

**Draft Regulations for
PG Programs in Engineering (R22PG)
(Effective from 2022-23)**



**Kandula Srinivasa Reddy Memorial College of Engineering
(Autonomous)**

Kadapa 516003 AP

**(Approved by AICTE, Affiliated to JNTUA, Anantapuramu, Accredited by NAAC)
(An ISO 9001-2008 Certified Institution)**

KSRM College of Engineering, Kadapa-516003, AP

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KSRM College of Engineering, Kadapa-516003, AP

Regulations for PG Programs in Engineering (R22PG)

1.0 Nomenclature

- 1.1 *Academic Year*: Academic Term of, approximately, one year duration that usually starts in June/July and ends in April/May next
- 1.2 *Semester*: Either of two Academic Terms that make up an Academic Year
- 1.3 *Major*: A specific field of study
- 1.4 *Minor*: An area outside of, or complementary to, a Major
- 1.5 *Subject*: An area of knowledge that is studied as part of a Course
- 1.6 *Core*: A subject that is mandatory for a Major course of study
- 1.7 *Elective*: A subject that is selected for study to suit one's individual needs
- 1.8 *Audit Subject*: A subject that is studied to meet certain requirements but has no credits assigned to it
- 1.9 *Humanities subjects*: Subjects that describe and interpret human achievements, problems and historical changes at individual and societal levels covering the disciplines of literature, history, and philosophy
- 1.10 *Social Sciences subjects*: Subjects that describe the mental and behavioural activities of individuals, groups, organizations, institutions, and nations covering the disciplines of anthropology, economics, linguistics, political science, and psychology
- 1.11 *Exam*: A test to measure one's progress, knowledge, or ability in a subject
- 1.12 *Credit*: A numerical weight given to a subject
- 1.13 *Grade*: A numerical or alphabetic designation measuring the level of achievement in an exam
- 1.14 *Attendance*: Physical presence of oneself in a classroom/laboratory for purpose of a scheduled academic instruction
- 1.15 *Course*: A series of subjects that constitute a Major field of study
- 1.16 *Branch*: Same as Course
- 1.17 *Program*: Same as Course
- 1.18 *Specialization*: Same as branch
- 1.19 *Degree*: An academic title conferred to honour distinguished achievement

2.0 Short Title and Application

- 2.1 These rules and regulations may be called as R22PG and come into force from Academic Year 2022-23 and exist until superseded by new regulations
- 2.2 These rules and regulations are applicable to all post graduate courses in engineering and technology leading to Master's Degree in Technology (M. Tech)
- 2.3 The Specializations offered, at present, are:
 - 2.3.1 Geotechnical Engineering, Code - 12
 - 2.3.2 Power Systems, Code - 07
 - 2.3.3 Renewable Energy, Code - 99

2.3.4 Embedded Systems and VLSI, Code - 84

2.3.5 Artificial Intelligence and Data Science, Code - 98

2.4 The Institute may offer new Specializations in future to which these rules and regulations will be applicable.

3.0 Suspension and Amendment of Rules

3.1 Academic Council has the authority to suspend a rule temporarily.

3.2 Academic Council has the authority to amend a rule.

3.3 For affirmative action on any suspension or amendment of a rule, an affirmative vote of three-fifths of the members present and voting shall be required in Academic Council.

4.0 Requirements for Admission

4.1 At present, admissions into first semester of various Specializations are governed by Government and the Affiliating University. The eligibility criteria and procedure for admission are prescribed by Government and Affiliating University.

4.2 A student is not allowed to change of Specialization after admission.

4.3 A student must fulfil medical standards required for admission.

4.4 The selected students are admitted into first semester after payment of the prescribed fees.

5.0 Structure of the M. Tech course

5.1 *Duration*: The duration of M. Tech degree course is four semesters

5.2 *Working Days*: Calendar for any semester shall be announced at least four weeks before its commencement. Minimum number of working days is 90 per semester.

5.3 *Curriculum*: Each Specialization shall have core, elective and audit subjects. The curriculum for each Specialization shall be approved by its corresponding Board of Studies and then by the Academic Council.

5.4 *Credits*: All subjects that are assessed for marks have credits assigned to them. The credits assigned to subjects shall be given in curriculum. The total number of credits for entire course is 70 for all Specializations. The distribution of total credits semester-wise is given in Table 1.

Table 1 Semester-wise Total Credits:

Semester	Total Credits
First Semester	18
Second Semester	18
Third Semester	18
Fourth Semester	16
Total for entire course	70

5.5 The curriculum and syllabus is given in Annexure-1 and Annexure-2 respectively

5.6 Responsibility and Advising: It is the responsibility of the student to understand and know the regulations and requirements to earn the degree. Each student admitted in to the degree programs is assigned to a Faculty Advisor who assists the student in designing an effective program of study. Students should consult their Faculty Advisors for selection of electives and for general advice on academic program.

5.7 All subjects/courses offered for the M.Tech. degree programme are broadly classified as follows:

S.No.	Broad Course Classification	Course Category	Description
1.	Core Courses	Foundational & Professional Core Courses (PC)	Includes subjects related to the parent discipline/department/branch of Engineering
2.	Elective Courses	Professional Elective Courses (PE)	Includes elective subjects related to the parent discipline/department/ branch of Engineering
		Open Elective Courses (OE)	Elective subjects which include inter - disciplinary subjects or subjects in an area outside the parent discipline which are of importance in the context of special skill development
3.	Research	Research Methodology & IPR	To understand importance and process of creation of patents through research
		Technical Seminar	Ensures preparedness of students to undertake major projects/Dissertation, based on core contents related to specialization
		Co-curricular Activities	Attending conferences, scientific presentations and other scholarly activities
		Dissertation	M.Tech. Project or Major Project
4.	Audit Courses	Mandatory noncredit courses	Covering subjects of developing desired attitude among the learners is on the line of initiatives such as Unnat Bharat Abhiyan, Yoga, Value education etc.

6.0 Registration and Enrolment

6.1 Prior to opening of each semester, every student shall register for all the credit-bearing and audit subjects listed in curriculum of the semester. Excepting first semester, the registration for a semester shall be done during a specified week after end examinations of previous semester. In first semester, the registration shall be done within six working days from date of opening. Recommendation of Faculty Advisor is needed for registration.

- 6.2 Late registration will be permitted with a fine, decided from time to time, up to six working days from the last date specified for registration.
- 6.3 A student will be eligible for registration for a semester if she or he i) is promoted to that semester, ii) has cleared all fees to the Institute, library and hostel of previous semester, and iii) is not disqualified for registration by a disciplinary action of the Institute.
- 6.4 A student will be enrolled and allowed to attend the classes on successful registration and payment of necessary fees to Institution, library, and hostel.
- 6.5 Registration and enrolment will be controlled by the Office of the Controller of Examinations.

7.0 Assessment Procedure – Internal Tests and End Examinations

- 7.1 Performance of students in all subjects is assessed continuously through internal assessment tests and an End examination.
- 7.2 Allocation of internal assessment and End examination marks.
 - 7.2.1 For theory subjects, the allocation is 40 marks for internal assessment and 60 marks for End examination totalling 100 marks.
 - 7.2.2 For laboratory the allocation is 50 marks for internal assessment and 50 project work subjects marks for End examination totalling 100 marks.
 - 7.2.3 For mini-project/mini-project with seminar total 100 marks are allocated for internal assessment. There shall be no end examination for this mini-project.
 - 7.2.4 For all audit subjects the allocation is 40 marks for internal assessment and no allocation for End examination.
- 7.3 Internal Assessment Examinations
 - 7.3.1 Internal assessment means performance evaluation of students by faculty members who teach the subjects.
 - 7.3.2 For theory subjects, including audit subjects, the internal assessment shall be done by midterm tests. For each subject, two midterm tests will be conducted for 40 marks. **Internal assessment mark for midterm tests will be calculated as weighted sum of the two midterm tests marks, with 80% weight for the best and 20% weight for the other marks. If any student abstains for any midterm test, he/she will be awarded zero marks for that midterm test. There shall be no choice of questions in midterm tests.**
 - 7.3.3 For laboratory/practical subjects, the internal assessment will be based on regular laboratory work over full semester. The assessment will be done by the faculty concerned. The students shall be informed sufficiently early of the procedure to be followed for internal assessment.
 - 7.3.4 There shall be a **Technical Seminar** during II semester for internal evaluation of 100 marks. A student under the supervision of a faculty members 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

Project Review Committee consisting of Head of the Department, two other senior faculty members and faculty guide of the concerned student. The student has to secure a minimum of 50% of marks, to be declared successful. If he fails to obtain the minimum marks, he has to reappear for the same as and when supplementary examinations are conducted. The Technical seminar shall be conducted anytime during the semester as per the convenience of the Project Review Committee and students. There shall be no external examination for Technical Seminar.

7.3.5 There shall be Mandatory **Audit courses** in I & II semesters for zero credits. There is no external examination for audit courses. However, attendance shall be considered while calculating aggregate attendance and student shall be declared to have passed the mandatory course/audit course only when he/she secures 50% or more in the internal examinations. In case, the student fails, a re-examination shall be conducted for failed candidates for 40 marks.

7.3.6 For subjects like project-work and industrial training, the internal assessment will be done by a concerned Department Committee consisting of two senior faculty members and faculty guide of concerned student. Total Three internal reviews conducted and average of three reviews will be considered. The assessment procedure will be informed sufficiently early to the students.

7.4 End examinations

7.4.1 End examinations shall be conducted after completion of coursework in each semester.

7.4.2 The question papers for theory subjects shall be set by faculty members outside of the Institute. The external faculty members for question paper setting will be selected by the Principal.

7.4.3 Evaluation of answer scripts shall be done by faculty members from outside of the Institute selected by the Principal.

7.4.4 For laboratory subjects, end examination shall be conducted by a committee consisting of two internal examiners. One examiner shall be recommended by Head of Department of concerned Major, and the other examiner shall be appointed by the Principal.

7.4.5 For project work viva-voce, End examination shall be conducted by a committee consisting of one internal examiner, one external examiner, and the concerned guide of the student. Internal examiner shall be appointed by Head of Department of concerned Major, and the external examiner shall be appointed by the Principal.

7.4.6 If a student abstains from End examination of any subject, for any reason, she or he shall be awarded zero marks in that subject.

7.4.7 There is no end examination for audit subjects.

8.0 Method of Assigning Letter Grades and Grade Points

- 8.1 For all credit-bearing subjects, performance of a student in a subject is indicated by a letter grade that corresponds to absolute marks earned in that subject. Each letter grade is assigned a numeric Grade Point that is used to compute Grade Point Average on a scale of 0 to 10.
- 8.2 Performance of a student in both internal assessment and End examination will be considered for awarding grades for credit bearing subjects. Total marks earned in a subject is the sum of marks obtained in internal and End examinations in that subject.
- 8.3 Pass grade A+ to D+ is assigned to a subject based on total marks earned in that subject provided that a student earns at least i) 35% of marks in End examination marks and ii) 50% of marks in internal and End examination marks put together; otherwise fail grade F will be assigned to that subject.
- 8.4 Grade I will be assigned to a subject if a disciplinary action is pending and is not resolved before publication of results. Office of Controller of Examinations shall resolve the pending disciplinary action within six working days from the date of publication of results and change the grade to any of A+ to D+ or F.
- 8.5 Grade X will be assigned to a subject if a student abstains for End examination of that subject.
- 8.6 The absolute marks and corresponding letter grade and grade points are given in Table2

Table 2: Letter Grades and Grade Points

Absolute Marks	Letter Grade	Grade Points	Remark
≥90-100	S (Out Standing)	10.0	Pass
≥80-<90	A (Excellent)	9.0	Pass
≥70-<80	B (Very Good)	8.0	Pass
≥60-<70	C (Good)	7.0	Pass
≥50-<60	D (Pass)	6.0	Pass
<50	F (Fail)	0.0	Fail

- 8.7 *SGPA*: Semester Grade Point Average indicates the performance of a student in all credit-bearing subjects of a semester. SGPA is calculated as the weighted average of Grade Points of all subjects of the semester with corresponding credits of subjects as weights. Audit subjects are not considered for SGPA calculation.
- 8.8 *CGPA*: Cumulative Grade Point Average indicates the performance of a student in all terms up to and including the current semester under consideration. CGPA is calculated as the weighted average of SGPA's with total credits in each semester as the weights.
- 8.9 *Grade Card*: All students shall be issued Grade Cards after the publication of results of a semester. Grade Card is a statement of performance of a student in a semester. It

contains information about each registered subject: type of subject, allocated credits, and letter grade earned. SGPA and CGPA will also be indicated.

9.0 Credit Transfer Policy

As per University Grants Commission (Credit Framework for Online Learning Courses through SWAYAM) Regulation, 2016, the institution shall allow up to a maximum of 40% of the total courses being offered in a particular Programme in a semester through the Online Learning courses through SWAYAM.

- 9.1 The institution shall offer credit mobility for MOOCs and give the equivalent credit weightage to the students for the credits earned through online learning courses through SWAYAM platform.
- 9.2 The online learning courses available on the SWAYAM platform will be considered for credit transfer. SWAYAM course credits are as specified in the platform.
- 9.3 Student registration for the MOOCs shall be only through the institution, it is mandatory for the student to share necessary information with the institution.
- 9.4 The institution shall select the courses to be permitted for credit transfer through SWAYAM. However, while selecting courses in the online platform institution would essentially avoid the courses offered through the curriculum in the offline mode.
- 9.5 The institution shall notify at the beginning of semester the list of the online learning courses eligible for credit transfer in the forthcoming Semester.
- 9.6 The institution shall also ensure that the student has to complete the course and produce the course completion certificate as per the academic schedule given for the regular courses in that semester
- 9.7 The institution shall designate a faculty member as a Mentor for each course to guide the students from registration till completion of the credit course.
- 9.8 The college shall ensure no overlap of SWAYAM MOOC exams with that of the college end examination schedule. In case of delay in SWAYAM results, the university will re-issue the marks sheet for such students.
- 9.9 Student pursuing courses under MOOCs shall acquire the required credits only after successful completion of the course and submitting a certificate issued by the competent authority along with the percentage of marks and grades.

Note: Students shall also be permitted to register for MOOCs offered through online platforms other than SWAYAM NPTEL.

10.0 Re-registration for Improvement of Internal Evaluation Marks

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 has failed in the end examination

- 10.1 The candidate should have completed the course work and obtained examinations results for **I, II and III** semesters.
- 10.2 The candidate shall be given one chance for each Theory subject and for a maximum of

- three** Theory subjects for Improvement of Internal evaluation marks.
- 10.3 The candidate has to re-register for the chosen subjects and fulfil the academic requirements.
- 10.4 For reregistration the candidates have to apply to the college by paying the requisite fees, before the start of the semester in which re-registration is required
- 10.5 In the event of availing the Improvement of Internal evaluation marks, the internal evaluation marks as well as the End Examinations marks secured in the previous attempt(s) for the reregistered subjects stand cancelled.

11.0 Credits for Co-curricular Activities

A Student shall earn 02 credits under the head of co-curricular activities, viz., attending Conference, Scientific Presentations and Other Scholarly Activities. Following are the guidelines for awarding Credits for Co-curricular Activities:

Name of the Activity	Maximum Credits / Activity
Participation in National Level Seminar / Conference / Workshop / Training programs (related to the specialization of the student)	1
Participation in International Level Seminar / Conference / workshop/Training programs held outside India (related to the specialization of the student)	2
Academic Award/Research Award from State Level / National Agencies	1
Academic Award/Research Award from International Agencies	2
Research / Review Publication in National Journals (Indexed inScopus/Web of Science)	1
Research / Review Publication in International Journals with Editorial board outside India (Indexed in Scopus / Web of Science)	2
Vocational Course / Certificate Course (Minimum 36 hours)	2

Note:

- i) Credit shall be awarded only for the first author. Certificate of attendance and participation in a Conference/Seminar is to be submitted for awarding credit.
- ii) Certificate of attendance and participation in workshops and training programs (Internal or External) is to be submitted for awarding credit. The total duration should be at least one week.
- iii) Participation in any activity shall be permitted only once for acquiring required credits under co-curricular activities.

12.0 Requirements for Completing Subjects

- 12.1 A student shall complete all credit-bearing and audit subjects successfully to be eligible for award of degree
- 12.2 *Credit-bearing subjects*: A student is considered to have completed a credit-bearing subject successfully and earned credits if she or he obtains a pass grade from A+ to D+ in that subject. If a student receives fail grade F or X in any subject, she or he must register for supplementary End examination for that subject as and when opportunity arises and improve grade to pass grade
- 12.3 *Audit subjects*: A student is considered to have successfully completed an audit subject if she or he earns at least 40% of marks in internal assessment marks.
Supplementary exam for audit subjects: If a student fails in audit subject, she or he shall register for supplementary examination in that subject as and when the opportunity arises and pass that subject. The supplementary exam will be conducted for 40 marks covering the entire syllabus and student is deemed to have passed in the subject if she or he earns 16 marks (40% marks) in the supplementary exam, disregard of her or his performance in internal tests.

13.0 Requirements for taking End Examinations

- 13.1 A student is eligible to take regular End Examinations of current semester if she or he full fills the attendance requirement.
- 13.2 A student shall be promoted from current semester to succeeding semester on satisfying the attendance requirement.
- 13.3 A student shall complete all credit-bearing and audit subjects successfully before taking End examination for project viva-voce.
- 13.4 Attendance Requirement
- 13.4.1 Attendance of students shall be recorded for credit-bearing and audit subjects as per the workload indicated in curriculum.
- 13.4.2 Total class-periods conducted shall be reckoned from beginning to end of a semester as published in academic calendar.
- 13.4.3 Aggregate Percentage of Attendance is calculated using total number of class-periods attended as numerator and total number of class-periods conducted for the concerned subject as the denominator.
- 13.4.5 A minimum aggregate attendance of 75% is required for promotion to succeeding semester.
- 13.4.6 A student can appeal to the Principal for condoning deficiency in aggregate attendance if she or he gets 65% or more aggregate attendance presenting a valid reason for deficiency. Such a student will be granted promotion if the Principal pardons the deficiency. Principal has the right to reject the appeal if it is not satisfied with the performance of the student or the reason cited for deficiency of the attendance.

13.4.7 A student earning less than 75% aggregate attendance will be denied promotion. A student who is not promoted on basis of attendance shall be removed from the rolls and shall register for the same semester when opportunity arises. The current semester record of the student is cancelled automatically.

14.0 Revaluation of End Examination Scripts

- 14.1 Revaluation of End Examination scripts is allowed for theory subjects only by paying requisite fee.
- 14.2 A Procedure for Revaluation: The script will be revaluated by an examiner appointed by the Principal. The maximum of revaluation and regular end examination marks will be awarded for that subject.
- 14.3 A student can apply for revaluation in a subject only once.

15.0 Supplementary End Examinations

- 15.1 Students are eligible to take Supplementary examinations in subjects with fail grade F or X only.
- 15.2 Supplementary examinations for even semester subjects will be conducted with regular examinations of odd semester subjects and vice versa.
- 15.3 A student will be allowed to improve grade in any theory subject provided she or he has completed coursework of all semesters but before award of provisional/final degree.

16.0 Requirements for Award of M. Tech degree

- 16.1 Time Limit for completion of requirements for award of degree is four calendar years from the date of admission. A student who could not complete all the requirements in this time limit shall forego admission and will be removed from the rolls of the Institute.
- 16.2 A student shall be eligible for award of degree provided she or he has:
 - 16.2.1 Registered and successfully completed all required credit-bearing and audit subjects with a total of 68 credits.
 - 16.2.2 Secured a CGPA of 5.5 or more.
 - 16.2.3 Cleared all dues to the Institute, library and hostel.
 - 16.2.4 No disciplinary action is pending against her or him.
 - 8.9.5 Satisfied any other stipulation of the affiliating University.
- 16.3 Award of Class: Each student will be given class in degree based on CGPA as given in Table 3.

Table 3 Class of Degree

Class of Degree	Range of CGPA
Second Class	≥ 5.5 but < 6.5
First Class	≥ 6.5 but < 7.5
First Class with Distinction	≥ 7.5

16.4 Consolidated Grade Card and Degree will issued under the seal of affiliating University

17.0 Transitory Regulations

17.1 A student who initially joins the Institute in a previous Regulation and has to re-join in any semester of the present Regulations, due to any reason, shall be bound by the rules of the current Regulations. Board of Studies of the concerned Major will specify, extra or otherwise, academic coursework to be undertaken by such students who re-join the current Regulations

Rules for Disciplinary Action for Malpractice / Improper Conduct in Examinations

S. No	Nature of Malpractice/Improper conduct	Punishment
1.	Possesses or keeps accessible, any paper, note book, programmable calculators, Cell phones, pager, palm computers or any other form of material concerned with or related to the subject of the examination (theory or practical) in examination hall in which he is appearing but has not made use of (material shall include any marks on the body of the student which can be used as an aid in the subject of the examination)	Expulsion from the examination hall and cancellation of the performance only in that subject.
2.	Uses objectionable, abusive or offensive language in the answer paper or in letters to the examiners or writes to the examiner requesting him to award pass marks.	Cancellation of the performance in that subject.
3.	Copying detected on the basis of internal evidence, such as, during valuation or during special scrutiny.	Cancellation of the performance in that subject.
4.	Gives / receives assistance or guidance from any other student orally or by communicating body language.	Expulsion of both from the examination hall and cancellation of the performance only in that subject.

5.	Has copied in the examination hall from any paper, book, programmable calculators, palm computers or any other form of material relevant to the subject of the examination (theory or practical) in which the student is appearing.	If copied material is related to the concerned subject and if that material is related to question paper then expulsion from the examination hall and cancellation of the performance in that subject and all other subjects including practical examinations and project work of that semester/year, otherwise expulsion from that subject only.
6.	Enters in a drunken state to the examination hall.	Expulsion from the examination hall and cancellation of performance in all subjects of the semester/year including practical examinations and projectwork.
7.	Smuggles in the Answer book or takes out or arranges to send out the question paper during the examination or answer book during or after the examination	Expulsion from the examination hall and cancellation of performance in all subjects of the semester / year including practical examinations and projectwork.
8.	Any outsider or impersonator found in and or outside the examination hall.	Handing him over to the police and registering a case against him.

