**AR- 16**

ACADEMIC REGULATIONS

For

M.Tech

(Applicable for the batches admitted from 2016-2017)



ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT (AUTONOMOUS)

Approved by AICTE, Accredited by NBA & NAAC,

Recognised under 2(f)12(b) of UGC

Permanently Affiliated to JNTUK, Kakinada.

K.Kotturu, Tekkali, Srikakulam-532 201, Andhra Pradesh.

**VISION OF THE INSTITUTE**

To evolve into a premier engineering institute in the country by continuously enhancing the range of our competencies, expanding the gamut of our activities and extending the frontiers of our operation.

**MISSION OF THE INSTITUTE**

Synergizing knowledge, technology and human resource, we impart the best quality education in Technology and Management. In the process, we make education more objective so that efficiency for employability increases on a continued basis.

**VISION OF THE DEPARTMENT**

The department of Electrical and Electronics Engineering is committed to innovation and excellence in teaching, research, service and provide programs of the high quality, collaborative efforts with industry to produce world class engineering professionals.

**MISSION OF THE DEPARTMENT**

1. To inculcate value based, socially committed professionalism to the cause of overall development of students and society.

2. Cultivate the spirit of entrepreneurship and the connection between engineering and business that encourages technology commercialization.

3. Improve continuously the engineering pedagogical methods employed in delivering its academic programs.

4. Evolve thoughtfully in response to the needs of industry, society and the changing world.

**PROGRAM EDUCATIONAL OBJECTIVES**

**PEO1** Graduates of PED will be successful professionals in industry, government, academia, research, entrepreneurial pursuit and consulting firms

**PEO2** Graduates will be future researchers / scientists with innovative ideas for a sustainable development.

**PEO3** Graduates will be improve their technical and intellectual capabilities through lifelong learning process so as to become good teachers, either in a class or to juniors in industry.

**PEO4** Graduates will continue to pursue professional development, including continuing or advanced education relevant to their career growth and to create enthusiasm for lifelong learning.

**PROGRAM OUTCOMES**

1. Will be a professional workforce in the areas of “Static Power Electronics Converters”, “Power Electronic Converter fed Electrical Drives” and “Power Quality”.
2. Will be able to apply soft computing techniques for Power Electronic Systems and Electric Drives.
3. Will be able to understand large scale Power Electronic Converter Systems, Electric Drives and issues involved through modeling, analysis and simulation.
4. Will be able to apply present day techniques and tools to solve Power electronic and electric drives problems relevant to current needs.
5. Will be able to use state of the art simulation tools such as MATLAB, SIMULINK, PLEXIM, SABER, OPALRT Lab, DSPACE, MULTISIM, LABVIEW and other Tools.
6. Will be capable of contributing positively to collaborative and multidisciplinary research to achieve common goals.
7. Will demonstrate knowledge and understanding of electrical and electronics engineering and management principles and apply the same for efficiently carrying out projects with due consideration to economical and financial factors.
8. Will be able to communicate confidently, make effective presentations and write good reports to engineering community and society.
9. Will recognize the need for lifelong learning and have the ability to do it independently.
10. Will become aware of social issues and shall contribute to the community for sustainable development of society.
11. Will be able to independently observe and examine critically the outcomes of his/her actions and apply corrective measures subsequently and move forward positively through a self corrective approach.
12. Will able to continuously update their knowledge on contemporary issues.
13. Will able to imbibe the values of honesty and integrity.

**ACADEMIC REGULATIONS - 2016**

**(Effective for the students admitted into first year from academic year 2016-2017)**

The M.Tech Degree of the Aditya Institute of Technology and Management (Autonomous), Tekkali shall be conferred on candidates who are admitted to the program and fulfill all the requirements for the award of the Degree.

1. **ELIGIBILITY FOR ADMISSIONS:**

Admission to the above program shall be made subject to the eligibility, qualifications and specialization prescribed by the University from time to time. Admissions shall be made on the basis of merit rank obtained by the qualifying candidate in GATE / PGCET, subject to reservations prescribed by the Govt. of AP from time to time.

1. **AWARD OF M. Tech DEGREE:**

**2.1** A student shall be declared eligible for award of the M.Tech degree, if he/she pursues a course of study and completes it successfully in not less than two academic years and not more than four academic years.

**2.2** A student, who fails to fulfill all the academic requirements for the award of the degree within four academic years from the year of his/her admission, shall forfeit his/her seat in M.Tech course.

**2.3** The minimum instruction for each semester 95 clear instruction days.

1. **ATTENDANCE**

**3.1** A candidate shall be deemed to have eligibility to write End Semester examinations if he/she has put in a minimum of 75% of attendance in aggregate of all the subjects.

**3.2** Condonation of shortage of attendance up to 10% (65% and above, and below 75%) may be given by the College academic committee.

**3.3** Condonation of shortage of attendance shall be granted only on genuine and valid reasons on representations by the candidate with supporting evidence.

**3.4** Shortage of attendance below 65% shall in NO case be condoned.

**3.5** A candidate shall not be promoted to the next semester unless he/she fulfills the attendance requirements of the present semester.

**3.6** A stipulated fee shall be payable towards condonation of shortage of attendance.

**4.0** **COURSE OF STUDY:**

The following specializations are offered at present for the M.Tech course of study.

|  |  |
| --- | --- |
| 1 | Digital Electronics and Communication Systems |
| 2 | VLSI System Design |
| 3 | Power Electronics and Drives |
| 4 | Computer Science and Engineering |
| 5 | Structural Engineering |
| 6 | Thermal Engineering |

**5.0 EVALUATION**

The performance of the candidate in each semester shall be evaluated subject-wise, with a Maximum of 100 marks for theory and100 marks for Laboratory, on the basis of Internal Evaluation and End Semester Examination.

**5.1** For the theory subjects 60 marks shall be awarded based on the performance in the End Semester Examination. Out of 40 internal marks **30** marks are assigned for subjective exam, **5** marks for assignments and **5** marks for seminars. The internal evaluation for **30** marks shall be made based on the **average** of the marks secured in the two Mid Term-Examinations conducted, one in the middle of the Semester and the other immediately after the completion of instruction. Each midterm examination shall be conducted of duration of 120 minutes and question paper shall contain **4** questions. The student should answer all **4** questions.

**5.2** For practical subjects, 60 marks shall be awardees based on the performance in the End Semester Examinations. Out of 40 internal marks 20 marks are assigned based on day to day evaluation and 20 marks are assigned based on the internal test.

**5.3** There shall be a technical seminar presentation during 3rd semester. For technical seminar, a student under the supervision of a faculty member, shall collect the literature on a topic and critically review the literature and submit it to the Department in a report form and shall make an oral presentation before the Departmental Committee. The Departmental Committee consists of Head of the Department, supervisor and two other senior faculty members of the department. For technical seminar there will be only internal evaluation of 100 marks. A candidate has to secure a minimum of 50% to be declared successful.

**5.4** A candidate shall be deemed to have secured the academic requirement in a subjectif he/she secures a minimum of 40% of marks in the End Examination and a minimum aggregate of 50% of the total marks in the End Semester Examination and Internal Evaluation taken together.

**5.5** In case the candidate does not secure the minimum academic requirement in any subject (as specified in 5.4) he has to reappear for the supplementary Examination in that subject.

**5.6** The viva-voce examination shall be conducted at the end of the course work after pass in all subjects.

**5.7** Laboratory examination for M.Tech courses must be conducted with two Examiners, one of them being Laboratory Class Teacher and second examiner shall be external examiner.

**6.0 EVALUATION OF PROJECT/DISSERTATION WORK:**

Every candidate shall be required to submit thesis or dissertation after taking up a topic approved by the Project Review Committee.

**6.1** A Project Review Committee (PRC) shall be constituted with Principal as chair person, Head of the department and two other senior faculty members of the concerned department (one will be the guide).

**6.2** Registration of Project Work: A candidate is permitted to register for the project work after satisfying the attendance requirement of all the subjects(theory and practical subjects).

**6.3** After satisfying 6.2, a candidate has to submit, in consultation with his project supervisor, the title, objective and plan of action of his project work (Based on a publication in a Peer Reviewed Journal) to the Project Review Committee for its approval before the second semester end examinations. After obtaining the approval of the Committee the student can initiate the Project work after the second semester end examinations.

**6.4** Every candidate shall work on projects approved by the PRC of the college.

**6.5** If a candidate wishes to change his supervisor or topic of the project he can do so with approval of the PRC. However, the Project Review Committee ( PRC) shall examine whether the change of topic/supervisor leads to a major change of his initial plans of project proposal. If so, his date of registration for the project work starts from the date of change of Supervisor or topic as the case may be.

**6.6** A candidate shall submit status report in two stages at least with a gap of 3 months between them.

**6.7** The work on the project shall be initiated in the beginning of the second year/III semester and the duration of the project is for two semesters. The candidate shall identify the problem, Literature survey, design/modeling part of the problem i.e. almost 35% of his dissertation/project work should complete in the III semester itself and it will be evaluated by PRC. If the candidate fails to get the satisfactory report, he has to re-register for the project/dissertation work.

**6.8** A candidate shall be allowed to submit the project report only after fulfilling the attendance requirements of all the semesters with approval of PRC and not earlier than 40 weeks from the date of registration of the project work. For the approval of PRC the candidate shall submit the draft copy of thesis to the Principal (through Head of the Department) and shall make an oral presentation before the PRC.

**6.9** The Candidate may be permitted to submit the Project Report If only the work is Published/Accepted to be Published in a Journal / International conference of repute and relevance.

**6.10** Three copies of the Project Thesis certified by the supervisor shall be submitted to the College/ School/ Institute.

**6.11** The thesis shall be adjudicated by external examiner from outside the college.

**6.12**The viva-voce examination shall be conducted by a board consisting of the supervisor, Head of the Department and the examiner outside the college who adjudicated the Thesis.

**6.13** The student has to clear all the subjects of M.Tech course before submission of the project thesis/ dissertation

**The Board shall jointly report candidates work as:**

1. Excellent
2. Good
3. Satisfactory
4. Unsatisfactory

Head of the Department shall coordinate and make arrangements for the conduct of viva-voce examination. If the report of the viva-voce is unsatisfactory, the candidate will retake the viva-voce examination after three months. If he fails to get a satisfactory report at the second viva-voce examination, the candidate may be asked to submit a new project proposal to PRC starting with 6.5

**7. Method of Awarding Letter Grades and Grade Points for a Course**.

A letter grade and grade points will be awarded to a student in each course based on his/her performance as per the grading system given below.

Table: Grading System for M.Tech. Programme

|  |  |  |
| --- | --- | --- |
| Percentage | Grade Points | Letter Grade |
| 95-100% | 10 | O |
| 85-<95% | 9 | A+ |
| 75-<85% | 8 | A |
| 65-<75% | 7 | B+ |
| 55-<65% | 6 | B |
| 50-<55% | 5 | P |
| < 50% | 0 | F (Fail) |

* 1. **Calculation of Semester Grade Points Average (SGPA)\* for semester**

The performance of each student at the end of the each semester is indicated in terms of SGPA. The SGPA is calculated as below:

 (for all courses passed in semester)

Where CR = Credits of a Course

GP = Grade points awarded for a course

\*SGPA is calculated for the candidates who passed all the courses in that semester.

* 1. **Calculation of Cumulative Grade Points Average (CGPA**\***) and Award of Division for Entire Programme.**

**The CGPA is calculated as below:**

 (for entire programme)

Where CR = Credits of a course

GP = Grade points awarded for a course

\*CGPA is calculated for the candidates who passed all the courses till that semester.

Table: Award of Divisions

|  |  |
| --- | --- |
| **CGPA** | **DIVISION** |
| ≥ 7.5 | First Class with distinction |
| ≥ 6.5 and < 7.5 | First Class |
| ≥ 5.5 and 6.5 | Second Class |
| ≥ 5.0 and <5.5 | Pass Class |
| < 5.0 | Fail |

After a student has satisfied the requirements prescribed for the completion of the programme and is eligible for receiving the award of M.Tech. Degree, he shall be placed in one of the above divisions.

**8.0** **WITH-HOLDING OF RESULTS:**

If the candidate has not paid any dues to the college or if any case of indiscipline is pending against him / her, the result of the candidate will be withheld and he/she will not be allowed into the next higher semester. The issue of the degree is liable to be with held in such cases.

**9.0** **TRASITORY REGULATIONS:**

Candidate who have discontinued or have been detained for want of attendance or who have failed after having undergone the course are eligible for admission to the same or equivalent subjects as and when subjects are offered, subject to 5.5 and 2.0

**10.0** **GENERAL:**

**10.1** The academic regulations should be read as a whole for purpose of any Interpretation.

**10.2** In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Principal is final.

**10.3** The Institute may change or amend the academic regulations and syllabus at any time and the changes and amendments made shall be applicable to all the students with effect from the date notified by the college.

**10.4** Wherever the word he, him or his occur, it will also include she, her and hers.

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