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ACADEMIC REGULATIONS
&
COURSE STRUCTURE

B.TECH. FOUR YEAR DEGREE COURSE
(Applicable for the batches admitted from 2014-15)

SWARNANDHRA COLLEGE OF ENGINEERING & TECHNOLOGY
Seetharampuram, Narsapur – 534 280, W.G.Dt.
Andhra Pradesh

1. **INTRODUCTION**

   Academic Programmes of the institute are governed by rules and regulations approved by the Academic Council, which is the highest Academic body of the Institute. These academic rules and regulations are applicable to the students admitted during the academic year 2014-15 into first year of four year undergraduate programme offered by the college leading to Bachelor of Technology (B.Tech) degree in the disciplines viz., Computer Science and Engineering, Electronics and Communication Engineering, Electrical and Electronics Engineering, Information Technology, Mechanical Engineering & Civil Engineering.

   - **EXTENT:** All the rules and regulations, specified herein after will be read as a whole for the purpose of interpretation and when a doubt arises, the interpretation of the Chairman, Academic Council, Swarnandhra College of Engineering & Technology (Autonomous) is the final. As per the requirements of the Statutory Bodies, Principal, Swarnandhra College of Engineering & Technology (Autonomous), will be the Chairman of the College Academic Council.

2. **ADMISSIONS:**

   2.1. **Admission into first year of any Four Year B.Tech Programmes of study in Engineering:** Admissions into first year of B.Tech Programme of Swarnandhra College of Engineering & Technology (**Subsequently referred to as SCET**) will be as per the norms stipulated by Jawaharlal Nehru Technological University Kakinada & Govt. of Andhra Pradesh. Admissions in each programme in the Institution are classified into **CATEGORY - A** (70% of intake) through convener, EAMCET and **CATEGORY- B** (30% of intake) filled by the college management.

   2.2. **Admission into the Second year (Lateral Entry) of any Four year B.Tech Programme of study in Engineering:** The candidates should have passed the qualifying exam. (B.Sc. graduation & Diploma holders) for admission into the 3rd semester directly, based on the rank secured by the candidate at Engineering Common Entrance Test [ECET for (FDH)] in accordance with the instructions received from the Convener, ECET and Government of Andhra Pradesh.

   The candidate has to satisfy the other eligibility requirements stipulated by the JNT University Kakinada and / or the Government of Andhra Pradesh from time to time.

   2.3. **Admissions with advance standing:** These may arise in the following cases:
   a) When a student seeks transfer from other colleges to SCET and disireous to pursue the study at SCET in an eligible branch of study.
   b) When students of SCET get transferred from one regulation to another regulation or from previous syllabus to revised syllabus.
   c) When a student after long discontinuity rejoins the college to complete his/her Programme of study for the award of degree.
   d) When a student is not able to pursue his/her existing Programme of study but wishes to

get transferred to another Programme of study.

These admissions may be permitted by the Academic Council of SCET as per the norms stipulated by the statutory bodies and Govt. of Andhra Pradesh. In all such cases for admission, when needed, permissions from the statutory bodies are to be obtained and the Programme of study at SCET will be governed by the transitory regulations.

3. **PROGRAMMES OFFERED (UNDER GRADUATE)**

Presently, the college is offering Under Graduate Programmes in the following disciplines:
- Computer Science and Engineering (CSE)
- Electronics and communication Engineering (ECE)
- Electrical and Electronics Engineering (EEE)
- Information Technology (IT)
- Mechanical Engineering (ME)
- Civil Engineering (CE)

3.1 Structure of the Programme:

Each Programme of a Discipline or branch of study will consist of:

i). General core courses in Basic Sciences, Engineering & Technology, Humanities, Mathematics and Management.

ii). Interdisciplinary courses in Engineering, to impart the fundamentals of Engineering.

iii). Compulsory core courses to impart broad based knowledge needed in the concerned branch of study.

iv). Elective courses from either the discipline or interdisciplinary areas / industry related opted by the student based on his/her interest in specialization.

v). Seminars, Technical Paper, Comprehensive Viva-Voce, Mini Project and Major Project approved by the Department to be submitted in the course of study.

Each Programme of study will be designed to have 40-45 theory courses and 16-18 laboratory courses. The distribution and types of courses offered from the above is indicated in the following table.

General Core courses	25-30%
Interdisciplinary courses in engineering	15-20%
Compulsory Core courses in the branch of study	45-50%
Elective Courses	5-10%

Note: All components prescribed in the curriculum of any Programme of study will be conducted and evaluated.

Contact hours: Depending on the complexity and volume of the course the number of contact hours per week will be determined (4 to 6 hours per week per course).

Credits: Credits are assigned to each course as per norms mentioned in the following table.

Subject	Credits
Theory Course	03
Laboratory Course	02
Seminar/ Technical Paper	02
Soft Skills / Aptitude Lab	01
Comprehensive Viva	02
Mini Project	02
Major Project	06

3.2 Curriculum for each Programme of study:

o The Four year curriculum of any B.Tech Programme of study in any branch of Engineering is formulated based on the guidelines mentioned in 3.1 and will be recommended by the concerned Board of Studies and is approved by the Academic council of the college.

o In case of students admitted under lateral entry, the respective regular curriculum contents from 3rd semester onwards are to be pursued by them.

o In case of students admitted under advanced standing, the Programme of curriculum will be prepared by the concerned Board of Studies and the Academic Council has to approve the same.

o After approval from the Academic Council, Programme of curriculum for the same will be prepared and made available to all the students along with the academic regulations.

3.3 Maximum duration of study and cancellation of admission:

Maximum duration permitted for any student to successfully complete the four year B.Tech. Programme of study will be:

• Eight academic years in sequence from the year of admission for a normal student admitted into first year of any Programme.

• Six academic years in sequence from the year of admission for a Lateral entry student admitted into second year of any Programme.

• For students admitted with advanced standing, the maximum time for completion of Programme of study, will be twice the period in terms of academic years in sequence, stipulated in the Programme curriculum defined at the time of admission.

In case, any student fails to meet the above applicable/eligible conditions for the award of degree, his/her admission stands cancelled.

4. **DURATION OF THE PROGRAMME AND MEDIUM OF INSTRUCTION:** The duration of the B.Tech. Programme is four academic years consisting of eight semesters. The medium of instruction and examinations is in English. Students, who fail to fulfill all the academic requirements for the award of

the degree within minimum of eight academic years, will forfeit their admission in B.Tech course.

5. **MINIMUM INSTRUCTION DAYS:** Each semester will consist of 22 weeks duration with minimum of 110 working days which includes instruction, Mid examinations and Final examinations. The no. of contact periods per week are 42 to 48.

6. **TRANSITORY REGULATIONS:**

   For students admitted under advance standing, these transitory regulations will provide the modus of operandi. At the time of such admission, based on the Programme pursued (case by case)

   - Equivalent courses completed by the student are established by the BOS of concerned discipline.

   - Marks/Credits are transferred for all such equivalent courses and treated as successfully completed in the Programme of study prescribed by SCET.

   - A Programme chart of residual courses not completed will be derived and a Programme of study with duration specified will be prescribed for pursuit at SCET.

   - Marks obtained in the previous system, as the case maybe, are converted to grades and CGPA is calculated.

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

7. **DISTRIBUTION AND WEIGHTAGE OF MARKS:**

   (i) In each semester the course of study consists of 5/6 theory subjects + 2/3 laboratories. However, in the 8th semester there will be only 3 theory subjects in addition to the major project work and comprehensive viva-voce.

   (ii) The performance of a student in each semester will be evaluated subject wise with a maximum of 100 marks for theory and 75 marks for practical subject. In addition Seminars, Technical Paper and Mini Project are also evaluated. Mini Project, Technical paper and Seminar are for 50 marks. Main Project during 8th Semester is for 200 marks.

   (iii) **Seminar/Technical Paper:** The Seminar/Technical paper has two components of study one from the topics of current study (course work) and the other component is suggested by the staff advisor, like reproduction of the concept in any standard research paper or an extension of concept from earlier course work. A hard copy of the information on Seminar/Technical paper topic in the form of a report is to be submitted for evaluation along with presentation. The two components of the Seminar/Technical paper are evaluated for 50 marks each in the semester. The average of the two components shall be taken as the final score. A minimum of 50% of maximum marks shall be obtained to earn the corresponding credits.

   (iv) **Mini Project:** The mini project shall be carried out during the summer vacation for a

minimum of 4 weeks after the 6th semester and is to be completed before the start of the 7th Semester. A report has to be submitted at the beginning of the 7th semester for assessment by an internal evaluation committee comprising Head of the Department and two faculty of the department including the project Supervisor for 50 Marks. A minimum of 50% of maximum marks shall be obtained to earn the corresponding credits.

(v) For each theory subject the distribution will be 30 marks for internal evaluation and 70 marks for the end semester examination. The internal evaluation of 30 marks consists of descriptive test for 20 marks and objective test for 10 marks.

(vi) As part of internal assessment for each theory subject there will be 3 cycles of examinations. Each cycle consists of one descriptive test and one objective test which will be conducted after completion of two units of syllabus. **Weighted average of three cycle's** performance will be considered for award of internal assessment. A weight age of 50% for the first best cycle performance, 35% for second best cycle performance and reaming 15% for the third cycle performance are given for internal evaluation.

(vii) The **descriptive** examination consists of 4 questions and three questions need to be answered in 90 minutes. The **objective** examination consists of 20 multiple choice questions and all are to be answered in 20 min of duration.

(viii) The **end semester** examination will be conducted for 70 marks covering the total syllabus of concerned subjects. In end semester examination pattern, Part – A consists of a compulsory question from all units (Brainstorming/Thought provoking/Case study) for 22 marks. Part – B has 6 questions (one question from each unit) of which **three** questions are to be answered and valued for 48 marks.

(ix) End practical examination will be conducted for 50 marks by the teacher concerned and external examiner. For practical subjects there will be continuous assessment during the semester for 25 internal marks with 15 marks for day-to-day work, including record valuation and 10 marks for two internal tests (80% for first best, 20% for second).

(x) For the subjects of design and / or drawing (such as Engineering Drawing, Machine Drawing etc.) and estimation, the distribution will be for 30 marks as internal evaluation with 10 marks for day-to-day work, 20 marks for three Internal tests (50% for first best, 35% for second best and 15% for third). End examination will be conducted for 70 marks.

(xi) **Main Project:** The project work to be carried out by the students during 8th semester is evaluated for Internal assessment and External Examination.

a) Internal Assessment: Internal Assessment will be carried out by Project internal assessment committee consisting of 1) Head of the Department 2) Supervisor and 3) Senior faculty member appointed by the Principal.

b) External Examination: External Examination will be conducted by Project external examination committee consisting of 1) Head of the Department 2) Supervisor and 3) External Examiner selected from the panel of Examiners.

(xii) Total marks awarded for Project work is 200, of which 60 marks are for Internal Evaluation and 140 marks for External examination through presentation / viva - voice by / of each student. The internal evaluation will be on the basis of two seminars on the topic of the project.

(xiii) The comprehensive viva, evaluated for 50 marks during 8th Semester. The comprehensive viva will be conducted/ evaluated on the topics covering the core aspects of the subjects in which the candidate is likely to be graduated.

8. **ATTENDANCE REGULATIONS AND CONDONATION:**

(i) A student will be eligible to appear for end semester examinations, if he/she acquires a minimum of 75% of attendance in aggregate of all the subjects.

(ii) Condonation for shortage of attendance in aggregate, up to 10% on medical grounds (Above 65% and below 75%) in any semester may be granted by the College Academic Committee. However, the subject of granting condonation is totally at the discretion of the College Academic Committee (CAC).

(iii) The student will not be promoted to the next semester unless he/she satisfies the attendance requirements of the present semester as applicable. They may seek re-admission for that semester, as and when offered next by the Department.

(iv) Shortage of Attendance below 65% in aggregate in no case be condoned

(v) Students with less than 65% of attendance in any semester are not eligible to take up the end examination of that particular semester and their registration for examination will be cancelled.

(vi) A stipulated fee to be paid by the student towards condonation of attendance.

(vii) Attendance may also be condoned for those who participate in Intercollegiate/university sports, co- and extracurricular activities provided their attendance is in the minimum prescribed range for the purpose (>65% and <75%) and recommended by the concerned authority and condonation fees is to be paid.

(viii) A student will be condoned only twice during his entire course of study.

9. **MINIMUM ACADEMIC REQUIREMENTS:**

The following academic requirements have to be satisfied in addition to the attendance requirements mentioned in **S.No.8.**

(i) A student will be deemed to have satisfied the minimum academic requirements and earned the credits allotted to each theory or practical or design or drawing subject or project if he/she secures not less than a minimum of 35% of marks exclusively in the end semester examinations in each of the subjects, for which the candidate had appeared. However, the candidate should have secured a minimum of 40% marks in both external and internal components put together to declare eligible for pass in the subject.

(ii) A student will be promoted from first sem to second sem , second sem to third and third to

fourth sem, if he/she satisfies the minimum attendance requirement.

(iii)   A student will be promoted from 4th Semester to 5th Semester, if he/she fulfills the academic requirements of 50% of the credits up to 4th Semester from all the examinations (Regular and Supplementary) whether or not the candidate takes the examinations.

(iv)   A student will be promoted from 6th to 7th Semester, only if he/she fulfills the academic requirements of 50% of the credits up to 6th Semester from, all the examinations (Regular and Supply) whether or not the candidate takes the examinations.

(v)   There will be Supplementary examinations along with the Regular semester examinations enabling the students to give a fair chance to appear in the subject if any failed.

(vi)   Student who fails in 8th Semester can re-appear for Advanced Supplementary Examinations soon after the announcement of result.
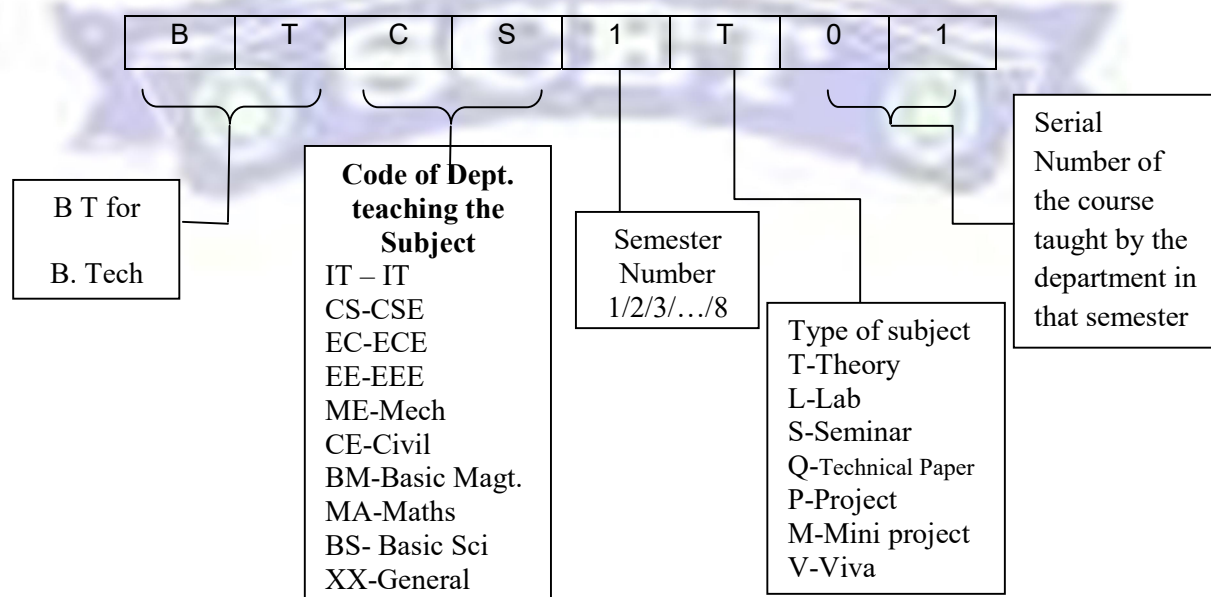
10. ELIGIBILITY FOR AWARD OF DEGREE:

A student shall be eligible for award of the B.Tech. Degree if he/she fulfills all the following conditions:

(i) Pursued a course of study for a stipulated period of four years and not more than eight years from the year of admission.

(ii) Registered and successfully completed all the components prescribed in the programme of study to which he/she is admitted.

(iii) Obtained CGPA greater than or equal to 5 (minimum requirements for pass).

(iv) Has no dues to the institute, hostels, libraries, NCC/NSS etc., and No disciplinary action is pending against him/her

11. COURSE CODE & COURSE NUMBERING SCHEME:

The subject codes will be given by the department teaching the subject. Each subject code contains 8 characters. The 8 characters for each subject will be filled as per the following guidelines.

| B | T | C | S | 1 | T | 0 | 1 |

B T for

B. Tech

Code of Dept. teaching the Subject
IT – IT
CS-CSE
EC-ECE
EE-EEE
ME-Mech
CE-Civil
BM-Basic Magt.
MA-Maths
BS- Basic Sci
XX-General

Semester Number
1/2/3/…/8

Type of subject
T-Theory
L-Lab
S-Seminar
Q-Technical Paper
P-Project
M-Mini project
V-Viva

Serial Number of the course taught by the department in that semester

12. GRADING SYSTEM:

12.1 Award of Grade:

(i) Grade Point Average (GPA):

a) The Grade Point Average (GPA) will be calculated according to the formula.

$$GPA = \frac{\sum C_i G_i}{\sum C_i} \text{-------(1)}$$

Where C_i = number of credits for the subject i

G_i = grade points obtained by the student in the subject.

b) Semester Grade Point Average (SGPA) is awarded to candidates considering all the subjects of the semester. Zero grade points are also included in this computation.

c) To arrive at Cumulative Grade Point Average (CGPA), the formula (2) is used considering the student's performance in all the courses taken in all the semesters completed up to the particular point of time.

$$CGPA = \frac{\sum C_i G_i}{\sum C_i} \text{-------(2)}$$

Where C_i = number of credits for the subject i

G_i = grade points obtained by the student in the subject.

(ii) After a student satisfies the requirements prescribed for the award of UG/PG Program he/she shall be placed in one of the following four grades. The award of the degree is based on CGPA on a grade point scale of 10.

CGPA	Award of Division
≥8.00*	First Class with Distinction
≥7.00	First Division
≥6.00	Second Division
≥5.00	Pass Division
<5.00	Unsatisfactory

* In addition to the required CGPA of 8, the student must have necessarily passed all the courses of every semester in the minimum stipulated period for the programme.

12.2 Award of Grade in Each Semester:

(i) Based on the student performance during a given semester, a final letter grade will be awarded at the end of the semester for each subject. The letter grades and the corresponding grade points are as given in the Table.

Percentage of Marks Scored	Letter Grade	Grade points
>=90	S	10
80 - 89	A	9
70-79	B	8
60-69	C	7
50-59	D	6
40-49	E	5
<40	F	Fail

(ii) A student earns a minimum of 5 grade points (E grade) in a subject is declared to have successfully completed the subject, and is deemed to have earned the credits assigned to that subject. However it should be noted that a pass in any subject/term paper/seminar/project/mini project shall be governed by the rules mentioned in S.No.7.

(iii) Grade Sheet: A grade sheet (memorandum) will be issued to each student indicating his/her performance in all courses taken in that semester and also indicating the grades and SGPA.

(iv) Transcripts: After successful completion of the total programme of study, a Transcript containing performance of all academic years will be issued as a final record. Duplicate transcripts will also be issued up to any point of study to any student on request and by paying the stipulated fee in force.

(v) Candidates shall be permitted to apply for recounting/revaluation within the stipulated period with payment of prescribed fee.

(vi) The Academic Council has to approve and recommend to the JNTUK, Kakinada for the award of a degree to any student.

13. **SUPPLEMENTARY EXAMINATIONS:** In addition to the Regular Final Examinations held at the end of each semester, Supplementary Final Examinations will be conducted during the academic year. A student can appear for any number of supplementary examinations till he/she clears all courses which he/she could not clear in the first attempt. However the maximum stipulated period cannot be relaxed under any circumstance.

14. **ADVANCED SUPPLEMENTARY EXAMINATIONS:** Candidate who fails in the subjects of 8th Semester can appear for Advanced Supplementary Examinations soon after the announcement of result.

15. **ACADEMIC REGULATIONS FOR B.TECH (LATERAL ENTRY SCHEME):**

(i) The students have to acquire 132 credits from 3rd Semester to 8th Semester of B.Tech Programme (regular) for the award of the degree.

(ii) Students, who fails to fulfill the requirement for the award of the degree in 6 consecutive academic years from the year of admission, shall forfeit their seat.

(iii) The same attendance regulations are to be adopted as per the rules mentioned in item No.8.

(iv) **Rules for Promotion in to Next Higher Class:** (6th Semester to 7th Semester): A student shall be promoted from 6th Semester to 7th Semester only if he/she fulfills the academic requirements of 50% credits up to 6th Semester.

16. CONDUCT AND DISCIPLINE:

(a) Students shall conduct themselves within and outside the premises of the institute in a manner befitting to be the student of our institution.

(b) As per the order of Honorable Supreme Court of India, ragging in any form is considered as a criminal offence and is strictly banned. Any form of ragging will be severely dealt with.

(c) The following acts of omission and/or commission shall constitute gross violation of the code of conduct and are liable to invoke disciplinary measures with regard to ragging.

   (i) Lack of courtesy and decorum inducement behavior anywhere within or outside the campus.

   (ii) Willful damage or distribution of alcoholic drinks or any kind of narcotics or of fellow students/citizens.

(d) Possession, consumption or distribution of alcoholic drinks or any kind of narcotics or hallucinogenic drugs.

(e) Mutilation or unauthorized possession of library books.

(f) Noisy and unseemly behavior, disturbing studies of fellow students.

(g) Hacking in computer systems (such as entering into other person's areas without prior permission, manipulation and/or damage of computer hardware and software or any other cybercrime etc).

(h) Usage of cells phones and cameras in the class room/campus.

(i) Plagiarism of any nature in any academic report of submission.

(j) Any other act of gross indiscipline as decided by the academic council from time to me.

(k) Commensurate with the gravity of offense, the punishment may be reprimand, fine, expulsion from the institute / hostel, debarment from examination, disallowing the use of certain facilities of the institute, suspension for a specified period or even outright expulsion from the institute, or even handing over the case to appropriate law enforcement authorizes or the judiciary, as required by the circumstances.

(l) For an offence committed in (i) a hostel (ii) a department or in a class room and (iii) elsewhere, the chief Warden, the Head of the Department and the principal respectively, shall have the authority to reprimand or impose fine.

(m) Cases of adoption of unfair means and/or any malpractice in an examination shall be reported to the principal for taking appropriate action.

(n) All cases of serious offence, possible requiring punishment other than reprimand, shall be reported to the Academic council.

(o) The Institute Level Standing Disciplinary Action Committee constituted by the academic council, shall be the authority to investigate the details of the offence, and recommend

disciplinary action based on the nature and extent of the offence committed.

(p) The Principal shall deal with any academic problem, which is not covered under these rules and regulations, in consultation with the Programmes Committee in an appropriate manner, and subsequently such action shall be placed before the academic council for ratification, Any emergency modification of regulation, approved by the academic council earlier, shall be reported to the academic council for ratification.

(q) **"Grievance and Redressal Committee" (General)** constituted by the principal shall deal with all grievances pertaining to the academic / administrative/disciplinary matters.

(r) All the students must abide by the code and conduct rules of the college.

17. <u>**MALPRACTICES**</u>: The Principal shall refer the cases of malpractices in internal assessment tests and Semester-End Examinations, to a Malpractice Enquiry Committee, constituted by him/her for the purpose. The principal will take necessary action, against the erring students basing on the recommendations of the committee and shall deal with any academic problem, which is not covered under these rules and regulations, in consultation with the Heads of the Departments in an appropriate manner, and subsequently such actions shall be placed before the academic council for ratification. Any emergency modification of regulation, approved in the Heads of the Departments meetings, shall be reported to the academic council for ratification.

18. <u>**AMENDMENTS TO REGULATIONS**</u>:

The Academic Council of Swarnandhra College of Engineering & Technology (Autonomous) reserves the right to revise, amend or change the Regulations, Schemes of Examinations, and/or Syllabi or any other matter pertained suitable to the needs of the students, society, industry without any notice.