

ASSESSMENT MANUAL

B. Tech - R-20 Regulations



SREE RAMA ENGINEERING COLLEGE

(Approved by AICTE, New Delhi - Affiliated to JNTUA, Ananthapuramu)

An ISO 9001:2015 & ISO 14001:2015 certified Institution

Rami Reddy Nagar, Karakambadi road, Tirupati-517507



SREE RAMA ENGINEERING COLLEGE

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Rami Reddy Nagar, Karakambadi road, Tirupati-517507

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1. VISION AND MISSION OF THE INSTITUTION

Vision:

Sree Rama Engineering College strives to be one of the best educational institutions in the country by transforming the students into multifaceted individuals with a penchant for academic excellence in the field of Engineering & Management with moral & ethical values and moulding them as an empowered citizens to meet the global requirements.

Mission:

- To be a student-centric campus with innovative, creative learning by a collaborative approach with all the stakeholders for offering an industry specific course apart from the regular curriculum.
- To create a conducive environment for students towards research, innovation with state-of-the-art infrastructure facilities.
- To develop global leaders with human & ethical values by continuous mentoring and nurturing them to acquire their dreams

2. VISION AND MISSION OF THE DEPARTMENT

To be defined by the departments in line with Institute vision and mission

3. PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

The Program Educational Objectives (PEOs) are broad statements that describe the career and professional accomplishments that the program is preparing graduates to accomplish. PEOs should be measurable, appropriate, realistic, time bound and achievable. The program educational objectives are formulated on the basis of stakeholders needs and approved by the statutory bodies of the institution.

4. PROGRAM OUTCOMES (POs)

POs are statements about the knowledge, skills and attitudes which the graduates of a formal engineering **program** should possess upon graduation. POs deal with the competencies and expertise a graduate will possess after completion of the **program**.

The Program outcomes as defined by NBA are:

- 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, review 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 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.
- 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

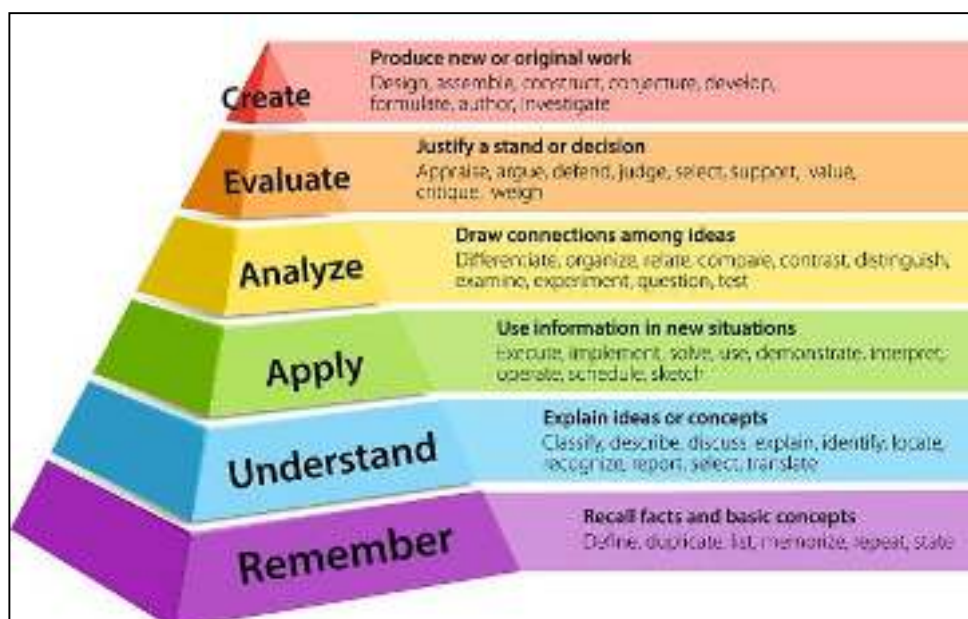
5. PROGRAM SPECIFIC OUTCOMES (PSOs)

Program Specific Outcomes are the statements that describe the ability of the graduates of a specific engineering program in the knowledge areas of the program of study.

6. BLOOM'S TAXONOMY

Bloom's Taxonomy is a classification of the different objectives and skills that educators set for their students (learning objectives). The taxonomy was proposed in 1956 by Benjamin Bloom, an educational psychologist at the University of Chicago. The terminology has been recently updated to include the following six levels of learning. These 6 levels can be used to structure the learning objectives, lessons, and assessments of a course.

1. **Remembering:** Retrieving, recognizing, and recalling relevant knowledge from long-term memory.
2. **Understanding:** Constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining.
3. **Applying:** Carrying out or using a procedure for executing, or implementing.
4. **Analyzing:** Breaking material into constituent parts, determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing.
5. **Evaluating:** Making judgments based on criteria and standards through checking and critiquing.
6. **Creating:** Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing.



7. COURSE OUTCOMES (COs)

Course Outcomes are the statements that describe the knowledge and skills acquired by the students at the end of each course. The Course Outcomes are given by the Affiliating University.

8. ASSESSMENT METHODS

Assessment shall be done using Direct and Indirect methods.

Direct Assessment:

Direct assessment is for the direct examination or observation of student knowledge or skills against measurable learning outcomes.

Faculty Course Assessment Report (FCAR):

Continuous Internal Evaluation (CIE) : MID-I & MID-II (Descriptive + Objective + Assignment)
Semester End Examination (SEE) : End Exam Result

Indirect Assessment:

Indirect assessment is based on the Student Exit Survey, Alumni Survey and Employer Survey.

8.1 Direct Assessment

Direct assessment shall be done for the various categories of courses (Theory, Practical, Seminar, Project Work etc.,) of the program through CIE & SEE Examinations.

8.1.1 Assessment of COs, POs & PSOs for Theory Courses

The CIE and SEE marks secured by a class of students in a course shall be tabulated as detailed below for assessment of COs, POs and PSOs of that course.

CO-PO-PSO Mapping of a course:

	PO 01	PO 02	PO 03	PO 04	PO 05	PO 06	PO 07	PO 08	PO 09	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
CO 01	3	2	-	-	-	-	-	-	-	-	-	-	3	-	-
CO 02	3	2	-	-	-	-	-	-	-	-	-	-	3	-	-
CO 03	3	2	-	-	-	-	-	-	-	-	-	-	-	3	-
CO 04	3	2	-	-	-	-	-	-	-	-	-	-	-	2	-
CO 05	3	2	-	-	-	-	-	-	-	-	-	-	-	-	2

Course Outcomes Attainment

CO	Questions	Attainment (%)	Attainment through CIE (%)	Attainment through SEE (%)	CO Attainment (%) = 30% of CIE + 70% of SIE	Attainment Target (%)	CO Attained (Yes/No)	Attainment Level
CO1	M1 Obj	91	53	75	68.4	60	YES	2
	M1 Q1A	91						
	M1 Q1B	34						
	M1 Q1C	28						
	M1 Q2	52						
	M1 Q3	22						
	M1 Q4	83						
	M1 Q4	71						
	M2 Obj	91						
	A1	87						
A2	98							
CO2	M1 Q1D	61	63	75	71.4	60	YES	2
	M1 Q1E	22						
	M1 Q5	49						
	M1 Q6A	100						
	M1 Q6A	97						
	M1 Q6B	76						
CO3	M2 Q1A	95	65	75	72	60	YES	2
	M2 Q1B	93						
	M2 Q2A	88						
	M2 Q2B	5						
	M2 Q3A	83						
	M2 Q3B	16						
CO4	M2 Q1C	50	62	75	71.1	60	YES	2
	M2 Q1D	56						
	M2 Q4	87						
CO5	M2 Q1E	27	54	75	68.7	60	YES	2
	M2 Q5A	89						
	M2 Q5B	75						
	M2 Q6A	58						
	M2 Q6B	50						

The process of converting CO, PO and PSO attainment percentage into attainment levels is illustrated below:

CO, PO and PSO attainment %		Attainment Level
≥ 75	:	3
≥ 60 to < 75	:	2
< 60	:	1

POs and PSOs Attainment

	CO attainment in percentage	PO 01	PO 02	PO 03	PO 04	PO 05	PO 06	PO 07	PO 08	PO 09	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	66.2	3	2	-	-	-	-	-	-	-	-	-	-	3	-	-
CO2	70.2	3	2	-	-	-	-	-	-	-	-	-	-	3	-	-
CO3	71	3	2	-	-	-	-	-	-	-	-	-	-	-	3	-
CO4	69.8	3	2	-	-	-	-	-	-	-	-	-	-	-	2	-
CO5	66.6	3	2	-	-	-	-	-	-	-	-	-	-	-	-	2
Attainment of course through CIE and SEE (%)		68.7	68.7	-	-	-	-	-	-	-	-	-	-	68.2	70.5	66.6

$$\text{PO Attainment} = \frac{\sum(\text{CO attainment} * \text{PO weightage mapped})}{\sum \text{POs weightage mapped}}$$

Attainment of PO1

$$=(3*66.2)+(3*70.2)+(3*71)+(3*69.8)+(3*66.6)/(3+3+3+3+3)=68.7$$

$$\text{PSO Attainment} = \frac{\sum(\text{CO attainment} * \text{PSO weightage mapped})}{\sum \text{PSOs weightage mapped}}$$

Attainment of PSO2

$$=(0*66.2)+(0*70.2)+(3*71)+(2*69.8)+(0*66.6)/(0+0+3+2+0)=70.5$$

For the above course, the attainment of POs & PSOs is tabulated below:

	PO 01	PO 02	PO 03	PO 04	PO 05	PO 06	PO 07	PO 08	PO 09	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
Attainment of course through CIE and SEE (%)	68.7	68.7	-	-	-	-	-	-	-	-	-	-	68.2	70.5	66.6
Attainment of course through Assignment (%)	-	-	-	-	-	91	79	-	-	-	-	100	-	-	-
Level of Attainment	2	2	-	-	-	3	3	-	-	-	-	3	2	2	2

8.1.2 Assessment of COs, POs & PSOs for Practical courses, Project Work and other courses

The performance of students in the courses like Practical courses, Project Work and other courses shall be evaluated through rubrics. Evaluation rubrics shall be prepared for these courses on a 3-point scale. Each rubric should be mapped to corresponding COs. To assess the COs, rubric weights should be converted into marks. – **Annexure - I**

The assessment of COs, POs and PSOs of these courses shall be assessed by adopting the same procedure used for Theory courses.

8.2 Indirect Assessment

Indirect assessment shall be made through Student Exit Survey, Alumni Survey and Employer Survey. Sample survey forms are given in **Annexure – II**.

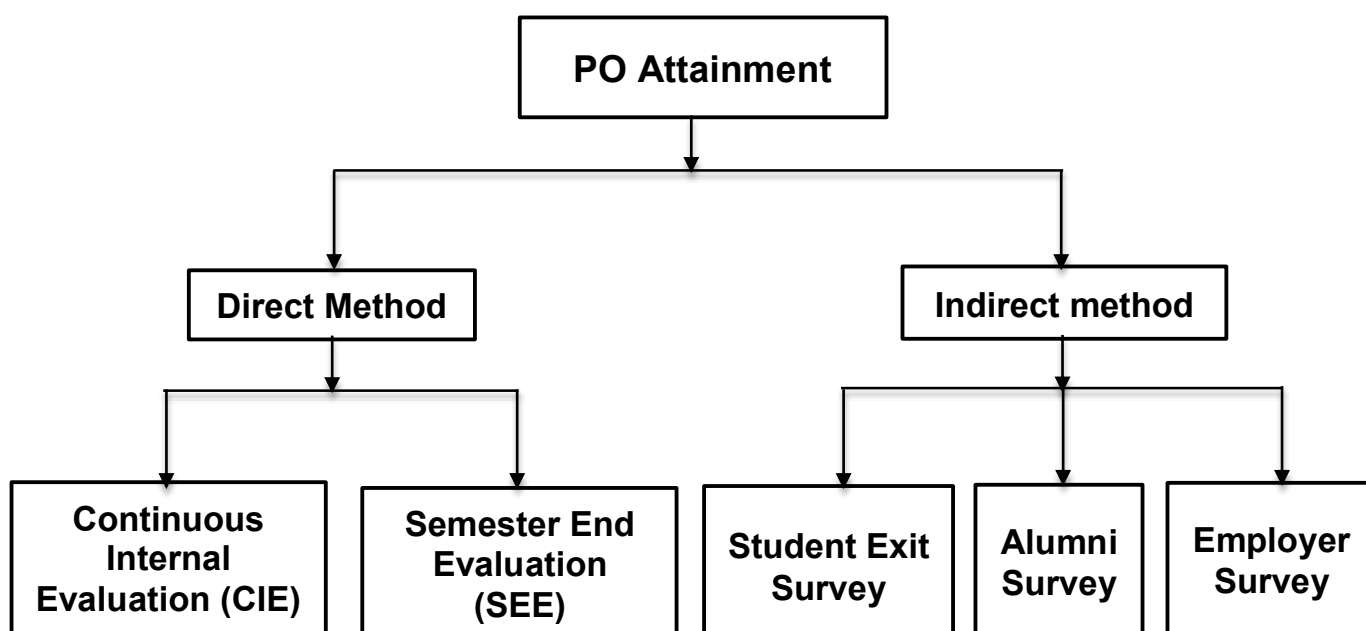
9. OVERALL PO AND PSO ASSESSMENT

The attainment of the POs and PSOs for a batch of students in the program of study shall be obtained through Direct and Indirect methods. The following table illustrates the weightage applied to arrive at the final PO and PSO attainment of the program.

In Direct method, average of each PO and PSO of the course shall be taken. In Indirect method, the average of the surveys on the respective POs and PSOs shall be calculated.

Table: Weightage for Direct and Indirect Assessment

Assessment Method	Weightage	
Direct Assessment	Internal Evaluation	80%
	External Evaluation	
Indirect Assessment	Student Exit Survey	20%
	Alumni Survey	
	Employer Survey	



9.1 Targets for the attainment of COs, POs and PSOs

The targets for the attainment of COs, POs and PSOs etc., shall be decided by the IQAC of the college based on the quality of the student input, performance of the students of current batch, attainments of the previous batches.

9.2 Impact Analysis

The impact analysis on the results of the evaluation of each of the COs, POs & PSOs shall be conducted by the HOD. The weaknesses shall be identified and appropriate measures shall be suggested for improvements in curriculum delivery, pedagogical initiatives, support system, and student's performance evaluation.

EVALUATION RUBRICS FOR PROJECT WORK

Rubric	Excellent (Wt = 3)	Good (Wt = 2)	Fair (Wt = 1)
Review-1			
Selection of Topic	Selected a latest topic through complete knowledge of facts and concepts	Selected a topic through partial knowledge of facts and concepts	Selected a topic through improper knowledge of facts and concepts
Literature Survey	Extensive literature survey with standard references	Considerable literature survey with standard references	Incomplete literature survey with substandard references
Analysis and Synthesis	Thorough comprehension through analysis/ synthesis	Reasonable comprehension through analysis/ synthesis	Improper comprehension through analysis/ synthesis
Ethical Attitude	Clearly understands ethical and social practices.	Moderate understanding of ethical and social practices.	Insufficient understanding of ethical and social practices.
Independent Learning	Did literature survey and selected topic with little guidance	Did literature survey and selected topic with considerable guidance	Selected a topic as suggested by the supervisor
Oral Presentation	Presentation in logical sequence with key points, clear conclusion and excellent language	Presentation with key points, conclusion and good language	Presentation with insufficient key points and improper conclusion
Report Writing	Status report with clear and logical sequence of chapters using excellent language	Status report with logical sequence of chapters using understandable language	Status report not properly organized
Continuous Learning	Highly enthusiastic towards continuous learning	Interested in continuous learning	Inadequate interest in continuous learning
Review-2			
Analysis and Synthesis	Thorough comprehension through analysis/ synthesis	Reasonable comprehension through analysis/ synthesis	Improper comprehension through analysis/ synthesis
Problem Solving	Thorough comprehension about what is proposed in the literature papers	Reasonable comprehension about what is proposed in the literature papers	Improper comprehension about what is proposed in the literature
Literature Survey	Extensive literature survey with standard references	Considerable literature survey with standard references	Incomplete literature survey with substandard references
Usage of Techniques & Tools	Clearly identified and has complete knowledge of techniques & tools used in the project work	Identified and has sufficient knowledge of techniques & tools used in the project work	Identified and has inadequate knowledge of techniques & tools used in the project work
Project work impact on Society	Conclusion of project work has strong impact on society	Conclusion of project work has considerable impact on society	Conclusion of project work has feeble impact on society
Project work impact on Environment	Conclusion of project work has strong impact on Environment	Conclusion of project work has considerable impact on environment	Conclusion of project work has feeble impact on environment
Ethical attitude	Clearly understands ethical and social practices.	Moderate understanding of ethical and social practices.	Insufficient understanding of ethical and social practices.

Rubric	Excellent (Wt = 3)	Good (Wt = 2)	Fair (Wt = 1)
<i>Independent Learning</i>	Did literature survey and selected topic with little guidance	Did literature survey and selected topic with considerable guidance	Selected a topic as suggested by the supervisor
<i>Oral Presentation</i>	Presentation in logical sequence with key points, clear conclusion and excellent language	Presentation with key points, conclusion and good language	Presentation with insufficient key points and improper conclusion
<i>Report Writing</i>	Status report with clear and logical sequence of chapters using excellent language	Status report with logical sequence of chapters using understandable language	Status report not properly organized
<i>Time and Cost Analysis</i>	Comprehensive time and cost analysis	Moderate time and cost analysis	Reasonable time and cost analysis
<i>Continuous learning</i>	Highly enthusiastic towards continuous learning	Interested in continuous learning	Inadequate interest in continuous learning
External Examination			
<i>Selection of Topic</i>	Selected a latest topic through complete knowledge of facts and concepts	Selected a topic through partial knowledge of facts and concepts	Selected a topic through improper knowledge of facts and concepts
<i>Analysis and Synthesis</i>	Thorough comprehension through analysis/ synthesis	Reasonable comprehension through analysis/ synthesis	Improper comprehension through analysis/ synthesis
<i>Problem Solving</i>	Thorough comprehension about what is proposed in the literature papers	Reasonable comprehension about what is proposed in the literature papers	Improper comprehension about what is proposed in the literature
<i>Literature Survey</i>	Extensive literature survey with standard references	Considerable literature survey with standard references	Incomplete literature survey with substandard references
<i>Usage of Techniques & Tools</i>	Clearly identified and has complete knowledge of techniques & tools used in the project work	Identified and has sufficient knowledge of techniques & tools used in the project work	Identified and has inadequate knowledge of techniques & tools used in project work
<i>Project work impact on Society</i>	Conclusion of project work has strong impact on society	Conclusion of project work has considerable impact on society	Conclusion of project work has feeble impact on society
<i>Project work impact on Environment</i>	Conclusion of project work has strong impact on Environment	Conclusion of project work has considerable impact on environment	Conclusion of project work has feeble impact on environment
<i>Ethical attitude</i>	Clearly understands ethical and social practices.	Moderate understanding of ethical and social practices.	Insufficient understanding of ethical and social practices.
<i>Independent Learning</i>	Did literature survey and selected topic with little guidance	Did literature survey and selected topic with considerable guidance	Selected a topic as suggested by the supervisor
<i>Oral Presentation</i>	Presentation in logical sequence with key points, clear conclusion and excellent language	Presentation with key points, conclusion and good language	Presentation with insufficient key points and improper conclusion

Rubric	Excellent (Wt = 3)	Good (Wt = 2)	Fair (Wt = 1)
<i>Report Writing</i>	Status report with clear and logical sequence of chapters using excellent language	Status report with logical sequence of chapters using understandable language	Status report not properly organized
<i>Time and Cost Analysis</i>	Comprehensive time and cost analysis	Moderate time and cost analysis	Reasonable time and cost analysis
<i>Continuous learning</i>	Highly enthusiastic towards continuous learning	Interested in continuous learning	Inadequate interest in continuous learning

Note: The evaluation rubrics for practical courses shall be formulated by the Department based on the Course Outcomes of respective courses.



SREE RAMA ENGINEERING COLLEGE

(Approved by AICTE - Affiliated to JNTUA, Ananthapuramu)
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Department of EEE STUDENT SURVEY FORM

Name of the Student :

Roll Number :

Year of Passing :

Mail ID :

Please mark '√' for all questions

1. What plans do you have for further studies?
 - Masters in Electrical Engineering
 - Electrical Engineering/interdisciplinary Study Abroad
 - Business Schools in India
 - Business School Abroad
2. What type of job are you planning to take up after graduation?
 - Government sector
 - Multinational Companies or software sector
 - Teaching Career
 - Research Organizations
3. Where do you see yourself after a few years of Graduation?
 - In managerial position
 - Leadership role in societal importance
 - As an entrepreneur
 - Freelance Consultant
4. Do you think the knowledge acquired through the course-work helped you?
 - Yes, the coursework is really helpful
 - They helped up to an extent
 - No. They were not of much use.
5. Were you taught the techniques of analyzing a general electrical engineering problem?
 - Yes. I was taught the techniques of analysis.
 - I got the techniques of analyzing only simple problems.
 - I think I need more teaching inputs.
6. Did you learn the concepts of designing electrical systems under real-life constraints?
 - Yes. I can design electrical systems.
 - Yes. I know the principles.

- I think I need more design skills.
- 7. Can you propose a feasible solution to an electrical engineering problem?
 - Yes, I am confident about it.
 - Yes, I can understand the problem.
 - I can do with some help.
- 8. Can you use modern tools and technologies relevant to electrical engineering domain?
 - Yes, I am aware of the tools.
 - Yes, I know quite a few of them.
 - Yes, I can do with some learning.
- 9. Do you think the courses prepare you to shoulder societal responsibilities?
 - Yes, they gave me lot of input
 - I got some input regarding that.
 - Not really.
- 10. Can you propose eco-friendly solutions to electrical engineering problems?
 - Definitely Yes
 - Up to an extent
 - Not much.
- 11. Can you find and follow ethical code of conduct in your professional transactions?
 - Definitely Yes
 - Up to an extent
 - Not much.
- 12. Did you ever have problems working in a group?
 - None whatsoever
 - A little friction
 - Lot of trouble
- 13. Did the B.Tech. Program help you in improving your confidence levels/skills to face interviews and real-life-tasks and manage projects in multidisciplinary environment?
 - Yes, very much
 - I can manage with some stress.
 - I find it difficult to deal.
- 14. Do you want to upgrade your knowledge about emerging technologies?
 - Yes, I will spend considerable amount of time.
 - I will try for some time.
 - I will let others figure it out and inform me.



SREE RAMA ENGINEERING COLLEGE

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Department of EEE ALUMNI SURVEY FORM

Name of the Alumni :

Year of Graduation :

Roll Number :

Mail ID :

Please mark '√' for all questions

1. Are you planning to pursue any higher studies?

- Yes, I am already enrolled for higher studies
- I am planning for higher studies
- I completed my PG program and I want to pursue doctoral program.
- I have no plans for further studies.

Higher education details: _____

2. What is your current career position?

- I am employed right now.
- I am an entrepreneur and own a business.
- I am trying to get employment
- I am planning to start my own business

Details of employment/entrepreneurship details: _____

3. Have you been adopting any new technologies /changes in your profession?

- Yes, I am constantly learning new technologies.
- I try to learn as and when needed.
- I did not feel the requirement so far.
- I am happy the way I am.

4. Were you comfortable facing the interviews?

- Yes, I was very comfortable.
- I was comfortable for most part.
- I was not very comfortable.

5. Are you able to apply knowledge and technical skills to carry out tasks in Engineering field as and when required by job specifications?

- Yes. It was very pleasant to apply the knowledge and skills.
- I am learning to apply the knowledge and skills.
- I still need to learn a lot on the job.

6. Were you able to apply acquired technical knowledge in identifying and analyzing engineering problems?

- Very comfortable.
- Comfortable.

- Need to learn more.
- 7. Had there been instances when you were able to improve upon the design that was originally suggested?
 - Many times.
 - Few times.
 - Waiting for the opportunity.
- 8. Were you able to integrate the knowledge acquired to provide solution for real-time problems?
 - Yes, I was able to integrate the knowledge acquired.
 - I am still figuring to come up with solutions.
 - I am still learning.
- 9. Do you use modern technologies, processes, and software / tools?
 - I always use tools to improve performance.
 - I try to use them sometimes.
 - I stick to traditional methods.
- 10. Do you think of societal context and impact of engineering skills while designing a new product or solution?
 - Yes, I always think in that direction.
 - I sometimes think in that direction.
 - I think only when it is compulsory.
- 11. Do you follow professional and ethical code of conduct to perform a given task?
 - Always.
 - Some times.
 - When convenient.
- 12. Have You Ever Had Difficulty Working with a colleague/team/associate?
 - Never.
 - At times.
 - I am a loner.
- 13. Are you able to vary your communication approach according to the person or situation you were addressing?
 - Yes, I can adapt comfortably.
 - Yes, I can manage.
 - I am trying.
- 14. Do you participate in new projects / working groups in your workplace to learn new techniques for effective project management?
 - I try to learn constantly.
 - I learn when needed.
 - I learn when it is compulsory.
- 15. Do you attend any conferences or seminars in your field to upgrade your skills?
 - Very often.
 - Often.
 - Once in a while.

Department of EEE Employer Survey Form

Name of the Employer :

Name of the Organization :

Mail ID :

Please mark '√' for all questions

1. Do you think graduates from SREC possess the technical knowledge and skill needed to fulfill the job function?
 - Yes. They are excellent in that respect.
 - Yes. They have sufficient knowledge
 - They need to be trained
2. Do SREC graduates exhibit the analytical skills?
 - Yes. The student can analyze complicated situation.
 - Yes. The student can analyze simple situations.
 - The student needs a little bit of orientation
3. Were there instances when SREC graduates was able to improve upon the design that was originally suggested?
 - Yes, very frequently
 - Yes, some times
 - Not frequently
4. Do SREC graduates possess the knowledge and skills to devise solutions to unfamiliar problems?
 - Yes. They exhibit innovativeness.
 - Yes. They give clever solutions some times.
 - They need a little bit more experience
5. Did you find SREC graduate reluctant to learn a new tool or procedure or technique as and when required?
 - No. The SREC graduates are always eager
 - SREC graduates are interested in learning
 - When the new technology is tedious, they are reluctant
6. Is the graduate of SREC aware of importance of social & global aspects?
 - Yes. Very conscious of social and global aspects
 - Yes. Aware of some of these aspects
 - Mostly interested in aspects immediately connected with work
7. How much he/she is aware about the effect of his work quality towards safety, society and environment?
 - Yes. They are very much aware.

- Yes. They are aware to an extent
 - They will update themselves when needed
8. Does the SREC graduate follow ethics and professional code of conduct?
- Yes. They follow very scrupulously
 - Yes. They follow.
 - In general, they are good.
9. Does SREC graduate perform as individual, in a team, and exhibit leadership qualities?
- They possess leadership skills
 - They can work well in a group
 - They are excellent workers individually
10. Can the SREC graduate vary the approach in written and verbal communication according to the person or situation?
- Yes, they are very good at it.
 - Yes, they can manage
 - Yes, they hesitate.
11. Do you feel the graduate from SREC is able to plan, organize & complete assigned project?
- They are very organized and effective.
 - They can manage
 - They need life skills training
12. Does the graduate from SREC upgrade the knowledge base to address the contemporary issues?
- Yes. They always upgrade.
 - Yes. They learn to an extent
 - Will upgrade when compulsory

Any Suggestions



SREE RAMA ENGINEERING COLLEGE

IV B.TECH I SEMESTER (R15) IMID TERM EXAMINATION – DECEMBER 2021

ENVIRONMENTAL ENGINEERING (15A01703)

(CIVIL ENGINEERING)

Date: 07.12.2021

Max. Time: 90 minutes

Max. Marks: 30

Answer the following questions

03 x 10 = 30 Marks

Q. No.	Description	CO	PO	BL	Marks
1.	(a) Enumerate the sources of water and water quality issues?	CO1	PO1	1	5M
	(b) List out any 5 water quality standards?	CO1	PO6	3	5M
2.	(a) Explain the components of water supply system by giving a flow diagram?	CO1	PO1	2	5M
	(b) Significance of jar test in water treatment	CO4	PO3	2	5M
3.	(a) List out any four important water borne diseases. What are the sources, symptoms, significance and methods of prevention?	CO4	PO6	3	5M
	(b) Enumerate various disinfectants used for disinfection process? Explain any three?	CO4	PO3	1	5M
4.	(a) Explain the working principle of reverse osmosis process?	CO6	PO3	2	5M
	(b) List out the advantages and disadvantages of reverse osmosis?	CO2	PO1	3	5M
5.	(a) Explain the design and working features of the rapid sand gravity filters.	CO6	PO3	2	5M
	(b) Enumerate the differences between slow sand filters and rapid sand filters.	CO6	PO1	1	5M

Signature of the Faculty

99.2021/12/07
Signature of HOD-CE



SREE RAMA ENGINEERING COLLEGE:: TIRUPATI
I M. TECH I SEMESTER (R21) I MID TERM EXAMINATION - MARCH- 2022
MICROCONTROLLERS & PROGRAMMABLE DIGITAL SIGNAL
PROCESSORS [21D06102]

Date: **24.03.2022(FN)**

(EMBEDDED SYSTEMS)
Max. Time: 120 minutes

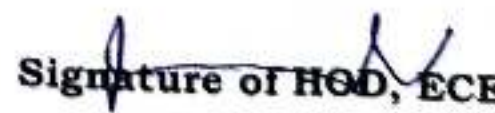
Max. Marks: 30

Answer All the questions:

03 x 05 = 15 Marks

Q. No.	Description	CO	PO	BL	Marks
1.	(a) Explain about the instruction set (ARM & Thumb) of ARM Cortex- Mx processor.	CO1	PO1	2	5M
	(b) Briefly explain about memory maps and memory access attributes of ARM Cortex- Mx processor.	CO1	PO1	1	5M
2.	(a) Explain about Pipeline and Bus interfaces.	CO2	PO2	4	5M
	(b) What are Vector Tables, Interrupt units and Fault exceptions? Briefly explain in detail.	CO1	PO1	1	5M
3.	(a) Write short notes on Interrupt sequences & Interrupt Latency.	CO1	PO1	2	5M
	(b) Write short notes on Nested Vectored Interrupt Controller & SYSTICK Timer.	CO2	PO2	4	5M


Signature of the Faculty


Signature of HOD, ECE



SREE RAMA ENGINEERING COLLEGE

II MBA III SEMESTER (R17) II MID TERM EXAMINATION –APRIL 2022
ADVERTISING AND SALES PROMOTION MANAGEMENT (17E00317)
(Dept. of MBA)

Date: 21.04.2022

Max. Time: 90 minutes

Max. Marks: 30

Answer the following questions

03 x 10 = 30 Marks

Q. No.	Description	CO	PO	BL	Marks
1.	Explain Advertisement Effectiveness.				
2.	Mention the Measurement of Impact of Sales Promotion.	CO2	PO1	L1	10M
3.	a) Define Publicity and Public relations.	CO3	PO1	L1	10M
	b) Elaborate Role and Functions of Public Relations Officer.	CO3	PO1	L1	5M
		CO4	PO1	L2	5M

Signature of the Faculty

Signature of HOD, MBA



SREE RAMA

SREE RAMA ENGINEERING COLLEGE

I B.TECH I SEMESTER (R20) II MID TERM EXAMINATION - APRIL, 2022

ENGINEERING DRAWING (20A03101T)

(Common to ECE-B,C&EEE)

Date: 13.04.2022(AN)

Max. Time: 120 minutes

Max. Marks: 15

Answer the following questions

03 x 05 = 15 Marks

Q. No.	Question	CO	PO	BL	Marks
1.	Draw the projections of circle 60 dia rest on VP on a point on the circumference. The plane is inclined at 45 degrees to VP and parallel to HP. The centre of the plane is 40 above the HP. [OR]	CO2	PO3	L2	5M
2.	Draw the projections of a cylinder of 40 diameter and axis 60 long when it is lying on HP with its axis inclined at 45° to HP and parallel to VP. Follow the change of position method. [OR]	CO3	PO3	L1	5M
3.	A Pentagonal pyramid with side of base 30 and axis 60 long, is resting with its base on HP and one of the edges of its base is perpendicular to VP. It is cut by a section plane parallel to HP and passing through the axis at a point 35 above the base. Draw the projections of the remaining solid. [OR]	CO3	PO2	L2	5M
4.	A triangular prism of base 30 side and axis 50 long is lying on HP, on one of its rectangular faces with its Axis inclined at 30° to VP. It is cut by a section plane parallel to HP and at a distance of 12 above HP. Draw the front and sectional top view. [OR]	CO3	PO2	L1	5M
5.	A pentagonal pyramid of side of base 30 and axis 60 long is resting on its base on HP with an edge of the base is parallel to VP. The section plane cuts the solid at the centre of axis at an angle 45° to HP. Draw the development of the lateral surface of the pyramid. [OR]	CO4	PO1	L3	5M
6.	A cone of base 50 diameter and axis 60 long is resting on its base on HP. it is cut by a section plane perpendicular to VP and inclined at 45° to HP and passing through a point on the axis at its centre. Draw the development of the retained solid.	CO4	PO3	L2	5M

Signature of the Faculty

Signature of HOD, BS&H