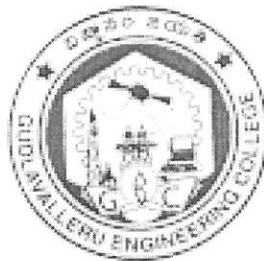


**ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS**

STRUCTURAL ENGINEERING
Department of Civil Engineering

M.Tech Two Year Degree Course
(Applicable for the batch admitted from 2020-21)



GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village

GUDLAVALLERU - 521 356, Krishna District, Andhra Pradesh

COURSE STRUCTURE

I Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1	CE3901	Advanced Structural Analysis **	3	-	-	3
2	CE3902	Theory of Elasticity	3	-	-	3
3		Professional Elective - I	3	-	-	3
4		Professional Elective - II	3	-	-	3
5	BA3901	Research Methodology & IPR	3	-	-	3
6	CE3908	Advanced Structural Engineering Lab	-	-	4	2
7	CE3909	Advanced Concrete Technology Lab	-	-	4	2
Total			15	-	8	19
8	BA3902	Constitution of India (Audit Course)	2	-	-	

II Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1	CE3910	Finite Element Methods in Structural Engineering **	3	-	-	3
2	CE3911	Structural Dynamics	3	-	-	3
3		Professional Elective - III	3	-	-	3
4		Professional Elective - IV	3	-	-	3
5	CE3918	Computer Applications in Structural Engineering Lab	-	-	4	2
6	CE3919	Structural Design Lab	-	-	4	2
7	CE3920	Mini Project with Seminar	-	-	6	3
Total			12	-	14	19
8	EG3901	English for Research Paper Writing (Audit Course)	2	-	-	-

III Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1		Professional Elective - V	3	-	-	3
2		Open Elective	3	-	-	3
3		Dissertation Phase - I	-	-	20	10
Total			6	-	20	16

** Project Based Course

L : Lecture

T : Tutorial

P : Practical

RESEARCH METHODOLOGY & IPR

I Semester

Practical	: 3	Internal Marks	: 30
Credits	: 3	External Marks	: 70

Course Objectives

- To impart the importance of research & IPR in professional growth.

Course Outcomes

Upon successful completion of the course, the students will be able to

- analyze various research methodologies
- perform research design
- collect and analyze the data required for research
- able to write research reports
- apply for Patents, Designs, Trade and Copyright.

Course Content

UNIT-I: Introduction

Research Methodology: Meaning of Research – Objectives – Types – Research Approaches – Significance of Research - Research Methods versus Methodology – Research and Scientific Method – Research Process – Criteria of Good Research – **Research Ethics** – Problems Encountered by Researchers in India.

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Mechanics of Writing a Research Report – Precautions for Writing Research Reports - Conclusion.

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Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT.

UNIT – V: Patent Rights & Developments

Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

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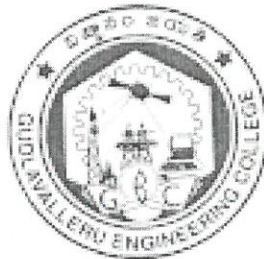
**ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS**

POWER ELECTRONICS AND ELECTRIC DRIVES

**Department of
Electrical and Electronics Engineering**

M.Tech Two Year Degree Course

(Applicable for the batch admitted from 2020-21)



GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village

GUDLAVALLERU - 521 356, Krishna District, Andhra Pradesh

COURSE STRUCTURE

I Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1	EE3901	Electrical Machine Modeling and Analysis	3	-	-	3
2	EE3902	Analysis of Power Electronic Converters**	3	-	-	3
3		Professional Elective - I	3	-	-	3
4		Professional Elective - II	3	-	-	3
5		Research Methodology & IPR	3	-	-	3
6	EE3909	Power Electronics Simulation Laboratory	-	-	4	2
7	EE3910	Power Converters Laboratory	-	-	4	2
Total			15	-	8	19
8	BA3902	Constitution of India (Audit Course)	2	-	-	

II Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1	EE3911	Switched Mode Power Conversion	3	-	-	3
2	EE3912	Power Electronic Control of Electrical Drives **	3	-	-	3
3		Professional Elective - III	3	-	-	3
4		Professional Elective - IV	3	-	-	3
5	EE3919	Electric Drives Simulation Laboratory	-	-	4	2
6	EE3920	Electric Drives Laboratory	-	-	4	2
7	EE3921	Mini Project with Seminar	-	-	6	3
Total			12	-	14	19
8	EG3901	English for Research Paper Writing (Audit Course)	2	-	-	-

III Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1		Professional Elective - V	3	-	-	3
2		Open Elective	3	-	-	3
3		Dissertation Phase - I	-	-	20	10
Total			6	-	20	16

** Project Based Course

L : Lecture T : Tutorial P : Practical

RESEARCH METHODOLOGY & IPR

I Semester

Practical	: 3	Internal Marks	: 30
Credits	: 3	External Marks	: 70

Course Objectives

To make the students

- impart the importance of research & IPR in professional growth.

Course Outcomes

Upon successful completion of the course, the students will be able to

- analyze various research methodologies
- perform research design
- collect and analyze the data required for research
- able to write research reports
- apply for Patents, Designs, Trade and Copyright.

Course Content

UNIT-I: Introduction

Research Methodology: Meaning of Research – Objectives – Types – Research Approaches – Significance of Research - Research Methods versus Methodology – Research and Scientific Method – Research Process – Criteria of Good Research – **Research Ethics** – Problems Encountered by Researchers in India.

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Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.

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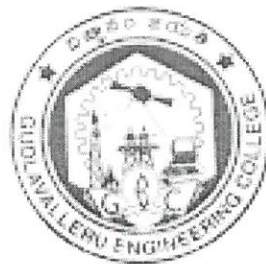
**ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS**

MACHINE DESIGN

Department of Mechanical Engineering

M.Tech Two Year Degree Course

(Applicable for the batch admitted from 2020-21)



GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village

GUDLAVALLERU - 521 356, Krishna District, Andhra Pradesh

COURSE STRUCTURE

I Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1	ME3901	Mechanical Vibrations and Acoustics **	3	-	-	3
2	ME3902	Advanced mechanics of Solids	3	-	-	3
3		Professional Elective - I	3	-	-	3
4		Professional Elective - II	3	-	-	3
5	BA3901	Research Methodology & IPR	3	-	-	3
6	ME3909	Machine Dynamics Lab	-	-	4	2
7	ME3910	Advanced Material Testing Lab	-	-	4	2
Total			15	-	8	19
8	BA3902	Constitution of India (Audit Course)	2	-	-	

II Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1	MA3902	Computational Methods in Engineering	3	-	-	3
2	ME3911	Advanced Finite Element Methods **	3	-	-	3
3		Professional Elective - III	3	-	-	3
4		Professional Elective - IV	3	-	-	3
5	ME3918	Modeling and Simulation Lab	-	-	4	2
6	ME3919	Computational Methods Lab	-	-	4	2
7	ME3920	Mini Project with Seminar	-	-	6	3
Total			12	-	14	19
8	EG3901	English for Research Paper Writing (Audit Course)	2	-	-	-

III Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1		Professional Elective - V	3	-	-	3
2		Open Elective	3	-	-	3
3	ME3926	Dissertation Phase - I	-	-	20	10
Total			6	-	20	16

** Project Based Course

L : Lecture T : Tutorial P : Practical

RESEARCH METHODOLOGY & IPR

I Semester

Practical : 3

Internal Marks : 30

Credits : 3

External Marks : 70

Course Objectives

- To impart the importance of research & IPR in professional growth.

Course Outcomes

Upon successful completion of the course, the students will be able to

- analyze various research methodologies
- perform research design
- collect and analyze the data required for research
- able to write research reports
- apply for Patents, Designs, Trade and Copyright.

Course Content

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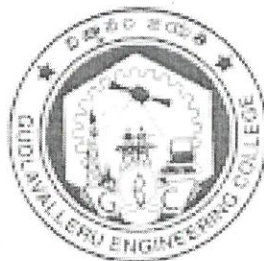
**ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS**

VLSI DESIGN & EMBEDDED SYSTEMS

**Department of
Electronics and Communication Engineering**

M.Tech Two Year Degree Course

(Applicable for the batch admitted from 2020-21)



GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village

GUDLAVALLERU - 521 356, Krishna District, Andhra Pradesh

COURSE STRUCTURE

I Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1	EC4901	CMOS VLSI Design	3	-	-	3
2	EC4902	Advanced Microcontrollers *	3	-	-	3
3		Professional Elective - I	3	-	-	3
4		Professional Elective - II	3	-	-	3
5	BA3901	Research Methodology & IPR	3	-	-	3
6	EC4909	CMOS VLSI Design Lab	-	-	4	2
7	EC4910	Advanced Microcontrollers Lab	-	-	4	2
Total			15	-	8	19
8	BA3902	Constitution of India (Audit Course)	2	-	-	

II Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1	EC4911	VLSI System Design *	3	-	-	3
2	EC4912	Embedded System Based IoT	3	-	-	3
3		Professional Elective - III	3	-	-	3
4		Professional Elective - IV	3	-	-	3
5	EC4919	VLSI System Design Lab	-	-	4	2
6	EC4920	Embedded System and IoT Lab	-	-	4	2
7	EC4921	Mini Project with Seminar	-	-	6	3
Total			12	-	14	19
8	EG3901	English for Research Paper Writing (Audit Course)	2	-	-	-

III Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1		Professional Elective - V	3	-	-	3
2		Open Elective	3	-	-	3
3	EC4925	Dissertation Phase - I	-	-	20	10
Total			6	-	20	16

* Project Based Theory Course

L : Lecture T : Tutorial P : Practical

RESEARCH METHODOLOGY & IPR

I Semester

Lecture : 3

Internal Marks : 30

Credits : 3

External Marks : 70

Course Objectives

- To impart the importance of research & IPR in professional growth.

Course Outcomes

Upon successful completion of the course, the students will be able to

- analyze various research methodologies
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- able to write research reports
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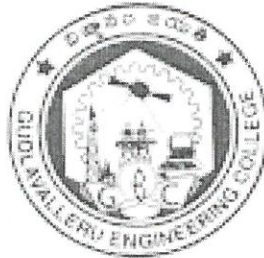
**ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS**

**CSE (ARTIFICIAL INTELLIGENCE AND
MACHINE LEARNING)**

**Department of
Computer Science and Engineering**

M.Tech Two Year Degree Course

(Applicable for the batch admitted from 2021-22)



**SESHADRI RAO
GUDLAVALLERU ENGINEERING COLLEGE**

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)

Seshadri Rao Knowledge Village

GUDLAVALLERU - 521 356, Krishna District, Andhra Pradesh

COURSE STRUCTURE

I Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1	CS4901	Advanced Data Structures and Algorithm Analysis	3	-	-	3
2	CS4902	Data Science	3	-	-	3
3		Professional Elective - I	3	-	-	3
4		Professional Elective - II	3	-	-	3
5	BA3901	Research Methodology & IPR	3	-	-	3
6	CS4909	Advanced Data Structures and Algorithm Analysis Lab	-	-	4	2
7	CS4910	Data Science Lab	-	-	4	2
Total			15	-	8	19
8	BA3902	Constitution of India (Audit Course)	2	-	-	

II Semester

Sl. No.	Course Code	Name of the Course / Laboratory	No. of Periods per week			No. of Credits
			L	T	P	
1	CS4911	MEAN Stack Technologies	3	-	-	3
2	CS4912	Machine Learning	3	-	-	3
3		Professional Elective - III	3	-	-	3
4		Professional Elective - IV	3	-	-	3
5	CS4919	MEAN Stack Technologies Lab	-	-	4	2
6	CS4920	Machine Learning using Python Lab	-	-	4	2
7	CS4921	Mini Project with Seminar	-	-	6	3
Total			12	-	14	19
8	EG3901	English for Research Paper Writing (Audit Course)	2	-	-	-

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			L	T	P	
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2		Open Elective	3	-	-	3
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