

ACADEMIC REGULATIONS of M.Tech.

Applicable to the students admitted from the
Academic year 2017-2018



MAHARAJ VIJAYARAM GAJAPATHI RAJ COLLEGE OF ENGINEERING (Autonomous)

(Approved by AICTE, New Delhi, and permanently affiliated to JNTUK, Kakinada)

Re-Accredited by NBA, Re-accredited by NAAC with 'A' Grade,

Listed u/s 2(f) & 12(B) of UGC Act 1956.

Vijayaram Nagar Campus, Chintalavalasa,

Vizianagaram-535005, Andhra Pradesh

Academic Regulations for M.Tech. Programmes

Applicable to the students admitted from the Academic year 2015-2016 onwards.

1. COURSE PATTERN:

- The program is for 2 academic years with 4 semesters.

2. AWARD OF DEGREE:

A student will be declared eligible for the award of degree if he/she fulfills the following academic regulations.

- a) A student shall be declared eligible for the award of the degree, if he/she pursues a course of study for not less than Two academic years and not more than Four academic years.
- b) The student shall register for 80 credits and secure all 80 credits.
- c) Students who fail to complete their Two Years Course of study within Four years shall forfeit their seat and their admission shall stand cancelled.

3. COURSE STRUCTURE:

M.TECH:

The total course will consist of the following components.

a) Core Mandatory(Theory)	CM	21-27 credits
b) Core Mandatory(Lab)	CM(L)	02-06 credits
c) Core Elective (Theory)	CE(T)	15-21 credits
d) Comprehensive Viva voce	CV	01-03 credits
e) Self Study(Prerequisite)	SS	01-03 credits
f) Seminar	SE	01-03 credits
g) Research methodologies	RM	01-02 credits
h) Project phase 1	PR	06-12 credits
i) Project phase 2	PR	09-15 credits

*For all the programs offered, in the list of courses for electives one of the choices would be "MOOCs". Each department shall short list MOOCs course/(s) meeting the requirements of course duration, credits, etc., from time to time. The same shall be placed in the immediate BoS meeting for ratification.

4. ABOUT GRADING SYSTEM:

Performance of a student is evaluated in terms of earned credit weighed marking system

Earned credits are defined as the sum of course credits in which grade points above a certain cut off have been obtained for declaring student pass in that course

- Points earned in a semester:

Σ (course credits earned x Grade points)

Semester Grade Point Average (SGPA) for the current semester which is calculated on the basis of grade points obtained in all courses, except audit courses and courses in which satisfactory or course continuation has been awarded,

$SGPA = \Sigma(\text{course credits earned} \times \text{Grade points}) /$

$\Sigma(\text{Total course credits in the semester.})$

Cumulative Grade Point Average (CGPA) is calculated on the basis of all pass grades obtained in all courses, except audit courses, obtained in all completed semesters

$CGPA = \Sigma (\text{course credits earned} \times \text{Grade points}) \text{ over all semesters} / \Sigma (\text{Total course credits in all the semesters.})$

The UGC recommends a 10-point grading system with the following letter grades as given below:

O	(Outstanding)	10
A+	(Excellent)	9
A	(Very Good)	8
B+	(Good)	7
B	(Above Average)	6
C	(Average)	5
P	(Pass)	4
F	(Fail)	0
Ab	(Absent)	0

- A student obtaining Grade F shall be considered failed and will be required to reappear in the examination.

Illustration of Computation of SGPA and CGPA and Format for Transcripts

Computation of SGPA and CGPA

Illustration for SGPA

Course	Credit	Grade Letter	Grade point	Credit Point (Credit x Grade)
Course 1	3	A	8	3 X 8 = 24
Course 2	4	B+	7	4 X 7 = 28
Course 3	3	B	6	3 X 6 = 18
Course 4	3	O	10	3 X 10 = 30
Course 5	3	C	5	3 X 5 = 15
Course 6	4	B	6	4 X 6 = 24
	20			139

Thus, **SGPA** = $139/20 = 6.95$

Illustration for CGPA

Semester 1	Semester 2	Semester 3	Semester 4
Credit: 20	Credit: 22	Credit: 25	Credit: 26
SGPA: 6.9	SGPA: 7.8	SGPA: 5.6	SGPA: 6.0

Thus, **CGPA** = $20 \times 6.9 + 22 \times 7.8 + 25 \times 5.6 + 26 \times 6.0$

= 7.57

COURSE STRUCTURE

M.TECH (VLSI)

S. No	Subject Code	I-Semester	L	T	P	C
1	A1VLT101	VLSI Technology	3	1	0	4
2	A1VLT102	Analog IC Design	3	1	0	4
3	A1VLT103	Digital IC Design	3	1	0	4
4	A1VLT104	CPLD & FPGA Architecture and Applications	3	1	0	4
5	Elective I					
	A1VLT201	Digital System Design	3	0	0	3
	A1VLT202	MOS Device Modeling				
	A1VLT203	System Modeling and Simulation				
6	Elective II					
	A1VLT204	Digital Design With Verilog HDL	3	0	0	3
	A1VLT205	VLSI signal processing				
	A1VLT206	Logic Synthesis and Verification				
7	A1VLL101	FPGA Laboratory	0	0	3	2
			18	4	3	24

S. No	Subject Code	II-Semester	L	T	P	C
1	A1VLT105	Low Power VLSI Design	3	1	0	4
2	A1VLT106	CMOS Mixed Signal VLSI Design	3	1	0	4
3	A1VLT107	Testing and Testability	3	1	0	4
4	A1VLT108	VLSI Physical Design Automation	3	1	0	4
5	Elective III					
	A1VLT207	Custom IC Design	3	0	0	3
	A1VLT208	Hardware Software Co-Design				
	A1VLT209	DSP Processors and Architectures				
6	Elective IV					
	A1VLT210	Scripting Languages	3	0	0	3
	A1VLT211	Optimization Techniques and applications to VLSI				
	A1VLT212	Semiconductor Memory Design and Testing				
7	A1VLL102	Custom IC Design Laboratory	0	0	3	2
			18	4	3	24

Sl. No.	Subject Code	III – Semester	C
1	A1VLT109	Research Methodologies	2
2	A1VLV401	Comprehensive Viva-Voce	2
3	A1VLR401	Self-Study (Pre-requisite)	2
4	A1VLS501	Seminar	2
5	A1VLP501	Project Phase – I	8
			16

Sl. No.	Subject Code	IV – Semester	C
1	A1VLP502	Project Phase – II	16
			16