ACADEMIC REGULATIONS
&
COURSE STRUCTURE
ELECTRICAL & ELECTRONICSENGINEERING

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

SWARNANDHRA
COLLEGE OF ENGINEERING AND TECHNOLOGY
SEETHARAMPURAM,NARSAPUR-534280.W.G.DT.,
DEPT. OF ELECTRICAL AND ELECTRONICS ENGINEERING

College Vision: "To provide the society with Center of Learning in Technical Education and Research that motivates the students to evolve into dynamic professionals."

College Mission:

- Providing quality education, student centered teaching Learning process and state of the art infrastructure for professional aspirants hailing from both rural and urban areas.
- Evolving this organization into a center of Academic and Research Excellence.
- Imparting Technical Education that encourages independent thinking, develops strong domain knowledge and positive attitude towards holistic growth of young minds.

Vision of the Department: To be a leader in developing creative and entrepreneurial engineers and thereby, leading the development in Electrical Engineering & Technology of our new Andhra Pradesh state and our country.

Mission of the Department:

- Promoting graduates to discover, disseminate, apply knowledge related to the broad aspects of Electrical Engineering through innovative pedagogic methods centered on Learning-to-Learn (L2L) principles.
- Providing Graduates to develop their skills and seek knowledge after graduation by adopting advanced technology.
- Equipping our students to adapt themselves to global needs while upholding professional ethics and to contribute their might in transforming India into a world leader.
- To be a Center of Excellence in preparing the students in developing research, entrepreneurial and employability capabilities.

PROGRAM EDUCATIONAL OBJECTIVIES:

PEO-1: Preparing the graduates with strong foundation in freshman-ship, discipline major and able to converse effectively their investigation on experiments.

PEO-2: Producing graduates who are creative with an appropriate mastery in analyzes, design, and implementation of modern engineering tool through continuing education.

PEO-3: Instilling graduates capabilities to demonstrate knowledge of the professional and ethical responsibilities incumbent upon the practicing Electrical Engineer as well as, concern towards the society, cultures and environment sustainability.

PEO-4: To produce graduates who are capable to promote research in multidisciplinary environment and encouraging entrepreneurialism towards the sustainable development of new Andhra Pradesh state as well India.

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PROGRAM OUTCOMES

1.Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2.Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3.Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4.Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5.Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

6.The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7.Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8.Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9.Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10.Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11.Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12.Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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:

- 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.
- In case of students admitted under lateral entry, the respective regular curriculum contents from 3rd semester onwards are to be pursued by them.
- 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.
- 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 Seminar, Technical Paper and Mini Project at the end of 7th semester. (Mini Project, Technical paper and Seminar is for 50 marks each Main Project during 8th Sem for 200 marks) are evaluated.

(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 as 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 break for a minimum of 4 weeks after the 6th semester and 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% 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 text for 20 marks and objective text 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 total syllabus of the concerned subjects. In end 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 four questions 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 a 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% of first best + 20% of second).

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

(xi) **Main Project:** The project work 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 Projects 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 member selected from the panel of examiners.

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

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

(xiv)

8. ATTENDANCE REGULATIONS AND CONDONATION:

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

(ii) Condonation of 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 is totally at the discretion of the College Academic Committee.

(iii) A Student will not be promoted to the next semester unless he/she satisfies the attendance requirement of the present semester as applicable. They may seek re-admission for that semester as and when offered consecutively 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 their end examination of that particular semester and their registration for examination will be cancelled.

(vi) A stipulated fee will be payable by the student towards attendance condonation.

(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 ($>65^0$) and recommended by the concerned authority condonation fees in 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 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 4^{th} Semester to 5^{th} Semester, if he/she fulfills the academic requirements of 50% of the credits up to 4^{th} Semester from all the examinations (Regular and supplementary) whether or not the candidate takes the examinations.

(iv) A student will be promoted from 6^{th} to 7^{th} Semester, only if he/she fulfills the academic requirements of 50% of the credits up to 6^{th} 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) Candidate who fails in 8th Semester can 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.

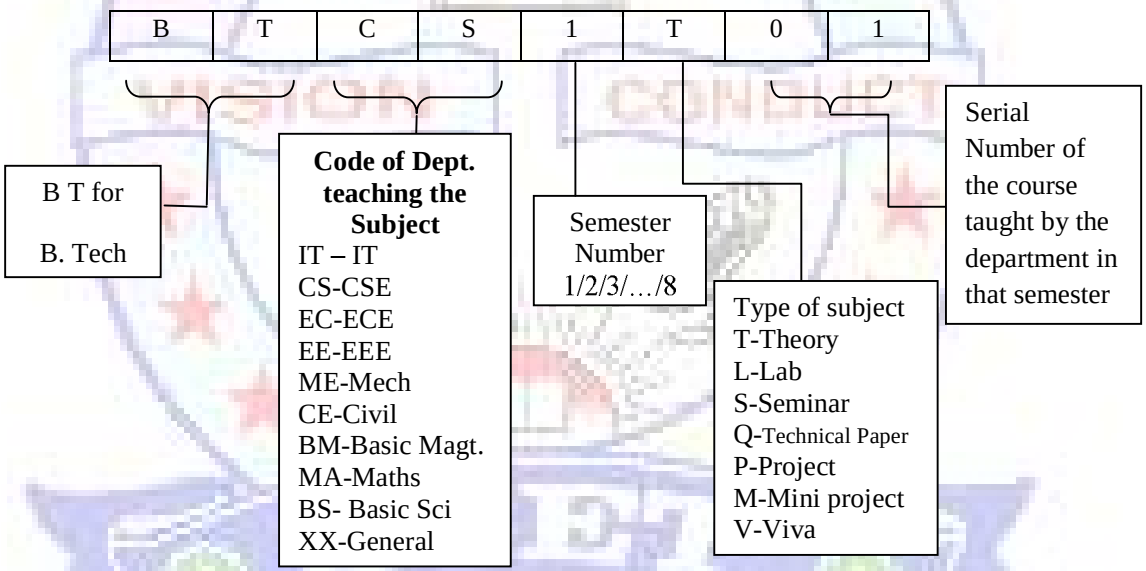
(ii) Registered and successfully completed all the components prescribed in the programme of study to which he/she is admitted.

(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.



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.

$$GPA = \frac{\sum C_i G_i}{\sum C_i}$$

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 is used considering the student's performance in all the courses taken in all the semesters completed up to the particular point of time.

$$CGPA = \frac{\sum C_i G_i}{\sum C_i}$$

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 the subjects in 8^{th} Semester can appear for Advanced Supplementary Examinations.

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

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

(ii) Students, who fail 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:** (6^{th} Semester to 7^{th} Semester): A student shall be promoted from 6^{th} Semester to 7^{th} Semester only if he/she fulfills the academic requirements of 50% credits up to 6^{th} 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. AMENDMENTS TO REGULATIONS:

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.

Semester: I									
S. No	Sub. Code	Subject	L	T	P	C	I	E	TM
THEORY									
1	BTBS1T01	English-I	3	1		3	30	70	100
2	BTMA1T01	Differential Equations	3	1		3	30	70	100
3	BTMA1T02	Numerical Methods & Integral Transforms	3	1		3	30	70	100
4	BTBS1T02	Engineering Chemistry	3	1		3	30	70	100
5	BTBS1T04	Environmental Studies	3	1		3	30	70	100
6	BTCS1T01	C. Programming	3	1		3	30	70	100
PRACTICAL									
7	BTBS1L01	English Communication Skills Lab-I			3	2	25	50	75
8	BTBS1L02	Engineering Chemistry Lab			3	2	25	50	75
9	BTCS1L01	C. Programming Lab			3	2	25	50	75
		Total	**18**	**6**	**9**	**24**	**255**	**570**	**825**

Semester: II									
S. No	Sub. Code	Subject	L	T	P	C	I	E	TM
THEORY									
1	BTBS2T01	English-II	3	1		3	30	70	100
2	BTMA2T01	Linear algebra & Vector Calculus	3	1		3	30	70	100
3	BTEE2T01	Networks & Synthesis	3	1		3	30	70	100
4	BTBS2T03	Engineering Physics	3	1		3	30	70	100
5	BTME2T01	Engineering Drawing	1		3	3	30	70	100
6	BTCS2T01	OOPS through C++	3	1		3	30	70	100
PRACTICAL									
7	BTBS2L01	English Communication Skills Lab-II			3	2	25	50	75
8	BTBS2L03	Engineering Physics lab			3	2	25	50	75
9	BTCS2L01	OOPS through C++ Lab			3	2	25	50	75
		Total	**16**	**5**	**12**	**24**	**255**	**570**	**825**

Semester: III									
S. No	Sub. Code	Subject	L	T	P	C	I	E	TM
THEORY									
1	BTEE3T01	Electrical Circuits	3	1		3	30	70	100
2	BTEE3T02	Electro Magnetic Fields	3	1		3	30	70	100
3	BTEE3T03	Electrical Machines-I	3	1		3	30	70	100
4	BTEC3T01	Electronic Devices and Circuits	3	1		3	30	70	100
5	BTBM3T02	Principles of Economics & Management	3	1		3	30	70	100
6	BTME3T01	Fluid Mechanics & Hydraulic Machinery	3	1		3	30	70	100
PRACTICAL									
7	BTEE3L01	Networks & Simulation Lab			3	2	25	50	75
8	BTME3L01	Fluid Mechanics & Hydraulic Machinery			3	2	25	50	75
9	BTBS3L01	Soft skills /Aptitude Lab-I			2	1	25	--	25
		Total	**18**	**6**	**8**	**23**	**255**	**520**	**775**

Semester: IV									
S. No	Sub. Code	Subject	L	T	P	C	I	E	TM
THEORY									
1	BTEE4T01	Electrical Machines-II	3	1		3	30	70	100
2	BTEE4T02	Control Systems	3	1		3	30	70	100
3	BTEE4T03	Power System-I	3	1		3	30	70	100
4	BTEC4T05	Pulse & Digital circuits	3	1		3	30	70	100
5	BTEC4T06	Switching Theory & Logic Design	3	1		3	30	70	100
6	BTCS4T05	Computer Organization	3	1		3	30	70	100
PRACTICAL									
7	BTEE4L01	Electrical Machines-I Lab			3	2	25	50	75
8	BTEC4L03	Electronic Devices and Circuits lab			3	2	25	50	75
9	BTBS4L01	Soft skills /Aptitude Lab-II			2	1	25		25
		Total	**18**	**6**	**8**	**23**	**255**	**520**	**775**

Semester: V									
S. No	Sub. Code	Subject	L	T	P	C	I	E	TM
THEORY									
1	BTEE5T01	Power system-II	3	1		3	30	70	100
2	BTEE5T02	Power Electronics	3	1		3	30	70	100
3	BTEE5T03	Electrical & Electronics Measurements	3	1		3	30	70	100
4	BTEC5T06	Linear & Digital IC Applications	3	1		3	30	70	100
5	BTEE5T04	High Voltage Engineering	3	1		3	30	70	100
PRACTICAL									
6	BTEE5L01	Electrical Machines-II Lab			3	2	25	50	75
7	BTEE5L02	Control system & Simulation Lab			3	2	25	50	75
8	BTEE5L03	Electrical& Electronics Measurements Lab			3	2	25	50	75
9	BTEE5S01	Seminar-I			2	2	50		50
		Total	**15**	**5**	**11**	**23**	**275**	**500**	**775**

Semester: VI									
S. No	Sub. Code	Subject	L	T	P	C	I	E	TM
THEORY									
1	BTEE6T01	Power system Analysis	3	1		3	30	70	100
2	BTEE6T02	Power Semiconductor Drives	3	1		3	30	70	100
3	BTEE6T04	Utilization of Electrical Energy	3	1		3	30	70	100
4		Elective-I	3	1		3	30	70	100
5	BTEC6T05	Microprocessor & Microcontroller	3	1		3	30	70	100
PRACTICAL									
6	BTEE6L01	Power Electronics& Simulation Lab			3	2	25	50	75
7	BTEC6L02	Microprocessor & Microcontroller Lab			3	2	25	50	75
8	BTEE6L02	Industrial Automation LAB (PLC& SCADA)	1		3	2	25	50	75
9	BTEE6Q01	Technical paper			2	2	50		50
		Total	**16**	**5**	**11**	**23**	**275**	**500**	**775**

Elective-I	
BTEE6TE1	Energy audit , conservation and management
BTEE6TE2	Instrumentation Engineering
BTEE6TE3	Non-Conventional Sources of Energy

Semester: VII									
S. No	Sub. Code	Subject	L	T	P	C	I	E	TM
THEORY									
1	BTEE7T01	Power System Operation & Control	3	1		3	30	70	100
2	BTEE7T02	Electrical Distribution Systems	3	1		3	30	70	100
3	BTEE7T03	Renewable Energy Systems	3	1		3	30	70	100
4	BTEC7T05	Digital Signal Processing	3	1		3	30	70	100
5		Elective-II	3	1		3	30	70	100
PRACTICAL									
6	BTEE7L01	Power Systems Simulation Lab			3	2	25	50	75
7	BTEE7L02	Renewable Energy Systems Lab			3	2	25	50	75
8	BTEE7M01	Mini Project			3	2	50		50
9	BTBM7T01	Professional Ethics & IPR			3	Mandatory			
		Total	**15**	**5**	**12**	**21**	**250**	**450**	**700**

Elective-II	
BTEE7TE1	Special Electrical Machines
BTEC7TE6	Nano science & Technology
BTCS7TE8	Open sources software

Semester: VIII									
S. No	Sub. Code	Subject	L	T	P	C	I	E	TM
THEORY									
1	BTEE8T01	Switch Gear & Protection	3	1		3	30	70	100
2		Elective-III	3	1		3	30	70	100
3		Elective-IV	3	1		3	30	70	100
PRACTICAL									
4	BTEE8P01	Project				6	60	140	200
5	BTEE8V01	Comprehensive Viva				2	50		50
6	BTEE8S01	Seminar				2	50		50
		Total	**9**	**3**		**19**	**250**	**350**	**600**

Elective-III	
BTEE8TE1	FACTS
BTEC8TE3	Embedded Systems
BTCS8TE7	DBMS

Elective-IV	
BTEE8TE2	Electric Power Quality
BTEC8TE2	VLSI Design
BTCS8TE8	OOPS through Java