



SRI VENKATESWARA UNIVERSITY

COLLEGE OF ENGINEERING: TIRUPATI

(Autonomous Institute)

M.Tech Degree Programme Academic Rules & Regulations-2023(R- 23) Choice Based Credit System (CBCS)

(Effective for the students admitted into I year from the
Academic Year 2023-2024 and onwards)

Henceforth, these shall be known as **Academic Regulations R-23** and shall be applicable from the batch admitted in the academic year 2023-2024 through the GATE, State level APPGECET and Sponsored on Merit -basis.

1. Preamble

Sri Venkateswara University (SVU) Tirupati offers **Two academic Years (Four Semesters) full-time** Master of Technology (M.Tech.) Degree Programmes with each academic year being divided into two consecutive semesters. Under Choice-Based Credit System (CBCS), **Sri Venkateswara University College of Engineering (SVUCE), Tirupati** offers in different branches of Engineering with different specializations of M.Tech. Degree Programmes. Choice-Based Credit System (CBCS) is a flexible system of learning and provides choice for students to select from the prescribed elective courses. A course defines Overview / description, Course Learning Objectives, Syllabus and Course Outcomes, it comprises of lectures/ tutorials/ Laboratory work/field work/dissertation work/viva/seminars/ assignments/ presentations/ self-study etc. or a combination of some of these. Under the CBCS, the requirement for awarding a degree is prescribed in terms of number of credits to be completed by the students.

The system is a flexible Choice Based Credit System (CBCS) permitting students

- To choose electives from a wide range of elective courses offered by the Departments of the Institute.
- To choose electives from a wide range of courses offered by the on-line platforms like SWAYAM online portal.
- To undergo additional courses of interest.
- To adopt an inter-disciplinary approach in learning.
- To make the best use of expertise of the available faculty.

2. Eligibility for Admissions:

- 2.1 Admission into the Post-Graduate (PG) Programmes shall be made subject to eligibility, qualification and specializations prescribed by the University from time to time, for each specialization under each M.Tech Degree Programme. Minimum qualification for seeking admission into a specialization of M.Tech Degree Programme is B.Tech Degree, with at least 50% marks in aggregate, awarded by Sri Venkateswara University (SVU) in appropriate Branch of Engineering & Technology or any other Degree recognized by Sri Venkateswara University, Tirupati as equivalent.
- 2.2 Admission to the post graduate programme shall be made on the basis of either the merit rank or Percentile obtained by the qualified student in the relevant qualifying GATE Examination/ the merit rank obtained by the qualified student in an entrance test conducted by Andhra Pradesh State Government (APPGECE) for M.Tech. programmes /on the basis of any other exams approved by the University, subject to reservations as laid down by the Government from time to time.
- 2.3 **Programmes of Study:** The Sri Venkateswara University College of Engineering, Tirupati is offered the following Regular M.Tech programmes of study at present.

S.No	Department	M.Tech programme Specialization	Code
1.	Chemical Engineering	Chemical Engineering	CH
2.	Civil Engineering	Geotechnical Engineering	GE
		Structural Engineering	SE
		Environmental Engineering	EE
		Water Resource Engineering	WR
3.	Electrical and Electronics Engineering	Power Systems	PS
4.	Electronics and Communication Engineering	Communication Systems	CM
		Signal Processing	SP
5.	Mechanical Engineering	Industrial Engineering	IE
		Production Engineering	PE
6.	Computer Science & Engineering	Computer Science & Engineering	CS

3. M.Tech. Degree Programme Structure & Duration:

- 3.1 Minimum duration of the ALL M.Tech Programmes in Engineering & Technology of SVU are of Semester pattern, with **Four (04)** Semesters consisting of **Two** academic years, each academic year having **Two**

Semesters and **maximum period to study** the M.Tech Degree Programme is **four academic years**.

- 3.2 The student shall **not take more than four academic years** to fulfill all the academic requirements for the award of M. Tech. degree from the date of commencement of first year first semester, failing which the student shall forfeit the seat in M.Tech. programme.
- 3.3 A '**faculty coordinator**' shall be assigned to for every Programme, who will advise the students about its course structure and curriculum, choice/ option for courses, based on their competence, progress, prerequisites and interest.
- 3.4 Each semester shall consist of **18 weeks**, with a minimum of **90** instructional days per Semester and **04 weeks** for Examinations. However, Number of instruction days may be reduced to 72, when necessary, with an increased number of instruction hours per week per course.
- 3.5 The two-year M.Tech. programme consists of **80** credits and the student has to register for all **80** credits and earn all **80** credits for the award of M.Tech degree. There is **NO** exemption of credits in any case.
- 3.6 **UGC/AICTE** specified definitions/ descriptions are adopted appropriately for various terms and abbreviations used in this PG academic regulations.
- 3.7 **Semester Scheme:** Each Semester shall have 'Continuous Internal Evaluation (CIE)' and 'Semester End Examination (SEE)'. Choice Based Credit System (CBCS) and Credit Based Semester System (CBSS) are taken as 'references' for the present set of Regulations.

1. Instruction

The courses of each specialization of study are classified into Programme Core, Programme Elective, Open Elective, Skill and Audit Courses. It is mandatory for a student to complete successfully all the courses pertaining to his/her of specialization of study.

4.1 Course Classification & Instruction is imparted:

The University has followed in general the guidelines issued by AICTE/UGC.

Each M.Tech degree program will typically consist of the following components:

S.No.	Course Category	Course Description	Credits
1.	MAC-Mandatory Course	This course is intended for knowledge in research methods, paper writing, patenting	3

		methods and requirements..	
2.	PCC-Professional Core Courses	These courses intended knowledge development and enhancement in the chosen discipline of study/Branch of Engineering. These are compulsory courses to be studied by a student in a said specialization of study.	27-32
3.	Mini-Project with Seminar	SeminarbasedoncorecontentsrelatedtoParent Discipline/Department/BranchofEngineering	2
4.	Dissertation	M.Tech. Project or Major Project	26 (10 + 16)
5.	PEC - Professional Elective Courses	Elective courses which are supportive to the specialization of study / related to the parent department/branch of Engineering, intended to (a) to provide extended knowledge in the discipline of study, (b) to provide a broadened scope in the same discipline, (c) to enable an exposure to some other disciplines and (d) to enhance students' proficiency/ skill.	12-15
6.	OEC - Open Elective Courses	Elective courses which include inter-disciplinary courses or courses in an area outside the parent discipline/ department/ branch of Engineering.	3
7.	VAC- Value added Course	This course is meant for increase employability	3
		Total	80

It is mandatory for a student to complete successfully all the courses pertaining to his/her specialization of study.

- (i) **Professional Elective Courses (PECs):** The students have to choose **four** Programme **elective Courses** (PE-I to PE-IV) from the list of professional electives given in the scheme of syllabus. PE-I & PE-II courses shall be included in I Semester, and PE-III & PE-IV Courses shall be included in II Semester. **Programme elective Course -IV** (PE-IV) should be studied through MOOCs in SWAYAM Online Portal.
- (ii) **Open Elective Course (OEC):** The students have to choose **one open elective** in the third semester. Open Elective should be studied through MOOCs in SWAYAM Online Portal.

- (iii) **MOOCs:** Massive Open Online Courses (MOOCs) platform can be utilized for learning the courses with the permission of the Head of the Department concerned.
- (iv) **Industrial/ Research Internship:** A student may undergo **Industrial/ Research Internship** for a period of 4 to 6 weeks, immediately after the completion of I Year II semester. **Industrial/ Research Internship** will be done minimum period of four to six weeks in an Industry in the area of concerned specialization of Engineering. The **Industrial/ Research Internship** should give exposure to the practical aspects of the discipline. In addition, the student may also work on a specified task or project which may be assigned to him/her. The outcome of the internship should be presented in the form of a report.
- (v) A '**faculty Mentor or counsellor**' shall be assigned to a **group of 10-15 students**, who will advise the students about the post graduate programme, its course structure and curriculum, choice/ option for courses, based on their competence, progress, pre-requisites and interest.

4.1 Medium of Instruction: The medium of instruction of the entire M. Tech graduate programme in Engineering & Technology including Examinations and Project Reports will be in **English** only.

4.2 MOOCs (Massive Open Online Courses):

Certain prescribed courses will have to be pursued on On-line platforms. This is recommended to encourage students to tap these resources, get exposure from different premier Institute faculty members, to compete with other students in the country and to prepare them for self-study.

- a). **Open Elective Course** is to be successfully completed on **SWAYAM-NPTEL** online portal of Government of India. It will be reflected in III Semester Marks Memo / Grade Sheet.
- b). Courses offered by the concerned Department as Program Core / Program Elective shall not be opted as an **open elective course**.
- c). A student is free to opt for any course related to (a) Domain Engineering (b) General Engineering and (c) Management, in consultation with his / her Department. It should not be a course offered in I and II Semesters by the Department.
- d). Opted course shall carry 3 credits and of 12 or more weeks of duration. Student has to pursue and acquire a certificate for a MOOC course only from SWAYAM Online Portal of Government of India in order to earn the 3 credits. Attendance will not be monitored for MOOC courses.
- e). A student is free to enrol and complete online courses starting from I Semester to III semester of his / her M.Tech programme.

- f). Online courses on SWAYAM Portal only shall be considered for credit transfer. The student will be awarded the credits given in curriculum only by submission of the certificate. In case, if student does not pass courses registered through SWAYAM Portal, the same or alternative equivalent course may be registered again through SWAYAM-NPTEL Portal in the next semester with the recommendation of SPOC, **SWAYAM-NPTEL** / HOD and shall be passed.
- g). Head of the Department concerned shall make arrangement for collection and consolidation of performance certificates in online courses, in coordination with SPOC, SWAYAM-NPTEL Local Chapter for onward transmission to the Controller of Examinations to take steps to include these courses in Marks Memo / Grade Sheet of concerned semester.

5. Course Code

Each course shall be identified by an alpha-numeric course code, consisting of 2 alphabets followed by three numerals i.e., wwxyz.

ww denotes the department/specialization of the course.

x denotes the semester in which the course is offered.

y denotes a serial number assigned by the course offering department.

z denotes type of course: C- Theory Course, L-Lab, M-Mini Project with seminar

I-industrial/Research internship and D-Dissertation

CE: Civil Engineering	WE: Water resources Engineering
CH: Chemical Engineering	IE: Industrial Engineering
CS: Computer Science & Engineering	PE: Production Engineering
EC: Electronics and Communication Engineering	SP: Signal Processing
EE: Electrical and Electronics Engineering	CM: Communication Systems
ME: Mechanical Engineering	PC: Professional Core Courses
GE: Geotechnical Engineering	PD: Programme Dissertation

SE: Structural Engineering	PL: Professional Elective Courses
EE: Environmental engineering	OE: Open Elective Courses
MP: Mini project	DW: Dissertation work

6. Scheme of Instruction & Syllabus:

- 6.1. The Board of Studies (BoS) of each department, constituted by the University, with experts from academic departments, industry, society, alumni and students with both internal and external members shall formulate the Scheme of Instruction, the detailed syllabus content of the courses and Evaluation of a programme of the specialization concerned.
- 6.2. For every course, course description / overview, Course Learning Objectives, Course Outcomes shall be defined and CO -PO mapping has to be done. While formulating the scheme of instruction, the BoS shall facilitate to offer the prescribed number of credits for the entire program. The syllabi of theory courses shall be organized into five units of equal weightage.

7. Academic Requirements

7.1 Assigning of Credits:

This is the unit by which the course work is measured. Courses are assigned a number of credit hours based on the amount of work required as represented in the course's learning outcomes and student achievements. For each credit hour student should be enrolled in, and expect one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class work for other academic activities such as practical, internships, research or other academic work leading to the award of academic credit hours. It determines the number of hours of instructions required per week. It is a weightage index, used in the computation of Grade Point Average, indicative of the student performance.

1 Hr. Lecture (L) per week - 1 credit

1 Hr. Tutorial (T) per week - 1 credit

1 Hr. Practical (P) per week - 0.5 credits

2 Hours Practical (Lab)/week - 1 credit

2 Hours Seminar or Research/week - 1 credit

7.2. Student Performance - Grading and Grade Points

7.2.1 Letter Grade - Grade Point:

After each course is evaluated for 100 marks, the marks obtained in each course will be converted to a corresponding letter grade as given below, depending on the range in which the marks obtained by the student fall. Letter Grade is an index of the performance of students in a said course. Grade Point is a numerical weight allotted to each letter grade on a 10-point scale.

A letter grade does not indicate any specific percentage of marks secured by the student, but it **indicates only the range of percentage of marks**. A student earns grade point (G) in each course, on the basis of the letter grade secured in that course. The corresponding 'credit points' (CP) are computed by multiplying the grade point with credits for that particular course.

$$\text{Credit points (CP)} = \text{Grade point (G)} \times \text{Credits (C)}.$$

Letter Grade	Range of Marks (Internal + End-Semester)	Grade Point
O (Outstanding)	91 - 100	10
A+ (Excellent)	81 - 90	9
A (Very Good)	71 - 80	8
B+ (Good)	61 - 70	7
B (Above Average)	50 - 60	6
F (Fail)	< 50	0
Ab (Absent)	-	0

7.2.2 Grade Point Average:

Semester Grade Point Average (SGPA): It is a measure of student's performance in a semester.

Cumulative Grade Point Average (CGPA): It is a measure of overall performance of a student over all semesters.

Computation of Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

(i) The Semester Grade Point Average (SGPA) is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student in that semester.

$$SGPA(S_i) = \frac{\sum_{i=1}^N (C_i \times G_i)}{\sum_{i=1}^N C_i}$$

where, C_i is the number of credits of the i th Course and G_i is the grade point scored by the student in the i th course and N is the number of courses in that semester.

(ii) The Cumulative Grade Point Average (CGPA) will be computed in the same manner considering all the courses undergone by a student over all the semesters of a program, i.e.

$$CGPA = \frac{\sum_{i=1}^M (C_i \times S_i)}{\sum_{i=1}^M C_i}$$

where ' S_i ' is the SGPA of the i th semester and C_i is the total number of credits in that semester and M is the number of semester.

(iii) Both SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

(iv) While computing the SGPA/CGPA, the subjects in which the student is awarded Zero grade points will also be included.

(v) As per AICTE regulations, conversion of CGPA into equivalent percentage is **Equivalent Percentage = (CGPA - 0.5) × 10**. It will also be mentioned in the transcripts.

7.3 Eligibility for Award of the M.Tech Degree:

A student shall become eligible for the award of M.Tech degree, if he/she earns **80** credits prescribed for the programme by passing all the core and elective courses along with practical's, mini-project and dissertation work. It is mandatory for a student to complete successfully all the courses pertaining to his/her specialization of study.

- i). Earned the specified credits in all the categories of courses and projects. Successfully acquired the minimum required **80** credits as specified in the curriculum corresponding to the specialization of his/ her study within the stipulated time.
- ii). Secured a **CGPA of ≥ 6.00** passed in all courses put together.
- iii). No dues to the Institute.
- iv). No disciplinary action is pending against him / her.

7.4 Award of Class:

After a student has satisfied the requirements prescribed for the completion of the program and is eligible for the award of M.Tech degree, he/she shall be placed in one of the following:

Class Awarded	CGPA Secured
First Class with Distinction	≥ 8.00
First Class	≥ 6.50 to < 8.00
Second Class	≥ 6.00 to < 6.50

7.4.1 First Class with Distinction: A student who has passed all the courses during the period of study and with a **CGPA of 8.00** and above is considered eligible for the award of First Division with Distinction.

7.4.2 First Class: A student with a **CGPA of 6.50 and above but less than 8.00** is considered eligible for the award of First Division.

7.4.3 Second Class: A student with a **CGPA of 6.00 and above but less than 6.50** is considered eligible for the award of Second Division.

7.5 Consolidated Marks Memo & Provisional Certificate

7.5.1 Marks memo (Grade Sheet) will be issued to the student in every semester. On the rare side of Marks memo Letter Grade - Grade Point table and conversion formula for **SGPA** to percentage should be printed invariably.

7.5.2 Consolidated Marks Memo (CMM) & Provisional Certificate (PC) shall be issued **separately in A4 size** format to the Student after completion of the Programme. On the reverse side of CMM Letter Grade - Grade Point table and conversion formula for CGPA to Marks Conversion should be printed invariably. CGPA shall be converted into percentage marks using the following formula: % marks = (CGPA - 0.5) X 10.

7.6 Academic Calendar

An academic year generally runs from July through June next year and is essentially comprised of two semesters.

7.6.1 The College Council shall approve the schedule of academic activities for an academic year including the dates of registration and End-semester examinations. The number of effective teaching weeks in a semester shall be 15 weeks which includes all Continuous Internal Evaluation (CIE) and additionally two weeks for the Semester End Examinations (SEE).

7.6.2 Academic calendar is approved by the College Academic Council (CAC) in the beginning of each academic year, which also includes the date of the co-curricular and extra-curricular programs.

7.6.3 Both students and faculty are required to strictly adhere to the academic calendar & M.Tech. - Academic Rules and Regulations (R-23) for completion of academic activities including conducting of Technical seminars / Institute Fest etc.

7.7 Exit Policy for One-Year PG Diploma Programme:

The student is permitted to exit with a PG Diploma from Two-Year M.Tech. Programme based on the student's request at the end of first year subjected to passing all the courses in first year and meeting the eligibility requirements for One-year Full time PG Diploma programme. A student shall fulfill the following requirements for the award of the PG Diploma:

a) **Credit Requirements:** Minimum Earned Credit Requirements for the award of Diploma is 46 credits with a CGPA of not less than 6.00.

b) The minimum duration for a student for complying with the Diploma requirement is **ONE academic year from the date of first registration** for his/her first semester.

c) The maximum duration for a student for complying with the PG Diploma requirement is TWO years from the date of first registration of first semester.

d) In case a CGPA of 6.00 or more is achieved within the first year, a **PG Diploma will be awarded** and in case the same is not achieved no PG Diploma will be awarded.

8. Course Registration and Performance:

- 8.1 Every student has to register for the Courses offered by the Department in the beginning of every semester with the total number of credits being limited by considering the permissible weekly contact hours (30 hours/week). MOOC courses are over and above these courses/credits.
- 8.2 In each semester, every student who satisfies the attendance requirements has to register for the Semester End Examination, failing which he/she shall not be allowed to write that Semester End Examination. Any such student who has not registered for the Semester End Examination in a semester shall repeat that Semester End Examination in the next academic year with the written permission of the Principal.
- 8.3 To pass a course in the programme, a student has to secure a minimum of 50% of maximum marks in the Semester End Examination and a minimum Grade of **B** overall (both sessional and semester-end examination marks put together). A student obtaining **Grade F** shall be considered **failed** and shall be required to reappear for the Semester End Examination. A student shall not be allowed to reappear for the Semester End Examination in a course which he/she has already passed that course to improve the score.
- 8.4 A student who has failed in a course shall be allowed to reappear for the Semester End Examination as and when it is conducted in the normal course. The Sessional Marks obtained by the student shall be carried over for declaring the results.
- 8.5 Semester End Examination in any course of a particular regulation shall be conducted two times. Thereafter, the students who failed in that course shall take the Semester End Examination in the equivalent courses of the subsequent regulation, suggested by the Chairman, BoS concerned.

9. Attendance Requirement

- 9.1 A student is required to complete the study of the Programme satisfying the attendance requirements in all the Semesters within twice the prescribed period of study (i.e., a maximum period of four academic years) from the year of admission to become eligible for the award of M.Tech degree, failing which he/she forfeits his/her admission.
- 9.2 A student shall be detained in a Semester if he/she fails to satisfy the attendance requirements given below:
- (i) A student shall attend a minimum of 60% of the maximum hours of instruction taken by the teacher, in each Theory course or Laboratory (Practical) course.
- 9.3 A student shall be eligible to appear for the Semester End Examinations, if the student acquires a minimum of 75% of attendance in aggregate of all the courses put together in that semester - Theory + Tutorial + Practical Courses (excluding the attendance in Skill Oriented Courses). Two periods of attendance for each theory course shall be considered, if the student appears for the mid-term examination of that course. Attendance in Skill Oriented Courses shall not be considered for calculation of attendance requirements. A student who fails to satisfy the attendance requirements specified in clauses 9.2 (i, ii) shall be detained and will have to repeat that Semester in the subsequent academic years with the written permission of the Principal subject to the clause 9.1.
- 9.4 A student shall not be permitted to study any semester more than two times during the entire Programme of study.
- 9.5 A student fulfilling the attendance requirement in the present semester shall not be eligible for readmission into the same semester. However, A student who satisfies the attendance requirements specified in either of the clauses 9.2 (i or ii) in any semester may be permitted to repeat that semester cancelling the previous attendance and sessional marks of that semester with the written permission of the Principal. This facility shall not be extended to any student more than twice during the entire Programme of study provided the stipulation in clause 9.1 is satisfied.

- 9.6 Students who were detained and their registration for that semester shall stand cancelled. They will not be promoted to the next semester. They may seek re-registration for all those courses registered in that semester in which the student is detained, by seeking re-admission into that semester as and when offered; if there are any professional electives, the same may also be re-registered if offered. However, if those electives are not offered in later semesters, then alternate electives may be chosen from the same set of elective courses offered under that category.
- 9.7 A student representing the Institute in approved extracurricular activities such as Sports / Games, Seminar, Workshop, Conference and Interviews arranged through College Training & Placement Cell shall be considered as on-duty, subject to a maximum of five working days in a semester. Prior permission from the concerned Heads of the Department is required for availing on-duty permission. The period of absence, in such cases, will be counted as 'present' for the computation of percentage of attendance at the end of semester.
- 9.8 Re-Admission / Re-Registration for Discontinued Student: A student, who has discontinued the M.Tech. degree programme due to any reason whatsoever, may be considered for '**readmission**' into the same degree programme (with the same specialization) with the academic regulations of the batch into which he gets readmitted, with prior permission from the authorities concerned.
- 9.9 If a student is detained due to shortage of attendance in any semester, he/she may be permitted to re-register for the same semester in the same category (core or elective group) or equivalent course, if the same course is not available, as suggested by the Board of Studies of that department, as and when offered in the subsequent semester(s), with the academic regulations of the batch into which he seeks re-registration, with prior permission from the authorities concerned.
- 9.10 **CLASS COMMITTEE:** Every class of the P.G. Programme will have a Class Committee, constituted by the Head of the Department as follows:
- i). Teachers of all courses of the programme.
 - ii). Faculty in-charge of the P.G. Programme as chairperson.
 - iii). Two students of that class, nominated by the Head of the Department.
- a). The basic responsibilities of the Class Committee are to review periodically the progress of the classes, to discuss problems concerning curriculum and syllabi

and the conduct of the classes. Each Class Committee will communicate its observations / recommendations to the Head of the Department and the Head of the Institution.

- b). The Class Committee is required to meet at least thrice in a semester, once at the beginning of the semester, another time after the end of the semester examinations to finalize the sessional marks / grades, and once in between i.e., after 15 days of First -Sessional examinations are over.

10. LEAVES

- 10.1 Every M.Tech student is entitled to the Casual Leave up to eight (8) days and Medical Leave up to 8 days per semester during every academic year, counted from the date of commencement of the session concerned as prescribed in the academic calendar of the Institute.
- 10.2 Any absence over and above the prescribed type of admissible leave shall entail deduction from the stipend, beside other action as may be decided by the Head of the Department (HOD).
- 10.3 With the permission of the Head of the Department (HOD), Casual Leave up to eight (8) days per semester is permitted, subject to the condition that such leave shall not be allowed for more than 5 days at a time. Casual leave cannot be combined with medical leave.
- 10.4 HOD can sanction a Medical Leave up to 8 days per semester with duly obtaining Medical Certificate from the Sri Venkateswara University Medical Officer.

11. Examination - Evaluation-Distribution and Weightage of Marks

The following academic requirements must be satisfied, in addition to the attendance requirements mentioned in clause no.9. The performance of the candidate in each semester shall be evaluated course-wise, with a maximum of 100 marks per course (theory / practical), based on Internal Evaluation and Semester End Examination.

- 11.1 A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each course, if he/her secures not less than:
- a) 40% of Marks (24 out of 60 marks) in the Semester End Examination; and
 - b) A minimum of 50% of marks in the sum total of CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together; in terms of Letter Grades this implies securing 'B' Grade or above in a course.
- 11.2 A student shall register for all courses for total of 80 credits as specified and listed in the course structure for the chosen specialization, put in the required

attendance and fulfil the academic requirements for securing 80 credits obtaining a minimum of 'B' Grade or above in each course, and all **80** credits securing Cumulative

- 11.3 *Grade Point Average (CGPA) \geq 6.00 and shall pass all the Courses in the curriculum to complete the Post-Graduate Programme successfully.*
- 11.4 *Marks and Letter Grades obtained in all those courses covering the above specified **80** credits alone shall be considered for the calculation of final SGPA / CGPA, which will be indicated in the Marks Memo/ Grade Cards.*
- 11.5 *If a student registers for extra course(s) (in the parent department or other departments/ branches of Engineering) other than those listed courses totalling to **80** credits as specified in the course structure, the performance in extra-course(s) (although evaluated and graded using the same procedure as that of the required **80** credits) will not be considered while calculating the SGPA and CGPA. For such extra-course(s) registered, percentage of marks and Letter Grade alone will be indicated in the Grade Card/Marks Memo, as a performance measure, subject to completion of the attendance and academic requirements as stated in **clauses-9 and 11.1-11.3.***
- 11.6 *When a student is **detained due to shortage of attendance** in any semester, no Grade allotment will be made for that semester. However, he is eligible for re-registration in the subsequent semester(s), as and when next offered, with the academic regulations of the batch into which he is re-registered, by paying the prescribed tuition fees per that semester. The student shall have to secure a fresh set of internal marks and Semester End Examination marks for performance evaluation in that semester courses, and SGPA/CGPA calculations.*
- 11.7 *A student eligible to appear for the Semester End Examination in any course, but absent from it or failed (failing to secure 'B' Grade or above), may reappear for that course at the supplementary examination as and when conducted. In such cases, his Internal Marks assessed earlier for that course will be carried over, and added to the marks secured in the supplementary examination, for the purpose of evaluating his performance in that course.*
- 11.8 **ASSESSMENT OF ACADEMIC PERFORMANCE:** *Evaluation shall be carried out on a continuous basis i.e., through Continuous Internal Evaluation (CIE) and Semester End Examination (SEE). The performance of a student in each semester shall be evaluated course wise (irrespective of credits assigned) with a maximum of 100 marks for theory as well as for practical courses. The distribution shall be 40 marks allotted for CIE (Continuous Internal Evaluation) and 60 marks allotted for SEE (Semester End-Examination).*

11.9 In CIE, for theory courses, during a semester, there shall be two mid-term examinations. Each Mid-Term examination consists of two parts i) **Part - A** for 10 marks, ii) **Part-B** for 30 marks with a total duration of 2 Hours

Mid-Term Examination for 40 marks:

Part-A: Two marks questions 5 No's or one mark questions 10 No's for 10 marks.

Part-B: Descriptive paper for 30 marks.

The descriptive paper shall contain Four **(4) full questions** out of which, the student has to **answer three (3) full questions**, each carrying 10 marks by following Bloom's Revised Taxonomy Levels (L1 - L6). It is mandatory for a student to attend both the Mid-Term examinations in each theory course. The weighted average of the marks secured in two tests is awarded as sessional marks. A weight-age of **0.8** shall be assigned for the better performance of the two tests whereas for the other test it shall be **0.2**. If a student is absent for any of the internal tests for whatsoever reason, the marks awarded for that test shall be zero. The final marks for Mid-Term Examinations are for **40** marks.

11.10 For each theory course, there shall be two Mid-term tests. first Mid-Term examinations in the middle of the Semester on 50% of the course content and second Mid-Term examinations during the last week of instruction on the last 50% of the course syllabus.

11.11 Students are permitted to verify their Mid-Term examination scripts and assignments after valuation. The valuation and verification of answer scripts shall be completed within fifteen days after the conduct of the respective assignment / Mid-Term examinations.

11.12 **Question Paper Setting:**

The Question Paper for each theory course shall be prepared by following Bloom's Revised Taxonomy Levels (L1-L6) for both CIE and SEE Examinations.

(i) Model Question Paper for each theory course shall be as per the format prescribed in 11.11 (ii).

(ii) The Semester End Examinations (SEE), for theory courses, will be conducted for 60 marks consisting of two parts viz. i) **Part-A** for 10 marks, ii) **Part-B** for 50 marks.

a) Part-A is a compulsory question which consists of five (5) sub-questions from all units carrying one from each unit or ten questions from all units carrying two from each unit

b) Part-B consists of five questions (numbered from 2 to 11) carrying 10 marks each. Each of these questions is from each unit and may contain sub-

questions. For each question there will be an "either" "or" choice, which means that there will be two questions from each unit and the student should answer either of the two questions.

- c) The duration of Semester End Examination carrying 60 marks is 3 hours.
- (iii) The question papers shall assess the understanding of the concepts and their applications in solving problems and **at least 50% of the questions shall be numerical**. Further, the question papers of design-oriented courses shall assess the abilities of analyzing and evaluating design alternatives. It shall be conducted after the last working day of the semester covering the entire syllabus prescribed for that course.
- (iv) The question paper for Semester End Examination shall be set by an external paper setter following Bloom's Taxonomy levels. The Chairman, BoS shall recommend a panel comprising at least six external paper setters for each theory course to the Controller of Examinations. The Controller of Examinations shall arrange for setting the question paper by appointing one external paper setter from that panel. The valuation of Semester End Examination answer scripts shall be arranged by the Controller of Examinations as per the University procedure in vogue.

11.13 Revaluation and Grade Improvement: There is no provision for improving the grade. The students can apply for revaluation of answer scripts by remitting the requisite fee. The final mark awarded will be the best of the marks obtained in two valuations. If the difference in marks obtained in revaluation and the original valuation is more than 15% of the maximum marks, it will be sent for third valuation. The final mark will then be the average of the closer of the marks in two valuations obtained and the third valuation. If this average mark is less than the original mark, the original mark will be retained. If 15% of the maximum marks or more marks improvement is there in the revaluation, the fee collected will be refunded to the student.

11.14 Evaluation of Practical Courses: For each practical course, there shall be a Continuous Internal Evaluation (CIE) for a maximum of 40 marks shall be awarded by the teacher concerned based on the continuous assessment of practical work. The Semester End Examination (SEE) of three hours duration carrying 60 marks shall be conducted by two examiners: i) teacher concerned and ii) teacher nominated by the Head of the Department concerned. Out of the 40 marks for continuous internal evaluation (CIE) marks distribution as follows:

a) 10 marks are allocated for attendance of the student to indicate

regularity, punctuality and sincerity in turn to improve student attitude also.

b) 10 marks are allocated for Laboratory Record,

c) 20 marks are awarded for internal practical examination conducted by the laboratory Course teacher concerned.

The Semester End Examination shall be conducted with an external examiner and the laboratory teacher. The external examiner shall be appointed from the cluster / other colleges which will be decided by the examination branch of the University.

In the Semester End Examination (SEE), held for 3 hours, total 60 marks are divided and allocated as shown below:

a) 10 marks for write-up

b) 20 marks for experiment/ program

c) 15 marks for evaluation of results

d) 15 marks for viva-voce on concerned laboratory course.

11.15 **Evaluation of Mini-Project with Seminar:** There shall be Mini Project with Seminar during II semester for internal evaluation of 100 marks. The Student shall carryout the mini-project in consultation with the mini-project supervisor which may include critically reviewing the literature, project implementation and should submit it to the department in the form of a report and shall make oral presentations. For Continuous Evaluation of Mini Project with Seminar, Supervisor will award for **40 marks** using the Rubrics. The Departmental Assessment Committee (DAC) will be formed by the Head of the Department will be consisting of Head of the Department, Mini Project with Seminar supervisor and another senior faculty member of the department. DAC will review the progress of the mini-project during the seminar presentations and Viva-Voce and evaluated for another **60 marks** using the Rubrics, before the Semester End Examinations. Every student is expected to attend all the seminars of all the students of the batch held in the Department during the semester. Due weight-age shall be given to a student's attendance in the overall evaluation of this requirement.

11.16 A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to Mini Project with seminar, if student secures **$\geq 50\%$ marks** (i.e., ≥ 50 out of 100 allotted marks). The student would be treated as failed, if student (i) 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 (ii) secures less than 50% marks in Mini Project with seminar evaluation.

The failed student shall reappear for the above evaluation as and when it is scheduled.

11.17 The Student, in each Course, shall have to earn 40% of marks (i.e. 16 marks out of 40 marks) in CIE, 40% of marks (i.e. 24 marks out of 60) in SEE, and Overall a minimum of 50% of marks (i.e. 50 marks out of 100 marks) in the sum total of both CIE and SEE marks put together, in terms of Letter Grades this implies securing 'B' Grade or above in a course.

11.18 **Industrial/ Research Internship** may be **full-time or part-time**; if it is full-time in the summer vacation and part-time during the academic session. Curriculum shall be flexible to adjust duration of an internship.

11.19 Evaluation of the Industrial/ Research Internship shall be through the Departmental Assessment Committee (DAC) constituted by the Head of the Department. A student will be required to submit an internship report to the concerned department and appear for an oral presentation before the departmental Assessment Committee (DAC). The weight ages shall be: Project Log Book - 20%, Project Implementation -30%, Project Report -25%, and Oral Presentation - 25%. Completion of Summer Industrial/ Research Internship is mandatory, if any student fails to complete an internship, he/she will not be eligible for the award of degree. In such cases, the student shall repeat and complete the internship.

12. Evaluation of Project Work / Thesis/ Dissertation Work

12.1 The Project Work / Thesis/ Dissertation shall be carried out under the Supervision of a qualified Teacher in the concerned Department.

12.2 Normally, the dissertation work shall be carried out at Sri Venkateswara University College of Engineering (SVUCE), Tirupati. However, it can also be carried out in any of the recognized Educational Institutions/ National

Laboratories/ Research Institutions/ Industrial Organizations/ Service Organizations/ Government Organizations with the prior permission from the guide and Head of the Department concerned. The dissertation work shall be evaluated for a total of **28 (12+16)** credits.

- 12.3 A student shall be instructed to meet the Supervisor regularly and to attend the review committee meetings for evaluating the progress of Project Work / Thesis/ Dissertation.
- a). Every candidate shall be required to submit a dissertation on a topic approved by the Dissertation Review Committee.
 - b). A Dissertation Review Committee (DRC) shall be constituted with the Head of the Department as Chairperson, Dissertation Supervisor and Chairman, BoS (PG) of the Department offering the M.Tech programme.
- 12.4 **Phase - I deliverables:** A document report comprising of summary of literature survey, detailed objectives, project specifications, paper and/or computer aided design, proof of concept/functionality, part results, A record of continuous progress.
- 12.5 **Phase - I evaluation:** A Dissertation Review Committee (DRC) of respective specialization shall assess the progress/performance of the student based on report, presentation and Questions& Answers. In case of unsatisfactory performance, committee may recommend repeating the Phase-I work.
- 12.6 The Project Work / Thesis/ Dissertation Phase-II shall be pursued during the final semester, following preliminary work carried in Dissertation Phase-I during the previous semester.
- 12.7 During phase - II, student is expected to exert on design, development and testing of the proposed work as per the schedule. Accomplished results/ contributions/ innovations should be published in terms of research papers in reputed journals and conferences OR IP/Patents.
- 12.8 **Phase - II deliverables:** A dissertation report as per the specified format, developed system in the form of hardware and/or software, a record of continuous progress.
- 12.9 The deadline for final submission of Project Report / Thesis/ Dissertation Phase-II is **within a month (i.e., 30 Calendar days) from the last working day** of the final semester.
- 12.10 Student has to submit the Project Report / Thesis/ Dissertation on or before the last the last working day of IV semester. If the student fails, the student has to pay Rs 1000/- fine up to 3 months. Further if student fails the penalty will be doubled up to the end of completion of course period.
- 12.11 An open pre-submission seminar shall be given by the student at least three weeks ahead of the completion of the programme and submit the dissertation work. Head

of the Department shall constitute a committee comprising of the Chairman, BoS (PG), HoD and Supervisor and convenes its meeting to evaluate the open pre-submission seminar. If the open pre-submission seminar delivered by a student is not satisfactory, another seminar shall be scheduled within two weeks.

12.12 Before submission of the dissertation work, the student should publish one paper in journal or present a paper in Conference proceedings.

12.13 A student shall submit his / her dissertation work duly certified by the Supervisor and HoD, after successfully completing all the requisite credits pertaining to theory, practical and mini-project etc. As soon as a student submits his/her dissertation, Principal shall appoint an External Examiner from among the panel of examiners recommended by the Chairman, BoS (PG) for evaluating the dissertation work.

12.14 **Phase - II evaluation:** Head of the Department in consultation with the Supervisor and External Examiner shall schedule the viva-voce Examination of dissertation work and shall assess the progress/performance of the student based on report, presentation and Questions& Answers, then send the evaluation report to the Controller of Examinations. In case of unsatisfactory performance, committee may recommend for extension or repeating the work.

12.15 The evaluation of the dissertation work and the marks allotted are as indicated in the Table below:

Evaluation of	Evaluation Committee	Marks
Dissertation (Phase-I) (in III Semester)		
i) Continuous Evaluation	Supervisor	40
ii) Review Meeting After 6-8 weeks	The committee with Head of the Department as Chairman, Chairman, BoS (PG) and Supervisor as members.	20
iii) Review Meeting (Seminar & Evaluation at the end of III Semester)	The committee with Head of the Department as Chairman, Chairman, BoS (PG) and Supervisor as members.	40
Dissertation (Phase-II) (in IV Semester)		
i) Continuous evaluation	Supervisor	40
ii) Review Meeting (An open pre-submission Seminar) (Evaluation before end of IV Semester)	The committee with Head of the Department as Chairman, Chairman, BoS (PG) and Supervisor as members.	20
iii) Semester End	The committee comprising of External	40

Examination (An open seminar followed by a Viva-voce)	Examiner, HoD and Supervisor wherein the HOD shall be the Chairman of the Committee.	
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13. Withholding of Results

If the student is involved in indiscipline/malpractices/court cases, the result of the student will be withheld.

14. Ranks & Awards

- a). Ranks shall be awarded in each branch of study on the basis of Cumulative Grade Point Average (CGPA) for the top one student.
- b). The students who have become eligible for the award of the degree by passing regularly for all the Semesters without any backlogs shall only be considered for the award of ranks.
- c). Award of prizes, scholarships and other honours shall be according to the rank secured by the student and in conformity with the desire of the Donor.

15. Transitory Regulations

- (a). Discontinued or detained candidates are eligible for re-admission as and when next offered. The re-admitted candidate will be governed by the rules & regulations under which the candidate has been admitted.
- (b). End Semester Examinations under the regulations that precede immediately the revised regulations shall be conducted two times after the conduct of last regular examination under those regulations.
- (c). The students who satisfy the attendance requirements under the regulations that precede immediately the revised regulations, but do not pass the courses shall appear for the End Semester Examination in equivalent courses under the revised regulations as recommended by the BoS (PG) concerned.
- (d). (i) In case of transferred students from other Universities, credits shall be transferred through Academic Bank of Credits (ABC) to SVUCE as per the academic regulations and course structure of SVUCE.
(ii) In addition, the transferred candidates have to pass the failed courses at the earlier Institute in the examinations conducted by the SVUCE with already obtained internal/sessional marks.

16. Grievance Redressal Committee (GRC)

The Principal shall constitute a Grievance Redressal Committee at College Level and at department levels also as per the AICTE F.No.: I-101 /DPG/ AICTE/Regulation/2019, Dated: 07th February, 2019 and University Grants Commission (Redress of Grievances of Students) Regulations, 2019, F.No. 14-4/2012(CPP-II), Dated: 06th May, 2019.

On receipt of an online grievance / complaint, the institution will refer the complaint to the appropriate Student Grievance Redressal Committee i.e., either Collegiate Student Grievance Redressal Committee (CSGRC) or Departmental Student Grievance Redressal Committee (DSGRC), to address the **grievance / complaint of a student /parent within 15 days of receipt of complaint** on either online or off-line. The committee Chairperson will receive the grievances from the students, and places them before the committee for its consideration. The committee shall submit its redressal recommendations to the Principal for his /her consideration and an immediate appropriate action in this regard.

17. Gap Year

- (i) Gap year(s) shall be availed by the student himself/herself who wants to pursue entrepreneurship by taking a break of **one year** at any time after completing I year of study. A Department Research committee (DRC) shall evaluate the proposal submitted by the student and to decide on permitting the student to avail the Gap Year. Students shall be permitted to re-join the succeeding year from the date of commencement of class work and shall be under the academic regulations in force at that time.
- (ii) Gap year may be extended by another year (i.e. a total of two years) and shall not be counted for counting of the maximum period of four academic years for the completion of the programme.

18. Temporary Withdrawal

- 18.1 A student who has been admitted to an M.Tech. program of the institute may be permitted to withdraw temporarily for a period of one semester or more from the Institute on grounds of prolonged illness/ acute problem in the family, which compelled him/her to stay at home, provided that:
- (a) He/she applies to the Institute through Head of the department within 15 days of the commencement of the semester or from the last date of attending the classes, whichever is later, stating fully the reasons for such withdrawal together with supporting documents and endorsement of the parent/guardian.
 - (b) The institute is satisfied that, inclusive of the period of withdrawal, the student is likely to complete all the requirements for the degree within the time limits specified.
 - (c) There are no outstanding dues against him/her or demands from him/her in the Institute/ Department/ Hostel / Library etc.
- 18.2 A student who has been granted temporary withdrawal from the institute has to pay tuition fee and other fees for the current semester when the student re-joins the program.
- 18.3 A student shall be granted only once such temporary withdrawal during his/her tenure. A student, who wishes to join the job, after successful completion of the

entire course work, may be permitted to pursue dissertation on part-time basis provided:

- i). Sufficient facilities are available in the organization where he/she is working.
- ii). There is a competent supervisor in the organization
- iii). The minimum period for submission of dissertation work shall be double the amount of the balance period.
- iv). The dissertation of such a part-time student shall be under the guidance of two supervisors, one from the organization and the other from the Institute.
- v). If the student at the time of joining the job has completed substantial part of his/ her dissertation work (Part-B) such student may be permitted to submit his/ her thesis along with the regular students. There is no need for co-supervisor from his/ her organization.

19. Student Appraisal

It is mandatory for every student to submit **the feedback on each and every course**, he/she has undergone, at the end of every semester within the due date. At the end of IV semester, **exit feedback is also to be submitted**. Results will be withheld for those students who have not submitted the feedback within the due date.

20. Amendment to Regulations

Sri Venkateswara University, Tirupati reserves the right to amend the regulations at any time in future without any notice. Further, the interpretation of any of the clauses of the regulations entirely rests with the highest authority of the Institute / University.
