

RAJEEV GANDHI MEMORIAL COLLEGE OF ENGINEERING AND TECHNOLOGY

**AUTONOMOUS
NANDYAL-518501, KURNOOL DIST., A.P., INDIA**

COMPUTER SCIENCE AND ENGINEERING



ESTD: 1995

B.TECH SYLLABUS 2015

Applicable for students admitted into B.Tech (Regular) from 2015-16

REGULATIONS, COURSE STRUCTURE & DETAILED SYLLABUS

RAJEEV GANDHI MEMORIAL COLLEGE OF ENGINEERING AND TECHNOLOGY

Autonomous

COMPUTER SCIENCE AND ENGINEERING

(Affiliated to J.N.T.U.A, Anantapuramu)

ACADEMIC REGULATIONS, COURSE STRUCTURE AND DETAILED SYLLABI

B.Tech. (Regular) from 2015-16 and B.Tech.(Lateral Entry Scheme) from 2016-17

For pursuing four year Bachelor Degree Program (under graduate) of study in Engineering (B.Tech.), Two year Master (post graduate) Degree of study in Engineering (M.Tech.), Two year Master (post graduate) degree of study in Business Administration (MBA), Three year Master (post graduate) Degree of study in Computer Applications (MCA) offered by Rajeev Gandhi Memorial College of Engineering and Technology, Nandyal - 518501 under Autonomous status and herein referred to as RGM CET (Autonomous):

All the rules specified herein approved by the Academic Council will be in force and applicable to students admitted from the Academic Year 2015-16 onwards. Any reference to "Institute" or "College" in these rules and regulations shall stand for Rajeev Gandhi Memorial College of Engineering and Technology (Autonomous).

All the rules and regulations, specified hereafter shall be read as a whole for the purpose of interpretation. As and when a doubt arises, the interpretation of the Chairman, Academic Council is final. As per the requirements of statutory bodies, the Principal, Rajeev Gandhi Memorial College of Engineering and Technology shall be the Chairman, Academic Council.

The candidate seeking admission into the first year of study of four year B.Tech. degree Program should have:

- i)** Passed either Intermediate Public Examination (IPE) conducted by the Board of Intermediate Education, Andhra Pradesh with Mathematics, Physics and Chemistry as optional subjects (or any equivalent examination certified by Board of Intermediate Examinations) or a Diploma in Engineering in the relevant branch conducted by the Board of Technical Education, Andhra Pradesh (or any equivalent examination certified by State Board of Technical Education) for admission.
- ii)** Secured a rank in the EAMCET examination conducted by AP State Council for Higher Education (APSCHE) for allotment of a seat by the Convener, EAMCET, for admission.

Admission Procedure:

As per the norms of A.P. State Council of Higher Education (APSCHE), Government of Andhra Pradesh, admissions are made to the first year of Four year B.Tech. Degree program as follows:-

- a)** As per the norms of Government of Andhra Pradesh, A-Category (based on the rank obtained in EAMCET) seats will be filled by the Convener, EAMCET.
- b)** As per the norms of Government of Andhra Pradesh, B-Category seats will be filled by the management.

Admission to the Second year of Four year B.Tech. Degree Program in Engineering:

- i)** Candidates qualified in ECET and admitted by the Convener, ECET, in such cases for admission, when needed permission from the statutory bodies is to be obtained.
- ii)** 20% of the sanctioned strength in each program of study (of RGM CET) shall be filled by the Convener, ECET as lateral entry.

Autonomous

COMPUTER SCIENCE AND ENGINEERING

List of Programs offered

1. B.Tech. – Regular (& Lateral Entry)
2. M.Tech. – Regular
3. MBA – Regular
4. MCA – Regular

Academic Regulations for 2015 B. Tech. (Regular)

(Effective for the students admitted into the I year from the Academic Year 2015-2016)

The B.Tech. be conferred by the Jawaharlal Nehru Technological University Anantapur, Anantapuramu students who are admitted to the program and fulfill all the requirements for the award of the Degree as specified below:

1.0 Award of B.Tech. Degree

- 1.1 The student will be declared eligible for the award of the B. Tech. degree if he fulfils the following academic regulations:
- 1.2 Pursued a course of study for not less than prescribed course work duration and not more than double the prescribed course work duration.
- 1.3 Registered for 200 credits and secured a minimum of 194credits with compulsory subjects as listed in Table-1 below.

Table 1: Compulsory Subjects

S. No.	SUBJECT PARTICULARS
1	All the first year subjects
2	All practical subjects
3	All Skill Development Courses/ value added courses
4	Mini project
5	Seminar
6	Comprehensive viva - voce
7	Project work
8.	Extra Academic Activities(EAA)

2.0 Forfeit of seat

Students, who fail to fulfill all the academic requirements for the award of the degree within **eight academic years** from the year of their admission, shall forfeit their seat in B.Tech. course.

3.0 Courses of study

The following courses of study are offered at present as specializations for the B.Tech. Course:

1. Civil Engineering
2. Computer Science and Engineering
3. Electrical and Electronics Engineering
4. Electronics and Communication Engineering
5. Information Technology
6. Mechanical Engineering

RAJEEV GANDHI MEMORIAL COLLEGE OF ENGINEERING AND TECHNOLOGY

Autonomous

COMPUTER SCIENCE AND ENGINEERING

and any other course as approved by the authorities of the University from time to time.

Table 2: Credits

Subject	Semester			
	Periods/ Week	Credits	Internal Marks	External Marks
Theory	3+1*	03	30	70
Practical/Mini project	03	02	25	50
Drawing	03	03	30	70
Skill Development Courses/Value Added Course	1+2*	01**	100 (30 IM + 70 EM)	
EAA (Extra Academic Activities)	02	01	00	00
Seminar		01	50	
Comprehensive Viva-voce		02		50
Project		08	50	100

[*Tutorial

****[Skill Development Courses / value Added Course credits will not be considered for the award of division. However all these courses have to be cleared through internal evaluation by scoring minimum of 40%marks.EAA courses will not have any marks. The credits obtained in Skill development courses and EAA will be taken in to account for the award of degree.]**

4.0 Distribution and Weightage of Marks

- 4.1** The performance of the student in each semester shall be evaluated subject – wise with a maximum of 100 marks for theory and 75 marks for practical subject. In addition, mini-project, comprehensive viva, seminar shall be evaluated for 50 marks each and the project work shall be evaluated for 150 marks.
- 4.2** For theory subjects the distribution shall be 30 marks for Internal Evaluation(25 marks for Internal test and 05 marks for assignments or field work/group task) and 70 marks for the End-Examination.
- 4.3** During the semester there shall be 2 tests for theory subjects. In each Internal test there shall be one compulsory (short answers) question and 3 descriptive questions are to be answered. The duration of internal test will be for 2hours. First test to be conducted in 3 units and second test to be conducted in the remaining 3 units of each subject. For awarding of 25Internal marks the performance of the student in two Internal examinations conducted one in the middle of the semester and the other towards the end of the semester giving a weightage of 0.75 for the better score and 0.25 for the other score will be considered. There shall be two assignments in each subject (problem based/ field work/group task) for award of 05 marks so that internal component (marks) will be 30 marks (25 marks for internal test+05 marks for assignments / field work/group task).

Table 3: Units for Internal Tests

Semester
3 UnitsFirst Internal test.
3 UnitsSecond Internal test.

Autonomous

COMPUTER SCIENCE AND ENGINEERING

- 4.4** In the case of Skill Development Courses, two Internal examinations shall be conducted one in the middle of the semester and the other at the end of the semester for 30 marks and the marks scored by the student in these exams with a weightage of 0.75 for better score and 0.25 for the other score will be awarded as Internal marks for 30. For the remaining 70 marks an end examination will be conducted along with other theory examinations. However skill development courses/Value added courses, end examination will be evaluated internally.
- 4.5** No makeup test for internal examination or assignments/group tasks will be conducted in any subject or practical. The student, who is absent for any test shall be deemed to have scored zero in that test.
- 4.6** Elective subjects will commence from 3rd year second semester onwards. Out of the electives offered in 3-2 semester, one elective will be MOOC/Elective offered by the department. Any student who is interested can opt for the MOOC/ Elective offered by the department and acquires the required credits. Even if the student opts MOOC, he has to write two internal tests besides the end examination conducted by the institute like other subjects. However, he has to obtain the certificate from the organization in which he has registered. Any MOOC selected by the student should be of more than 45 hours duration and also from the reputed organization. Attendance of the student who has opted for MOOC will be taken from the remaining subjects and labs only in that semester while finalizing the attendance for fulfilling the minimum requirements of attendance for promotion to next semester. Attendance will not be recorded for MOOC.
- 4.7** Gap Year – Concept of student Entrepreneur in Residence shall be introduced and outstanding students who wish to pursue entrepreneurship are allowed to take a break of one year at any time after I/II/III year to pursue entrepreneurship full time. This period may be extended to two years at the most and these two years would not be counted for the time for the maximum time for graduation. An evaluation committee shall be constituted with to evaluate the proposal submitted by the student and committee shall decide on permitting the student for having the Gap Year. The committee consists of Principal as Chairman and all HODs as members.
- 4.8** In the electives offered in 4-1 semester, one elective will be open elective offered by the other department (inter - department). Student has to select one subject among the offered list of open elective subjects. Student has to clear the subject as per norms to get the required credits. At least 40 students should register for any open elective; otherwise that open elective will not be offered.
- 4.9** Out of the electives offered in 4-2 semester again one elective will be based on MOOC/ elective offered by the department and the student has to acquire the required credits to clear the subject as specified in 4.9.
- 4.10** The institute would like to offer **Minor as optional feature of the B.Tech. program aimed at providing additional learning opportunities for academically motivated and bright students. In order to earn a Minor, a student has to earn a minimum of 20 extra credits. For this in addition to the regular subjects, a student has to pursue three compulsory**

Autonomous

COMPUTER SCIENCE AND ENGINEERING

subjects from 3-1 semester and two electives (out of six electives offered from 3-2 Semester onwards). The Minor is indicated by separate CGPA and is reflected in the degree certificate as for example, B.Tech in ECE with Minor in Artificial Intelligence. Each department shall offer at least one Minor. The student has to select the subjects which are not studied in their regular course and student should have cleared all the subjects upto and including 2-2 semester with above 60% of marks to become eligible for Minor. The breakup of the credits are 5 subjects which carry 15 credits @3 credits for subject and project work carries 5 credits. The evaluation pattern of subjects and project work will be similar to methods followed in regular course evaluation. No attendance minimum will be considered for Minor. Not more than two subjects are allowed for registration in any semester.

4.11 Extra - Academic Activity (EAA)

Each of the following activities carry one credit and every student is required to register for **two activities** during second year of study which is mandatory.

- a) NSS/NCC
- b) Games and Sports
- c) Yoga/Meditation
- d) Extension Activities
- e) Literary/ Cultural Activities

Any other which may be offered in future

The activities shall be carried out in the allotted hours. The activities will be monitored by the respective faculty in charge, senior faculty member of the department and the HOD. Grades will be awarded on the basis of participation, attendance, performance and behaviour. Grades shall be entered in the marks statement as GOOD, SATISFACTORY and UNSATISFACTORY and shall not be counted towards CGPA calculation. If any student gets an Unsatisfactory Grade, he/she has to repeat the activity in the immediate subsequent year.

5.0 Question Paper Pattern

- 5.1** Each Internal Test question paper shall contain 5 questions, of which the First question is compulsory and three questions are to be answered from the remaining four. Compulsory question carries 10 marks (It contains 5 questions of two marks - no choice in first question). The remaining 3 questions carry 5 marks each. Each question shall have a,b,c.... parts.
- 5.2** The End Examination question paper will have 7 questions and students have to answer 5 questions. However, the first question is compulsory and it consists of 7 short answer questions, each carrying 2 marks. The next 4 questions are to be answered from the remaining 6 questions and each carries 14 marks. Each 14 marks question shall have a, b, c ..parts.
- 5.3** For practical subjects, there shall be a continuous evaluation during the semester for 25 Internal marks and End Examination carries 50 marks. Of the 25 marks for Internal, 20 marks shall be awarded for day-to-day work

Autonomous

COMPUTER SCIENCE AND ENGINEERING

and 5 marks to be awarded by conducting an internal laboratory test. The End Examination shall be conducted by the teacher concerned and an external Examiner from other institutions.

- 5.4** For the subject having design and/or drawing, (such as Engineering Graphics, Machine Drawing etc.) and estimation, the distribution shall be 30 marks for Internal evaluation (15marks for day-to-day work and 5 marks for Internal tests and 10 marks for assignments) and 70 marks for End Examination. There shall be two internal tests in a Semester and the better of the two shall be considered for the award of marks for internal tests.
- 5.5** The Engineering drawing, wherever offered is to be treated as a theory subject. Evaluation method adopted for theory subjects shall be followed here as well.
- 5.6** There shall be mini-Project, in collaboration with an industry(wherever possible) of their specialization, to be taken up during the vacation(data collection, components etc.) after III year II Semester examination and implementation/simulation shall be carried out in IV year first semester during lab classes. Implementation or fabrication/simulation of mini project will be treated as laboratory. However, the mini project and its report shall be evaluated in IV year I Semester. The mini project shall be submitted in report form and should be presented before the committee, which shall be evaluated for 50 marks. The committee consists of an external Examiner, Head of the Department, the supervisor of mini project and a senior faculty member of the Department. There shall be 25 internal marks for mini project which will be awarded based on the performance and involvement of the student during mini project period.
- 5.7** There shall be a seminar presentation in IV year II semester. For the seminar, the student shall collect the information on a specialized topic and prepare a technical report, showing his understanding over the topic, and submit to the Department, which shall be evaluated by the Departmental committee consisting of Head of the Department, seminar supervisor and a senior faculty member of the department. The seminar report shall be evaluated for 50 marks. There shall be no external examination for seminar.
- 5.8** There shall be a comprehensive viva voce examination at the end of IV year II semester for 50 marks which shall be conducted by HOD, senior faculty and external Examiner from other institute.
- 5.9** The project topic should be approved by Internal Department Committee (IDC). Out of total 150 marks for the project work, 50 marks shall be for Internal Evaluation and 100 marks for the End Semester Examination. The evaluation of project work shall be conducted at the end of the IV year II semester. The project viva voce examination will be conducted by the committee consisting of an external Examiner from other institute, Head of the Department and the supervisor of the project. The Internal evaluation for 50 marks shall be on the basis of two seminars given by each student on the topic of the project. The Internal evaluation of the project work for 50 marks shall be conducted by the committee consisting of head of the Department or his nominee, senior faculty member and the supervisor of project.

RAJEEV GANDHI MEMORIAL COLLEGE OF ENGINEERING AND TECHNOLOGY

Autonomous

COMPUTER SCIENCE AND ENGINEERING

5.10 For all practical /mini project/main project/comprehensive viva-voce etc the HOD of the concerned dept shall submit a panel of 4 external examiners from different institutes and one will be selected by the Chief Superintendent of the Examination for conducting of end examination.

Table4: Distribution of weightages for examination and evaluation

Sl. No.	Nature of subject	Marks	Type of examination and mode of assessment		Scheme of Examination
1	Theory	70	End Examination Double Evaluation (Internal + External evaluation)		End Examination in theory subjects will be for 70 marks.
		30	25	Internal Examinations (Internal evaluation)	These 25 marks are awarded to the students based on the performance in two(semester)Internal examinations with a weightage of 0.75 for better score and 0.25 for the other score.
			05	Assignments/Field work/group task (Internal evaluation)	Average of two assignments/Field work/group task in a semester each evaluated for 05 marks.
2	Practical	50	End lab examination (External evaluation)		This End Examination in practical subjects will be for a maximum of 50 marks.
		25	20	Internal evaluation	Day-to-day performance in lab experiments and record
			05	Internal evaluation	Internal lab examination at the end of year/semester
3	Mini Project	50	End Examination (External evaluation)		This End Examination in miniproject will be for a maximum of 50 marks.
		25	Internal evaluation		Day-to-day performance in executing mini project.
4	Seminar	50	Internal evaluation		Based on the performance in two seminars during semester
5	Comprehensive Viva	50	External evaluation		This end viva voce examinations in all the subjects for 50 marks
6	Project work	100	External evaluation		This end viva voce in project work for 100 marks
		50	Internal evaluation		These 50 marks will be based on the performance of the student in the project reviews apart from attendance and regularity
7	Skill Development Courses/ Value Added Course/ Mock interviews and Group Discussion	30	Internal evaluation		These 30 marks are awarded to the students based on the performance of two Internal examinations with a weightage of 0.75 for better score and 0.25 for the other score.
		70	Internal Evaluation		Based on the performance in the end examination.
8	EAA	00	Internal evaluation		Based on performance and committee report.

Autonomous

COMPUTER SCIENCE AND ENGINEERING

6.0 Attendance Requirements:

- 6.1** The student shall be eligible to appear for End examinations of the semester if he acquires a minimum of 75% of attendance in aggregate of all the subjects of that semester.
- 6.2** Condonation of shortage of attendance in aggregate up to 10% (65% and above and below 75%) in a semester may be granted by the College Academic Committee.
- 6.3** The student will not be promoted to the next semester unless he satisfies the attendance requirement of the present semester. They may seek re-admission for that semester when offered next.
- 6.4** **Shortage of Attendance below 65% in aggregate shall in NO case be condoned.**
- 6.5** Students whose shortage of attendance is not condoned in any semester are not eligible to take their End Examination of that class and their registration shall stand cancelled.
- 6.6** The stipulated fee shall be payable towards condonation of shortage of attendance.
- 6.7** **The attendance in each subject will be recorded in the Marks memo.**

7.0 Minimum Academic Requirements:

The following academic requirements have to be satisfied in addition to the attendance requirements mentioned in item No.6.0.

- 7.1** The student shall 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 Skill Development Courses or project if he secures not less than 35% of marks in the End Examination and he has to score minimum of 40% marks from Internal and external exam marks put together to clear the subject.
- 7.2** The student shall be promoted from II to III year only if he fulfils the academic requirement of securing a minimum of 51 credits out of 102 credits from all the exams conducted upto and including II year II semester regular examinations irrespective of whether the candidate takes the examination or not.
- 7.3** The student shall be promoted from third year to fourth year only if he fulfils the academic requirements of securing minimum of 76 credits out of 152 credits from all the exams conducted up to and including III year II semester regular examinations, whether the candidate takes the examinations or not.

Table 5: Promotion rules

Promotion from	Total credits to register	Minimum credits to obtain for promotion
II yr to III yr	102	51
III yr to IV yr	152	76

- 7.4** The student shall register and put up minimum attendance in all 200 credits and earn a minimum of 194 credits. Marks obtained in the best 186 credits (excluding the credits obtained in Skill Development Courses/VAC/Mock interviews and GD and EAA) shall be considered for the calculation of percentage of marks.

RAJEEV GANDHI MEMORIAL COLLEGE OF ENGINEERING AND TECHNOLOGY

Autonomous

COMPUTER SCIENCE AND ENGINEERING

7.5 Students who fail to earn 194 credits as indicated in the course structure including compulsory subjects as indicated in Table-1 within eight academic years from the year of their admission shall forfeit their seat in B.Tech. course and their admission shall stand cancelled.

8.0 Course pattern:

8.1 The entire course of study is of four academic years. Each academic year consists of two semesters

8.2 The student is eligible to appear for the End Examination in a subject, but absent at it or has failed in the End Examination may appear for that subject at the supplementary examination.

Table: 6: Course pattern

Year	Semester	No. of Subjects		No. of Skill Development Courses	Number of Labs		Total credits	
		CE/ME/CSE	ECE/EEE/IT		CE/ME/CSE	ECE/EEE/IT		
First year	First	06 {ENG-I, M-I, EP, MEC, CP, CORE-1}	06 {ENG-I M-I, ED, CP, EP, CORE-I}	00	EC lab, CP lab, EWS, ELCS	EP Lab, CP lab, ITWS, Core1 lab	6X3=18 4X2=08	26
	Second	06 { Eng-II M-II, SSP/MP, DS, ED, CORE-II}	06 { Eng-II M-II, SSP, MEC, DS, CORE-II}	00	EP lab, DS Lab, ITWS Core-II lab	EC lab, DS lab, EWS, Core-II Lab	6X3=18 4X2=08	26
Second year	First	06		01	Subjects SDC/VAC Labs		6X3=18 1X1=01 3x2=06	25
	Second	06		01	Subjects SDC/VAC Labs		6X3=18 1X1=01 3X2=06	25
Third year	First	06		01	Subjects SDC/VAC Labs		6X3=18 1X1=01 3X2=06	25
	Second	04+01 Elective 01-MOOC/Elective		01	Subjects Elective MOOC/Elective SDC/VAC Labs		4X3=12 1X3=03 1X3=03 1X1=01 3x2=06	25
Fourth year	First	05+Open Elective		01	Subjects Open Elective Mock Interviews and GD Labs Mini project		5X3=15 1X3=03 1X1=01 2X2=03 1X2=03	25
	Second	01+Elective+ MOOC/Elective		01	Subjects Elective MOOC/Elective SDC/VAC Seminar Comprehensive Viva Project Viva EAA		1X3=03 1X3=03 1X3=03 1X1=01 1X2=02 1X8=08 2X1=02	23
GRAND TOTAL								200

RAJEEV GANDHI MEMORIAL COLLEGE OF ENGINEERING AND TECHNOLOGY

Autonomous

COMPUTER SCIENCE AND ENGINEERING

9.0 Transitory Regulations:

Candidates who have been detained for want of attendance or not fulfilled academic requirements or who have failed after having undergone this course in earlier regulations or have discontinued and wish to continue the course are eligible for admission into the unfinished semester from the date of commencement of class work with the same or equivalent subjects as and when subjects are offered subject to section 2.0 and they continue to be in the academic regulations in which they were readmitted.

10.0 With-holding of results:

If the candidate has any dues not paid to the Institute or if any case of indiscipline or malpractice is pending against him, the result of the candidate shall be withheld and he will not be allowed/promoted into the next higher semester. The issue of degree is liable to be withheld in such cases.

11.0 Award of Class:

After the student has satisfied the requirements prescribed for the completion of the program and is eligible for the award of B. Tech. degree he shall be placed in one of the following four classes:

Table 7: Award of Division

Class Awarded	% of marks to be secured	Division/ Class	CGPA	From the aggregate marks secured for the best 186 Credits (excluding Skill Development Courses, EAA)
First Class with Distinction	70% and above	First class With Distinction	≥ 7.5	
First Class	Below 70% but not less than 60%	First Class	6.5 and < 7.5	
Second Class	Below 60% but not less than 50%	Second Class	≥ 5.5 and < 6.5	
Pass Class	Below 50% but not less than 40%	Pass	≥ 4 and < 5.5	

(The marks in internal evaluation and End Examination shall be shown separately in the marks memorandum)

12.0 Grading:

After each subject is evaluated for 100 marks, the marks obtained in each subject will be converted to a corresponding letter grade as given below, depending on the range in which the marks obtained by the student falls.

Table 8: Conversion into Grades and Grade points assigned

Range in which the % of marks in the subject fall	Grade	Grade point Assigned	Performance
90 to 100	O	10	Outstanding
80 to 89.9	A+	09	Excellent
70 to 79.9	A	08	Very Good
60 to 69.9	B+	07	Good
50 to 59.9	B	06	Above Average
45 to 49.9	C	05	Average
40 to 44.9	P	04	Pass
<40	F	00	Fail
Ab	AB	00	Fail

Autonomous

COMPUTER SCIENCE AND ENGINEERING

- 12.1** Requirement for clearing any subject: The students have to obtain a minimum of 35% in End Examination and they have to score minimum of 40% marks from Internal and external exam marks put together to clear the subject. Otherwise they will be awarded fail grade.
- 12.2** F is considered as a fail grade indicating that the student has to reappear for the end supplementary examination in that subject and obtain a non fail grade for clearing that subject.
- 12.3** In case of skill development/ value added course / soft skill subjects, as there is no end exam, all 100 marks are for internal assessment only. Student has to score 40% in these courses to complete the subject which will be evaluated internally. Marks obtained in these courses shall not be considered for award of Division.
- 12.4** To become eligible for the award of degree the student must obtain a minimum CGPA of 4.0

13.0 Supplementary Examinations:

Apart from the regular End Examinations, the institute may also schedule and conduct supplementary examinations for all subjects for the benefit of students with backlogs. Such students writing supplementary examinations as supplementary candidates may have to write more than one examination per day. The student is not permitted to improve his performance in any subject in which he has obtained pass grade.

14.0 Grade Point Average (GPA) and Cumulative Grade Point Average(CGPA)

The Grade Point Average (GPA) for each semester and Cumulative Grade Point Average (CGPA) up to any semester are calculated as follows:

- i)** Semester Grade Point Average will be computed as follows:

$$GPA = \frac{\sum_1^n C_i \times GP_i}{\sum_1^n C_i}$$

Where, n is the number of subjects in that semester. C_j is Credits for the subjects. GP_i is the grade point obtained for the subject and the summation is over all the subjects in that semester.

- ii)** A Cumulative Grade Point Average (CGPA) will be computed for every student at the end of each semester. The CGPA would give the cumulative performance of the student from the first semester up to the end of the semester to which it refers to and is calculated as follows:

$$CGPA = \frac{\sum_1^m GPA_j \times TC_j}{\sum_1^m TC_j}$$

Where 'm' is the number of semester under consideration. TC_j the total number of credits for a j^{th} semester and GPA_j is the Grade Point Average of the j^{th} semester. Both GPA and CGPA will be rounded off to the second digit after decimal and recorded as such.

While computing the GPA / CGPA, the subjects in which the student is awarded zero grade points will also be included.

Autonomous

COMPUTER SCIENCE AND ENGINEERING**15.0 Grade Sheet:**

A grade sheet (Memorandum) will be issued to each student indicating his performance in all subjects of that semester in the form of grades and also indicating the GPA and CGPA.

16.0 Transcripts:

After successful completion of prerequisite credits for the award of degree, a Transcript containing performance of all academic years will be issued as a final record. Duplicate transcripts will also be issued if required after the payment of requisite fee and also as per norms in vogue.

17.0 Rules of Discipline:

17.1 Any attempt by any student to influence the teachers, Examiners, faculty and staff of Examination section for undue favours in the exams, and bribing them either for marks or attendance will be treated as malpractice cases and the student can be debarred from the college.

17.2 When the student absents himself, he is treated as to have appeared and obtained zero marks in that subject(s) and grading is done accordingly.

17.3 When the performance of the student in any subject(s) is cancelled as a punishment for indiscipline, he is awarded zero marks in that subject(s).

17.4 When the student's answer book is confiscated for any kind of attempted or suspected malpractice, the decision of the Chief Superintendent is final.

18.0 Minimum Instruction Days:

The minimum instruction days for each semester shall be 95 clear instruction days excluding the days allotted for tests/examinations and preparation holidays declared if any.

19.0 Amendment of Regulations:

The college may, from time to time, revise, amend or change the regulations, scheme of examinations and syllabi. However the academic regulations of any student will be same throughout the course of study in which the student has been admitted. However students will continue to be in the academic regulations in which they were readmitted.

20.0 Transfers

There shall be no branch transfers after the completion of admission process.

21.0 General:

21.1 The Academic Regulations should be read as a whole for the purpose of any interpretation.

21.2 In the case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Academic Council is final.

21.3 The Institute may change or amend the academic regulations or syllabi at any time and the changes or amendments made shall be applicable to all the students with effect from the dates notified by the Institute.

21.4 Where the words "he", "him", "his", occur in the regulations, they include "she", "her", "hers".

Autonomous

COMPUTER SCIENCE AND ENGINEERING

Academic Regulations for B. Tech.

(Lateral Entry Scheme)

(Effective for the students getting admitted into II year from the Academic Year 2016-2017 onwards)

- 1.0** The Students have to acquire a minimum of 142 credits out of 148 from II to IV year of B.Tech. Program (Regular) for the award of the degree.
- 2.0** Students, who fail to fulfil the requirement for the award of the degree in 6 consecutive academic years from the year of admission, shall forfeit their seat.
- 3.0** The same attendance regulations are to be adopted as that of B. Tech. (Regular).

4.0 Promotion Rule:

The student shall be promoted from third year to fourth year only if he fulfils the academic requirements of securing minimum of 50 credits out of 100 credits from all the exams conducted up to and including III year II semester regular examinations, whether the candidate takes the examinations or not.

5.0 Award of Class:

After the student has satisfied the requirements prescribed for the completion of the program and is eligible for the award of B. Tech. Degree he shall be placed in one of the following four classes: The marks obtained in the best 134 credits will be considered for the calculation of percentage and award of class.

Table 1: Award of Division

Class Awarded	% of marks to be secured	Division/ Class	CGPA	From the aggregate marks secured for best 134 Credits (i.e. II year to IV year) excluding Skill Development Courses
First Class with Distinction	70% and above	First class With Distinction	≥ 7.5	
First Class	Below 70% but not less than 60%	First Class	$6.5 \text{ and } < 7.5$	
Second Class	Below 60% but not less than 50%	Second Class	$\geq 5.5 \text{ and } < 6.5$	
Pass Class	Below 50% but not less than 40%	Pass	$\geq 4 \text{ and } < 5.5$	

(The marks in Internal evaluation and End Examination shall be shown separately in the marks memorandum)

- 6.0** All other regulations as applicable for B. Tech. Four-year degree course (Regular) will hold good for B. Tech. (Lateral Entry Scheme).