



**SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY. TUMKUR**  
(A Constituent college of Sri Siddhartha Academy of Higher Education, Deemed to be University,  
under section 3 of UGC act 1956, Vide MHRD GOI Notification no.F9-31/2006-U.3(A) dated:30/05/2008,  
Agalakote, B.H.Road, Tumkur – 572107, KARNATAKA, INDIA.



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

hodcs@ssit.edu.in, 0816-2200314

**Program Articulation matrix: 2016- 2020 batch**

Sl. No.	Course	Subject Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	C201	MAT301	3.00	3.00	1.00	1.60										
2	C202	CS3T01	1.50	3.00	2.00		2.50		2.00					1.25	2.00	
3	C203	CS3T02	2.75	3.00	3.00	2.25		2.00	2.67	3.00				1.00		
4	C204	CS3T03	2.00	2.00	2.67	2.33		2.00					1.00			
5	C205	CS3T04	2.00	1.67	1.00	1.00	1.00									
6	C206	CS3T05	2.25	2.50	2.00	1.67	1.00		2.00				1.00	1.67		
7	C207	CS3L01	1.00	2.33	3.00	1.33	2.00									
8	C208	CS3L02	1.00	2.50	1.50	3.00								1.00		
9	C209	MAT401	3.00	2.80	1.50	2.20										
10	C210	CS4T01	2.00	2.00	2.00	3.00	2.00	3.00	2.50	3.00	1.00	1.50	2.00	1.00		
11	C211	CS4T02	2.00	2.75	2.50	2.00								1.00	1.33	2.00
12	C212	CS4T03	1.00	3.00			2.50	2.00			2.50		1.00	1.00		
13	C213	CS4T04	2.25	3.00	2.25	3.00	2.75	3.00	2.00					1.00		
14	C214	CS4T05	1.67	2.33	2.67	1.67							2.00			

  
Faculty Coordinator

  
**Dr. M. SIDDAPPA**  
HOD, CSE Dept  
Professor & Head  
Department of Computer Science & Engineering  
Sri Siddhartha Institute of Technology  
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15	C215	CS4L01	2.00	2.75	2.50	2.00												1.00		
16	C216	CS4L02	2.25	3.00	2.25	3.00	2.75	3.00	2.00									1.00		
17	C301	CS5T01	1.75	2.00	2.00	1.00		2.00	3.00					3.00	1.50					
18	C302	CS5T02	2.50	2.50	2.67	3.00			2.50						2.50					
19	C303	CS5T03	2.67	2.75	3.00	2.75	2.75								2.75					
20	C304	CS5T04	2.25	3.00	3.00	2.33	2.00		3.00	2.00				2.00	2.25	3.00	2.00			
21	C305	CS5T05	2.00	3.00	2.50	2.00	2.33		2.00											
22	C307	CS5L01	2.00	3.00	2.50	2.00	2.33		2.00		1.00	2.00	1.00	1.00						
23	C308	CS5L02	1.33	2.67	2.00	2.50	3.00			2.00	3.00	2.00	2.00	2.00	2.00					
24	C309	CS6T01	1.50	2.25	2.25	1.75	2.67		2.25						1.00					
25	C310	CS6T02	2.00	2.75	3.00	2.00	3.00								1.25					
26	C311	CS6T03	1.00	2.25	2.25	2.00		2.00	2.25						2.50					
27	C312	CS6T04	2.67	2.00	2.50	2.00	2.00	2.00							3.00					
28	C3131	CS6PE511	2.75	3.00	3.00	3.00	3.00				2.00	2.00								
29	C3133	CS6PE513	1.00	2.00	2.00		1.00								1.00					
30	C315	CS6L01	3.00	2.50	3.00	2.50	3.00				3.00	2.00	1.00	3.00						
31	C316	CS6L02	2.00	2.00	2.00		3.00								2.00					

  
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32	C401	CS7T01	1.67	2.50	2.33	1.50	2.00	2.00	2.00			1.00	3.00	1.33		
33	C402	CS7T02	1.25	1.25	2.00	1.50	2.75	2.00				1.00		2.25		
34	C403	CS7T03	2.00	2.00	3.00	2.33	3.00							3.00	2.00	3.00
35	C4041	CS7PE411		2.00	1.67	2.50	2.67	2.75	1.50		1.75					
36	C4042	CS7PE412	1.50	3.00	1.00		2.00	1.50	1.00	3.00	3.00	2.00	2.00	1.50		
37	C4053	CS7PE523		3.00	3.00	3.00	3.00		2.50		3.00	3.00		3.00		
38	C406	CS7L01	2.50	2.50	2.75	2.33	3.00	2.00	2.00					2.00		
39	C407	CS7L02	1.25	1.50	1.25	1.00	2.00	2.00		2.00	2.25	1.00	1.00	3.00		
40	C408	CS7PW01	3.00	3.00	3.00	2.00	3.00		2.50		3.00	3.00		3.00		
41	C409	CS8T01	1.75	2.25	2.00	1.75	2.00						2.00			
42	C410	CS8T02	1.25	1.50	1.00	1.00	2.67							3.00		
43	C4111	CS8PE311	1.00	2.50	2.33	2.50	3.00	2.00	2.50					2.50		
44	C4121	CS8PE421		1.50		3.00		2.00	1.00		3.00	1.00		3.00		
45	C4122	CS8PE422	2.00	2.00	1.00	2.00		3.00	2.00					2.50		
46	C413	CS8PW02			3.00	3.00	3.00				3.00	3.00	3.00			
47	C414	CS8TS01	2.50	1.00	1.00	1.00	1.00	2.00	2.00			3.00		1.00		
Avg. Mapping			1.95	2.42	2.22	2.13	2.40	2.22	2.14	2.50	2.42	1.96	1.80	1.88	2.08	2.33

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**PO/PSO Indirect Attainment: 2016- 2020 batch**

Survey/Activities	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Exit Survey	2.4	2.7	2.7	2.7	2.7	2.7	2.4	2.7	2.7	2.4	2.4	2.4	2.7	2.7
Employer Survey	2.5	2.5	2.5	2.5	2.5	3	2.5	3	3	2.5	3	2.5		
Co-curricular Activities	2.1	2.	2.1	2.4	2.4				2.1	2.1	2.4	2.4		
Extracurricular Activities								2.7	2.7	2.7				
Indirect Attainment	2.33	2.43	2.43	2.53	2.53	2.85	2.45	2.80	2.63	2.43	2.6	2.43	2.70	2.70

  
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**Overall PO Attainment: 2016- 2020 batch**

Overall attainments of POs are calculated by taking 80% of direct attainment and 20% of indirect attainment.

Assessment method	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Direct Attainment	1.75	2.16	2.00	1.92	2.19	1.99	1.94	2.38	2.30	1.91	1.69	1.73	1.92	2.17
Indirect attainment	2.33	2.43	2.33	2.53	2.53	2.85	2.45	2.8	2.63	2.43	2.6	2.43	2.7	2.7
Overall Attainment	<b>1.86</b>	<b>2.22</b>	<b>2.09</b>	<b>2.04</b>	<b>2.25</b>	<b>2.16</b>	<b>2.04</b>	<b>2.46</b>	<b>2.37</b>	<b>2.01</b>	<b>1.87</b>	<b>1.87</b>	<b>2.07</b>	<b>2.27</b>

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**POs and PSOs Attainments for 2016-2020 Batch**

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
PO and PSO Attainments	1.86	2.22	2.09	2.04	2.25	2.16	2.04	2.46	2.37	2.01	1.87	1.87	2.07	2.27
Target	1.95	2.42	2.22	2.13	2.40	2.22	2.14	2.50	2.42	1.96	1.80	1.88	2.08	2.33
Percentage of attainment	95%	92%	94%	96%	94%	97%	95%	98%	98%	100%	100%	99%	99%	97%

As per the suggestions of Department Advisory Committee members, PO and PSO attainment target is fixed to 60% of PAM, all PO and PSO attainments have reached the target.

**Faculty Coordinator**

**Head of the department**

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Courses in which the attainment is less than 60% in the academic year 2017-18 (2016 batch) : NIL

Faculty Coordinator

Head of the department

**Dr. M. SIDDAPPA**

Professor & Head  
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**List of courses in which the attainment is less than 60% in the academic year 2018-19 (2016 batch)**

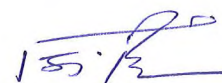
SL. No	SEM	SUBJECT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	5	CS5T01	48.61	55.56	55.56	27.78		55.56	83.33				83.33	41.67
2	6	CS6T01	41.67	62.50	62.50	48.61	74.07		62.50					27.78
3	6	CS6T03	22.22	50.0	50.0	44.44		44.44	50.0					55.56

**Plan of Action**

Sl. No.	Sem	Subject Code	Subject Title	Staff	Actions to be taken
1	5	CS5T01	Operating System	TNS	Discussing some case studies in the class and giving more assignments on the same.
2	6	CS6T01	Object Oriented Modelling and Design	TPC& NKR	Need to discuss some case studies in the class and more assignments to be given on the case studies.
3	6	CS6T03	Computer Networks	CDG & SRS	Conducting unit tests at regular intervals and solving variety of topic related problems.



**Faculty Coordinator**



**Head of the department**

**Dr. M. SIDDAPPA**  
Professor & Head  
Department of Computer Science & Engineering  
Sri Siddhartha Institute of Technology  
Maraluru, Tumakuru.



Courses in which the attainment is less than 60% in the academic year 2019-20 (2016 batch): NIL

Actions taken in the academic year 2019-20 in the courses in which the attainment was low

Sl. No	Sem	Subject Code	Subject Title	Staff	Actions taken
1	5	CS5T01	Operating System	NKR	Discussed a case study on Linux operating system and assignments on windows and ios operating system was given.
2	6	CS6T01	Object Oriented Modelling and Design	TPC & NKR	Some case studies are discussed in the class and more assignments are given on the case studies.
3	6	CS6T03	Computer Networks	CDG & GN	Conducted unit tests at regular intervals and solved variety of topic related problems.

### Impact Analysis

SL. No	SEM	SUBJECT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	5	CS5T01	48.61	55.56	55.56	27.7		55.56	83.33				83.33	41.67
2	6	CS6T01	44.44	72.22	72.22	55.56	88.89		69.44					29.63
3	6	CS6T03	27.78	62.50	62.50	55.56		55.56	64.81					69.44



Faculty Coordinator



Head of the department

**Dr. M. SIDDAPPA**  
Professor & Head

Department of Computer Science & Engineering  
Sri Siddhartha Institute of Technology  
Maraluru, Tumakuru.



**POs and PSOs Attainments for 2017-2021 Batch**

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
PO and PSO Attainments	1.73	2.14	2.04	1.92	2.13	1.95	2.02	2.00	2.41	2.07	1.75	1.85	2.32	2.12
Average of PAM	1.95	2.42	2.22	2.12	2.40	2.22	2.14	2.50	2.42	1.96	1.80	1.88	2.08	2.33
Percentage	92%	91%	94%	96%	90%	93%	97%	79%	98%	100%	90%	100%	73%	90%

As per the suggestions of Department Advisory Committee members, PO and PSO attainment target is fixed to 60%, all PO and PSO attainments have reached the target.

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**Head of the department**

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Courses in which the attainment is less than 60% in the academic year 2018-19 (2017 batch): NIL

  
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Head of the department

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List of courses in which the attainment is less than 60% in the academic year 2019-20 (2017 batch)

Sl. No.	SEM	SUBJECT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO1
1	6	CS6L01	50.00	40.00	16.67	80.00	66.67				66.67	66.75	100.00	44.6

**Plan of Action**

Sl. No.	Sem	Subject Code	Subject	Staff	Actions to be taken
1	6	CS6L01	Computer Graphics Lab	MNB & GM	Additional programs to be solved to enhance the analysis and design skills.

*A. Anand*

Faculty Coordinator

*Dr. M. Siddappa*

Head of the department  
Dr. M. SIDDAPPA  
Professor & Head  
Department of Computer Science & Engineering  
Sri Siddhartha Institute of Technology  
Maraluru, Tumakuru.



**Actions taken in the academic year 2020-21 in the courses in which the attainment was low**

Sl. No.	Sem	Subject Code	Subject	Actions taken
1	6	CS6L01	Computer Graphics Lab	Curriculum has been revised in the academic year 2018-19

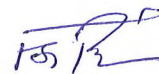
**List of courses in which the attainment is less than 60% in the academic year 2020-21 (2017 batch)**

Sl. No.	SEM	SUBJECT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	7	CS7T02	61.52	63.20	61.40	62.53	62.07	58.25				58.50		62.22

**Plan of Action**

Sl. No.	Sem	Subject Code	Subject	Staff	Actions to be taken
1	7	CS7T02	Web Technology	TPC & MNS	Basic knowledge of mathematics and physics related to programming has to be refreshed. More number of hands on session is required for improving the development skills. Implementation of simple real time web pages. Presenting their work.

  
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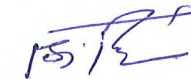
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**Actions taken in the academic year 2021-22 in the courses in which the attainment was low**

Sl. No.	Sem	Subject Code	Staff	Actions taken
1	7	18CSI602	TPC & MNS	The course is changed as integrated course. The concepts taught in the class are implemented in the lab session. Simple web pages are implemented and demonstrated.

  
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**Actions taken based on the results of evaluation of each of the COs, POs & PSOs**

**POs Attainment Levels and Actions for Improvement-(2020-21)**

POs	Target Level	Attainment Level	Observations
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**PO 1 : Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 1	1.95`	1.86	Attainment is low in few courses.
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Action 1: Training is given to first year students to gain knowledge in engineering fundamentals by conducting bridge course.

Action 2: Discussed some case studies in the class and gave more assignments on case studies.

**PO 2 : Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO 2	2.42	2.22	Attainment is low in few courses.
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Action 1: More problems are solved to enhance analyzing skills.


Action 2: Conducting unit tests at regular intervals and solving variety of topic related problems to make students understand the concepts better.

**PO 3 : Design/development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO 3	2.22	2.09	Attainment is low in few courses.
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Action : Department has organized one-week workshop on "Data Analytics and Machine Learning" from 22/02/2021 to 26/02/2021 to enable students to acquire more knowledge in Machine Learning Algorithms & their applications and to have hands on experience in the Machine

  
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**PO 4 : Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to provide valid conclusions.

PO 4	2.13	2.04	Actions are suggested for the courses in which attainment is low.
Action 1: Students are encouraged to participate in Hackthon and other coding competitions.			
Action 2: More assignments are given to solve complex problems.			

**PO 5 : Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO 5	2.40	2.25	No adequate usage of modern tools leading to lack of hands on experience in course such as Machine Learning.
Action1: Machine learning lab is introduced from 2020-21. This contributes for increasing % of articulation of PO5.			
Action2: Mini project has been introduced in the year 2020-21 for 6 <sup>th</sup> semester students which will enable students to apply appropriate techniques and modern engineering tools to solve complex problems.			

**PO 6 : The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 6	2.22	2.16	Attainment is low in few courses.
Action : Discussed some case studies in the class and gave more assignments on case studies.			

**PO 7 : Environment and Sustainability:** Understand the impact of the professional engineering solution in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO 7	2.14	2.04	Major projects are not converted to products to understand the impact of professional engineering solution in societal and environmental issues.
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Faculty Coordinator

  
Head of the Department

**Dr. M. SIDDAPPA**  
Professor & Head  
Department of Computer Science & Engineering  
Sri Siddhartha Institute of Technology  
Maraluru, Tumakuru.



# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY. TUMKUR

(A Constituent college of Sri Siddhartha Academy of Higher Education, Deemed to be University, under section 3 of UGC act 1956, Vide MHRD GOI Notification no.F9-31/2006-U.3(A) dated:30/05/2008, Agalakote, B.H.Road, Tumkur – 572107, KARNATAKA, INDIA.

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Action 1: Students are encouraged to develop products from project work and apply for patents, so that impact can be studied.

Action 2: Students are advised to take up environmental safety considerations during project development.

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

PO 8	2.50	2.46	Percentage of mapping is low.
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Action 1: Students are encouraged to participate in student club activities -INTENT.

Action 2: Motivate students to propose novel ideas to do projects and write reports without plagiarism.

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

PO 9	2.42	2.37	Percentage of mapping is low
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Action 1: Encourage students to carry out hobby projects in multidisciplinary environment which enables students to work effectively as an individual and to co-ordinate in a team.

Action 2: Mini project is introduced in the curriculum to enable students to work effectively as an individual and in a team.

**PO 10 : Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO 10	1.96	2.01	Target Achieved.
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Action 1: A credit course on skill development is introduced in the curriculum to enhance the skills to improve communication, aptitude, technical, group discussion, leadership, team work and managerial skills. This helps in overall personality development of the students.

Action 2: Students are encouraged to prepare PPTs, reports and give seminars for the mini project and major project carried out by them which enhances oral and written communication skills.

*Aana*  
Faculty Coordinator

*[Signature]*  
Head of the Department  
**Dr. M. SIDDAPPA**  
Professor & Head  
Department of Computer Science & Engineering  
Sri Siddhartha Institute of Technology  
Maraluru, Tumakuru.



**PO 11 : Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO 11	1.80	1.87	Target Achieved.
Action 1: Students are encouraged to carry out internships in industry which enables students to review the current trends in their areas of interest and apply engineering and management principles to develop products. Action 2: Mini project is introduced in the curriculum to enable students to work effectively in a team and use good project management practices.			

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

PO 12	1.88	1.87	Self-learning by students needs to be encouraged.
Action 1: Students are encouraged to take up certification courses (like MOOC, NPTEL etc., ). Action 2: Students are encouraged to pursue higher education in reputed institutions by clearing competitive exams. Department has conducted mock competitive exams to improve confidence levels of the students.			


**PSOs Attainment Levels and Actions for Improvement- (2020-21)**

PSOs	Target Level	Attainment Level	Observations
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**PSO 1 :** Able to demonstrate the uses of knowledge by writing programs and integrate them with hardware/software products in multidisciplinary environment.

PSO 1	2.08	2.07	Few theory courses are mapped to this PSO.
Action 1: Machine learning lab is introduced from 2020-21. This contributes for increasing percentage of articulation of PSO1. Action 2: Mini project is introduced in the curriculum to enable students to apply the knowledge by developing system and application programs.			

  
**Faculty Coordinator**

  
**Head of the Department**  
**Dr. M. SIDDAPPA**  
 Professor & Head  
 Department of Computer Science & Engineering  
 Sri Siddhartha Institute of Technology  
 Maraluru, Tumakuru.



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**PSO 2** : Able to participate in planning and implementation of solutions to cater industry specific requirements

PSO 2	2.33	2.27	Train the students on cutting edge technologies and prepare them to cope up with the dynamically changing industrial needs.
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Action : Introduced industry designed and delivered course on Block Chain Technology for final year students.

Faculty Coordinator

Head of the Department

**Dr. M. SIDDAPPA**  
Professor & Head  
Department of Computer Science & Engineering  
Sri Siddhartha Institute of Technology  
Maraluru, Tumakuru.



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## DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING


[ssitise@gmail.com](mailto:ssitise@gmail.com), [hodis@ssit.edu.in](mailto:hodis@ssit.edu.in), 0816-2200314



### Program Articulation Matrix: 2016-2020 Batch

Sl. No.	NBA Code	Subject Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	C201	MAT301	3	3	1	1.6										
2	C202	CS3T01	1.5	3	2		2.5		2					1.25		
3	C203	CS3T02	2.75	3	3	2.25		2	2.67	3				1		
4	C204	CS3T03	2	2	2.67	2.33		2					1			
5	C205	CS3T04	2	1.67	1	1	1									
6	C206	CS3T05	2.25	2.5	2	1.67	1		2				1	1.67		
7	C207	CS3L01	1	2.33	3	1.33	2									
8	C208	CS3L02	1	2.5	1.5	3								1		
9	C209	MAT401	3	2.6	1.2	2.2										
10	C210	CS4T01	2	2	2	3	2	3	2.5	3	1	1.5	2	1		
11	C211	CS4T02	2	2.75	2.5	2								1		
12	C212	CS4T03	1	3			2.5	2			2.5		1	1		
13	C213	CS4T04	2.25	3	2.25	3	2.75	3	2					1		3
14	C214	CS4T05	1.67	2.33	2.67	1.67							2			
15	C215	CS4L01	2	2.75	2.5	2								1		
16	C216	CS4L02	2.25	3	2.25	3	2.75	3	2					1		3
17	C301	CS5T01	1.75	2	2	1		2	3				3	1.5		
18	C302	CS5T02	2.5	2.5	2.67	3			2.5					2.5		
19	C303	CS5T03	2.67	2.75	3	2.75	2.75							2.75		
20	C304	CS5T04	2.25	3	3	2.33	2		3	2			2	2.25		
21	C305	CS5T05	2	3	2.5	2	2.33		2							

  
Faculty Coordinator

  
HOD, ISE Dept.  
Prof and Head  
Dept. of Information Science & Engineering,  
S.S.I.T, Tumakuru



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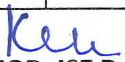


## DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

[ssitise@gmail.com](mailto:ssitise@gmail.com), [hodis@ssit.edu.in](mailto:hodis@ssit.edu.in), 0816-2200314

22	C307	CS5L01	2	3	2.5	2	2.33		2		1	2	1	1		
23	C308	CS5L02	1.33	2.67	2	2	3			3	3	2	2	2		
24	C309	CS6T01	1.5	2.75	2.25	1.75	2.67		2.25					1		
25	C310	IS6T02		2.5	3	2	2		2		2		2.25	3		
26	C311	CS6T03	1	2.25	2.25	2		2	2.25					2.5		
27	C312	IS6T04	2	2.75	3	2.67	2	2	3				3	1		
28	C3134	IS6PE514	1.5	2.33	2.67	1.67	2	2						2		
29	C315	IS6L01	2.5	2.5	2.75	2.33	3	2	2					2		
30	C316	IS6L02	2	2.5	2.5	1.5	1							1		
31	C401	IS7T01	1	3	2.25	2.25	2.25							1.67		
32	C402	CS7T02	1.25	1.25	2	1.5	2.75	2				1		2.25		
33	C403	IS7T03	2.25	2	2	2.33	1.33	2			1.5	3	1	1	1.66	1
34	C4041	CS7PE411	1	1	1	1.5	1.5				3	1		1		
35	C4053	CS7PE523		3	3	3	3		2.5		3	3		3		
36	C406	IS7L01	1.75	2.75	2.5	2.5	2.25	2	2					1		
37	C407	IS7L02	1.25	1.5	1.25	1	2	2		2	2.25	1	1	3		
38	C408	CS7PW01	3	3	3	2	3		2.5		3	3		3		
39	C409	IS8T01	2	3	2.67	2		2.33		3				1.67		1
40	C410	CS8T02	1.25	1.5	1	1	2.67							3		
41	C4113	IS8PE313	2.75	1	2	1.5	2				1	1.67		1	2	1.33
42	C4124	CS8PE424	2		2		1.75			3			1.5	2		
43	C413	CS8PW02			3	3	3				3	3	3			
44	C414	CS8TS01	2.5	1	1	1	1	2	2			3		1		
Average			1.92	2.43	2.24	2.04	2.19	2.20	2.31	2.71	2.19	2.10	1.78	1.67	1.83	1.87

  
Faculty Coordinator

  
HOD, ISE Dept.  
Prof and Head  
Dept. of Information Science & Engineering  
S.S.I.T, Tumakuru



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## DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

[ssitise@gmail.com](mailto:ssitise@gmail.com), [hodis@ssit.edu.in](mailto:hodis@ssit.edu.in), 0816-2200314



### Program Attainment Matrix: 2016-2020 Batch

Sl. No.	NBA Code	Subject Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	C201	MAT301	2.5	2.5	0.83	1.33										
2	C202	CS3T01	1.25	2.5	1.67		2.08		1.67					1.04		
3	C203	CS3T02	2.63	2.88	2.83	2.17		1.92	2.5	3				1		
4	C204	CS3T03	1.33	1.17	1.44	1.33		1					0.5			
5	C205	CS3T04	1.33	1.11	0.67	0.67	0.67									
6	C206	CS3T05	1.88	2.08	1.67	1.39	0.83		1.67				0.83	1.39		
7	C207	CS3L01	0.83	1.94	2.5	1.11	1.67									
8	C208	CS3L02	1	2.5	1.5	3								1		
9	C209	MAT401	2.5	2.17	1.25	1.83										
10	C210	CS4T01	2	2	2	3	2	3	2.5	3	1	1.5	2	1		
11	C211	CS4T02	1.94	2.38	2.38	1.89								1		
12	C212	CS4T03	1	3			2.5	2			2.5		1	1		
13	C213	CS4T04	1.88	2.5	1.88	2.5	2.29	2.5	1.67					0.83		2.5
14	C214	CS4T05	1.58	2	2.17	1.39							1.58			
15	C215	CS4L01	2	2.75	2.5	2								1		
16	C216	CS4L02	2.25	3	2.25	3	2.75	3	2					1		3
17	C301	CS5T01	1.08	1.22	1.22	0.61		1.22	2				1.83	0.88		
18	C302	CS5T02	1.67	1.67	1.78	2			1.67					1.67		
19	C303	CS5T03	1.78	1.83	2	1.83	1.83							2		
20	C304	CS5T04	2.25	3	3	2.33	1		3	2			2	2.25		
21	C305	CS5T05	1.67	2.5	2.08	1.67	2.22		1.67							

*[Signature]*  
Faculty Coordinator

*[Signature]*  
HOD, ISE Dept.  
Prof and Head  
Dept. of Information Science & Engineering  
S S I T, Tumakuru



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## DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

[ssitise@gmail.com](mailto:ssitise@gmail.com), [hodis@ssit.edu.in](mailto:hodis@ssit.edu.in), 0816-2200314

22	C307	CS5L01	2	3	2.5	2	2.33		2		1	2	1	1		
23	C308	CS5L02	1.33	2.67	2	2	3			3	3	2	2	2		
24	C309	CS6T01	1	1.83	1.5	1.17	1.78		1.5					0.67		
25	C310	IS6T02		1.54	1.88	1.58	1.22		0.61		1.25		1.38	1.88		
26	C311	CS6T03	0.83	1.88	1.88	1.67		1.67	1.88					2.08		
27	C312	IS6T04	1.67	2.29	2.5	1.67	1.67	1.67	2.5				2.5	1.04		
28	C3134	IS6PE514	1.25	1.94	2.22	1.39	1.67	1.67						1.67		
29	C315	IS6L01	2.5	2.5	2.75	2.33	3	2	2					2		
30	C316	IS6L02	2	2.5	2.5	1.5	1							1		
31	C401	IS7T01	0.92	2.88	2.13	2.13	2.17							1.61		
32	C402	CS7T02	0.79	0.79	1.25	0.92	1.71	1.33				0.67		1.38		
33	C403	IS7T03	2.13	1.89	2	2.33	1.22	2			1.42	3	0.83	1	1.56	0.92
34	C4041	CS7PE411	0.83	0.83	0.83	1.25	1.25				2.5	0.83		0.83		
35	C4053	CS7PE523		3	3	3	3		2.5		3	3		3		
36	C406	IS7L01	1.75	2.75	2.5	2.5	2.25	2	2					1		
37	C407	IS7L02	1.25	1.5	1.25	1	2	2		2	2	1	1	3		
38	C408	CS7PW01	3	3	3	2	3		2.5		3	3		3		
39	C409	IS8T01	2	3	2.67	2		2.25		3				1.67		1
40	C410	CS8T02	1.25	1.5	1	1	2.67							3		
41	C4113	IS8PE313	2.75	1	2	1.5	2				1	1.67		1	2	1.33
42	C4124	CS8PE424	2		2		1.75			3			1.5	2		
43	C413	CS8PW02			3	3	3				3	3	3			
44	C414	CS8TS01	3	3	3	3	3	3	3			3		3		
Average			1.72	2.19	2.02	1.80	2.02	2.01	2.04	2.71	2.06	2.06	1.53	1.55	1.78	1.75

  
Faculty Coordinator

  
HOD ISE Dept.  
Prof and Head  
Dept. of Information Science & Engineering  
S.S.I.T, Tumkur



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## DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

[ssitise@gmail.com](mailto:ssitise@gmail.com), [hodis@ssit.edu.in](mailto:hodis@ssit.edu.in), 0816-2200314



### PO/PSO Indirect Attainment: 2016-2020 Batch

Survey/Activites	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Graduate Exit Survey	2.15	2.21	2.11	2.26	2.21	2.17	2.23	0.72	2.17	2.23	3.00	3.00	2.13	2.21
Employer Survey	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Co-Curricular activities	2.7	2.7	2.7	2.7	2.7				2.7	2.7	2.7	2.7		
Extra-Curricular Activities								2.4	2.4					
Indirect Attainment (Average)	2.62	2.64	2.60	2.65	2.64	2.59	2.62	2.04	2.57	2.64	2.90	2.90	2.57	2.61

Faculty Coordinator

HOD, ISE Dept.

Prof and Head  
Dept. of Information Science & Engineering  
S.S.I.T, Tumakuru



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## DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

[ssitise@gmail.com](mailto:ssitise@gmail.com), [hodis@ssit.edu.in](mailto:hodis@ssit.edu.in), 0816-2200314




### Overall PO Attainment: 2016-2020 Batch

Overall attainments of POs are calculated by taking 80% of direct attainment and 20% of indirect attainment

Assessment Method	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Direct Attainment	1.38	1.75	1.62	1.44	1.61	1.61	1.63	2.17	1.64	1.64	1.22	1.24	1.42	1.40
Indirect Attainment	0.52	0.53	0.52	0.53	0.53	0.52	0.52	0.40	0.51	0.53	0.58	0.58	0.51	0.52
Overall Attainment	1.90	2.28	2.14	1.97	2.14	2.13	2.15	2.57	2.15	2.17	1.80	1.82	1.93	1.92

  
Faculty Coordinator

  
HOD, ISE Dept.  
Prof and Head  
Dept. of Information Science & Engineering  
S.S.I.T, Tumakuru



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**DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING**

[ssitise@gmail.com](mailto:ssitise@gmail.com), [hodis@ssit.edu.in](mailto:hodis@ssit.edu.in), 0816-2200314

## Actions taken based on the results of evaluation of each of the COs, POs & PSOs

### POs Attainment Levels and Actions for improvement–(2020-21)

POs	Target Level	Attainment Level	Observations
<b>PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.</b>			
PO1	1.92	1.72	Target achieved. (Attainment level is greater than or equal to 60% of Target level ) After analyzing the results and interacting with students, it was found that they require more practice on logic building skills, computer fundamentals, programming skills and mathematical modeling knowledge.
<ul style="list-style-type: none"><li>• Additional programs/problems are given in laboratories to enhance the basic skills on database.</li><li>• CISCO certification on packet tracing to understand the concepts of computer networks and its topology.</li><li>• Introduced Python programming as an integrated subject to enhance learning skills.</li><li>• Extra classes in programming for slow learners.</li><li>• Aptitude quiz conducted on programming.</li></ul>			
<b>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.</b>			
PO2	2.43	2.19	Target achieved. To improve students problem analyzing and solving capability following actions have been taken.
<ul style="list-style-type: none"><li>• Remedial classes for weak students on how to formulate solutions to a given problem.</li><li>• Complex problems as home assignments to enhance students analyzing skills and creativity.</li><li>• Case studies are given to understand the subjects better.</li><li>• Students were encouraged to do Hobby Projects to stretch the limits of their imagination and stimulate creativity.</li><li>• Seminars to improve self-learning ability, to know literature survey methods.</li><li>• Mini projects to improve practical knowledge.</li><li>• Journal club to develop research culture among students.</li></ul>			

Faculty Coordinator

Head of the Department

**Prof and Head**  
**Dept. of Information Science & Engineering**  
**S.S.I.T, Tumakuru**



## SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY. TUMKUR

(A Constituent college of Sri Siddhartha Academy of Higher Education, Deemed to be University, under section 3 of UGC act 1956, Vide MHRD GOI Notification no.F9-31/2006-U.3(A) dated:30/05/2008, Agalakote, B.H.Road, Tumkur – 572107, KARNATAKA, INDIA.

### DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

[ssitise@gmail.com](mailto:ssitise@gmail.com), [hodis@ssit.edu.in](mailto:hodis@ssit.edu.in), 0816-2200314



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.			
PO3	2.24	2.02	Target achieved. To ensure students acquire necessary skills to design solutions to engineering problems following strategies have been adopted.
<ul style="list-style-type: none"><li>• Workshops are conducted for students in current technologies.</li><li>• Case studies on machine learning techniques.</li><li>• Hobby projects and Mini projects to apply Engineering skills in practical implementation.</li><li>• Main projects on machine learning and IoT.</li><li>• Internships to students to work on real-time applications.</li><li>• Design a LAN for small company or laboratory.</li></ul>			
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.			
PO4	2.04	1.80	Target achieved. To expose students to acquire new knowledge and interpret data in a methodical way following actions are taken.
<ul style="list-style-type: none"><li>• Modeling of Engineering problems using software tools.</li><li>• Development of web applications and project based learning.</li><li>• Motivate students to take up online courses to learn new technologies.</li><li>• Workshop to enhance learning skills of students.</li><li>• Testing of software solution through case studies.</li><li>• Big Data analysis has been introduced in curriculum.</li></ul>			
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.			
PO5	2.19	2.02	Target achieved. Students are encouraged to use open source software to work in laboratories and do projects. This is expected to improve their learning abilities and to think beyond the curriculum.
<ul style="list-style-type: none"><li>• Use of Open source software to learn their usage in solving engineering problems.</li><li>• Hands on sessions to work with scripting languages.</li><li>• Working with network simulators, android studios to augment learning skills.</li><li>• Use of industry standard tools for program writing in laboratories.</li></ul>			

*W*

Faculty Coordinator

*K*

Head of the Department

Prof and Head  
Dept. of Information Science & Engineering  
S.S.I.T, Tumakuru



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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.			
PO6	2.20	2.01	Target achieved. To ensure knowledge acquired by the students will lead to solution to societal needs following actions are taken.
<ul style="list-style-type: none"><li>• Motivating students to identify societal problems and provide solutions through projects.</li><li>• Visiting to village and interact with the people and children through NSS programs.</li><li>• Social awareness creation programs for safe driving , energy conservation, digital awareness were conducted</li></ul>			
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.			
PO7	2.31	2.04	Target achieved. To know the usage of technology and its influence on day to day life, students are encouraged to reach out to society through NSS programs. Following actions are taken.
<ul style="list-style-type: none"><li>• Students are motivated to generate interest in solving the problems by looking around the vicinity and to design the projects.</li><li>• Subject is introduced on Environmental studies at 1st year level to create consciousness about the need of healthy environment.</li><li>• Awareness programs on e-waste problems and measures to be taken to manage e-waste.</li></ul>			
PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			
PO8	2.71	2.71	Target achieved.
<ul style="list-style-type: none"><li>• Students are divided into smaller group of six to eight at the 2nd year level and are guided by the faculty member. Focus is given about their attitude, Do's and Don'ts , gender equality.</li><li>• Cyber law and Indian IT Act 2000 introduced as a part of curriculum through which students are enlightened on ethics to be followed while communicating via any network provider, and penalty and punishments if in case of breach of law.</li><li>• Topics on professional ethics are introduced as a part of curriculum.</li><li>• Anti-ragging committee educate the students regarding how to respect fellow students each other.</li></ul>			

*Wk*

Faculty Coordinator

*Kue*

Head of the Department

Prof and Head  
Dept. of Information Science & Engineering  
S.S.I.T, Tumakuru



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PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			
PO9	2.19	2.06	Target achieved. To make sure that students work in a team and able to address the complex problems through group activities following actions are taken.
<ul style="list-style-type: none"><li>• Students are motivated to involve themselves as volunteer/ participant in Tech Fest, National level sports meet, technical and cultural activities to generate the feeling of leadership and working in teams.</li><li>• Paper presentation by the students was conducted to promote team work.</li><li>• Project seminars: Regular seminars are organized in Project phase-1 and phase-2 to enhance the individual capability as well as collaborative learning ability.</li><li>• Hobby projects are introduced in the 3rd sem onwards to encourage students to develop individual and team work.</li></ul>			
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.			
PO10	2.10	2.06	To improve the communication skills and present their ideas in a better way following steps are adopted.
<ul style="list-style-type: none"><li>• Technical seminar has been introduced at 8th sem level.</li><li>• Students present their main project work and hobby projects through power point presentation.</li><li>• Presentation is done through Journal club to improve communication skills. • Seminar by the students on new topics.</li><li>• Role play, pick and speak, public speaking, contribution to department Newsletter from students to improve their communication skills.</li></ul>			
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.			
PO11	1.78	1.53	Target achieved. To make students to demonstrate their skills and abilities following actions are taken.
<ul style="list-style-type: none"><li>• Project management principles, activities and models with cost estimation and empirical modeling required for software project management is incorporated as a part of the curriculum.</li><li>• Feasibility study and cost estimation has been practiced as a part of documentation in the final year project report.</li></ul>			

WL

Faculty Coordinator

Kee

Head of the Department

Prof and Head  
Dept. of Information Science & Engineering  
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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.			
PO12	1.67	1.55	Target achieved. To encourage students to go with independent learning which will help them in their career following steps are taken.
<ul style="list-style-type: none"><li>• Students are asked to present case studies.</li><li>• Self-learning component introduced in the subject (CS8T02) Big Data and Analytics.</li><li>• Students are encouraged to do Certification course in Swayam, MOOC.</li><li>• A course on Robotics Process Automation is introduced.</li></ul>			

### PSOs Attainment Levels and Actions for Improvement- (2020-21)

**PSO 1** : Able to apply appropriate techniques for storage of huge amount of data and ensuring its Integrity.

PSOs	Target Level	Attainment Level	Observations
PSO 1	1.83	1.78	Target achieved. To handle large amount of data and ensure its safety following actions are taken.
<ul style="list-style-type: none"><li>• Appropriate techniques are taught through core and elective subject.</li><li>• Students are encouraged to do online courses in these fields.</li></ul>			

**PSO 2** : Choose appropriate method for data acquisition from real world and propose suitable solutions to solve problems.

PSOs	Target Level	Attainment Level	Observations
PSO 2	1.87.	1.75	Target achieved. To use appropriate methods to acquire data from real world and handle it following measures are taken
<ul style="list-style-type: none"><li>• Students are encouraged to do projects in the said domain.</li><li>• Relevant subjects are introduced in the curriculum to impart required knowledge.</li><li>• Students are encouraged to do online courses in these fields.</li></ul>			

Faculty Coordinator

Head of the Department

Prof and Head  
Dept. of Information Science & Engineering  
S.S.I.T, Tumakuru



# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY- TUMAKURU

(A constituent College of Siddhartha Academy of Higher Education, Tumakuru)

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



### PROGRAM ARTICULATION MATRIX (2016-2020)

COURSE	SUB CODE	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PS01	PS02
C201	MAT301	3.00	2.25	-	1	1.4	-	-	-	-	-	-	-	-	-
C202	ES3T01	2.6	1.66	2	-	1.5	-	1.3	1.66	1.5	-	2	-	-	-
C203	ES3T02	2.67	3	2.67	2.67	2	-	-	-	2	1.33	1	1.33	-	-
C204	ES3T03	2.33	2	2	-	3	-	-	1	1	1	-	1	-	-
C205	ES3T04	2	1.33	2	-	2	-	-	-	-	-	-	1	-	-
C206	ES3T05	2.8	2	2.3	1.3	1	-	3	-	-	1	-	1	-	-
C207	ES3L01	2	2.67	2.33	-	1.67	1	2	-	-	2	2	1.5	-	-
C208	ES3L02	2	2.7	2.3	2	1	-	-	-	-	-	-	-	-	-
C209	MAT401	3	2.8	1.5	2.2	-	-	-	-	-	-	-	-	-	-
C210	ES4T01	3	2.75	2.75	1.25	-	-	-	-	-	-	-	1	-	-
C211	ES4T02	2.5	2	-	2	2	-	-	1.5	1	-	2	-	-	-
C212	ES4T03	2.8	-	3	-	2	-	-	-	2	-	2	-	-	-
C213	ES4T04	2	2	1.67	-	1.67	-	-	-	-	-	-	1	-	-
C214	ES4T05	2.3	2.3	2.5	-	2	-	1.5	2	3	-	-	-	-	-
C215	ES4L01	2.5	3	3	-	3	-	2	-	3	2	2	3	-	-

*M. Z. Khan*  
Professor & Head  
Dept. of Electronics  
I.T., Tum

<b>C216</b>	ES4L02	2	2	2	2	1	-	-	-	-	-	-	1	-	-
<b>C301</b>	EC5T01	2.75	2.29	2.065	2.065	0.915	-	-	-	-	-	-	1.53	-	-
<b>C302</b>	EC5T02	-	-	1.25	1.33	1	2			1	-	-	-	-	-
<b>C303</b>	EC5T03	2	3	3	-	2	-	-	-	-	-	-	2.3	-	-
<b>C304</b>	EC5T04	1.8	2	-	-	3	2	2	-	-	-	-	2	-	-
<b>C305</b>	EC5T05	3	2	2.5	-	2	-	-	-	-	-	-	2	-	-
<b>C307</b>	EC5L01	3	2.6	1	2	1	-	-	-	-	-	-	1	-	-
<b>C308</b>	EC5L02	1.67	1.67	-	2	2.67	-	-	-	1	1	1	1	-	-
<b>C309</b>	EC6T01	3	2.8	2.5	1	-	-	-	-	-	-	-	1.5	-	-
<b>C310</b>	EC6T02	2.3	2	2.8	-	2	-	-	-	-	-	-	2.7	-	-
<b>C311</b>	EC6T03	3	2.66	2	2.33	1	1	-	-	-	-	-	-	-	-
<b>C312</b>	EC6T04	2.33	1.67	1.67	1.5	-	-	-	-	-	-	-	1.25	-	-
<b>C3131</b>	EC6PE511	2.00	2.33	1.66	-	-	-	-	1.00	2.50	-	1	-	2.00	1.00
<b>C3133</b>	EC6PE513	1.67	2	2	-	1.5	1	1.5	-	-	-	1	1	-	-
<b>C315</b>	EC6L01	2	1	1	2	2	-	-	-	-	-	-	1	-	-
<b>C316</b>	EC6L02	3	3	2.33	3	3	-	-	-	2.33	2.33	1.33	2	-	-
<b>C401</b>	EC7T01	2.67	1	-	1.33	1.5	-	-	-	-	-	-	1	-	-
<b>C402</b>	EC7T02	1.67	2.5	2.33	3	3	-	-	-	-	-	-	2.5	-	-
<b>C403</b>	EC7T03	-	-	1.5	2.25	1	2	2	2	-	-	-	-	-	-
<b>C4044</b>	EC7PE24	2.67	1.67	-	1.33	1.5	-	-	-	-	-	-	1	-	-
<b>C4053</b>	EC7PE523	3	2	2	2	1	-	-	-	-	-	-	1.6	-	-

*M. Z. Khan*  
 Professor & H.O.  
 Dept. of Electronics  
 S.I.T.,

C406	EC7L01	2	3	2	2.67	2.33	2	-	-	-	-	1	2	-	-
C407	EC7L02	2	2	1	1	1.5	-	-	-	-	-	-	1.5	-	-
C408	EC7PW01	1.33	2	1.67	1.67	3	3	3	3	2.33	3	1.67	3	3	1.66
C409	EC8T01	2.67	1.67	2	-	-	2.5	-	-	-	-	-	2	-	-
C410	EC8T02	-	-	-	-	-	2.5	-	2.67	1.75	2	2	1.75	-	-
C4114	EC8PE314	2.25	2.5	2	2.25	1.5	-	-	-	-	1.00	-	1.33	2	2
C4123	EC8PE423	3	2	2	2	2	1	-	2	2	2	-	2	-	1.25
C413	EC8PW02	1	1	1.66	2	2	3	3	2	3	3	1	3	2	3
C414	EC8TS01	3	-	-	1.5	1	3	-	2.5	-	2	-	3	-	-
Average		2.39	2.17	2.09	1.91	1.81	2.00	2.13	1.94	1.96	1.82	1.50	1.67	2.25	1.78

V. S. S. 6/1/20  
**CLASS TEACHERS**

M. S. S. HOD 6/1/20

Professor & Head  
 Dept. of Electronics  
 S.S.I.T. Maralur, Tumkur - 572 105



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**ELECTRONICS AND COMMUNICATION ENGINEERING**



**PO Attainment**

**ACADEMIC YEAR : 2017-18**

**BATCH-2016-2020 (III SEM)**

COURSE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C201	2.5	1.835	-	0.835	1.165	-	-	-	-	-	-	-	-	-
C202	2.67	1.67	2	-	1.5	-	1.33	1.67	1.50	-	1.55	-	-	-
C203	2.67	3	2.67	2.67	2	-	-	-	2	1.33	1	1.33	-	-
C204	1.2	1.0	1.0	-	1.6	-	-	0.5	0.5	0.5	-	0.5	-	-
C205	1.33	1	1.33	-	1.33	-	-	-	-	-	-	0.67	-	-
C206	2.29	1.67	1.88	1.04	0.83	-	2.5	-	-	0.83	-	0.83	-	-
C207	1.80	2.40	2.10	-	1.50	0.90	1.80	-	-	1.80	1.80	1.35	-	-
C208	1.8	2.40	2.1	1.8	0.9	-	-	-	-	-	-	-	-	-
AVERAGE	2.03	1.87	1.87	1.59	1.35	0.90	1.88	1.09	1.33	1.12	1.45	0.94	-	-

*20/3/18*  
Class Teachers

*M. Z. Kumar*  
HOD, ECE  
*20/3/18*

Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.



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**PO Attainment**

**ACADEMIC YEAR : 2017-18**

**BATCH-2016-2020 (IV SEM)**

COURSE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C209	2.4	2.23	1.21	1.77	-	-	-	-	-	-	-	-	-	-
C210	2.5	2.29	2.29	1.04	-	-	-	-	-	-	-	0.83	-	-
C211	2.08	1.67	-	1.67	1.67	-	-	1.25	0.83	-	1.67	-	-	-
C212	2.00	-	2.00	-	1.33	-	-	-	1.33	-	1.33	-	-	-
C213	1.33	1.33	1.11	-	1.11	-	-	-	-	-	-	0.67	-	-
C214	2.065	2.065	2.29	-	1.835	-	1.375	1.835	2.29	-	-	-	-	-
C215	2.25	2.7	2.7	-	1.8	-	1.8	-	2.07	1.8	1.8	2.7	-	-
C216	1.8	1.8	1.8	1.8	0.9	-	-	-	-	-	-	0.9	-	-
AVERAGE	2.05	2.01	1.91	1.57	1.44	0.00	1.59	1.54	1.63	1.80	1.60	1.28		

*W 2/8/18*

Class Teachers

*W 2/8/18*  
HOD, ECE  
Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.



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**PO Attainment**

**ACADEMIC YEAR : 2018-19**

**(V SEM)**

COURSE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C301	2.75	2.29	2.065	2.065	0.915	-	-	-	-	-	-	1.53	-	-
C302	-	-	1.25	1.3	1	2			1	-	-	-	-	-
C303	2	3	3	-	2	-	-	-	-	-	-	2.33	-	-
C304	1.02	1.17	-	-	1.17	1.17	1.17	-	-	-	-	1.17	-	-
C305	2.75	1.835	2.29		1.835	-	-	-	-	-	-	1.835	-	-
C307	2.7	2.4	0.90	1.8	0.9	-	-	-	-	-	-	0.9	-	-
C308	1.5	1.5	-	1.8	2.4	-	-	-	0.9	0.9	0.9	0.9	-	-
AVERAGE	2.12	2.03	1.90	1.74	1.46	1.59	1.17		0.95	0.90	0.90	1.44		

Class Teachers

*M. S. Kumar*  
HOD, ECE 7/13/19  
Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.



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## ELECTRONICS AND COMMUNICATION ENGINEERING

### PO Attainment



ACADEMIC YEAR : 2018-19

BATCH-2016-2020 (VI SEM)

COURSE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C309	2.5	2.29	2.08	0.83	-	-	-	-	-	-	-	1.25	-	-
C310	1.875	1.6	2.29		1.6	-	-	-	-	-	-	2.225	-	-
C311	3	2.67	2	2.33	1	1	-	-	-	-	-	-	-	-
C312	2.25	1.67	1.61	1.5	-	-	-	-	-	-	-	1.21	-	-
C3131	1.67	1.94	1.39	-	-	-	-	0.83	1.875		0.83		1.67	0.83
C3133	1.67	2.00	2	-	1.5	1.00	1.50		-	-	1.00	1.00	-	-
C315	1.32	0.871	0.66	1.32	1.32	-	-	-	-	-		0.66	-	-
C316	1.26	1.26	0.98	1.26	1.26	-	-	-	0.98	0.98	0.56	0.84	-	-
AVERAGE	1.94	1.787	1.626	1.448	1.336	1	1.5	0.83	1.4275	0.98	0.796	1.1975	1.67	0.83

Class Teachers

*M. S. J. K.*  
HOD, ECE  
Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.



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**PO Attainment**

**ACADEMIC YEAR : 2019-20**

**BATCH-2016-2020 (VII SEM)**

COURSE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS01	PS02
C401	2.67	1.25		1.33	1.50	-	-	-	-	-	-	1	-	-
C402	1.53	2.29	2.135	2.25	2.25	-	-	-	-	-	-	2.5	-	-
C403	-	-	1.5	2.25	1	2	2	2	-	-	-		-	-
C4044	2.67	1.67		1.3	1.5	-	-	-	-	-	-	1	-	-
C4053	2.29	2.065	1.84	1.84	0.915	-	-	-	-	-	-	1.53	-	-
C406	1.835	2.75	1.835	2.45	2.14	1.835	-	-	-	-	0.90	1.835	-	-
C407	1.8	1.8	0.9	0.9	1.35	-	-	-	-	-	-	1.35	-	-
C408	1.25	1.88	1.56	1.56	2.80	2.85	2.79	2.79	2.19	2.79	1.56	2.79	2.19	1.56
AVERAGE	2.01	1.96	1.63	1.74	1.68	2.23	2.40	2.40	2.19	2.79	1.23	1.72	2.19	1.56

Class Teachers

M. 20/10  
HOD, ECE  
06/2/20  
Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumakuru - 572 105.



# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY- TUMAKURU

(A constituent College of Siddhartha Academy of Higher Education, Tumakuru)

## ELECTRONICS AND COMMUNICATION ENGINEERING



### PO Attainment

ACADEMIC YEAR : 2019-20

BATCH-2016-2020 (VIII SEM)

COURSE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C409	2.67	1.67	2	-	-	2.5	-	-	-	-	-	2	-	-
C410	-	-	-	-	-	2.5	-	2.67	1.75	2	2	1.75	-	-
C4114	2.25	2.50	2.00	2.25	1.50	-	-	-	-	1.00	-	1.33	2	2
C4123	3.00	1.67	2	2	1.92	1	-	2	2	1.67	-	1.83	-	1.02
C413	0.90	0.90	1.5416	1.85	1.85	2.775	2.775	1.85	2.775	2.775	0.925	2.775	1.8	2.70
C414	2.52	-	-	1.26	0.84	2.52	-	2.1	-	1.68	-	2.52	-	-
AVERAGE	2.268	1.685	1.885	1.84	1.527	2.259	2.775	2.155	2.175	1.825	1.462	2.0341	1.9	1.906

Class Teachers

*NIL*  
4/8/20

*M. S. Kumar*  
HOD, ECE  
4/8/20  
Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumakuru - 572 205

# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY, TUMAKURU

(A Constituent College of Sri Siddhartha Academy of Higher Education)

Department of Electronics and Communication Engineering

POs Attainment Levels, Gaps and Actions for Improvement

2016 BATCH

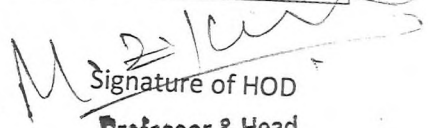
Table 1: Average of PAM, PO Attainments & Percentage

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Avg. of PAM	2.41	2.18	2.09	1.92	1.77	2	2.12	1.97	1.96	1.82	1.5	1.68	2.25	1.78
Avg. of PO Attainments	2.073	1.914	1.79	1.646	1.41	1.862	1.932	1.837	1.616	1.576	1.288	1.476	1.951	1.643
Percentage	86.2	87.68	85.64	85.64	79.57	93.1	91.22	93.15	82.41	86.1	85.87	87.86	86.71	92.15

As the PO and PSO direct attainment target was fixed to 70%, all PO and PSO attainment have reached the target. However few subjects listed in Table 2 have not reached the set target level of 70% for PO and PSO attainments.

Table 2: List of subjects with attainment level less than 70%

SL	SEM	SUBJECT	STAFF	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	4	ES4T04	SSA&AUB	66.5	66.5	66.59		66.59									
2	6	EC6L01	BNR	66		66	66	66							67		
3	6	EC6L02	MNS		42		42								66		
4	5	EC5T02	MDA			50	65					42.06	42.06	42.11			
5	3	ES3T04	MNE&SSA	66.5		66.5		66.5								67	
6	4	ES4T03	MNE														
7	4	ES4L01	MKS&MCB									66.5		66.5			
8	5	EC5T04	AUB&SM	56.67	58.5			60				69					
								39	58.5	58.5					58.5		

  
 Signature of HOD  
 Professor & Head  
 Dept. of Electronics  
 S.S.I.T. Maralur, Tumkur - 572 105.



# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY- TUMAKURU

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## ELECTRONICS AND COMMUNICATION ENGINEERING

### COURSE ARTICULATION MATRIX



ACADEMIC YEAR: 2017-18

BATCH-2016-2020 (III SEM)

Sl.NO	SUB CODE	SUBJECT	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2		
1	MAT301	ENGG MATHS-III	CO1	3	3		1	2											
			CO2	3	3		1	2											
			CO3	3	2		1	1											
			CO4	3	1		1	1											
			CO5	3			1	1											
			CO(avg)	3	2.25		1	1.4											
2	ES3T01	ANALOG ELECTRONIC CIRCUITS	CO1	3	2					2	2			2					
			CO2	2	1	3		2		1	2	1		2					
			CO3	3	2	1		1		1	1	2		2					
			CO(avg)	2.67	1.67	2		1.5		1.33	1.67	1.5		2					
3	ES3T02	DIGITAL LOGIC CIRCUITS	CO1	3	3	3	2	2					2	1	1	1			
			CO2	2	3	3	3						2	1	1	1			
			CO3	3	3	2	3							2	1	1	1		
			CO(avg)	2.67	3	2.67	2.67	2						2	1.33	1	1.33		
4	ES3T03	NETWORK ANALYSIS	CO1	3		2						1							
			CO2	2	2			3					1			1			
			CO3	2									1		1				
			CO4																
			CO(avg)	2.33	2	2		3					1	1	1		1		

*M. Z. Khan*  
 Professor & Head  
 Dept. of Electronics Engg  
 S. S. I. T., Tumakur

5	ES3T04	SIGNALS AND SYSTEMS	CO1	2																
			CO2	2	3			2											1	
			CO3	2	1	2														1
			CO4	2	1	2			2											1
			CO(avg)	2	1.67	2			2											1
6	ES3T05	ELECTRICAL MEASURING INSTRUMENTS	CO1	3	2	2	1	1					1						1	
			CO2	3	2	2	1													1
			CO3	2	3	3	2				3									
			CO4	3	1	2	1	1												
			CO(avg)	2.75	2	2.25	1.25	1			3				1					
7	ES3L01	ANALOG ELECTRONIC CIRCUITS LAB	CO1	3	3	2		2			2								2	
			CO2	1	3	2		1	1										2	
			CO3		2	3		2						2	2					1
			CO(avg)	2	2.67	2.33		1.67	1		2			2	2					1.5
8	ES3L02	DIGITAL ELECTRONIC CIRCUITS LAB	CO1	2	2	1	2	1												
			CO2	2	3	3	2													
			CO3	2	3	3	2													
			CO(avg)	2	2.67	2.33	2	1												

1/1/17  
10/7/17  
Class Teachers

H. Z. Khan  
HOD, ECE  
10/7/17  
Head  
Dept. of Electronics Engg  
S.S.I.T., Tumkur



# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY- TUMAKURU

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## ELECTRONICS AND COMMUNICATION ENGINEERING

### COURSE ARTICULATION MATRIX



ACADEMIC YEAR : 2017-18

BATCH-2016-2020 (IV SEM)

Sl.N O	SUB CODE	SUBJECT	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2			
1.	MAT40 1	ENGG MATHS-IV	CO1	3	3	1	2													
			CO2	3	3	1	2													
			CO3	3	2		2													
			CO4	3	3	3	3													
			CO5	3	3	1	2													
			CO(avg)	3	2.8	1.5	2.2													
2.	ES4T01	ANALOG COMMUNICATION	CO1	3	2	2	1									1				
			CO2	3	3	3	2									1				
			CO3	3	3	3	1										1			
			CO4	3	3	3	1										1			
			CO(avg)	3	2.75	2.75	1.25													
3.	ES4T02	ELECTROMAGNET IC FIELD THEORY	CO1	3	2			2			1				2					
			CO2	3			2						1							
			CO3	2	2															
			CO4	2			2					2								
			CO(avg)	2.5	2		2	2				1.5	1			2				
4.	ES4T03	CONTROL SYSTEM	CO1	3				2												
			CO2	3				2					2							
			CO3			3							2		2					

*M. Z. Kar*  
 Professor & Head  
 Dept. of Electronics Engg  
 S.S.I.T., Tumkur.

			CO4			3						2		2				
			CO(avg)	3		3		2				2		2				
5.	ES4T04	DIGITAL SYSTEM DESIGN USING VERILOG	CO1	3	1			1										
			CO2	2	3	1		2									1	
			CO3	1	2	2												1
			CO4		2	2		2										1
			CO(avg)	2	2	1.67		1.67										1
6.	ES4T05	LINEAR IC'S AND ITS APPLICATIONS	CO1	3	2			2		1								
			CO2	3	3	2					2							
			CO3	1	3	3		2					3					
			CO4	2	1						2		3					
			CO(avg)	2.25	2.25	2.5		2			1.5	2	3					
7.	ES4L01	LIC AND COMMUNICATION LAB	CO1		3	3				2							3	
			CO2	3	3	3		2									2	
			CO3	2		3												
			CO4								2		3	2				
			CO(avg)	2.5	3	3		2			2		3	2	2			3
8.	ES4L02	VERILOG LAB	CO1	3	2													
			CO2	2	2	2	1	1										
			CO3	1		2	3											1
			CO(avg)	2	2	2	2	1										1

*M*  
4/1/18

Class Teachers

*M. Z. P...*  
HOD, ECE  
Head  
Dept. of Electronics Engg  
S.S.I.T., Tumkur.



# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY- TUMAKURU

(A constituent College of Siddhartha Academy of Higher Education, Tumakuru)

## ELECTRONICS AND COMMUNICATION ENGINEERING

### COURSE ARTICULATION MATRIX



ACADEMIC YEAR : 2018-19

BATCH-2016-2020 (V SEM)

SL.NO	SUB CODE	SUBJECT	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2		
1.	EC5T01	DIGITAL SIGNAL PROCESSING	CO1	3	3	2	2	1								2			
			CO2	3	3	2	3	1								2			
			CO3	3	2	2	2										2		
			CO4	3	2	3	2										1		
			CO(avg)	3	2.5	2.25	2.25	1									1.67		
2.	EC5T02	MICROCONTROLLER AND ITS APPLICATIONS	CO1			1	1		2				1						
			CO2			1	2	1	2				1						
			CO3			2	1							1					
			CO4			1		1	2					1					
			CO(avg)			1.25	1.33	1	2					1					
3.	EC5T03	INFORMATION THEORY AND CODING	CO1	2	3	3		3								3			
			CO2	2	3	3		3											
			CO3	2	3			1									2		
			CO4	2	3	3		1									2		
			CO(avg)	2	3	3		2									2.33		

*M. S. Kumar*  
Professor & Head  
Dept. of Electronics Engg.  
S.S.I.T., Tumkur.

4.	EC5T04	MICRO WAVE COMMUNICATION	CO1	1	1				2						2			
			CO2	2	2											2		
			CO3	2	2											2		
			CO4	2	3			3		2						2		
			CO(avg)	1.75	2			3		2	2					2		
5.	EC5T05	FUNDAMENTALS OF CMOS VLSI DESIGN	CO1	3	2	2		2									2	
			CO2	3	2			2									2	
			CO3			3											2	
			CO(avg)	3	2	2.5		2									2	
6.	EC5L01	DSP LAB	CO1	3	3	1	2	1								1		
			CO2	3	2		2	1								1		
			CO3	3	3		2	1								1		
			CO(avg)	3	2.67	1	2	1								1		
7.	EC5L02	MCLAB	CO1	1	1		2	2					1			1		
			CO2	2			2						1			1		
			CO3		2		2	3				1	1	1		1		
			CO4	2	2		2	3				1	1	1		1		
			CO(avg)	1.67	1.67		2	2.67				1	1	1		1		

Class Teachers

*H. Z. Kar*  
 HOD, ECE  
 Professor  
 Dept. of Electronics Engg  
 S.S.I.T., Tumkur.



# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY- TUMAKURU

(A constituent College of Siddhartha Academy of Higher Education, Tumakuru)

## ELECTRONICS AND COMMUNICATION ENGINEERING

### COURSE ARTICULATION MATRIX



ACADEMIC YEAR: 2018-19

BATCH-2016-2020 (VI SEM)

Sl.NO	SUB CODE	SUBJECT	CO	PO1	PO2	PO3	PO4	PO 5	PO 6	PO 7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2		
1.	EC6T01	DIGITAL COMMUNICATION	CO1	3	2	2									2				
			CO2	3	3	3	1								2				
			CO3	3	3	2										1			
			CO4	3	3	3										1			
			CO(avg)	3	2.75	2.5	1										1.5		
2.	EC6T02	ANALOG AND MIXED MODE VLSI DESIGN	CO1	2	1	2		2								2			
			CO2	3	3	3		2								3			
			CO3	2	2	3										3			
			CO4	2	2	3										3			
			CO(avg)	2.25	2	2.75		2									2.67		
3.	EC6T03	ROBOTICS AND AUTOMATION	CO1	3		2		1											
			CO2		2		3		1										
			CO3		3		2	1											
			CO4		3		2		1										
			CO(avg)	3	2.67	2	2.33	1	1										

*M. Z. Khan*  
Professor & Head,  
Dept. of Electronics Engg  
S. S. I. T., Tumkur.

4.	EC6T04	DIGITAL SYSTEM DESIGN-I	CO1	2		2	2								1	
			CO2	2	2											1
			CO3	3		2										2
			CO4		2		1									1
			CO5		1	1										1
			CO(avg)	2.33	1.67	1.67	1.5									
5.	EC6PE5 11	CRYPTOGRAPHY	CO1	2		1										2
			CO2		3	2						2				
			CO3		3	2										1
			CO4		1					1	3		1			
			CO(avg)	2	2.33	1.67				1	2.50					2
6.	EC6PE5- 13	DIGITAL SWITCHING SYSTEM	CO1	2				1						1		
			CO2		2					2					1	
			CO3	1		2		2							1	1
			CO4	2	2				1	1					1	1
			CO(avg)	1.67	2	2		1.5	1	1.5					1	1
7.	EC6L01	ADVANCED COMMUNICATION LAB	CO1	2	1										1	
			CO2	2	1	1	2	2								
			CO3	2	1		2									
			CO(avg)	2	1	1	2	2								1
8.	EC6L02	VLSI LAB	CO1	3	3	1	3	3				3	3	2	2	
			CO2	3	3	3	3	3				2	2	1	2	
			CO3	3	3	3	3	3				2	2	1	2	
			CO(avg)	3	3	2.33	3	3				2.33	2.33	1.33	2	

Class Teachers

M. Z. Khan  
HOD, ECE  
16/11/19  
Prof. & Head  
Dept. of Electronics Engg  
S.S.I.T., Tumkur.



# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY- TUMAKURU

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## ELECTRONICS AND COMMUNICATION ENGINEERING

### COURSE ARTICULATION MATRIX



ACADEMIC YEAR : 2019-20

BATCH-2016-2020 (VII SEM)

Sl.NO	SUB CODE	SUBJECT	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2		
1.	EC7T01	POWER ELECTRONICS	CO1	3	1		2	1											
			CO2	3	1		1	2								1			
			CO3	2	1		1	1											
			CO4		1			2											
			CO(avg)	2.67	1		1.33	1.5									1		
2.	EC7T02	COMPUTER COMMN. NETWORK	CO1	2	3	3	3	3								3			
			CO2	1	3	3										2			
			CO3	2	3											2			
			CO4		1	1										3			
			CO(avg)	1.67	2.5	2.33	3	3									2.5		
3.	EC7T03	IMAGE PROCESSING	CO1				2	1											
			CO2				3												
			CO3			1	2			2	2								
			CO4			2	2			2	2	2							
			CO(avg)			1.5	2.25	1	2	2	2	2							

M. Z. Khan  
Professor & Head  
Dept. of Electronics Engg  
S.S.I.T., Tumakuru.

4.	EC7PE24	PATTERN RECOGNITION	CO1	3			2	1										1			
			CO2	3	1		1	2											1		
			CO3	2	1		1	1												1	
			CO4		3			2												1	
			CO(avg)	2.67	1.67		1.33	1.5													
5.	EC7PE523	DSP ALGORITHMS AND ARCH	CO1	3	3	2	2	1											2		
			CO2	3	3	2	2	1											2		
			CO3	3	1	2	2													1	
			CO4	3	1	2	2													1.6	
			CO(avg)	3	2	2	2	1												1	
6.	EC7L01	CCN LAB	CO1	2	3	3	3	3											3		
			CO2	2	3	1	3	3												1	
			CO3	2	3	2	2	1	2										1	2	
			CO(avg)	2	3	2	2.67	2.33	2												2
7.	EC7L02	POWER ELECTRONICS LAB	CO1	2	2		1	2												1	
			CO2	2	2	1	1														1.5
			CO3	2			1	1	1.5												1.5
			CO4	2	2	1	1	1.5													
			CO(avg)	2	2	1	1	1.5													
8.	EC7PW01	PROJECT WORK phase1	CO1	2	3	1	1			3	3	3	2	3	1	3	3	1	3	2	
			CO2	1	1	2	2	3				2				1			3	1	2
			CO3	1	2	2	2	3			3	3	3	3	3	3	3	3	3	1	2
			CO(avg)	1.33	2	1.66	1.66	3			3	3	3	2.33	3	1.66	3	3	3	3	1.66

*M. S. 10/4/19*  
Class Teachers

*M. S. 10/4/19*  
HOD, ECE  
Professor & Head,  
Dept. of Electronics Engg.  
S.S.I.T., Tumkur.



# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY- TUMAKURU

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## ELECTRONICS AND COMMUNICATION ENGINEERING

### COURSE ARTICULATION MATRIX



ACADEMIC YEAR : 2019-20

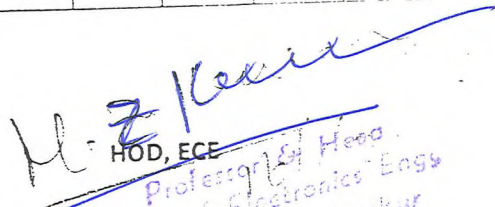
BATCH-2016-2020 (VIII SEM)

SLNO	SUB CODE	SUBJECT	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
1.	EC8T01	MOBILE AND WIRELESS COMMUNICATION	CO1	3	3	3			2						2			
			CO2	2		1									2			
			CO3	3	1	2				3								
			CO4		1	2												
			CO(avg)	2.66	1.67	2				2.5							2	
2.	EC8T02	BUSINESS MANAGEMENT FOR ENTREPRENEURS	CO1						2		2	1	2	1	2			
			CO2								3	2	2	2	2			
			CO3									3	1	1	2	1		
			CO4							3			3	3	3	2		
			CO(avg)							2.5		2.67	1.75	2	2	1.75		
3.	EC8PE314	SPEECH PROCESSING	CO1	3	3	2	2	2						1		2	2	2
			CO2	2	3	2	2									1	1	2
			CO3	2	2	2	3	1								1	3	1
			CO4	2	2	2	2										2	2
			CO(avg)	2.25	2.5	2	2.25	1.5							1		1.33	2

*M. Z. Khan*  
 Professor  
 Dept. of Electronics Engg  
 S. S. I. T., Tumakur.

4.	EC8PE423	MACHINE LEARNING	CO1			2		3			2				1		
			CO2				2		1		2			2		2	
			CO3	3							2					1	
			CO4		2			1				2		2		2	
			CO(avg)	3	2	2	2	2	1		2	2	2		2		1.25
5.	EC8PW02	PROJECT WORK (PHASE-II)	CO1	1	1	2	2	1					1		2		
			CO2	1	1	1	1	2						3		3	
			CO3	1	1	2	3	3	3	3	2	3	3	1	3		3
			CO(avg)	1	1	1.66	2	2	3	3	2	3	3	1	3	2	3
5.	EC8TS01	TECHNICAL SEMINAR	CO1				2	1	3		2						
			CO2	3			1	1	3		3		3		3		
			CO3										1		3		
			CO(avg)	3			1.5	1	3		2.5		2		3		

Val.  
 16/12/20  
 Class Teachers

  
 HOD, ECE  
 Professor & Head  
 Dept. of Electronics Engg  
 S.S.I.T., Tumkur

# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY, TUMAKURU

(A Constituent College of Sr Siddhartha Academy of Higher Education)

## Department of Electronics & Communication


### Plan of Action (2016 batch)

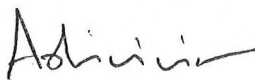
**Subject:** Digital system design using Verilog

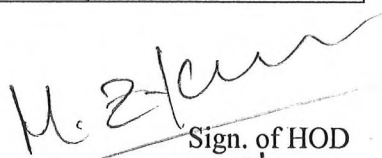
**Sub Code:** ES4T04

**Faculty Name:** Ashwini S Shivannavar/Bindu A U

Sl. No	PO's not Attained	Action to be taken	Attainment in percentage
1	PO1: Ability to apply knowledge of mathematics, science and engineering as appropriate to the field of electronics and communication engineering.	Motivate to study the Digital circuit design for combinational and sequential circuits.	66.5
2	PO2: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.	Extra assignments to be given to write Logic equations, Logic circuit and truth table for combinational and sequential circuits.	66.5
	PO3: An ability to design an electronics and communication system to meet the desired specification and requirement.	Motivate students to do related projects.	66.59
3	PO5: ability to identify, formulate and solve electronics and communication engineering problems.	Motivate the students to simulate more number of application oriented programs using Xilinx S/W and FPGA Kit	66.59
4	PO12: 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.	Advise to <sup>Prepare</sup> for higher studies through state/national/ international level entrance exams to enhance their knowledge and ideas.	67

  
Sign. of Staff

  
Sign. of Course Coordinator

  
Sign. of HOD  
Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.

# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY, TUMAKURU

(A Constituent College of Sr Siddhartha Academy of Higher Education)

## Department of Electronics & Communication


### Impact Analysis (2017 batch)

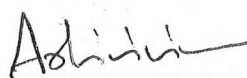
**Subject:** Digital system design using Verilog

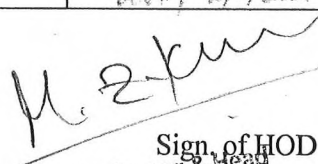
**Sub Code:** ES4T04

**Faculty Name:** Ashwini S Shivannavar/Chidanada Murthy MV

Sl. No	PO's Attained	Action taken	Attainment in percentage
1	PO1: Ability to apply knowledge of mathematics, science and engineering as appropriate to the field of electronics and communication engineering.	<a href="https://www.pdfdrive.com/digital-electronics-books.html">https://www.pdfdrive.com/digital-electronics-books.html</a> E-Book to study the fundamentals of digital circuits	Attained (92)
2	PO2: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.	Extra assignments were given to write Logic equations, Logic circuit and truth table for combinational and sequential circuits.	Attained (92)
3	PO3: An ability to design an electronics and communication system to meet the desired specification and requirement.	Motivated students to do related projects.	Attained(91.6)
4	PO5: An ability to identify, formulate and solve electronics and communication engineering problems.	Motivated the students to simulate more number of sub modules in application oriented programs using Xilinx S/W and FPGA Kit	Attained(91.6)
5	PO12: 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.	Prepared for higher studies to enhance their knowledge and ideas.	Attained(90) Chavanna M. (ms) Bindu K S davy m. red

  
Sign. of Staff

  
Sign. of Course Coordinator

  
Sign. of HOD  
Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.

Plan of Action (2016 Batch)

Subject: Advance Communication Lab

SEM: VI

Sub. Code: EC6L01

Faculty Name: Ravisimha B N

Sl. No.	PO's not Attained	Actions to be taken	Attained
1.	<b>PO1 :Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	Conduct extra lab classes for students weak in conduction of experiments.	66%
2.	<b>PO 3: Design/development of solutions:</b> 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.	Motivate students to do related projects in broad area of digital communication.	66%
3.	<b>PO 4: Conduct investigations of complex problems:</b> 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.	Conduct research/innovation awareness program among students.	66%
4.	<b>PO 5: Modern tool usage:</b> 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.	Motivate the students for the usage of state of the art tools by conducting workshops.	66%

*M. Z. Khan*  
Professor & Head  
Dept. of Electronics Engg  
S. J. T., Tumkur.

Attained  
%

5.	<b>PO 12 : Life-long learning:</b> 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.	Advise to go for higher studies through state/ national/ international level entrance exams to enhance their knowledge and ideas.	66%
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Sign. of Staff

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Sign. of HOD  
Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Yankur - 572 105.

## Impact Analysis (2017 Batch)

Subject: Advanced Communication Lab

SEM: VI


Sub. Code: EC6L01

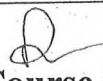
Faculty Name: Ravisimha B N

Sl. No.	PO's not Attained in previous batch	Actions taken	Impact Analysis
1.	<b>PO1 :Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	Due to the onset of covid-19, semester classes were not conducted offline after March, because of enforcement of nation wide lock down.  <del>But</del> conducted extra lab classes for students weak in conduction of experiments till the enforcement of lockdown.	Attained  100%
2.	<b>PO 3:</b> 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.	Motivated the students to do apply the concepts of digital communication in their projects.	Attained  100%
3.	<b>PO 4: Conduct investigations of complex problems:</b> 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.	Conduct research/innovation awareness program among students.  Because of enforcement of lockdown, above action could not be conducted. Hence motivated the students to attend the research/ innovation awareness programs online.	Attained  100%

*M. S. Kumar*  
Professor  
Dept. of Electronics Engg  
S. I. T., Tumkur.

4.	<b>PO 5: Modern tool usage:</b> 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.	Motivated the students to attend webinars in the area of digital communication.	Attained  100%
5.	<b>PO 12 : Life-long learning:</b> 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.	Advised to go for higher studies through state/ national/ international level entrance exams to enhance their knowledge and ideas.	Attained  100%

 Sign. of Staff

 Sign. of Course Coordinator

 Sign. of HOD

Professor & Head  
 Dept. of Electronics  
 S.S.I.T. Malavalli, Sankur - 572 105.

## Plan of Action (2016 Batch)

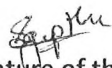
Subject: VLSI lab

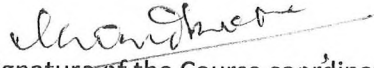
Semester : VI


Subject Code : EC6L02-C316

Faculty Name: M C Chandrasekhar and Sharada Gupta M.N

Sl. No.	Pos Not Attained	Actions to be taken	Attainment in Percentage
1	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.	Encourage students to develop their problem analyzing ability through extra assignments.	42 %
2	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.	Motivate the students to gain research based knowledge by referring to the recent publications.	42 %
3	PO 9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	Motivate the students to use platforms (IEEE, ISTE, Varsity circle) given by the institute to work in individual as well as a group to groom their skills like leadership.	42.06 %
4	PO 10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.	Encourage weak students to develop oral and written communication skills by preparing reports, and presentations on specific topics.	42.06 %
5	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.	Advise students to present papers in conferences and demonstrate the project work in national and international project exhibitions.	42 %

  
Signature of the Staff

  
Signature of the Course coordinator

  
Signature of the HOD  
Professor & Head  
Dept. of Electronics

## Impact Analysis (2017 Batch)


Subject: VLSI lab

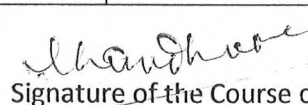
Semester : VI

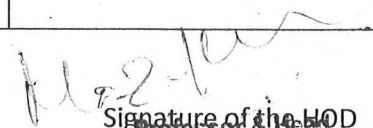
Subject Code : EC6L02-C316

Faculty Name: M C Chandrasekhar and Praveen Kumar Y G

Sl. No.	Pos Not Attained	Actions taken	Impact Analysis
1.	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.	Because of the lock down announce due to COVID 19 , the extra offline classes could not be conducted after march 19.  However, Encouraged students to develop their problem analyzing ability through extra assignments.	90%
2.	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.	Motivated the students to gain research based knowledge by referring to the recent publications.	90%
3.	PO 9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	Motivated the students to use platforms ( IEEE, ISTE, Varsity circle) given by the institute to work in individual as well as a group to groom their skills like leadership.	90.2%
4.	PO 10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.	Encouraged weak students to develop oral and written communication skills by preparing reports, and presentations on specific topics.	90%
5.	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.	Advised students to present papers in conferences and demonstrate the project work in national and international project exhibitions.	89%

  
Signature of the Staff

  
Signature of the Course coordinator

  
Signature of the HOD  
Prof. of Electronics  
Dept. of Electronics



Plan of action for POs not attained.

Subject: Microcontrollers and its Applications  
Subject code: EC5T02  
Academic year: 2018-2019  
Batch: 2016  
Semester: V

Sl. No.	POs not attained	PO	Plan of action	Attained percentage
1.	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.	3	It is suggested to conduct workshops by experts from industry Motivated students to do related projects	50.0
2.	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.	4	To conduct research/innovation awareness program among students and faculty members	65.0

Signature of course instructor

Signature of course-coordinator

Signature of HOD  
Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.



Impact of plan of action for POs not attained.

Subject: Microcontrollers and its Applications

Subject code: EC5T02

Academic year: 2018-2019

Batch: 2017

Semester: V

Sl. No.	POs not attained in the previous batch	PO	Action taken	Impact Analysis	Attained percentage
1.	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.	3	Conducted workshops by experts from industry students have done related projects	Attained	96.0
2.	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.	4	conducted research/innovation awareness program among students and faculty members	Attained	95.0

Signature of course instructor

Signature of course-coordinator

Signature of HOD  
Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.

# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY, TUMAKURU

(A Constituent College of Sr Siddhartha Academy of Higher Education)

## Department of Electronics & Communication

### Plan of Action (2016 batch)

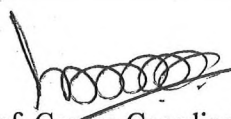
**Subject:** Signals and Systems

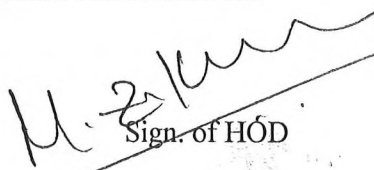
**Sub Code:** ES3T04

**Faculty Name:** Dr. M N Eshwarappa/Ashwini S Shivannavar

Sl. No	PO's not Attained	Action to be taken	Attainment in percentage
1	PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	Conduct tutorial classes to students to study the basics of integration, differentiation, trigonometric functions and conversions related to mathematics	66.5
2	PO3: 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.	Extra Assignments to be given to solve more number of problems related to: Fourier Transform and Z Transform.	69.5
3	PO5: 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.	Motivate to use open source to solve, understand, analyze and verify the results for problems related to SAS.	69.5
4	PO12: 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.	Make them understand the advantage of Continuous time signals over discrete signals	67

  
Sign. of Staff

  
Sign. of Course Coordinator

  
Sign. of HOD  
Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.

**SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY, TUMAKURU**  
 (A Constituent College of Sr Siddhartha Academy of Higher Education)  
**Department of Electronics & Communication**


**Impact Analysis (2017 batch)**

**Subject:** Signals and Systems

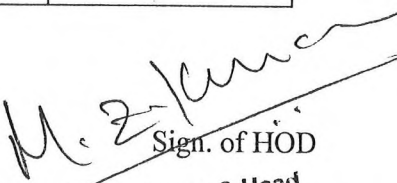
**Sub Code:** ES3T04

**Faculty Name:** Dr. M N Eshwarappa/Ashwini S Shivannavar

Sl. No	PO's notAttained	Action taken	Attainment in percentage
1	PO1: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	Conducted tutorial classes.	Not Attained (66.5)
2	PO3: 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.	Extra Assignments were given to solve more number of problems related to: Basic operations on signals, even and odd, power and energy, Fourier Transform and Z Transform.	Not Attained (66.5)
3	PO5: 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.	Motivated to use open source to solve, understand, analyze and verify the results for problems related to SAS.	Not Attained (66.5)
4	PO12: 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.	Made them understand the necessity of digital signals in today's generation	Not Attained (66.5)

  
Sign. of Staff

  
Sign. of Course Coordinator

  
Sign. of HOD  
 Professor & Head  
 Dept. of Electronics  
 S.S.I.T. Maralur, Tumkur - 572 105.

## Plan of Action (2016 Batch)

Subject: Control Systems

Semester : IV

Subject Code : ES4T03

Faculty Name: Dr. M N Eshwarappa

Sl. No.	Pos Not Attained	Actions to be taken	Attainment in Percentage
1	PO 9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	Motivate the students to use platforms (IEEE, ISTE, Varsity circle) given by the institute to work in individual as well as a group to groom their skills like leadership.	66.5%
2	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.	Advise students to present papers in conferences and demonstrate the project work in national and international project exhibitions.	66.5%

Signature of the Staff

Signature of the Course coordinator

Signature of the HOD

Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.

## Impact Analysis (2017 Batch)

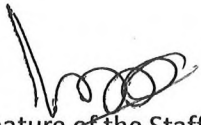
Subject: Control Systems

Semester : IV

Subject Code : ES4T03

Faculty Name: Dr. M N Eshwarappa

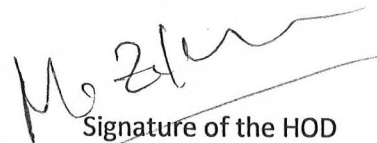
Sl. No.	Pos Not Attained	Actions taken	Attainment in Percentage
1	PO 9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	Students were motivated and made to participate in the inter and intra college activities to involve themselves in the all round development.	66.5%
2	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.	Given students the relevant papers to make them to analyze the significance of control system applications and to use the same in projects.	66.5%



Signature of the Staff



Signature of the Course coordinator



Signature of the HOD

Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.

## Plan of Action (2016 Batch)

Subject: LIC & COMMUNICATION LAB

Semester: IV

Subject Code : 13ES4L01

Faculty Name: M K Shyla & M C Basavaraja

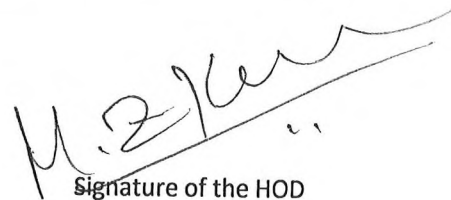
Sl. No.	Pos Not Attained	Plan of Action	Attainment in Percentage
1	<b>PO5: Modern tool usage:</b> Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.	Motivate the students for the usage of state of the art tools by conducting workshops.	60
2	<b>PO9: Individual and team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	Include hands-on sessions in the workshop to conduct experiments individually	69



Signature of the Staff



Signature of the Course coordinator



Signature of the HOD

**Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.**

### Impact Analysis (2017 Batch)

Subject: LIC & COMMUNICATION LAB

Semester: IV

Subject Code : 13ES4L01

Faculty Name: M K Shyla & M C Basavaraja

Sl. No.	Pos Not Attained	Actions taken	Attainment in Percentage
1	<b>PO5: Modern tool usage:</b> 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.	Students are made to use new instruments by conducting workshop	90
2	<b>PO9: Individual and team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	hands-on sessions are included in workshop to conduct experiments individually	90



Signature of the Staff



Signature of the Course coordinator



Signature of the HOD

**Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.**

**SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY- TUMAKURU**  
(A constituent College of Siddhartha Academy of Higher Education, Tumakuru)

**ELECTRONICS AND COMMUNICATION ENGINEERING**

Plan of action for POs not attained.

Subject: Microwave Communication


Subject code: EC5T04

Academic year: 2018-2019

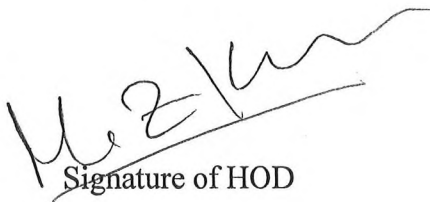
Batch: 2016

Semester: V

Sl. No.	POs not attained	PO	Plan of action	Attained percentage
1.	<b>Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	1	Conduct remedial classes to gain knowledge in engineering fundamentals like field theory.	56.67
2.	<b>Problem analysis:</b> Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.	2	Extra assignments to be given to solve more number of complex problems.	58.5
3.	<b>Modern tool usage:</b> 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.	5	Motivate students for the usage of state of the art tools by conducting workshops.	39
4.	<b>The engineer and society:</b> 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.	6	Plan to motivate students to identify societal problems and provide solutions through hobby and final year projects.	58.5
5.	<b>Environment and sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.	7	Students are advised to take up environmental safety considerations in project.	58.5
6.	<b>Life-long learning:</b> 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.	12	Advise to go for higher studies through state/national/international level entrance exams to enhance their knowledge and ideas.	58.5

  
Signature of course instructor  
(Sreerangappa M & Bindu A U)

  
Signature of course-coordinator

  
Signature of HOD

Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.



ELECTRONICS AND COMMUNICATION ENGINEERING

Impact of action taken for POs not attained.

Subject: Microwave Communication

Subject code: EC5T04

Academic year: 2019-2020

Batch: 2017

Semester: V

Sl. No.	POs not attained	PO	Action taken	Attained percentage	Impact
1.	<b>Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	1	Remedial classes are conducted to discuss engineering fundamentals on field theory.	66.85	Short by 3.15% for set target.
2.	<b>Problem analysis:</b> Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.	2	Exercise problems are given as assignments.	66.5	Short by 3.5% for set target.
3.	<b>Modern tool usage:</b> Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.	5	Students are suggested to find resources like lecture videos and tools to understand specifications of microwave devices.	66.5	Short by 3.5% for set target.
4.	<b>The engineer and society:</b> 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.	6	Students were guided to understand the societal needs and provide solution through hobby projects or final year projects.	66.5	Short by 3.5% for set target.
5.	<b>Environment and sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.	7	Students are advised to understand the use of basic principles of microwave in advanced communication application.	66.5	Short by 3.5% for set target.
6.	<b>Life-long learning:</b> 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.	12	Advised to go for higher studies through state/national/international level entrance exams to enhance their knowledge and ideas.	66.5	Short by 3.5% for set target.

Signature of course instructor  
(Bindu A U)

Signature of course-coordinator

Signature of HOD

Professor & Head  
Dept. of Electronics  
S.S.I.T. Maratur, Tumkur - 572 105.



**SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY- TUMAKURU**  
(A constituent College of Siddhartha Academy of Higher Education, Tumakuru)  
**ELECTRONICS AND COMMUNICATION ENGINEERING**  
**FINAL PO ATTAINMENT ANALYSIS 2016-2020 BATCH**



Survey	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Graduate Exit Survey	2.40	2.70	2.70	2.70	2.70	2.70	2.40	2.70	2.70	2.40	2.40	2.40	2.40	2.40
Faculty Survey	2.90	2.40	2.30	2.30	2.30	2.50	2.60	2.50	2.70	2.20	2.30	2.40	2.40	2.40
Employer Survey	3.00	3.00	2.50	3.00	2.50	3.00	2.50	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Co-curricular activities	2.60	2.60	2.70	2.80	2.80	2.70	2.70	2.70	2.70	2.60	2.70	2.70		
Extracurricular activities								2.60	2.50					
Indirect Attainment average	2.73	2.68	2.55	2.70	2.58	2.73	2.55	2.70	2.72	2.55	2.60	2.62	2.60	2.60
Assessment	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Direct attainment	2.06	1.90	1.80	1.66	1.48	1.86	1.93	1.79	1.61	1.56	1.28	1.47	1.95	1.64
80% of Direct attainment	1.65	1.52	1.44	1.33	1.18	1.49	1.54	1.43	1.29	1.25	1.02	1.18	1.56	1.31
Indirect attainment	2.73	2.68	2.55	2.70	2.58	2.73	2.55	2.70	2.72	2.55	2.60	2.62	2.60	2.60
20% of Indirect attainment	0.55	0.54	0.51	0.54	0.52	0.55	0.51	0.54	0.54	0.51	0.52	0.53	0.52	0.52
PO Attainment (80% Direct + 20% Indirect)	2.19	2.06	1.95	1.87	1.70	2.03	2.05	1.97	1.83	1.76	1.54	1.70	2.08	1.83

Class Teachers

*M. S. Kumar*  
HOD, ECE  
Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.



# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY- TUMAKURU

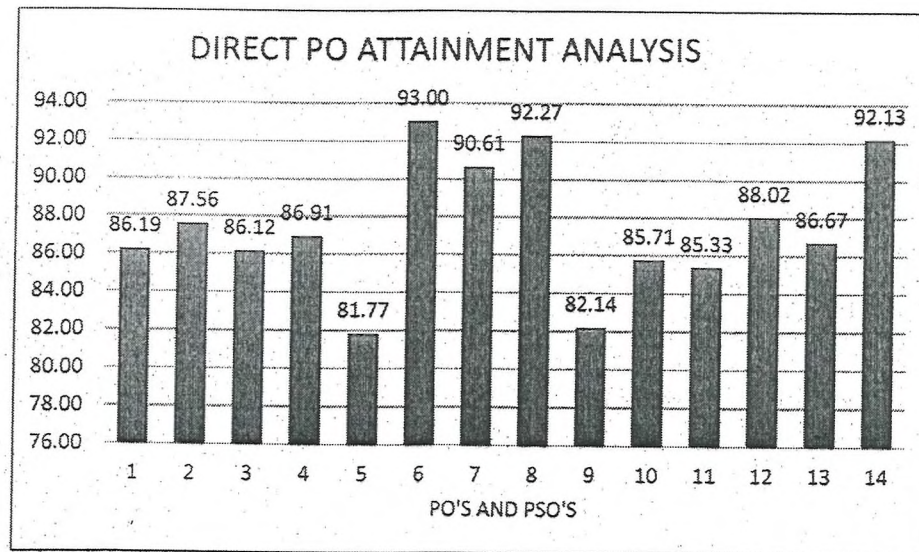
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## ELECTRONICS AND COMMUNICATION ENGINEERING

### Direct PO Attainment Analysis- BATCH-(2016-2020)



	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Program Articulation Matrix Average	2.39	2.17	2.09	1.91	1.81	2.00	2.13	1.94	1.96	1.82	1.50	1.67	2.25	1.78
PO Attainment Average	2.06	1.90	1.80	1.66	1.48	1.86	1.93	1.79	1.61	1.56	1.28	1.47	1.95	1.64
PO Attainment level (in %)	86.19	87.56	86.12	86.91	81.77	93.00	90.61	92.27	82.14	85.71	85.33	88.02	86.67	92.13



*[Signature]*  
8/7/20

Class Teachers

*[Signature]*  
8/7/20  
HOD, ECE  
Professor & Head  
Dept. of Electronics  
S.S.I.T. Maralur, Tumkur - 572 105.



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## DEPARTMENT OF MECHANICAL ENGINEERING

sanjeevamurthy@ssit.edu.in, 0816-2200314

### Program Articulation Matrix: 2016-2020 Batch

Sl. No	NBA code	Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PS01	PS02
1	C201	MAT301	3	3	1	1.6										
2	C202	ME3T01	2.5	1.7			2					1.25		1.5		
3	C203	ME3T02	2.75	2.25	2	1.5	2	1	-	-	1	1.3	1	1.25		
4	C204	ME3T03	2.5	2.5	-	1.25	1.5	1.0	-	-	-	1.0	-	1.5		
5	C205	ME3T04	2	2.25	1	-	1	-	-	-	1.5	1	-	1	1	
6	C206	ME3L01	2	2.25	1.5	-	3	-	-	-	2	2.5	-	2		
8	C207	ME3L02	1.5	1.5	1.5	-	1.5	1	-	-	-	-	-	1		
9	C208	ME3L03	1.5	2	1		1.5	1				1		1.5	1.5	
10	C209	MAT401	3	3	1	1.6										
11	C210	ME4T01	2.75	1.5	-	1	1	-	2	-	-	1	1	2	-	-
12	C211	ME4T02	1.75	2	1	2						1				
15	C212	ME4T03	3	2.25	2	-	-	-	-	-	-	-	-	1.7	1.5	-
16	C213	ME4T04	2.25	2.25	1.75	2.25	-	-	-	-	-	1	-	2.25		
19	C214	ME4T05	-	-	-	-	-	2.7		2.5	2.33		2	2	-	3
20	C215	ME4L01	2	-	-	3	-	-	-	-	2	2	-	2	3	
21	C216	ME4L02	2	1.5	-	-	1.5	1.5	-	-	-	1	-	1		
22	C301	ME5T01	3	2.5	2.5	2.5	1	-	-	-	-	1	-	2		
23	C302	ME5T02	2.75	3	1.25	2.75			2			1				
24	C303	ME5T03	2.25	2.25	1.75	2.25	-	-	-	-	-	1	-	2.25		
25	C304	ME5T04	2.25	2.25	1.75	2.25	-	-	1.75	-	-	1	-	2.25	-	-
26	C305	ME5T05	3	3	2		2				2		2	2	3	-
27	C306	ME5OE01	2.5	2	2	2	2							1		
28	C307	ME5L01	1.75	1.75	1.5	1.75			1.5			1		1.75		
29	C308	ME5L02	1.5	1.5	1.5	1.5					1	1				
30	C309	ME6T01	3	2.5	2.5	2.5	1	-	-	-	-	1	-	2		
31	C310	ME6T02	2.25	2.5	2	2.5						1		2.25		
32	C311	ME6T03	3	2.75	1	1		2				1	1	1		
33	C312	ME6T04	2.25	2.75	2.25	1.5						1				
34	C313	ME6PE511	2	2.25	1.5	2.25	-	-	1.5	-	-	1	-	1.75		
35	C315	ME6L01	1.5	1.5	1	1.75					1.5	1				
36	C316	ME6L02	2	1.33	2	2.33	3	-	-	-	-	-	-	2	2	

*Sanjeevamurthy*  
**PROFESSOR & HEAD**  
Department of Mechanical Engineering  
S.S.I.T., TUMAKURU.



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37	C401	ME7T01	2.25	2.75	2	2	1.5	-	-	-	-	-	-	1.25		
38	C402	ME7T02	3	2.5	2.25	1.25	-	-	-	-	-	-	-	-		
39	C403	ME7T03	1.67	2.25	1	1.5	1.5	-	-	1	1	-	-	-	-	
40	C404	ME7PE414	2	1.5	2							1		1		
41	C405	ME7PE514	3	3	2.25	2.33		1.75	1			1		2		
42	C406	ME7L01	1.5	1	1.5	1	-	1	-	-	2	1	-	1		
43	C407	ME7L02	1				1	2	2		2	3		1		
44	C408	ME7PW01		2.67	2.5		2				3	1.5		1		
45	C409	ME8T01	2	1	-	-	-	-	-	-	-	1	-	1	-	2
46	C410	ME8T02	2	1	-	-	2	-	-	-	-	1	-	1	3	
47	C411	ME8PE312	2	-	1.5	-	-	1.33	1	2.5	3	1	-	-	-	2
49	C412	ME8PE414	2	1.33	-	1	2	-	-	-	-	-	-	-	2	-
50	C413	ME8PW01		3	3	2	2				3	1.75		1	1	
51	C414	ME8TS01		3							1.75	2		1		
<b>Average of PAM</b>			<b>2.24</b>	<b>2.17</b>	<b>1.71</b>	<b>1.87</b>	<b>1.71</b>	<b>1.48</b>	<b>1.59</b>	<b>2.00</b>	<b>1.94</b>	<b>1.22</b>	<b>1.40</b>	<b>1.54</b>	<b>2.00</b>	<b>2.33</b>

Faculty Coordinator

Sanjeevamurthy 25/1/2023  
HOD, Mech. Dept.

**PROFESSOR & HEAD**  
Department of Mechanical Engineering  
S.S.I.T., TUMAKURU.



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## DEPARTMENT OF MECHANICAL ENGINEERING

sanjeevamurthy@ssit.edu.in, 0816-2200314

### Program Attainment Matrix: 2016-2020 Batch

Sl.No	NBA code	Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	C201	MAT301	2.00	2.00	0.67	1.07										
2	C202	ME3T01	2.50	1.67			2.00					1.25		1.50		
3	C203	ME3T02	2.29	1.88	1.67	1.25	1.67	0.83			0.83	1.11	0.83	1.04		
4	C204	ME3T03	2.08	2.08		1.04	1.25	0.83				0.83		1.25		
5	C205	ME3T04	2.00	2.25	1.00		1.00				1.50	1.00		1.00	1.00	
6	C206	ME3L01	2.00	2.25	1.50		3.00				2.00	2.50		2.00		
7	C207	ME3L02	1.50	1.50	1.50		1.50	1.00						1.00		
8	C208	ME3L03	1.50	2.00	1.00		1.50	1.00				1.00		1.50	1.50	
9	C209	MAT401	2.00	2.00	0.67	1.07										
10	C210	ME4T01	2.75	1.50		1.00	1.00		2.00			1.00	1.00	2.00		
11	C211	ME4T02	1.75	2.00	1.00	2.00						1.00				
12	C212	ME4T03	3.00	2.25	2.00									1.67	1.50	
13	C213	ME4T04	2.25	2.25	1.75	2.25						1.00		2.25		
14	C214	ME4T05						2.67		2.50	2.33		2.00	2.00		3.00
15	C215	ME4L01	2.00			3.00					2.00	2.00		2.00	3.00	
16	C216	ME4L02	2.00	1.50			1.50	1.50				1.00		1.00		
17	C301	ME5T01	2.50	2.08	2.08	2.08	0.83					0.83		1.67		
18	C302	ME5T02	1.83	2.00	0.83	1.83			1.33			0.67				
19	C303	ME5T03	1.88	2.08	1.67	2.08						0.83		1.88		
20	C304	ME5T04	1.88	1.88	1.46	1.88			1.46			0.83		1.88		
21	C305	ME5T05	3.00	3.00	2.00		2.00				2.00		2.00	2.00	3.00	
22	C307	ME5L01	1.75	1.75	1.50	1.75			1.50			1.00		1.75		
23	C308	ME5L02	1.50	1.50	1.50	1.50					1.00	1.00				
24	C309	ME6T01	2.38	2.00	2.00	2.00	0.79					0.79		1.58		
25	C310	ME6T02	1.88	2.08	1.67	2.08						0.83		1.88		
26	C311	ME6T03	2.50	2.29	0.83	0.83		1.67				0.83	0.83	0.83		
27	C312	ME6T04	1.50	1.83	1.50	1.00						0.67				
28	C313	ME6PE511	2.00	2.25	1.50	2.25			1.50			1.00		1.75		
29	C315	ME6L01	1.50	1.50	1.00	1.75					1.50	1.00				
30	C316	ME6L02	2.00	1.33	2.00	2.33	3.00							2.00	2.00	
31	C401	ME7T01	2.25	2.75	2.00	2.00	1.50							1.25		
32	C402	ME7T02	3.00	2.50	2.25	1.25										
33	C403	ME7T03	1.39	1.88	0.83	1.25	1.25			0.83	0.83					
34	C404	ME7PE414	2.00	1.50	2.00							1.00		1.00		
35	C405	ME7PE514	3.00	3.00	2.25	2.33		1.75	1.00			1.00		2.00		
36	C406	ME7L01	1.50	1.00	1.50	1.00		1.00			2.00	1.00		1.00		

**PROFESSOR & HEAD**  
Department of Mechanical Engineering  
S.S.I.T., TUMAKURU.



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## DEPARTMENT OF MECHANICAL ENGINEERING

sanjeevamurthy@ssit.edu.in, 0816-2200314

37	C407	ME7L02	1.00				1.00	2.00	2.00		2.00	3.00		1.00		
38	C408	ME7PW01		2.67	2.50		2.00				3.00	1.50		1.00		
39	C409	ME8T01	2.00	1.00							1.00			1.00		2.00
40	C410	ME8T02	2.00	2.25	1.00		1.00				1.50	1.00		1.00	1.00	
41	C411	ME8PE312	2.00		1.50			1.33	1.00	2.50	3.00	1.00				2.00
42	C412	ME8PE414	2.00	1.33		1.00	2.00								2.00	
43	C413	ME8PW01		3.00	3.00	2.00	2.00				3.00	1.75		1.00	1.00	
44	C414	ME8TS01		3.00							1.75	2.00		1.00		
Average PAM			2.05	2.01	1.56	1.67	1.59	1.42	1.47	1.94	1.89	1.16	1.33	1.48	1.78	2.33

Faculty Coordinator

Sanjeevamurthy 25/1/2023  
HOD, Mech. Dept.

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Department of Mechanical Engineering  
S.S.I.T., TUMAKURU.



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**PO/PSO Indirect Attainment 2016-2020 batch**

Survey	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
<b>Student Exit Survey</b>	2.05	1.98	2.01	1.99	1.92	1.94	2.01	2.03	2.1	1.99	2.05	2.03	1.92	1.99
<b>Parent Survey</b>	2.26	2.12	2.12	2.12	2.03	2.17	2.17	2.31	2.26	2.26	2.22	2.17	2.17	2.22
<b>Employer Survey</b>	3	3	3	3	3	3	3	3	3	3	3	3		
<b>Co-curricular activities</b>	2.7	2.4			2.7				2.4	2.4	2.7	2.7		
<b>Extracurricular activities</b>								2.5	2.7					
<b>Average Indirect Attainment</b>	<b>2.50</b>	<b>2.38</b>	<b>2.38</b>	<b>2.37</b>	<b>2.41</b>	<b>2.37</b>	<b>2.39</b>	<b>2.46</b>	<b>2.49</b>	<b>2.41</b>	<b>2.49</b>	<b>2.48</b>	<b>2.05</b>	<b>2.11</b>

Faculty Coordinator

Sanjeevamurthy 25/1/2023  
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## DEPARTMENT OF MECHANICAL ENGINEERING

sanjeevamurthy@ssit.edu.in, 0816-2200314

### Overall PO Attainment: 2016-2020 batch

Overall attainment of POs are calculated by taking 80% of direct attainment and 20% of Indirect attainment

Assessment Method	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Direct Attainment	2.05	2.01	1.56	1.67	1.59	1.42	1.47	1.94	1.89	1.16	1.33	1.48	1.78	2.33
Indirect Attainment	2.50	2.38	2.38	2.37	2.41	2.37	2.39	2.46	2.49	2.41	2.49	2.48	2.05	2.11
Overall Attainment	2.14	2.08	1.72	1.81	1.75	1.61	1.65	2.04	2.01	1.41	1.56	1.68	1.83	2.29

Faculty Coordinator

Sanjeevamurthy 25/1/2023  
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### Actions taken based on the results of evaluation of each of the COs, POs & PSOs POs & PSOs Attainment Levels and Actions for improvement – 2020-21

POs	Target Level	Attainment Level	Observations
<b>PO1: Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	2.39	2.14	95% Target achieved Actions are suggested for the courses not attained the target levels.
<b>Action 1:</b> Conduct extra classes to gain knowledge in Engineering fundamentals. <b>Action 2:</b> Conduct tutorial classes for all mathematical oriented subjects.			
<b>PO2: Problem analysis:</b> Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences			
PO2	2.33	2.05	94 %Target achieved Actions are suggested for the courses not attained the target levels
<b>Action 1:</b> Encourage to develop their problem analyzing ability through remedial classes for weak students. <b>Action 2:</b> Extra Assignments to be given to solve more number of complex problems.			
<b>PO3: Design/development of solutions:</b> 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.			
PO3	1.97	1.74	Target achieved Actions are suggested for the courses not attained the target levels
<b>Action 1:</b> More design classes to be taught in tutorial classes. <b>Action 2:</b> practical approach of teaching to be adapted.			
<b>PO4: Conduct investigations of complex problems:</b> 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.			
PO4	2.09	1.81	96% Target achieved Actions are suggested for the courses not attained the target levels
<b>Action1:</b> More emphasis on mathematical basic to be given in the classes. <b>Action 2:</b> Unit test and more problems will be given for practice.			

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*Sanjeevamurthy*  
**PROFESSOR & HEAD**  
Department of Mechanical Engineering  
S.S.I.T., TUMAKURU.



# SRI SIDDHARTHA INSTITUTE OF TECHNOLOGY- TUMAKURU

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Under section 3 of UGC act 1956, Vide MHRD GOI Notification no. F9-31/2006-U, 3(A) dated:30-05-2008.  
Agalakote, B.H Road, Tumkur – 572107, Karnataka, INDIA



## DEPARTMENT OF MECHANICAL ENGINEERING

sanjeevamurthy@ssit.edu.in, 0816-2200314

<b>PO5: Modern tool usage:</b> 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.			
<b>PO5</b>	1.97	1.79	Target achieved Actions are suggested for the courses not attained the target levels
<b>Action1:</b> use of projector in the classes. <b>Action 2:</b> Additional classes to be conducted to introduce practical knowledge.			
<b>PO6: The engineer and society:</b> 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.			
<b>PO6</b>	1.78	1.61	Target achieved Actions are suggested for the courses not attained the target levels
<b>Action 1:</b> Plan to motivate students to identify societal problems. <b>Action 2:</b> professional society's chapters to be started in the department so that students work as an individual or a member of team to enhance professional engineering practices.			
<b>PO7: Environment and sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
<b>PO7</b>	1.88	1.66	Target achieved Actions are suggested for the courses not attained the target levels
<b>Action 1:</b> Students will be encouraged to do their project work in material waste management, and environment friendly materials. <b>Action 2:</b> More number of expert lectures to be organized to address environmental and sustainability issues in engineering.			
<b>PO8: Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			
<b>PO8</b>	2.20	2.05	Target achieved Actions are suggested for the courses not attained the target levels
<b>Action1:</b> Encourage students to follow ethics in all domains of engineering course <b>Action 2:</b> Motivate students to propose new methods/ideas to do innovative projects and write reports by avoiding plagiarism.			
<b>PO9: Individual and team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			

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PO9	2.15	2.03	Target achieved Actions are suggested for the courses not attained the target levels
<b>Action 1:</b> Include hands-on sessions in the workshop to conduct experiments individually. <b>Action 2:</b> Motivate students to use platforms given by the institute to work in individual as well as a group to groom their skills like leadership, effective team leader.			
<b>PO10: Communication:</b> 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.			
PO10	1.58	1.41	target achieved Actions are suggested for the courses not attained the target levels
<b>Action 1:</b> Encourage weak students to develop oral and written communication skills by preparing reports, and presentations on specific topics. <b>Action 2:</b> Motivate students to perform activities like group discussion along with to enhance their communication skill.			
<b>PO11: Project management and finance:</b> 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.			
PO11	1.72	1.56	Target achieved Actions are suggested for the courses not attained the target levels
<b>Action 1:</b> final year major project is taken up as an individual or a group activity depending on the project and the students learn to work in teams.			
<b>PO12: Life-long learning:</b> 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.			
PO12	1.83	1.64	Target achieved Actions are suggested for the courses not attained the target levels
<b>Action 1:</b> Encourage students to join online certification open courses from NPTEL. <b>Action 2:</b> Advise to go for higher studies through state/ national/ international level entrance exams to enhance their knowledge and ideas.			

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*Sanjeeva murthy*  
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<b>Pso1:</b> Our Engineering graduates have a fundamental background in Basic Sciences as well as Engineering Sciences and capable of applying them for solving practical problems.			
<b>Pso1</b>	2.20	2.0	Target achieved Actions are suggested for the courses not attained the target levels
<b>Action1:</b> conduct the expert talks, seminars and orientation program. <b>Action 2:</b> To encourage students for project based learning and mini projects.			
<b>Pso2:</b> Our Engineering graduates acquire technical, managerial and software skills that make them employable in industries, design offices encompassing Interdisciplinary and multidisciplinary streams along with lifelong learning capabilities.			
<b>Pso2</b>	2.47	2.29	98% Target achieved Actions are suggested for the courses not attained the target levels
<b>Action1:</b> To conduct more lectures by industrial expert to get more practical exposures. <b>Action2:</b> Advise to practice the use of modern software tools in Mechanical engineering using the facilities available in the laboratories.			

Faculty Coordinator

*[Signature]*  
25/01/2023

*[Signature]* 25/1/2023  
HOD, Mech. Dept.

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Department of Mechanical Engineering  
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