

# ACADEMIC REGULATIONS

R20

ALL M. TECH PROGRAMME

For

**M.TECH. TWO YEAR DEGREE COURSE**  
**(Applicable for batches admitted from 2020-2021)**



**KKR & KSR INSTITUTE OF TECHNOLOGY AND SCIENCES**  
**(AUTONOMOUS)**  
**VINJANAMPADU, VATTICHERUKURU MANDAL,**  
**GUNTUR-522017, ANDHRA PRADESH.**

# CONTENTS

SECTION NO.	TITLE	PAGE NO.
1	INTRODUCTION	1
2	ADMISSIONS	1
3	ACADEMIC PROGRAMMES	1
	3.1 Programme Duration	1
	3.2 The medium of Instruction and Examination	2
	3.3 Minimum Instruction Days	2
4	ATTENDANCE REGULATIONS	2
5	CURRICULUM FRAMEWORK	2
	5.1 Prologue	2
	5.2 Course Structure	3
	5.3 Course Code	4
	5.4 Credit System	4
6	EXAMINATION AND EVALUATION	5
	6.1 Continuous Assessment and Internal mark	5
	6.2 End Semester Examination	6
	6.3 Evaluation of Audit Course	7
	6.4 Evaluation of Mini Project with Seminar	7
	6.5 Evaluation of Dissertation/Project Work	8
	6.5.1 Internal Assessment	9
	6.5.2 Anti-plagiarism and Thesis Submission	10
	6.5.3 End Evaluation	10
7	GRADE POINTS	10
	7.1 Grading of Courses	11
	7.2 Semester Grade Point Average	11
	7.3 Cumulative Grade Point Average	11
8	AWARD OF DEGREE AND CLASS	12
9	WITHHOLDING OF RESULTS	12
10	REVALUATION	12
11	SUPPLEMENTARY EXAMINATIONS	12
12	READMISSION CRITERIA	13
13	BREAK IN STUDY	13

14	TRANSITORY REGULATION	13
15	CONDUCT AND DISCIPLINE	13
16	MALPRACTICES	14
17	GENERAL	14
18	AMENDMENTS TO REGULATIONS	14

# ACADEMIC REGULATIONS

## 1. INTRODUCTION

The first autonomous regulation (**R20**) of the KKR & KSR Institute of Technology and Sciences (**Subsequently referred to as KITS**) is formulated based on the guidelines of the All India Council of Technical Education (AICTE), New Delhi. Also, abide by the norms of Jawaharlal Nehru Technological University Kakinada (JNTUK), Kakinada. This Institution's Academic Council (AC) has duly approved the regulation **R20**.

- i. It is common for all post-graduate programs (M. Tech.) offered by the College with effect from the academic year **2020 – 21**. The M. Tech Degree of JNTUK University Kakinada shall be conferred on candidates admitted to the program and who fulfill all the requirements for the award of the Degree.
- ii. The regulations hereunder are subject to amendments made by the Institution's AC from time to time, keeping the Board of Studies (BOS) recommendations in view. The AC will decide the batches of students already undergoing the Programme applicable to these amendments.

## 2. ADMISSIONS

Admission to the above program shall be made subject to eligibility, qualification, and specialization as prescribed by the University from time to time.

Admissions shall be made based on merit/rank obtained by the candidates at the qualifying Entrance Test (PGCET) conducted by the University or based on any other order of merit as approved by the University, subject to reservations as laid down by the Govt. from time to time.

## 3. ACADEMIC PROGRAMMES

The following specializations are presently offered for the M. Tech Programme of study.

Branch of Study	Programme	Specialization
CSE	M. Tech.	i. Artificial Intelligence and Machine Learning (AI and ML)
		ii. Data Sciences (DS)
ECE	M.Tech.	Internet of Things (IoT)
ME	M.Tech.	Robotics

### 3.1 Programme Duration

The duration of an academic program shall be two years consisting of four semesters.

### **3.1.1 Maximum duration**

A student's maximum period to complete a full-time academic program will be double the program's normal duration, i.e., four academic years in sequence from the year of admission.

### **3.1.2 Cancellation of admission**

Students, who fail to fulfill all the academic requirements for the award of the degree within the prescribed duration as per article 3.1.1, will forfeit their admissions.

### **3.2 The medium of Instruction and Examination**

The medium of instruction and examination is English.

### **3.3 Minimum Instruction Days**

Each semester will consist of a minimum of 90 instruction days, excluding examination days and preparation holidays.

## **4. ATTENDANCE REGULATIONS**

- i. A student would be eligible to appear for end-semester examinations if they acquired a minimum of 50% in each subject, including practical and 75% of attendance in aggregate of all the courses.
- ii. The College Academic Committee may grant condonation of shortage of attendance in aggregate up to 10% on medical grounds (Above 65% and below 75%) in any semester.
- iii. Shortage of Attendance below 65% in aggregate shall not be condoned.
- iv. Students with less than 65% of attendance in any semester are not eligible to take up their end examination of that particular semester, and their registration shall stand canceled.
- v. Prescribed Condonation fee shall be payable by the student to appear for the end examination.
- vi. A Student will not be promoted to the next semester unless they satisfy the current semester's attendance requirement as applicable. They may seek readmission for that semester as and when offered consecutively by the Department.

## **5. CURRICULUM FRAMEWORK**

### **5.1 Prologue**

KITS is committed to producing industry-ready, value-added bright engineering post-graduates through the enhanced curriculum, innovative teaching-learning process, excellent examination, and evaluation systems. Therefore, the curriculum is designed based on the AICTE model engineering curriculum-2019.

## 5.2 Course Structure

The M. Tech Programme course structure of every specialization comprises required courses in the six categories listed in Table 1.

**Table 1** Course Structure Components

S. No.	Category	Cat. code
1	Program Courses	PC
2	Elective Courses	EC
3	Open Elective Courses	OE
4	Audit Courses	AC
5	Research Methodology and IPR	CC
6	Mini project with Seminar	MP
7	Dissertation/ Industrial Project Wok	PR

### 5.2.1 Program Courses

It consists of a set of courses considered necessary for the students of the specific program. The courses under this category satisfy the program-specific criteria prescribed by the appropriate professional societies. The BOS concern must verify the sequence of the required courses for the professions to tackle the most demanding challenges and advance global society's well-being.

### 5.2.2 Elective Courses

The curriculum also gives the academic flexibility in offering a variety of EC's to the students of a particular specialization, which cover depth and breadth to broaden the student's knowledge. The students may register for appropriate electives offered in the program based on their area of interest. The BOS is empowered to identify as many tracks in emerging technologies and industrial relevance.

### 5.2.3 Open Elective Courses

OE's are offered across the institution/programs to enhance the knowledge breadth in emerging areas/technologies and professional competency of the students in the job market. The student shall choose an OE from the list so that they have not studied the same course in any form during the Programme.

### 5.2.4 Audit Courses

It is a non-credit mandatory course offered across the institution/programs to reshape students' learning outlook. The general studies course focuses on the interdisciplinary lens, including courses in history, natural and social sciences, technology, and humanities. These courses provide a wide breadth of learning opportunities and skills that can be applied to everyday life

### 5.2.5 Credit Courses

A credit course research methodology and IPR shall be included in this curriculum as suggested by AICTE. This course enables research attitude and ethics from post-graduation itself. Moreover, it emphasizes the need for information about the Intellectual Property rights of individuals and the research forum.

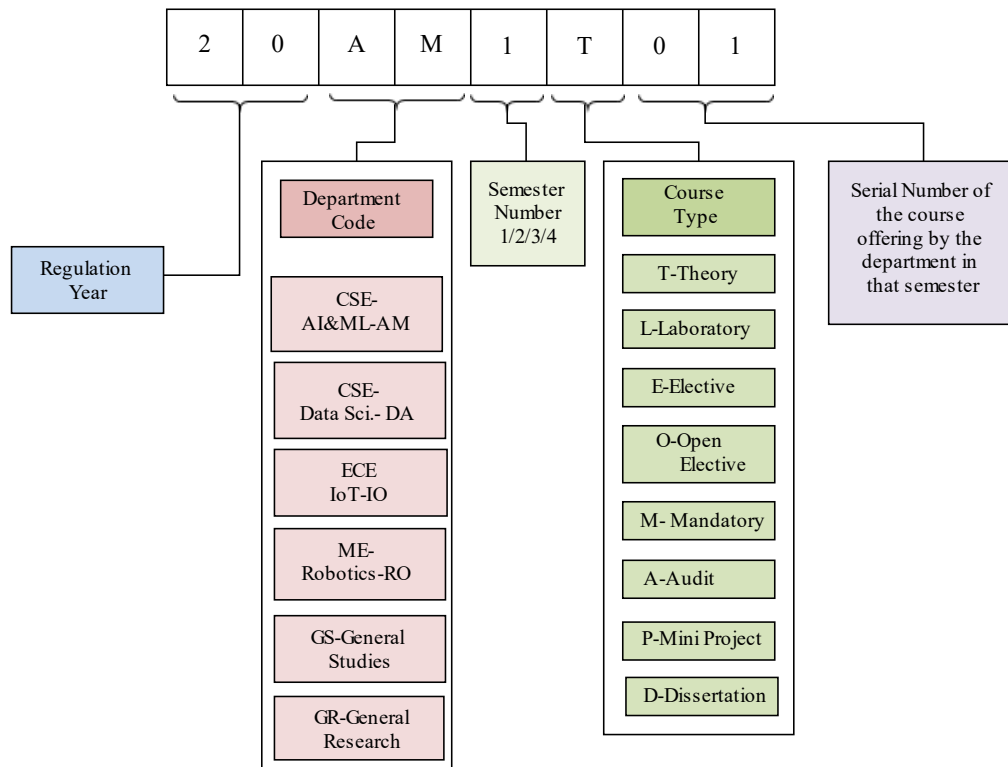
### 5.2.6 Mini Project with Seminar

It is provisioned in the second semester and enables students to conduct a critical literature review in their specialization. The collected information shall be presented in a report and oral presentation.

### 5.2.7 Dissertation/ Industrial Project Wok

There are two phases, phase-I in the third semester and phase-II in the fourth semester. The students can do the project at local industries, Govt. Organizations, construction agencies, Industries, Hydel and thermal power projects, and software MNCs. However, students going for the industrial projects will complete the course in the third semester through MOOCs.

### 5.3 Course Code



### 5.4 Credit System

The curriculum is designed to acquire 68 credits, and the credit distribution to the various courses is detailed.

### 5.4.1 Credit definition

Credit means quantified and recognized learning. Credit is measured in terms of contact hours per week in a semester and is summarized in Table 2.

**Table 2** Credit and Contact Hour

Course type	Contact hours	Credit
Theory	1	1
Tutorial	1	1
Practical	2	1

### 5.4.2 Credit structure

A typical credit structure for coursework based on the above definition is given in Table 3.

**Table 3** Credit and credit hour distributions

Attribute	Instruction method			Credit (C)
	Lecture (L)	Tutorial (T)	Practical (P)	
Theory Course	3	0	0	3
	2	1	0	3
	2	0	0	2
Practical	0	0	4	2
Mini project with Seminar	2	0	0	2
Dissertation-I	0	0	20	10
Dissertation-II	0	0	32	16

## 6. EXAMINATION AND EVALUATION

To evaluate a student's performance, the Institution conducts a well-structured continuous assessment and end-semester examination for twenty-five (25) and seventy-five (75) marks, respectively, for theory and practical courses.

### 6.1 Continuous Assessment and Internal mark

#### 6.1.1 Theory course

The continuous assessment of a theory course is to be performed through two mid-semester examinations.

- Each course consists of five units.
- Each mid-semester examination covers two and a half units
- Mid-semester examination-1 covers units-I, II, and half of III, whereas Mid-semester examination-2 covers the remaining half of unit-III and Units-IV and V.



- iv. Each Mid-semester Examination (only descriptive) is conducted for forty (40) marks of duration 120 minutes with four (4) questions without choice. Each question carries ten (10) marks. The secured mark will be scaled into twenty-five (25) marks.
- v. Any number after the decimal point shall be rounded off.
- vi. The internal mark is the **average of two mid-semester examinations**.

A case study is illustrated in Table 4

**Table 4** Internal Mark Assessment (Example)

Mid-1		Mid-2		Internal mark <b>30</b> <b>E= (B+D)/2</b>
Conducted A (40)	Scaled B (25)	Conducted C (40)	Scaled D (25)	
35	22	38	24	23

### 6.1.2 Practical course

The course lecturer will assess the student's concern, like the end practical examination of seventy-five (75) and scaled into five (15) marks. The weightage for other assessments is briefed in Table 5.

**Table 5** Mark Distribution for Practical Course

S. No.	Activity	Mark
1	Day-to-day Evaluation	05
2	Record	05
3	Internal Assessment	15
<b>Internal mark</b>		<b>25</b>

## 6.2 End Semester Examination

### 6.2.1 Theory course

- i. The end-semester examination will be conducted with the entire syllabus of a course for seventy-five (75) marks.
- ii. The question paper contains five questions with internal choice from each unit and is valued at 75 marks.
- iii. A student has to secure not less than 40% of marks in the end semester examination and a minimum of 50% of marks in the total of internal and end semester examination marks to earn the credits allotted to each course.
- iv. If the candidate does not secure the minimum academic requirement in any subject (as specified in 6.2.1 (iii)), he has to re-appear for the End semester Examination in that subject.

- v. A candidate shall be given **one** chance to re-register for each subject provided the internal marks secured by a candidate **are less than 50% and have failed in the end examination**. In such a case, the candidate must re-register for the subject(s) and secure the required minimum attendance.
- vi. The candidate's attendance in the re-registered subject(s) shall be calculated separately to decide upon his eligibility for writing the end examination in those subject(s).
- vii. In the event of the student taking another chance, his internal marks and end examination marks obtained in the previous attempt shall stand canceled.
- viii. For re-registration the candidates have to apply to the University through the college by paying the requisite fees and get approval from the University before the start of the semester in which re-registration is required.
- ix. In case the candidate secures less than the required attendance in any re-registered subject(s), he shall not be permitted to write the End Examination in that subject. He shall again re-register the subject when next offered.

### **6.2.2 Practical course**

- i. The end practical examination shall be conducted for seventy-five (75) marks with a three-hour duration.
- ii. The internal examiner shall conduct the examination jointly with an external examiner duly appointed by the Chief Controller of Examination from the panel of examiners submitted by the respective BOS.
- iii. The evaluation scheme shall be prepared with breakup marks of Procedure-20, Experimentation-30, Results-10, Viva-voce-15.
- iv. The examiners shall evaluate the answer scripts; however, the mark award for viva-voce is the external examiner's sole decision.

### **6.3 Evaluation of Audit Courses**

- A student has to secure 50% of the marks allotted in the internal evaluation for passing the course.
- No marks or letter grades shall be allotted for all audit courses.
- No supplementary examination

### **6.4 Evaluation of Mini project and Seminar**

- i. For Mini Project with Seminar, a student under the supervision of a faculty member, shall collect the literature on a topic critically review the literature and submit it to the department in a report form and shall make an oral presentation before the Project

Review Committee consisting of Head of the Department, supervisor/mentor and two other senior faculty members of the department.

- ii. For Mini Project with Seminar, there will be only an internal evaluation of 100 marks.
- iii. A candidate has to secure a minimum of 50% of marks to be declared successful
- iv. The student would be treated as failed if the student (a) does not submit a seminar report on Mini Project or does not make a presentation of the same before the evaluation committee as per schedule or (b) secures less than 50% marks in Mini Project with seminar evaluation.
- v. The failed student shall reappear for the above evaluation when the notification for supplementary examination is issued.

### **6.5 Evaluation of Dissertation/Project Work**

- i. A Project Review Committee (PRC) shall be constituted with the Head of the Department, Project-coordinator, Supervisor, and Senior faculty member.
- ii. A candidate is permitted to register for the dissertation/project work after satisfying the attendance requirement of all the subjects, both theory and practical.
- iii. After satisfying 6.5 (ii), a candidate has to submit, in consultation with his project supervisor, the title, objective, and plan of action of his dissertation/project work for approval. The student can initiate the dissertation project work, only after obtaining approval from the PRC.
- iv. If a candidate wishes to change his supervisor or the topic of the project, he can do so with the approval of the PRC. However, the PRC shall examine whether or not the change of topic/supervisor leads to a major change of his initial plans of the project proposal. If yes, his date of registration for the project work starts from the date of change of Supervisor or topic as the case may be.
- v. Continuous assessment of Dissertation-I and Dissertation-II during the Semester(s) will be monitored by the PRC.
- vi. A candidate shall submit his status report in two stages to the PRC, at least with a gap of 3 months between them.
- vii. The work on the project shall be initiated at the beginning of the II year and the duration of the project is two semesters. A candidate is permitted to submit Project Thesis only after successful completion of theory and practical course with the approval of PRC not earlier than 40 weeks from the date of registration of the project work. The candidate has to pass all the theory and practical subjects before submission of the Thesis.
- viii. Three copies of the Project Thesis certified by the supervisor shall be submitted to the College/School/Institute.

- ix. The thesis shall be adjudicated by one examiner selected by the Chief Controller of examination. For this, the BOS of the department shall submit a panel of 3 examiners, eminent in that field.
- x. If the report of the examiner is not favorable, the candidate shall revise and resubmit the Thesis, in the time frame as decided by the PRC. If the report of the examiner is unfavorable again, the thesis shall be summarily rejected. The candidate has to re-register for the project and complete the project within the stipulated time after taking approval from the Academic Council/ University.
- xi. The Head of the Department/BOS chairman shall coordinate and make arrangements for the conduct of the Viva-Voce examination.
- xii. If the report of the examiner is favorable, Viva - Voce examination shall be conducted by a board consisting of the Supervisor, Head of the Department, and the Examiner who adjudicated the Thesis. The Board shall jointly report the candidate's work for a maximum of 100 marks.
- xiii. If the report of the Viva -Voce is unsatisfactory (i.e., <50 % of marks), the candidate shall retake the Viva-Voce examination, only after three months. If he fails to get a satisfactory report at the second Viva-Voce examination, the candidate has to re-register for the project and complete the project within the stipulated time after taking the approval from the Academic council /University

### **6.5.1 Internal Assessment**

The assessment is based on the day-to-day assessment by the supervisor and two reviews conducted by the PRC.

- i. After satisfying 6.5 (iii) and according to 6.5 (vi) a candidate must present dissertation-I progress in review - I, in consultation with his dissertation supervisor. The title, objective, and plan of action of his dissertation work are to be presented for the approval of PRC within four weeks from the commencement of the III semesters. Only after obtaining the approval of the PRC can the student initiate the dissertation work.
- ii. At the end of the III semester the PRC will conduct a review-II for 100 marks, a candidate must present the problem definition, objectives, scope of work, literature survey in the same domain, and progress of the dissertation-I. The PRC will examine the work for 50 marks and the rest of 50 marks will be awarded by the supervisor concerned. A candidate has to secure a minimum of 50% of marks to be declared successful in dissertation-I. If he fails to obtain the minimum required marks, he has to reappear for review - II as and when conducted.
- iii. At the end of the IV semester the PRC will conduct a review-III for 100 marks (internal mark), a candidate must present the overall progress of the dissertation-II and the PRC

will examine the eligibility for final submission. If the PRC is satisfied with the final status of the dissertation-II will award 50 marks and advised the candidate to submit the thesis by summarizing both dissertations -I and II for the anti-plagiarism check. At the same time, the supervisor concerned will award the rest of the 50 marks. A candidate has to secure a minimum of 50% of marks. If he fails to obtain the minimum required marks, he has to reappear for review - III as and when conducted.

**Table 8** Mark Distribution for Project Internal Evaluation

S. No.	Activity	Mark
1	Review-1 (Semester-III)	00
2	Review-2 (Semester-III)	100
3	Review-3 (Semester-IV)	100

### 6.5.2 Anti-plagiarism and Thesis submission

- i. After approval from the PRC, a soft copy of the thesis should be submitted for anti-plagiarism check and the plagiarism report should be submitted to the department and be included in the final thesis. The Thesis will be accepted for submission if the similarity index is less than **30%**. If the similarity index has more than the required percentage, the student is advised to modify accordingly and re-submit the soft copy of the thesis after one month. The maximum number of re-submissions of the thesis after plagiarism check is limited to two. The candidate has to register for the dissertation work and work for two semesters. After three attempts, the admission is liable to be canceled.
- ii. Three copies of the Thesis certified by the supervisor shall be submitted to the Institution after submission of a research paper related to the dissertation work in a UGC-approved journal. A copy of the submitted research paper shall be attached to the thesis.

### 6.5.3 End evaluation

After satisfying 6.5.2 (ii), the sequence of procedures described from 6.5 (ix) to 6.5 (xiii) will be observed. The committee will prepare an evaluation scheme for one hundred (100) marks, including a Thesis, and may ask the student to demonstrate using a PowerPoint presentation followed by viva-voice for critical evaluation.

## 7. GRADE POINTS

The student will be awarded an equivalent grade point on a ten-point scale and a grade letter to each course based on the mark secured in that range shown below.

## 7.1 Grading of Courses

**Table 9** Grade Point and its Equivalent Grade letter for Theory and Practical Courses, Mini-Project with Seminar, and Dissertations

Marks Range <sup>#</sup>	Grade Point	Grade Letter	Level
≥ 90	10	O	Excellent
>80 to <90	9	S	Very Good
>70 to <80	8	A	Good
>60 to <70	7	B	Fair
>50 to <60	6	C	Satisfactory
< 50	0	F	Fail
-	0	AB	Absent

# For the project, it is assumed to be the percentage (%) of marks secured.

## 7.2 Semester Grade Point Average (SGPA)

- Suppose credit of the  $i^{th}$  course is  $C_i$  and the grade point of that course is  $G_i$ . Then SGPA is,

$$SGPA = \frac{\sum(C_i * G_i)}{\sum C_i}; i \in n$$

- Where n is the number of courses in that semester

## 7.3 Cumulative Grade Point Average (CGPA)

- Suppose the total credit of the  $j^{th}$  Semester is  $STC_j$ , and that semester SGPA is  $S_j$ . Then CGPA is,

$$CGPA = \frac{\sum(STC_j * S_j)}{\sum STC_j}; j \in m$$

- Where m is the number of semesters in the Programme
- Overall percentage equivalent to CGPA as per AICTE regulations is,

$$\text{Overall percentage} = (CGPA - 0.75) * 10\%$$

### Note:

- Both SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.
- While computing the SGPA/CGPA, the subjects in which the student is awarded Zero grade points will also be included.

## 8. AWARD OF DEGREE AND CLASS

- A student will be awarded M.Tech. Degree upon fulfillment of the requirement of the award of degree in the respective discipline.
- They shall be placed in one of the following classes.

**Table 11** Classification of Award of Class

<b>CGPA Secured</b>	<b>: Class Awarded</b>
$\geq 7.75$ (Without any supplementary appearance)	: First Class with Distinction*
$\geq 7.75$ (With any supplementary appearance)	: First Class
$\geq 6.75 < 7.75$ (Without any supplementary appearance)	: First Class
$\geq 6.75 < 7.75$ (With any supplementary appearance)	: Second Class
$\geq 6.0 < 6.75$ (Without any supplementary appearance)	: Second Class
$\geq 6.0 < 6.75$ (With any supplementary appearance)	: Pass Class

\*Rejoined and break-in study candidates are not eligible for the award of First Class with Distinction.

## 9. WITHHOLDING OF RESULTS

- A student's semester result will be withheld in case of malpractice or indiscipline is pending against a student.
- In that case, that student's result will be withheld, and they will not be allowed to enter the next semester, or the degree will be withheld (whichever applicable).

## 10. REVALUATION

- As per the notification issued by the Chief Controller of Examinations, the students can submit the applications for revaluation, along with the requisite fee receipt for revaluation of their answer script(s) of theory course(s), if they are not satisfied with marks obtained.
- The Controller of Examinations shall arrange for a re-evaluation of those answer script(s).
- Other than the first examiner, a new external examiner shall re-evaluate the answer script(s).
- Better marks between the two will be taken into consideration.

## 11. SUPPLEMENTARY EXAMINATIONS

- A Supplementary Examination will be conducted along with regular semester-end examinations. A student can appear in any number of supplementary examinations for

a course till they pass that course. However, the maximum stipulated period of the program cannot be relaxed under any circumstance.

- The sequence examinations set will be odd semester (I, III) and Even Semester (II, IV).

## **12. READMISSION CRITERIA**

- A candidate detained in a semester due to lack of attendance/credits has to apply for readmission into the same semester when the Institution offers.
- The Principal will review the application, and the candidate can be permitted to rejoin after duly fulfilling all the required norms stipulated by the College.
- Besides, the candidate has to pay an administrative fee that the Institution decides.

## **13. BREAK IN STUDY**

- Student who discontinues the studies for whatever reason has to apply for readmission into the appropriate semester of M. Tech Programme after break-in study.
- The Principal will review the application, and the candidate might be permitted as per the transitory regulations applicable to such batch in which they join.
- Besides, the candidate must pay an administrative fee decided by the Institution to be condoned each year.

## **14. TRANSITORY REGULATIONS**

Transitory regulations will provide the modus of Operandi. At the time of such admission, based on the Programme pursued (case by case)

- The BOS of the concerned discipline establishes equivalent courses completed by the student.
- Marks/Credits are transferred for all such equivalent courses and treated as completed in the study prescribed by KITS.
- A Programme chart of residual courses not completed will be derived, and a Programme of study with the duration specified will be prescribed for pursuit at KITS.
- As the case may be, marks obtained in the previous system shall be converted to equivalent grades and CGPA.

All other modalities and regulations governing shall be the same as those applicable to the stream of students with whom; such a candidate is merged with current regulations.

## **15. CONDUCT AND DISCIPLINE**

Students admitted to KITS must abide by the code of conduct and discipline of the College, which will be updated from time to time.



## **16. MALPRACTICES**

- If any student involves malpractices in internal assessment tests or Semester-End Examinations, the Principal constitutes a Malpractice Enquiry Committee to enquire the case.
- The Principal shall take necessary action based on the committee's recommendations as stipulated norms.

## **17. GENERAL**

- Wherever the words "he", "him", "his", occur in the regulations, they include "she", "her", "hers".
- The academic regulation should be read as a whole for any interpretation.
- In case of any doubt or ambiguity in interpreting the above rules, the Principal's decision is final and ratified by the Governing Body's Chairman.
- The College may change or amend the academic regulations or syllabi at any time. The changes or amendments made shall apply to all the students with effect from the dates notified by the College.

## **18. AMENDMENTS TO REGULATIONS**

The Academic Council may, from time to time, revise, amend or change the regulations, schemes of examination, and syllabi.

**Oratory**  
**PRINCIPAL**