINDRAJ G	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
9	16106011	ARUN RAJESH KANNAN I	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
10	16106012	ASWIN KRRISHNAN.S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
11	16106013	AVINASH P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
12	16106014	BALAMURUGAN.P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
13	16106015	BASKAR R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
14	16106016	BAVITHRA MEENA .V	20	15	15	12		20	15	15	12		20	15	15	12		62	1	Y
15	16106017	BENITA S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
16	16106018	CYNTHIA SOPHIE R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
17	16106019	DEEBIKA S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
18	16106020	DEVARAJ V	20	20	20	28		20	20	20	28		20	20	20	28		88	3	Y
19	16106021	DHANALAKSHMI A	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
20	16106022	DHANYA VARSHINI V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
21	16106023	DHIVAGAR V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
22	16106024	DHIYANESH R	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y

S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %
23	16106025	DINA CYNTHYA R	20	20	20	18		20	20	20	18		20	20	20	18		78	2	Y
24	16106026	DINESH S V	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
25	16106027	FARHANAH.M.S	20	15	15	0		20	15	15	0		20	15	15			50	0	
26	16106029	GANESA MOORTHY	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
27	16106030	GAYATHRI .S	25	24	25	25		25	24	25	25		25	24	25	25		99	3	Y
28	16106031	GIRITHARAKARTHIKEYAN M	25	25	25	21		20	23	25	21		23	24	25	21		92.5	3	Y
29	16106032	GOUDAM M	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
30	16106033	GOWTHAM R	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
31	16106034	HAREESH KUMAR T S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
32	16106035	HARI PRASAD P	20	20	20	14		20	20	20	14		20	20	20	14		74	2	Y
33	16106036	HARIRAM P S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
34	16106037	HARISH N	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
35	16106038	HARISH V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
36	16106039	HARSHA V	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
37	16106040	HARSHINI M S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
38	16106041	HEMA PREETHI D	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
39	16106042	INDHUJA A	20	20	20	28		20	20	20	28		20	20	20	28		88	3	Y
41	16106043	JANANI A	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
41	16106044	JAYAKUMAR .S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
42	16106045	JAYA PRAKASH L	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
43	16106046	JAYASHREE J	20	20	20	20		20	20	20	20		20	20	20	20		80	3	Y
44	16106047	JAYSHREE.K	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
45	16106048	JEEVA P	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
46	16106801	ADITHVATHSHAN R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
47	16106803	MAHENDRAN.P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y

Total Number of students	47
Number of students Attained	47
Percentage of Attainment	100
Attainment Level of Course Outcome 1	3

S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %

Faculty Signature
[R.Vanitha]

HOD
[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE OUTCOME 2

COURSE NAME & CODE : 16EC7001 EMBEDDED SYSTEM LABORATORY

SECTION : A

Batch : 2016 - 2020

Name of the Faculty : R VANITHA

Total Strength : 47

			Ex 3					EX 4					Average							
S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %
1	16106001	AARTHI GR	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
2	16106002	ABHINANDH M	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
3	16106003	ABHIVARNA C	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
4	16106004	ABISHA.B	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
5	16106005	ADITHYA NATHAN.B	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
6	16106006	AKHAASH A	20	15	15	0		20	15	15	0		20	15	15			50	0	
7	16106007	AMISHA VERMA	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
8	16106009	ARAVINDRAJ G	25	24	25	25		25	24	25	25		25	24	25	25		99	3	Y
9	16106011	ARUN RAJESH KANNAN I	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
10	16106012	ASWIN KRRISHNAN.S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
11	16106013	AVINASH P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
12	16106014	BALAMURUGAN.P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
13	16106015	BASKAR R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
14	16106016	BAVITHRA MEENA .V	20	15	15	12		20	15	15	12		20	15	15	12		62	1	Y
15	16106017	BENITA S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
16	16106018	CYNTHIA SOPHIE R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
17	16106019	DEEBIKA S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
18	16106020	DEVARAJ V	20	20	20	28		20	20	20	28		20	20	20	28		88	3	Y
19	16106021	DHANALAKSHMI A	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
20	16106022	DHANYA VARSHINI V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
21	16106023	DHIVAGAR V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
22	16106024	DHIYANESH R	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
23	16106025	DINA CYNTHYA R	20	20	20	18		20	20	20	18		20	20	20	18		78	2	Y
24	16106026	DINESH S V	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y

S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %
25	16106027	FARHANAH.M.S	20	15	15	0		20	15	15	0		20	15	15			50	0	
26	16106029	GANESA MOORTHY	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
27	16106030	GAYATHRI .S	25	24	25	25		25	24	25	25		25	24	25	25		99	3	Y
28	16106031	GIRITHARAKARTHIKEYAN M	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
29	16106032	GOUDAM M	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
30	16106033	GOWTHAM R	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
31	16106034	HAREESH KUMAR T S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
32	16106035	HARI PRASAD P	20	20	20	14		20	20	20	14		20	20	20	14		74	2	Y
33	16106036	HARIRAM P S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
34	16106037	HARISH N	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
35	16106038	HARISH V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
36	16106039	HARSHA V	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
37	16106040	HARSHINI M S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
38	16106041	HEMA PREETHI D	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
39	16106042	INDHUJA A	20	20	20	28		20	20	20	28		20	20	20	28		88	3	Y
41	16106043	JANANI A	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
41	16106044	JAYAKUMAR .S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
42	16106045	JAYA PRAKASH L	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
43	16106046	JAYASHREE J	20	20	20	20		20	20	20	20		20	20	20	20		80	3	Y
44	16106047	JAYSHREE.K	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
45	16106048	JEEVA P	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
46	16106801	ADITHVATHSHAN R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
47	16106803	MAHENDRAN.P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
																		Total Number of students	47	
																		Number of students Attained	47	
																		Percentage of Attainment	100	
																		Attainment Level of Course Outcome 2	3	

Faculty Signature
[R.Vanitha]

HOD
[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE OUTCOME 3

COURSE NAME & CODE : 16EC7001 EMBEDDED SYSTEM LABORATORY

SECTION : A

Batch : 2016 - 2020

Name of the Faculty : R VANITHA

Total Strength : 47

			Ex 5					EX6					Average							
S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %
1	16106001	AARTHI GR	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
2	16106002	ABHINANDH M	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
3	16106003	ABHIVARNA C	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
4	16106004	ABISHA.B	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
5	16106005	ADITHYA NATHAN.B	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
6	16106006	AKHAASH A	20	15	15	0		20	15	15	0		20	15	15			50	0	
7	16106007	AMISHA VERMA	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
8	16106009	ARAVINDRAJ G	25	24	25	25		25	24	25	25		25	24	25	25		99	3	Y
9	16106011	ARUN RAJESH KANNAN I	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
10	16106012	ASWIN KRRISHNAN.S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
11	16106013	AVINASH P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
12	16106014	BALAMURUGAN.P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
13	16106015	BASKAR R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
14	16106016	BAVITHRA MEENA .V	20	15	15	12		20	15	15	12		20	15	15	12		62	1	Y
15	16106017	BENITA S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
16	16106018	CYNTHIA SOPHIE R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
17	16106019	DEEBIKA S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
18	16106020	DEVARAJ V	20	20	20	28		20	20	20	28		20	20	20	28		88	3	Y
19	16106021	DHANALAKSHMI A	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
20	16106022	DHANYA VARSHINI V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
21	16106023	DHIVAGAR V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
22	16106024	DHIYANESH R	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y

S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %
23	16106025	DINA CYNTHYA R	20	20	20	18		20	20	20	18		20	20	20	18		78	2	Y
24	16106026	DINESH S V	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
25	16106027	FARHANAH.M.S	20	15	15	0		20	15	15	0		20	15	15			50	0	
26	16106029	GANESA MOORTHY	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
27	16106030	GAYATHRI .S	25	24	25	25		25	24	25	25		25	24	25	25		99	3	Y
28	16106031	GIRITHARAKARTHIKEYAN M	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
29	16106032	GOUDAM M	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
30	16106033	GOWTHAM R	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
31	16106034	HAREESH KUMAR T S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
32	16106035	HARI PRASAD P	20	20	20	14		20	20	20	14		20	20	20	14		74	2	Y
33	16106036	HARIRAM P S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
34	16106037	HARISH N	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
35	16106038	HARISH V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
36	16106039	HARSHA V	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
37	16106040	HARSHINI M S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
38	16106041	HEMA PREETHI D	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
39	16106042	INDHUJA A	20	20	20	28		20	20	20	28		20	20	20	28		88	3	Y
41	16106043	JANANI A	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
41	16106044	JAYAKUMAR .S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
42	16106045	JAYA PRAKASH L	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
43	16106046	JAYASHREE J	20	20	20	20		20	20	20	20		20	20	20	20		80	3	Y
44	16106047	JAYSHREE.K	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
45	16106048	JEEVA P	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
46	16106801	ADITHVATHSHAN R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
47	16106803	MAHENDRAN.P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y

Total Number of students	47
Number of students Attained	47
Percentage of Attainment	100
Attainment Level of Course Outcome 3	3

S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %

Faculty Signature
[R.Vanitha]

HOD
[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE OUTCOME 4

COURSE NAME & CODE : 16EC7001 EMBEDDED SYSTEM LABORATORY

SECTION : A

Batch : 2016 - 2020

Name of the Faculty : R VANITHA

Total Strength : 47

			Ex 7					EX8					Average							
S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %
1	16106001	AARTHI GR	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
2	16106002	ABHINANDH M	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
3	16106003	ABHIVARNA C	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
4	16106004	ABISHA.B	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
5	16106005	ADITHYA NATHAN.B	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
6	16106006	AKHAASH A	20	15	15	0		20	15	15	0		20	15	15			50	0	
7	16106007	AMISHA VERMA	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
8	16106009	ARAVINDRAJ G	25	24	25	25		25	24	25	25		25	24	25	25		99	3	Y
9	16106011	ARUN RAJESH KANNAN I	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
10	16106012	ASWIN KRRISHNAN.S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
11	16106013	AVINASH P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
12	16106014	BALAMURUGAN.P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
13	16106015	BASKAR R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
14	16106016	BAVITHRA MEENA .V	20	15	15	12		20	15	15	12		20	15	15	12		62	1	Y
15	16106017	BENITA S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
16	16106018	CYNTHIA SOPHIE R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
17	16106019	DEEBIKA S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
18	16106020	DEVARAJ V	20	20	20	28		20	20	20	28		20	20	20	28		88	3	Y
19	16106021	DHANALAKSHMI A	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
20	16106022	DHANYA VARSHINI V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
21	16106023	DHIVAGAR V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
22	16106024	DHIYANESH R	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y

S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %
23	16106025	DINA CYNTHYA R	20	20	20	18		20	20	20	18		20	20	20	18		78	2	Y
24	16106026	DINESH S V	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
25	16106027	FARHANAH.M.S	20	15	15	0		20	15	15	0		20	15	15			50	0	
26	16106029	GANESA MOORTHY	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
27	16106030	GAYATHRI .S	25	24	25	25		25	24	25	25		25	24	25	25		99	3	Y
28	16106031	GIRITHARAKARTHIKEYAN M	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
29	16106032	GOUDAM M	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
30	16106033	GOWTHAM R	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
31	16106034	HAREESH KUMAR T S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
32	16106035	HARI PRASAD P	20	20	20	14		20	20	20	14		20	20	20	14		74	2	Y
33	16106036	HARIRAM P S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
34	16106037	HARISH N	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
35	16106038	HARISH V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
36	16106039	HARSHA V	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
37	16106040	HARSHINI M S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
38	16106041	HEMA PREETHI D	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
39	16106042	INDHUJA A	20	20	20	28		20	20	20	28		20	20	20	28		88	3	Y
41	16106043	JANANI A	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
41	16106044	JAYAKUMAR .S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
42	16106045	JAYA PRAKASH L	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
43	16106046	JAYASHREE J	20	20	20	20		20	20	20	20		20	20	20	20		80	3	Y
44	16106047	JAYSHREE.K	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
45	16106048	JEEVA P	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
46	16106801	ADITHVATHSHAN R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
47	16106803	MAHENDRAN.P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y

Total Number of students	47
Number of students Attained	47
Percentage of Attainment	100
Attainment Level of Course Outcome 4	3

S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %

Faculty Signature
[R.Vanitha]

HOD
[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

COURSE OUTCOME 5

COURSE NAME & CODE : 16EC7001 EMBEDDED SYSTEM LABORATORY

SECTION : A

Batch : 2016 - 2020

Name of the Faculty : R VANITHA

Total Strength : 47

			Ex 1 9					EX 10					Average							
S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %
1	16106001	AARTHI GR	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
2	16106002	ABHINANDH M	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
3	16106003	ABHIVARNA C	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
4	16106004	ABISHA.B	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
5	16106005	ADITHYA NATHAN.B	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
6	16106006	AKHAASH A	20	15	15	0		20	15	15	0		20	15	15			50	0	
7	16106007	AMISHA VERMA	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
8	16106009	ARAVINDRAJ G	25	24	25	25		25	24	25	25		25	24	25	25		99	3	Y
9	16106011	ARUN RAJESH KANNAN I	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
10	16106012	ASWIN KRRISHNAN.S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
11	16106013	AVINASH P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
12	16106014	BALAMURUGAN.P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
13	16106015	BASKAR R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
14	16106016	BAVITHRA MEENA .V	20	15	15	12		20	15	15	12		20	15	15	12		62	1	Y
15	16106017	BENITA S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
16	16106018	CYNTHIA SOPHIE R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
17	16106019	DEEBIKA S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
18	16106020	DEVARAJ V	20	20	20	28		20	20	20	28		20	20	20	28		88	3	Y
19	16106021	DHANALAKSHMI A	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
20	16106022	DHANYA VARSHINI V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
21	16106023	DHIVAGAR V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
22	16106024	DHIYANESH R	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y

S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %
23	16106025	DINA CYNTHYA R	20	20	20	18		20	20	20	18		20	20	20	18		78	2	Y
24	16106026	DINESH S V	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
25	16106027	FARHANAH.M.S	20	15	15	0		20	15	15	0		20	15	15			50	0	
26	16106029	GANESA MOORTHY	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
27	16106030	GAYATHRI .S	25	24	25	25		25	24	25	25		25	24	25	25		99	3	Y
28	16106031	GIRITHARAKARTHIKEYAN M	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
29	16106032	GOUDAM M	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
30	16106033	GOWTHAM R	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
31	16106034	HAREESH KUMAR T S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
32	16106035	HARI PRASAD P	20	20	20	14		20	20	20	14		20	20	20	14		74	2	Y
33	16106036	HARIRAM P S	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
34	16106037	HARISH N	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
35	16106038	HARISH V	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
36	16106039	HARSHA V	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
37	16106040	HARSHINI M S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
38	16106041	HEMA PREETHI D	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
39	16106042	INDHUJA A	20	20	20	28		20	20	20	28		20	20	20	28		88	3	Y
41	16106043	JANANI A	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
41	16106044	JAYAKUMAR .S	20	20	20	24		20	20	20	24		20	20	20	24		84	3	Y
42	16106045	JAYA PRAKASH L	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
43	16106046	JAYASHREE J	20	20	20	20		20	20	20	20		20	20	20	20		80	3	Y
44	16106047	JAYSHREE.K	20	20	20	16		20	20	20	16		20	20	20	16		76	2	Y
45	16106048	JEEVA P	25	25	25	25		25	25	25	25		25	25	25	25		100	3	Y
46	16106801	ADITHVATHSHAN R	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y
47	16106803	MAHENDRAN.P	25	25	25	21		25	25	25	21		25	25	25	21		96	3	Y

Total Number of students	47
Number of students Attained	47
Percentage of Attainment	100
Attainment Level of Course Outcome 5	3

S.No	Univ Reg No	Name	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Rubric1	Rubric2	Rubric3	Rubric4	Rubric5	Percentage	Score on Grade Scale	Target ≥ : 60 %

Faculty Signature
[R.Vanitha]

HOD
[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Model MARKS

Each Question Expected Level of Attainment - : 60%

COURSE NAME & CODE : 16EC7001 EMBEDDED SYSTEM LABORATORY

SECTION : A | Batch : 2016 - 2020

Name of the Faculty : R VANITHA | Total Strength : 47

S.No	Univ Reg No	Name	GRADE	Target ≥ : 60 %
1	16106001	AARTHI GR	60	Y
2	16106002	ABHINANDH M	92	Y
3	16106003	ABHIVARNA C	75	Y
4	16106004	ABISHA.B	96	Y
5	16106005	ADITHYA NATHAN.B	92	Y
6	16106006	AKHAASH A	55	
7	16106007	AMISHA VERMA	92	Y
8	16106009	ARAVINDRAJ G	94	Y
9	16106011	ARUN RAJESH KANNAN I	85	Y
10	16106012	ASWIN KRRISHNAN.S	80	Y
11	16106013	AVINASH P	60	Y
12	16106014	BALAMURUGAN.P	90	Y
13	16106015	BASKAR R	72	Y
14	16106016	BAVITHRA MEENA .V	92	Y
15	16106017	BENITA S	74	Y
16	16106018	CYNTHIA SOPHIE R	60	Y
17	16106019	DEEBIKA S	70	Y
18	16106020	DEVARAJ V	86	Y

S.No	Univ Reg No	Name	GRADE	Target ≥ : 60 %
19	16106021	DHANALAKSHMI A	92	Y
20	16106022	DHANYA VARSHINI V	95	Y
21	16106023	DHIVAGAR V	60	Y
22	16106024	DHIYANESH R	74	Y
23	16106025	DINA CYNTHYA R	91	Y
24	16106026	DINESH S V	52	
25	16106027	FARHANAH.M.S	92	Y
26	16106029	GANESA MOORTHY	72	Y
27	16106030	GAYATHRI .S	94	Y
28	16106031	GIRITHARAKARTHIKEYAN M	82	Y
29	16106032	GOUDAM M	80	Y
30	16106033	GOWTHAM R	62	Y
31	16106034	HAREESH KUMAR T S	82	Y
32	16106035	HARI PRASAD P	70	Y
33	16106036	HARIRAM P S	74	Y
34	16106037	HARISH N	72	Y
35	16106038	HARISH V	62	Y
36	16106039	HARSHA V	80	Y
37	16106040	HARSHINI M S	80	Y
38	16106041	HEMA PREETHI D	84	Y
39	16106042	INDHUJA A	82	Y
41	16106043	JANANI A	88	Y

S.No	Univ Reg No	Name	GRADE	Target ≥ : 60 %
41	16106044	JAYAKUMAR .S	74	Y
42	16106045	JAYA PRAKASH L	0	
43	16106046	JAYASHREE J	95	Y
44	16106047	JAYSHREE.K	92	Y
45	16106048	JEEVA P	65	Y
46	16106801	ADITHVATHSHAN R	72	Y
47	16106803	MAHENDRAN.P	80	Y
		Total Number of students	47	
		Number of students Attained	44	
		Percentage of Attainment	93.62	
		University Attainment Level	3	

Faculty Signature
[R.Vanitha]

HOD
[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

End Semester Marks

Each Question Expected Level of Attainment - : 60%

COURSE NAME & CODE : 16EC7001 EMBEDDED SYSTEM LABORATORY

SECTION : A | Batch : 2016 - 2020

Name of the Faculty : R VANITHA | Total Strength : 47

S.No	Univ Reg No	Name	GRADE	Target ≥ : 60 %
1	16106001	AARTHI GR	A+	Y
2	16106002	ABHINANDH M	O	Y
3	16106003	ABHIVARNA C	O	Y
4	16106004	ABISHA.B	O	Y
5	16106005	ADITHYA NATHAN.B	O	Y
6	16106006	AKHAASH A	A	Y
7	16106007	AMISHA VERMA	O	Y
8	16106009	ARAVINDRAJ G	O	Y
9	16106011	ARUN RAJESH KANNAN I	O	Y
10	16106012	ASWIN KRRISHNAN.S	O	Y
11	16106013	AVINASH P	A	Y
12	16106014	BALAMURUGAN.P	O	Y
13	16106015	BASKAR R	A+	Y
14	16106016	BAVITHRA MEENA .V	O	Y
15	16106017	BENITA S	A+	Y
16	16106018	CYNTHIA SOPHIE R	A+	Y
17	16106019	DEEBIKA S	A+	Y
18	16106020	DEVARAJ V	O	Y

S.No	Univ Reg No	Name	GRADE	Target ≥ : 60 %
19	16106021	DHANALAKSHMI A	O	Y
20	16106022	DHANYA VARSHINI V	O	Y
21	16106023	DHIVAGAR V	A+	Y
22	16106024	DHIYANESH R	A+	Y
23	16106025	DINA CYNTHYA R	O	Y
24	16106026	DINESH S V	B+	Y
25	16106027	FARHANAH.M.S	O	Y
26	16106029	GANESA MOORTHY	A+	Y
27	16106030	GAYATHRI .S	O	Y
28	16106031	GIRITHARAKARTHIKEYAN M	A+	Y
29	16106032	GOUDAM M	A+	Y
30	16106033	GOWTHAM R	O	Y
31	16106034	HAREESH KUMAR T S	O	Y
32	16106035	HARI PRASAD P	A	Y
33	16106036	HARIRAM P S	O	Y
34	16106037	HARISH N	A+	Y
35	16106038	HARISH V	A+	Y
36	16106039	HARSHA V	A	Y
37	16106040	HARSHINI M S	O	Y
38	16106041	HEMA PREETHI D	O	Y
39	16106042	INDHUJA A	A	Y
41	16106043	JANANI A	O	Y

S.No	Univ Reg No	Name	GRADE	Target ≥ : 60 %
41	16106044	JAYAKUMAR .S	O	Y
42	16106045	JAYA PRAKASH L	B+	Y
43	16106046	JAYASHREE J	O	Y
44	16106047	JAYSHREE.K	O	Y
45	16106048	JEEVA P	A	Y
46	16106801	ADITHVATHSHAN R	A+	Y
47	16106803	MAHENDRAN.P	B+	Y
		Total Number of students	47	
		Number of students Attained	47	
		Percentage of Attainment	100	
		University Attainment Level	3	

Faculty Signature
[R.Vanitha]

HOD
[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CO AND PO MAPPING

COURSE NAME & CODE : 16EC7001 EMBEDDED SYSTEM LABORATORY

Batch : 2016 - 2020

Name of the Faculty : R VANITHA

SECTION : A

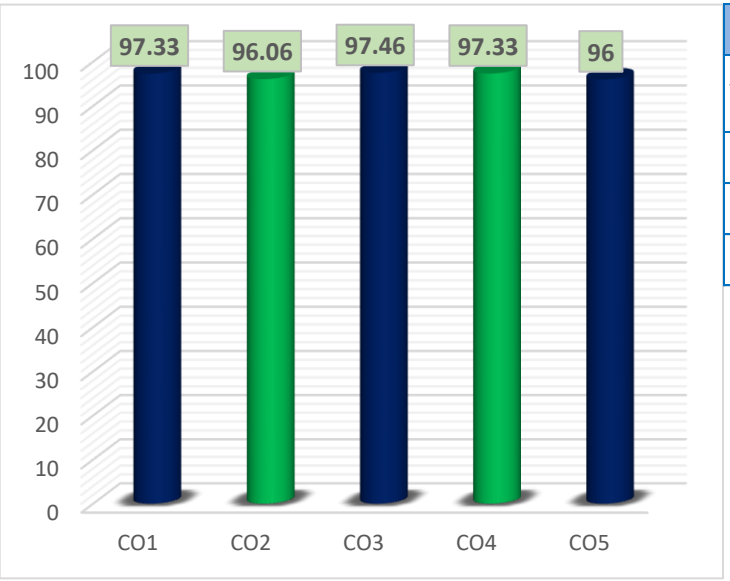
CO Attainment

CO's	EXP % (100%)	Model (100%)	INT (50 %)	END SEM (100 %)	END SEM (50%)	DA (100%)	DA (80%)	IDA (100%)	IDA (20%)	Attainment (100%)	AL
CO1	100.0	93.6	48.4	100.0	50.0	98.4	78.73	93.0	18.6	97.3	3
CO2	100.0	93.6	48.4	100.0	50.0	98.4	78.73	86.7	17.33	96.1	3
CO3	100.0	93.6	48.4	100.0	50.0	98.4	78.73	93.7	18.73	97.5	3
CO4	100.0	93.6	48.4	100.0	50.0	98.4	78.73	93.0	18.6	97.3	3
CO5	100.0	93.6	48.4	100.0	50.0	98.4	78.73	86.3	17.27	96.0	3

CO-PO Mapping

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	3	3	1	2	2	3	2	2	2	1	1
CO2	3	2	3	2	-	-	-	-	-	-	-	-	2	2
CO3	-	3	3	2	2	-	2	3	1	-	-	-	3	3
CO4	-	1	1	-	-	-	-	-	-	-	-	-	1	1
CO5	3	3	2	2	-	-	-	-	-	-	-	1	2	2

Graphical Representation - CO Attainment



Scale	
Weightage	Attainment Level
>= 80 %	3
>=70 & < 80	2
>=60 & < 70	1

PO Attainment

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	3	3	1	2	2	3	2	2	2	1	1
CO2	3	2	3	2	-	-	-	-	-	-	-	-	2	2
CO3	-	3	3	2	2	-	2	3	1	-	-	-	3	3
CO4	-	1	1	-	-	-	-	-	-	-	-	-	1	1
CO5	3	3	2	2	-	-	-	-	-	-	-	1	2	2
	3	2.2	2.2	2.3	2.5	1	2	2.5	2	2	2	1.5	1.8	1.8

*DA - Direct Assessment

*AL - Attainment Level

*IDA - Indirect Assessment

Faculty Signature

[R.Vanitha]

HOD

[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Consolidated Internal Marks

COURSE NAME & CODE : 16EC7001 EMBEDDED SYSTEM LABORATORY

Batch : 2016 - 2020

SECTION : A

Total Strength : 47

Name of the Faculty : R VANITHA

S.No	REG.No.	Name	CO1 (100)	CO2 (100)	CO3 (100)	CO4 (100)	CO5 (100)	EXP 25 Marks	MODEL (100)	MODEL 25 Marks	Total 25 Marks
1	16106001	AARTHI GR	79	76	76	76	76	19.15	60	15	34.15
2	16106002	ABHINANDH M	100	100	100	100	100	25	92	23	48
3	16106003	ABHIVARNA C	92	96	96	96	96	23.8	75	18.75	42.55
4	16106004	ABISHA.B	96	96	96	96	96	24	96	24	48
5	16106005	ADITHYA NATHAN.B	100	100	100	100	100	25	92	23	48
6	16106006	AKHAASH A	51.5	50	50	50	50	12.575	55	13.75	26.325
7	16106007	AMISHA VERMA	96	96	96	96	96	24	92	23	47
8	16106009	ARAVINDRAJ G	96	99	99	99	99	24.6	94	23.5	48.1
9	16106011	ARUN RAJESH KANNAN I	96	96	96	96	96	24	85	21.25	45.25
10	16106012	ASWIN KRRISHNAN.S	96	96	96	96	96	24	80	20	44
11	16106013	AVINASH P	96	96	96	96	96	24	60	15	39
12	16106014	BALAMURUGAN.P	96	96	96	96	96	24	90	22.5	46.5
13	16106015	BASKAR R	96	96	96	96	96	24	72	18	42
14	16106016	BAVITHRA MEENA .V	62	62	62	62	62	15.5	92	23	38.5
15	16106017	BENITA S	96	96	96	96	96	24	74	18.5	42.5
16	16106018	CYNTHIA SOPHIE R	96	96	96	96	96	24	60	15	39
17	16106019	DEEBIKA S	84	84	84	84	84	21	70	17.5	38.5
18	16106020	DEVARAJ V	88	88	88	88	88	22	86	21.5	43.5
19	16106021	DHANALAKSHMI A	96	96	96	96	96	24	92	23	47
20	16106022	DHANYA VARSHINI V	100	100	100	100	100	25	95	23.75	48.75
21	16106023	DHIVAGAR V	100	100	100	100	100	25	60	15	40
22	16106024	DHIYANESH R	84	84	84	84	84	21	74	18.5	39.5
23	16106025	DINA CYNTHYA R	78	78	78	78	78	19.5	91	22.75	42.25
24	16106026	DINESH S V	96	96	96	96	96	24	52	13	37
25	16106027	FARHANAH.M.S	50	50	50	50	50	12.5	92	23	35.5

S.No	REG.No.	Name	CO1 (100)	CO2 (100)	CO3 (100)	CO4 (100)	CO5 (100)	EXP 25 Marks	MODEL (100)	MODEL 25 Marks	Total 25 Marks
26	16106029	GANESA MOORTHY	96	96	96	96	96	24	72	18	42
27	16106030	GAYATHRI .S	99	99	99	99	99	24.75	94	23.5	48.25
28	16106031	GIRITHARAKARTHIKEYAN M	92.5	96	96	96	96	23.825	82	20.5	44.325
29	16106032	GOUDAM M	96	96	96	96	96	24	80	20	44
30	16106033	GOWTHAM R	84	84	84	84	84	21	62	15.5	36.5
31	16106034	HAREESH KUMAR T S	84	84	84	84	84	21	82	20.5	41.5
32	16106035	HARI PRASAD P	74	74	74	74	74	18.5	70	17.5	36
33	16106036	HARIRAM P S	96	96	96	96	96	24	74	18.5	42.5
34	16106037	HARISH N	76	76	76	76	76	19	72	18	37
35	16106038	HARISH V	100	100	100	100	100	25	62	15.5	40.5
36	16106039	HARSHA V	96	96	96	96	96	24	80	20	44
37	16106040	HARSHINI M S	84	84	84	84	84	21	80	20	41
38	16106041	HEMA PREETHI D	84	84	84	84	84	21	84	21	42
39	16106042	INDHUJA A	88	88	88	88	88	22	82	20.5	42.5
41	16106043	JANANI A	96	96	96	96	96	24	88	22	46
41	16106044	JAYAKUMAR .S	84	84	84	84	84	21	74	18.5	39.5
42	16106045	JAYA PRAKASH L	96	96	96	96	96	24	0	0	24
43	16106046	JAYASHREE J	80	80	80	80	80	20	95	23.75	43.75
44	16106047	JAYSHREE.K	76	76	76	76	76	19	92	23	42
45	16106048	JEEVA P	100	100	100	100	100	25	65	16.25	41.25
46	16106801	ADITHVATHSHAN R	96	96	96	96	96	24	72	18	42
47	16106803	MAHENDRAN.P	96	96	96	96	96	24	80	20	44

Faculty Signature
[R.Vanitha]

HOD
[Dr.P.Rajeswari]

DEAN
[Dr.P.N Magudeswaran]

ANNEXURE V

ENTRY MAPPING OF COs and POs:														
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	**PSO-1**	**PSO-2**
CO1	2	3	2	2	3	3	2	2	2	2	2	2	3	3
CO2	3	2	2	2	3	3	2	2	2	2	2	2	3	3
CO3	2	3	3	2	3	3	2	2	2	2	2	2	3	3
AVG	2.33	2.67	2.3	2	3	3	2	2	2	2	2	2	3	3

COURSE NAME & CODE	16EC6801 Mini Project
SECTION	C
Name of the Faculty	Suresh Kumar P
Department	DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENG
Batch	2016-2020
xpected Level of Attainment -	50%
	No of students scores upto expected level
	% of scoring above the attainment level

Faculty Signature

Suresh Kumar P

HOD

Dr.P.Rajeswari

DEAN

Dr.P.N Magudeswaran

Indirect Survey

	CO	**Excellent**	**Good**	**Poor**	**Percentage %**
1	CO1	25	12	3	85
2	CO2	25	5	1	92.3
3	CO3	25	2	3	91

			Total Strength	10					Total Strength	10					Total Strength	10					10
			Total Attended	10					Total Attended	10					Total Attended	10					10
INTERNAL TEST			Review 1						Review 2						Review 3						University
S.No	**Univ Reg No**	**Name**	**Rubri 1**	**Rubri 2**	**Rubri 3**	**Rubri 4**	**Rubri 5**	**TOTAL SCORE**	**Rubri 1**	**Rubri 2**	**Rubri 3**	**Rubri 4**	**Rubri 5**	**TOTAL SCORE**	**Rubri 1**	**Rubri 2**	**Rubri 3**	**Rubri 4**	**Rubri 5**	**TOTAL SCORE**	ES Grade
Question Maximum Marks			**20**	**20**	**20**	**20**	**20**	**100**	**2**	**2**	**2**	**2**	**10**	**100**	**2**	**2**	**14**	**14**	**10**	**100**	
1	16106098	RAMSUNDAR S	22	22	22	22		88	21	21	21	21		84	22	22	22	22		88	B+
2	16106099	RAMYA A	24	24	24	24		96	25	25	25	25		100	24	24	24	24		96	O
3	16106100	RAMYA R	23	23	23	23		92	22	22	22	22		88	22	22	22	22		88	A+
4	16106101	RATEESH S	18	18	18	18		72	18	18	18	18		72	18	18	18	18		72	O
5	16106102	RENUKA G	23	23	23	23		92	24	24	24	24		96	24	24	24	24		96	O
6	16106103	ROSHINI	24	24	24	24		96	24	24	24	24		96	24	24	24	24		96	O
7	16106104	RUPITHA S	22	22	22	22		88	22	22	22	22		88	23	23	23	23		92	O
8	16106105	SABAREESH S	16	16	16	16		64	13	13	13	13		52	16	16	16	16		64	B
9	16106106	SAMEEM M	23	23	23	23		92	22	22	22	22		88	23	23	23	23		92	O
10	16106144	YUVAPRAKASH	23	23	23	23		92	23	23	23	23		92	23	23	23	23		92	O

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Review 1

COURSE NAME & CODE : 16EC6801 Mini Project

SECTION : C

Name of the Faculty : Suresh Kumar P

Batch : 2016-2020

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Rubri 1	Rubri 2	Rubri 3	Rubri 4	Rubri 5	Total	Score on Grade Scale	Taget >= 50%
1	16106098	RAMSUNDAR S	22	22	22	22		88	3	Y
2	16106099	RAMYA A	24	24	24	24		96	3	Y
3	16106100	RAMYA R	23	23	23	23		92	3	Y
4	16106101	RATEESH S	18	18	18	18		72	2	Y
5	16106102	RENUKA G	23	23	23	23		92	3	Y
6	16106103	ROSHINI	24	24	24	24		96	3	Y
7	16106104	RUPITHA S	22	22	22	22		88	3	Y
8	16106105	SABAREESH S	16	16	16	16		64	1	Y
9	16106106	SAMEEM M	23	23	23	23		92	3	Y
10	16106144	YUVAPRAKASH N	23	23	23	23		92	3	Y

Total Number of students	10
Number of students Attained	10
Percentage of Attainment	100

Faculty Signature
Suresh Kumar P

HOD
Dr.P.Rajeswari

DEAN
Dr.P.N Magudeswaran

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Review 2

COURSE NAME & CODE : 16EC6801 Mini Project

SECTION : C

Name of the Faculty : Suresh Kumar P

Batch : 2016-2020

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Rubri 1	Rubri 2	Rubri 3	Rubri 4	Rubri 5	Total	Score on Grade Scale	Taget >= 50%
1	16106098	RAMSUNDAR S	21	21	21	21		84	3	Y
2	16106099	RAMYA A	25	25	25	25		100	3	Y
3	16106100	RAMYA R	22	22	22	22		88	3	Y
4	16106101	RATEESH S	18	18	18	18		72	2	Y
5	16106102	RENUKA G	24	24	24	24		96	3	Y
6	16106103	ROSHINI	24	24	24	24		96	3	Y
7	16106104	RUPITHA S	22	22	22	22		88	3	Y
8	16106105	SABAREESH S	13	13	13	13		52	0	Y
9	16106106	SAMEEM M	22	22	22	22		88	3	Y
10	16106144	YUVAPRAKASH N	23	23	23	23		92	3	Y
							Total Number of students		10	
							Number of students Attained		10	
							Percentage of Attainment		100	

Faculty Signature

Suresh Kumar P

HOD

Dr.P.Rajeswari

DEAN

Dr.P.N Magudeswaran

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Review 3

COURSE NAME & CODE : 16EC6801 Mini Project
SECTION : C
Name of the Faculty : Suresh Kumar P

Batch : 2016-2020
Total Strength : 10
Total Attended : 10

S.No	REG.No.	Name	Rubri 1	Rubri 2	Rubri 3	Rubri 4	Rubri 5	Total	Score on Grade Scale	Taget >= 50%
1	16106098	RAMSUNDAR S	22	22	22	22		88	3	Y
2	16106099	RAMYA A	24	24	24	24		96	3	Y
3	16106100	RAMYA R	22	22	22	22		88	3	Y
4	16106101	RATEESH S	18	18	18	18		72	2	Y
5	16106102	RENUKA G	24	24	24	24		96	3	Y
6	16106103	ROSHINI	24	24	24	24		96	3	Y
7	16106104	RUPITHA S	23	23	23	23		92	3	Y
8	16106105	SABAREESH S	16	16	16	16		64	1	Y
9	16106106	SAMEEM M	23	23	23	23		92	3	Y
10	16106144	YUVAPRAKASH N	23	23	23	23		92	3	Y

Total Number of students	10
Number of students Attained	10
Percentage of Attainment	100

Faculty Signature
Suresh Kumar P

HOD
Dr.P.Rajeswari

DEAN
Dr.P.N Magudeswaran

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Model MARKS

Each Question Expected Level of Attainment - : 50%

COURSE NAME & CODE : 16EC6801 Mini Project

SECTION : C

Batch : 2016-2020

Name of the Faculty : Suresh Kumar P

Total Strength : 10

S.No	Univ Reg No	Name	GRADE	Target ≥ : 50 %
1	16106098	RAMSUNDAR S	B+	Y
2	16106099	RAMYA A	O	Y
3	16106100	RAMYA R	A+	Y
4	16106101	RATEESH S	O	Y
5	16106102	RENUKA G	O	Y
6	16106103	ROSHINI	O	Y
7	16106104	RUPITHA S	O	Y
8	16106105	SABAREESH S	B	Y
9	16106106	SAMEEM M	O	Y
10	16106144	YUVAPRAKASH N	O	Y
		Total Number of students		10
		Number of students Attained		10
		Percentage of Attainment		100
		University Attainment Level		3

Faculty Signature

Suresh Kumar P

HOD

Dr.P.Rajeswari

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CO AND PO MAPPING

COURSE NAME & CODE : 16EC6801 Mini Project

Name of the Faculty : Suresh Kumar P

Batch : 2016-2020

SECTION : C

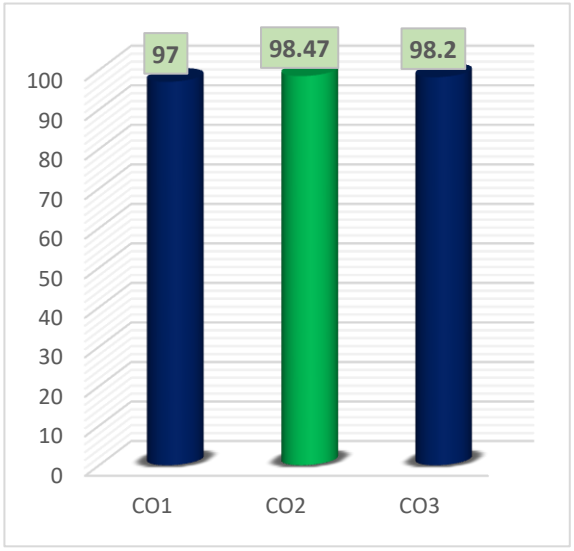
CO Attainment

CO's	Review (50 %)	END SEM (50 %)	DA (100 %)	DA (80%)	IDA (20%)	Attainment (100%)	AL
CO1	50.0	50.0	100.0	80.0	17.0	97.0	3
CO2	50.0	50.0	100.0	80.0	18.5	98.5	3
CO3	50.0	50.0	100.0	80.0	18.2	98.2	3

CO-PO Mapping

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	2	2	3	3	2	2	2	2	2	2	3	3
CO2	3	2	2	2	3	3	2	2	2	2	2	2	3	3
CO3	2	3	3	2	3	3	2	2	2	2	2	2	3	3

Graphical Representation - CO Attainment



Scale	
Weightage	Attainment Level
>= 80 %	3
>=70 & < 80	2
>=60 & < 70	1

PO Attainment

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	2	2	3	3	2	2	2	2	2	2	3	3
CO2	3	2	2	2	3	3	2	2	2	2	2	2	3	3
CO3	2	3	3	2	3	3	2	2	2	2	2	2	3	3
	2.3	2.7	2.3	2	3	3	2	2	2	2	2	2	3	3

*DA - Direct Assessment

*AL - Attainment Level

*IDA - Indirect Assessment

Faculty Signature

Suresh Kumar P

HOD

Dr.P.Rajeswari

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Consolidated Internal Mark

COURSE NAME & CODE : 16EC6801 Mini Project

Batch : 2016-2020

SECTION : C

Total Strength : 10

Name of the Faculty : Suresh Kumar P

S.No	REG.No.	Name	Review I 20 Marks	Review II 40 Marks	Review III 40 Marks	Internal Marks
1	16106098	RAMSUNDAR S	17.6	33.6	35.2	86.4
2	16106099	RAMYA A	19.2	40	38.4	97.6
3	16106100	RAMYA R	18.4	35.2	35.2	88.8
4	16106101	RATEESH S	14.4	28.8	28.8	72
5	16106102	RENUKA G	18.4	38.4	38.4	95.2
6	16106103	ROSHINI	19.2	38.4	38.4	96
7	16106104	RUPITHA S	17.6	35.2	36.8	89.6
8	16106105	SABAREESH S	12.8	20.8	25.6	59.2
9	16106106	SAMEEM M	18.4	35.2	36.8	90.4
10	16106144	YUVAPRAKASH N	18.4	36.8	36.8	92

Faculty Signature
Suresh Kumar P

HOD
Dr.P.Rajeswari

DEAN
Dr.P.N Magudeswaran

ANNEXURE VI

					ENTRY MAPPING OF COs and POs:									
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	**PSO-1**	**PSO-2**
CO1	2	3	1	1	1	1	1	1	-	-	-	-	1	1
CO2	3	3	2	1	2	-	-	-	-	-	-	-	2	2
CO3	3	3	3	2	-	3	-	2	3	-	-	-	3	3
AVG	2.67	3	2	1.33	1.5	2	1	1.5	3	-	-	-	2	2

COURSE NAME & CODE	16EC8901-Project Work
SECTION	C
Name of the Faculty	Suresh Kumar P
Department	DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEEI
Batch	2016-2020
Question Expected Level of Attainment -	60%
	No of students scores upto expected level
	% of scoring above the attainment level

Faculty Signature	HOD	DEAN-ACADEMICS
[Suresh Kumar P]	[Dr.P.Rajeswari]	[Dr.P.N.Magudeswaran]

Indirect Survey

	CO	**Excellent**	**Good**	**Poor**	**Percentage %**
1	CO1	40	5	2	93.67
2	CO2	42	3	2	95
3	CO3	42	2	3	94.33

			Total Strength	10					Total Strength	10					Total Strength	10					10
			Total Attended	10					Total Attended	10					Total Attended	10					10
INTERNAL TEST			Review 1						Review 2						Review 3						University
S.No	**Univ Reg No**	**Name**	**Rubri 1**	**Rubri 2**	**Rubri 3**	**Rubri 4**	**Rubri 5**	**TOTAL SCORE**	**Rubri 1**	**Rubri 2**	**Rubri 3**	**Rubri 4**	**Rubri 5**	**TOTAL SCORE**	**Rubri 1**	**Rubri 2**	**Rubri 3**	**Rubri 4**	**Rubri 5**	**TOTAL SCORE**	ES Grade
Question Maximum Marks			**20**	**20**	**20**	**20**	**20**	**100**	**2**	**2**	**2**	**2**	**10**	**100**	**2**	**2**	**14**	**14**	**10**	**100**	
1	16106098	RAMSUNDAR S	17	17	17.5	17	17	85.5	16	16	15	16	16.5	79.5	19	18	18	19	18.5	92.5	A+
2	16106099	RAMYA A	20	20	20	19.5	19	98.5	20	20	20	19.5	19	98.5	20	20	20	19.5	19	98.5	O
3	16106100	RAMYA R	12	12	12	14	15	65	16	16	15	15	15	77	19	17	17	16	15	84	A+
4	16106101	RATEESH S	16	16	17	18	17	84	17	17	18	19	18	89	19	18	18	19	17	91	A+
5	16106102	RENUKA G	19	19	18	19	19	94	18	18	18	18	19	91	19	19	18	19	19	94	O
6	16106103	ROSHINI GANESH	19	19	18	18.5	19	93.5	18	18	18	18	19	91	19	19	19	19	19	95	O
7	16106104	RUPITHA S	19	19	18	18	19	93	20	20	19	19	19	97	20	20	19	19	19	97	O
8	16106105	SABAREESH S	15	15	16	17	16	79	14	14	14	14	17	73	15	15	16	17	17	80	A
9	16106106	SAMEEM M	19	18	18	18	19	92	19	18	18	18	19	92	19	18	19	19	19	94	O
10	16106144	YUVAPRAKASH N	18	18	18	18.5	18	90.5	18	18	18	18.5	18	90.5	19	18	18	19	18	92	O

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Review 1

COURSE NAME & CODE : 16EC8901-Project Work

SECTION : C

Name of the Faculty : Suresh Kumar P

Batch : 2016-2020

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Rubri 1	Rubri 2	Rubri 3	Rubri 4	Rubri 5	Total	Score on Grade Scale	Taget >= 60%
1	16106098	RAMSUNDAR S	17	17	17.5	17	17	85.5	3	Y
2	16106099	RAMYA A	20	20	20	19.5	19	98.5	3	Y
3	16106100	RAMYA R	12	12	12	14	15	65	1	Y
4	16106101	RATEESH S	16	16	17	18	17	84	3	Y
5	16106102	RENUKA G	19	19	18	19	19	94	3	Y
6	16106103	ROSHINI GANESH	19	19	18	18.5	19	93.5	3	Y
7	16106104	RUPITHA S	19	19	18	18	19	93	3	Y
8	16106105	SABAREESH S	15	15	16	17	16	79	2	Y
9	16106106	SAMEEM M	19	18	18	18	19	92	3	Y
10	16106144	YUVAPRAKASH N	18	18	18	18.5	18	90.5	3	Y
							Total Number of students		10	
							Number of students Attained		10	
							Percentage of Attainment		100	

Faculty Signature
[Suresh Kumar P]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr.P.N.Magudeswaran]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Review 2

COURSE NAME & CODE : 16EC8901-Project Work

SECTION : C

Name of the Faculty : Suresh Kumar P

Batch : 2016-2020

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Rubri 1	Rubri 2	Rubri 3	Rubri 4	Rubri 5	Total	Score on Grade Scale	Taget >= 60%
1	16106098	RAMSUNDAR S	16	16	15	16	16.5	79.5	3	Y
2	16106099	RAMYA A	20	20	20	19.5	19	98.5	3	Y
3	16106100	RAMYA R	16	16	15	15	15	77	2	Y
4	16106101	RATEESH S	17	17	18	19	18	89	3	Y
5	16106102	RENUKA G	18	18	18	18	19	91	3	Y
6	16106103	ROSHINI GANESH	18	18	18	18	19	91	3	Y
7	16106104	RUPITHA S	20	20	19	19	19	97	3	Y
8	16106105	SABAREESH S	14	14	14	14	17	73	2	Y
9	16106106	SAMEEM M	19	18	18	18	19	92	3	Y
10	16106144	YUVAPRAKASH N	18	18	18	18.5	18	90.5	3	Y
							Total Number of students		10	
							Number of students Attained		10	
							Percentage of Attainment		100	

Faculty Signature
[Suresh Kumar P]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr.P.N.Magudeswaran]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Review 3

COURSE NAME & CODE : 16EC8901-Project Work

SECTION : C

Name of the Faculty : Suresh Kumar P

Batch : 2016-2020

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Rubri 1	Rubri 2	Rubri 3	Rubri 4	Rubri 5	Total	Score on Grade Scale	Taget >= 60%
1	16106098	RAMSUNDAR S	19	18	18	19	18.5	92.5	3	Y
2	16106099	RAMYA A	20	20	20	19.5	19	98.5	3	Y
3	16106100	RAMYA R	19	17	17	16	15	84	3	Y
4	16106101	RATEESH S	19	18	18	19	17	91	3	Y
5	16106102	RENUKA G	19	19	18	19	19	94	3	Y
6	16106103	ROSHINI GANESH	19	19	19	19	19	95	3	Y
7	16106104	RUPITHA S	20	20	19	19	19	97	3	Y
8	16106105	SABAREESH S	15	15	16	17	17	80	3	Y
9	16106106	SAMEEM M	19	18	19	19	19	94	3	Y
10	16106144	YUVAPRAKASH N	19	18	18	19	18	92	3	Y

Total Number of students	10
Number of students Attained	10
Percentage of Attainment	100

Faculty Signature
[Suresh Kumar P]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr.P.N.Magudeswaran]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Model MARKS

Each Question Expected Level of Attainment - : 60%

COURSE NAME & CODE : 16EC8901-Project Work

SECTION : C

Batch : 2016-2020

Name of the Faculty : Suresh Kumar P

Total Strength : 10

S.No	Univ Reg No	Name	GRADE	Target ≥ : 60 %
1	16106098	RAMSUNDAR S	A+	Y
2	16106099	RAMYA A	O	Y
3	16106100	RAMYA R	A+	Y
4	16106101	RATEESH S	A+	Y
5	16106102	RENUKA G	O	Y
6	16106103	ROSHINI GANESH	O	Y
7	16106104	RUPITHA S	O	Y
8	16106105	SABAREESH S	A	Y
9	16106106	SAMEEM M	O	Y
10	16106144	YUVAPRAKASH N	O	Y
		Total Number of students	10	
		Number of students Attained	10	
		Percentage of Attainment	100	
		University Attainment Level	3	

Faculty Signature

[Suresh Kumar P]

HOD

[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CO AND PO MAPPING

COURSE NAME & CODE : 16EC8901-Project Work

Name of the Faculty : Suresh Kumar P

Batch : 2016-2020

SECTION : C

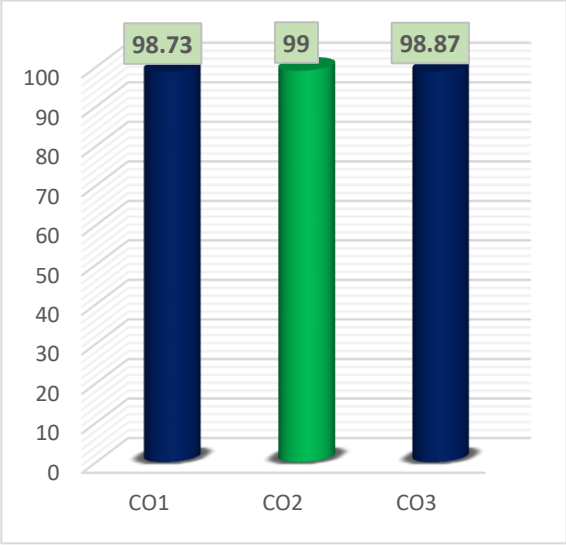
CO Attainment

CO's	Review (100 %)	END SEM (100 %)	DA (200 %)	DA (80%)	IDA (20%)	Attainment (100%)	AL
CO1	100.0	100.0	200.0	80.0	18.7	98.7	3
CO2	100.0	100.0	200.0	80.0	19.0	99.0	3
CO3	100.0	100.0	200.0	80.0	18.9	98.9	3

CO-PO Mapping

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	1	1	1	1	1	1	-	-	-	-	1	1
CO2	3	3	2	1	2	-	-	-	-	-	-	-	2	2
CO3	3	3	3	2	-	3	-	2	3	-	-	-	3	3

Graphical Representation - CO Attainment



Scale	
Weightage	Attainment Level
>= 80 %	3
>=70 & < 80	2
>=60 & < 70	1

PO Attainment

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	1	1	1	1	1	1	-	-	-	-	1	1
CO2	3	3	2	1	2	-	-	-	-	-	-	-	2	2
CO3	3	3	3	2	-	3	-	2	3	-	-	-	3	3
	2.67	3	2	1.33	1.5	2	1	1.5	3	-	-	-	2	2

Faculty Signature

[Suresh Kumar P]

HOD

[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Consolidated Internal Mark

COURSE NAME & CODE : 16EC8901-Project Work

Batch : 2016-2020

SECTION : C

Total Strength : 10

Name of the Faculty : Suresh Kumar P

S.No	REG.No.	Name	Review I 20 Marks	Review II 40 Marks	Review III 40 Marks	Internal Marks
1	16106098	RAMSUNDAR S	17.1	31.8	37	85.9
2	16106099	RAMYA A	19.7	39.4	39.4	98.5
3	16106100	RAMYA R	13	30.8	33.6	77.4
4	16106101	RATEESH S	16.8	35.6	36.4	88.8
5	16106102	RENUKA G	18.8	36.4	37.6	92.8
6	16106103	ROSHINI GANESH	18.7	36.4	38	93.1
7	16106104	RUPITHA S	18.6	38.8	38.8	96.2
8	16106105	SABAREESH S	15.8	29.2	32	77
9	16106106	SAMEEM M	18.4	36.8	37.6	92.8
10	16106144	YUVAPRAKASH N	18.1	36.2	36.8	91.1

Faculty Signature
[Suresh Kumar P]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr.P.N.Magudeswaran]

ANNEXURE VII

					ENTRY MAPPING OF COs and POs:									
CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	**PSO-1**	**PSO-2**
CO1	1	3	1	1	1	1	1	1	-	-	-	-	1	1

1
2
3

Indirect Survey				
CO	**Excellent**	**Good**	**Poor**	**Percentage %**
CO1	37	5	3	92

COURSE NAME & CODE	Technical Seminar
SECTION	B
Name of the Faculty	Dr.Geetha.P
Department	ECE
Batch	2016 - 2020
Question Expected Level of Attainment -	50%
	No of students scores upto expected level
	% of scoring above the attainment level

Faculty Signature
[Dr.Geetha.P]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr.P.N.Magudeswaran]

			Total Strength	10					Total Strength	10					Total Strength	10					10
			Total Attended	10					Total Attended	10					Total Attended	10					10
INTERNAL TEST			Review 1						Review 2						Review 3						University
S.No	**Univ Reg No**	**Name**	**Rubri 1**	**Rubri 2**	**Rubri 3**	**Rubri 4**	**Rubri 5**	**TOTAL SCORE**	**Rubri 1**	**Rubri 2**	**Rubri 3**	**Rubri 4**	**Rubri 5**	**TOTAL SCORE**	**Rubri 1**	**Rubri 2**	**Rubri 3**	**Rubri 4**	**Rubri 5**	**TOTAL SCORE**	ES Grade
Question Maximum Marks			**20**	**20**	**20**	**20**	**20**	**100**	**2**	**2**	**2**	**2**	**10**	**100**	**2**	**2**	**14**	**14**	**10**	**100**	
1	16106049	JOYWIN T	20	20	20	26		86	20	20	20	26		86	20	20	20	26		86	O
2	16106050	KANIMOZHI.V	20	20	20	16		76	20	20	20	16		76	20	20	20	16		76	A
3	16106051	KARUPPAIAH. S	20	20	20	16		76	20	20	20	16		76	20	20	20	16		76	O
4	16106054	LALITHA T	20	20	20	15		75	20	20	20	15		75	20	20	20	15		75	A+
5	16106055	LAVANYA M.S	20	20	20	15		75	20	20	20	15		75	20	20	20	15		75	A+
6	16106056	LINGATHARAN A	20	20	20	13		73	20	20	20	13		73	20	20	20	13		73	A
7	16106057	LOSINI.R	20	20	20	13		73	20	20	20	13		73	20	20	20	13		73	A
8	16106058	MADHUMITHA V	20	20	20	16		76	20	20	20	16		76	20	20	20	16		76	A
9	16106059	MADHU MOHAN M	25	25	20	21		91	25	25	20	21		91	25	25	20	21		91	O
10	16106097	RAJESHKUMAR R	25	24	23	23		95	25	24	23	23		95	25	24	23	23		95	A+

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

ECE

Review 1

COURSE NAME & CODE : Technical Seminar

SECTION : B

Name of the Faculty : Dr.Geetha.P

Batch : 2016 - 2020

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Rubri 1	Rubri 2	Rubri 3	Rubri 4	Rubri 5	Total	Score on Grade Scale	Taget >= 50%
1	16106049	JOYWIN T	20	20	20	26		86	3	Y
2	16106050	KANIMOZHI.V	20	20	20	16		76	2	Y
3	16106051	KARUPPAIAH. S	20	20	20	16		76	2	Y
4	16106054	LALITHA T	20	20	20	15		75	2	Y
5	16106055	LAVANYA M.S	20	20	20	15		75	2	Y
6	16106056	LINGATHARAN A	20	20	20	13		73	2	Y
7	16106057	LOSINI.R	20	20	20	13		73	2	Y
8	16106058	MADHUMITHA V	20	20	20	16		76	2	Y
9	16106059	MADHU MOHAN M	25	25	20	21		91	3	Y
10	16106097	RAJESHKUMAR R	25	24	23	23		95	3	Y
							Total Number of students		10	
							Number of students Attained		10	
							Percentage of Attainment		100	

Faculty Signature
[Dr.Geetha.P]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr.P.N.Magudeswaran]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

ECE

Review 2

COURSE NAME & CODE : Technical Seminar

SECTION : B

Name of the Faculty : Dr.Geetha.P

Batch : 2016 - 2020

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Rubri 1	Rubri 2	Rubri 3	Rubri 4	Rubri 5	Total	Score on Grade Scale	Taget >= 50%
1	16106049	JOYWIN T	20	20	20	26		86	3	Y
2	16106050	KANIMOZHI.V	20	20	20	16		76	2	Y
3	16106051	KARUPPAIAH. S	20	20	20	16		76	2	Y
4	16106054	LALITHA T	20	20	20	15		75	2	Y
5	16106055	LAVANYA M.S	20	20	20	15		75	2	Y
6	16106056	LINGATHARAN A	20	20	20	13		73	2	Y
7	16106057	LOSINI.R	20	20	20	13		73	2	Y
8	16106058	MADHUMITHA V	20	20	20	16		76	2	Y
9	16106059	MADHU MOHAN M	25	25	20	21		91	3	Y
10	16106097	RAJESHKUMAR R	25	24	23	23		95	3	Y
							Total Number of students		10	
							Number of students Attained		10	
							Percentage of Attainment		100	

Faculty Signature
[Dr.Geetha.P]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr.P.N.Magudeswaran]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

ECE

Review 3

COURSE NAME & CODE : Technical Seminar

SECTION : B

Name of the Faculty : Dr.Geetha.P

Batch : 2016 - 2020

Total Strength : 10

Total Attended : 10

S.No	REG.No.	Name	Rubri 1	Rubri 2	Rubri 3	Rubri 4	Rubri 5	Total	Score on Grade Scale	Taget >= 50%
1	16106049	JOYWIN T	20	20	20	26		86	3	Y
2	16106050	KANIMOZHI.V	20	20	20	16		76	2	Y
3	16106051	KARUPPAIAH. S	20	20	20	16		76	2	Y
4	16106054	LALITHA T	20	20	20	15		75	2	Y
5	16106055	LAVANYA M.S	20	20	20	15		75	2	Y
6	16106056	LINGATHARAN A	20	20	20	13		73	2	Y
7	16106057	LOSINI.R	20	20	20	13		73	2	Y
8	16106058	MADHUMITHA V	20	20	20	16		76	2	Y
9	16106059	MADHU MOHAN M	25	25	20	21		91	3	Y
10	16106097	RAJESHKUMAR R	25	24	23	23		95	3	Y
							Total Number of students		10	
							Number of students Attained		10	
							Percentage of Attainment		100	

Faculty Signature
[Dr.Geetha.P]

HOD
[Dr.P.Rajeswari]

DEAN-ACADEMICS
[Dr.P.N.Magudeswaran]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

ECE

Model MARKS

Each Question Expected Level of Attainment - : 50%

COURSE NAME & CODE : Technical Seminar

SECTION : B

Batch : 2016 - 2020

Name of the Faculty : Dr.Geetha.P

Total Strength : 10

S.No	Univ Reg No	Name	GRADE	Target ≥ : 50 %
1	16106049	JOYWIN T	O	Y
2	16106050	KANIMOZHI.V	A	Y
3	16106051	KARUPPAIAH. S	O	Y
4	16106054	LALITHA T	A+	Y
5	16106055	LAVANYA M.S	A+	Y
6	16106056	LINGATHARAN A	A	Y
7	16106057	LOSINI.R	A	Y
8	16106058	MADHUMITHA V	A	Y
9	16106059	MADHU MOHAN M	O	Y
10	16106097	RAJESHKUMAR R	A+	Y
		Total Number of students	10	
		Number of students Attained	10	
		Percentage of Attainment	100	
		University Attainment Level	3	

Faculty Signature

[Dr.Geetha.P]

HOD

[Dr.P.Rajeswari]

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Valley Campus, Pollachi Highway, Coimbatore - 641032

ECE

CO AND PO MAPPING

COURSE NAME & CODE : Technical Seminar

Name of the Faculty : Dr.Geetha.P

Batch : 2016 - 2020

SECTION : B

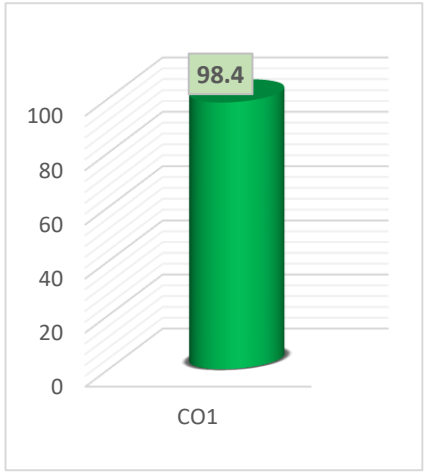
CO Attainment

CO's	Review (50 %)	END SEM (50 %)	DA (100 %)	DA (80%)	IDA (20%)	Attainment (100%)	AL
CO1	50.0	50.0	100.0	80.0	18.4	98.4	3

CO-PO Mapping

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	3	1	1	1	1	1	1	-	-	-	-	1	1

Graphical Representation - CO Attainment



Scale	
Weightage	Attainment Level
>= 80 %	3
>=70 & < 80	2
>=60 & < 70	1

PO Attainment

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	3	1	1	1	1	1	1	-	-	-	-	1	1

*DA - Direct Assessment

*AL - Attainment Level

*IDA - Indirect Assessment

Faculty Signature

[Dr.Geetha.P]

HOD

[Dr.P.Rajeswari]

ANNEXURE VIII

Hindusthan College of Engineering And Technology
(An Autonomous Institution, Affiliated to Anna University, Chennai)
Valley Campus, Pollachi Highway,
Coimbatore – 641 032.

Note :

1 Prepare your course exit survey according to the course outcome mentioned in the CIS.
2 The highlighted portion (CO1-CO5) and Specific learning Outcomes(Q6-Q10) has to be changed according to your course outcome

COURSE EXIT SURVEY
(for Course Outcome Assessment)

ASSESSMENT OF LEARNING OUTCOMES FOR SUBJECT –

PROGRAMME : ECE	**DEGREE : BE**
COURSE : SIGNALS AND SYSTEM	**SEMESTER : VIII CREDITS: 3**
COURSE CODE : 16EC3202	**COURSE TYPE : CORE /~~ELECTIVE / BREADTH/ S&H~~**
REGULATION : 2008	**YEAR : ☐I ☐II ☐III ☐IV**
FACULTY : Dr.P.RAJESWARI	**DATE :**

LEARNING OUTCOMES FOR DIGITAL COMMUNICATION

Students will be able to

1. To understand the basic signals and their properties.
2. To learn the mathematical tool of Fourier series and transforms.
3. To understand the concept of system analysis using Laplace transforms.
4. To understand the discrete signal analysis using transforms.
5. To know discrete systems analysis using Z-transform

PLEASE EVALUATE ON THE FOLLOWING SCALE

EXCELENT(E)	GOOD(G)	AVERAGE(A)
3	2	1

S.NO	QUESTIONAIRE	E 3	G 2	S 1
GENERAL OBJECTIVES				
1.	Has the course achieved its stated objectives?	☐	☐	☐
2.	Have you gained the stated skills?	☐	☐	☐
3.	Whether the syllabus is adequate to achieve the objectives?	☐	☐	☐
4.	Whether the faculty has helped in acquiring the stated skills?	☐	☐	☐

5.	Whether the teacher has given real life application of the course?	☐	☐	☐
SPECIFIC LEARNING OUTCOMES				
6.	Are you able To understand the basic signals and their properties?	☐	☐	☐
7.	Can you apply the Fourier series and transforms for signal Analysis ?	☐	☐	☐
8.	Have you understood the concept of system analysis applying Laplace transform?	☐	☐	☐
9.	Whether, are you able to apply Fourier transform concept for Discrete signal analysis?	☐	☐	☐
10.	Can you apply Z-transform for Discrete system response analysis?	☐	☐	☐
SATISFICATION LEVEL				
11.	Are you satisfied with the outcomes achieved through this course?	☐ YES	☐ NO	
12.	Is your answer is No, please indicate your preference :			
13.	a) More inputs. additional contents, real life examples	☐ YES	☐ NO	
14.	b) More experienced ,capable faculty	☐ YES	☐ NO	

ANNEXURE IX

Hindusthan College of Engineering And Technology
(An Autonomous Institution, Affiliated to Anna University, Chennai)
Valley Campus, Pollachi Highway
Coimbatore – 641 032

GRADUATE EXIT SURVEY
(for Program Outcome Assesment)

Name of the student :

Class :

Batch :

Please rate yourself and tick the box that corresponds to your level of agreement:

1.	Ability to apply the knowledge of engineering fundamentals to solve complex engineering problems.	Excellent ☐	Good ☐	Satisfactory ☐
2.	Capacity to identify and analyze complex engineering problems.	Excellent ☐	Good ☐	Satisfactory ☐
3.	Ability to design solutions for complex engineering problems for the public.	Excellent ☐	Good ☐	Satisfactory ☐
4.	Equipped to use research–based knowledge and methods to provide valid conclusions.	Excellent ☐	Good ☐	Satisfactory ☐
5.	Capability to apply appropriate techniques, resources and modern engineering tools to complex engineering activities.	Excellent ☐	Good ☐	Satisfactory ☐
6.	Ability to apply engineering knowledge to assess societal, health, safety, legal and cultural issues relevant to the professional engineering practice.	Excellent ☐	Good ☐	Satisfactory ☐

7.	Capacity to understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development	Excellent ☐	Good ☐	Satisfactory ☐
8.	Ability to apply ethical principles and norms in the engineering practice.	Excellent ☐	Good ☐	Satisfactory ☐
9.	Capacity to function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	Excellent ☐	Good ☐	Satisfactory ☐
10.	Ability to communicate effectively on complex engineering activities.	Excellent ☐	Good ☐	Satisfactory ☐
11.	Ability to demonstrate and apply knowledge of engineering and management principles to manage projects in multidisciplinary environments.	Excellent ☐	Good ☐	Satisfactory ☐
12.	Ability to undergo life-long learning in the broadest context to technological change.	Excellent ☐	Good ☐	Satisfactory ☐
13.	Ability to disseminate the knowledge in Electronics and Communication Engineering towards Technical Incubation	Excellent ☐	Good ☐	Satisfactory ☐
14.	Have the perseverance to learn the modern design tools for electronic system design and analysis.	Excellent ☐	Good ☐	Satisfactory ☐

Any other suggestions for further improvement:

Signature:

Date:

ANNEXURE X

Hindusthan College of Engineering And Technology
(An Autonomous Institution, Affiliated to Anna University, Chennai)
Valley Campus, Pollachi Highway,
Coimbatore – 641 032.

ALUMINI FEEDBACK FORM
(for Program Outcome Assesment)

Name of the student :

Class :

Batch :

Please rate yourself and tick the box that corresponds to your level of agreement:

1.	Able to apply the knowledge of engineering fundamentals to the solve complex engineering problems.	Excellent ☐	Good ☐	Satisfactory ☐
2.	Capacity to identify and analyze complex engineering problems.	Excellent ☐	Good ☐	Satisfactory ☐
3.	Able to design solutions for complex engineering problems for the public.	Excellent ☐	Good ☐	Satisfactory ☐
4.	Equipped to use research – base knowledge and methods to provide valid conclusions.	Excellent ☐	Good ☐	Satisfactory ☐
5.	Capable of applying appropriate techniques, resources and modern engineering tools to complex engineering activities .	Excellent ☐	Good ☐	Satisfactory ☐
6.	Able to apply engineering knowledge to assess societal, health, safety, legal and cultural issues relevant to the professional engineering practice.	Excellent ☐	Good ☐	Satisfactory ☐

7.	Capacity to understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development	Excellent ☐	Good ☐	Satisfactory ☐
8.	Able to apply ethical principles and norms in the engineering practice.	Excellent ☐	Good ☐	Satisfactory ☐
9.	Capacity to function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	Excellent ☐	Good ☐	Satisfactory ☐
10.	Able to communicate effectively on complex engineering activities .	Excellent ☐	Good ☐	Satisfactory ☐
11.	Able to demonstrate and apply knowledge of engineering and management principles to manage projects in multidisciplinary environments.	Excellent ☐	Good ☐	Satisfactory ☐
12.	Equipped with the ability to engage in life-long learning in the broadest context to technological change.	Excellent ☐	Good ☐	Satisfactory ☐
13.	Able to disseminate the knowledge in Electronics and Communication Engineering towards Technical Incubation	Excellent ☐	Good ☐	Satisfactory ☐
14.	Have the perseverance to learn the modern design tools for electronic system design and analysis.	Excellent ☐	Good ☐	Satisfactory ☐
15.	Able to exhibit the technical skills and knowledge in the working environment, higher studies and research	Excellent ☐	Good ☐	Satisfactory ☐
16.	Able to succeed in multidisciplinary dimensions by excelling through life-long learning.	Excellent ☐	Good ☐	Satisfactory ☐

17.	Capacity to become leaders and innovators by devising engineering solutions for social issues and problems.		Good ☐	Satisfactory ☐

Any other suggestions for further improvement:

Signature:

Date:

ANNEXURE XI

Hindusthan College of Engineering And Technology
(An Autonomous Institution, Affiliated to Anna University, Chennai)
Valley Campus, Pollachi Highway,
Coimbatore – 641 032.

EMPLOYER FEEDBACK FORM
(for Program Outcome Assesment)

INDUSTRY DETAILS

- Name of the Industry :
- Name of Contact Person with affliation :

Mobile No. : Office No. :

Email:

Please tick the box that corresponds to your level of agreement

1.	Does the employee (graduate from HICET) exhibit their academic excellence and complete the task effectively?	High ☐	Moderate ☐	Low ☐
2.	Does the graduate outshine in handling modern tools and techniques?	High ☐	Moderate ☐	Low ☐
3.	How do you rate our graduate in problem solving skills?	Excellent ☐	Good ☐	Satisfactory ☐
4.	What do you feel about the adequacy of intellectual skills of our graduate?	Excellent ☐	Good ☐	Satisfactory ☐
5.	Rate the graduate's team coordination and	Excellent ☐	Good ☐	Satisfactory ☐

	leadership qualities.			
6.	Does the graduate follow ethical values in his working environment?	Excellent ☐	Good ☐	Satisfactory ☐
7.	Does the graduate exhibit his innovation and creativity in his work?	Excellent ☐	Good ☐	Satisfactory ☐
8.	Rate the optimistic attitude of our graduate towards the society.	Excellent ☐	Good ☐	Satisfactory ☐
9.	Is the graduate from HICET completing the scheduled assignment on time?	Often ☐	Rare ☐	Never ☐
10	Does the graduate abide by the rules and regulations of the industry?	Often ☐	Rare ☐	Never ☐

Please provide any suggestions for further improvement:

Signature:

Date:

ANNEXURE XII

Hindusthan College of Engineering And Technology
(An Autonomous Institution, Affiliated to Anna University, Chennai)
Valley Campus, Pollachi Highway,
Coimbatore – 641 032.

PARENTS FEEDBACK FORM
(for Program Outcome Assesment)

---

1) Name & Occupation of Parents :

a) Father: _____ Occupation: _____

b) Mother: _____ Occupation: _____

Address: _____

Name of Student/ Ward**:** _____

Course / Class: _____

Please tick the box that corresponds to your level of agreement:

1.	Are you satisfied with the academic performance of your ward at HICET?	High ☐	Moderate ☐	Low ☐
2.	Do you think that the knowledge level of your ward is improved?	High ☐	Moderate ☐	Low ☐
3.	Did your ward achieve your expectation level in his career?	High ☐	Moderate ☐	Low ☐
4.	Are you satisfied with the employment status of your ward?	High ☐	Moderate ☐	Low ☐
5.	Is your ward practicing moral values?	Often ☐	Rare ☐	Never ☐
6.	Is your ward's leadership quality enhanced?	High ☐	Moderate ☐	Low ☐
7.	What do you feel about the social behavior of your ward after joining HICET?	Excellent ☐	Good ☐	Satisfactory ☐

Any other suggestions to share:

Signature:

Date: