

R.V.R. & J.C. COLLEGE OF ENGINEERING :: GUNTUR

(Autonomous)

CHOICE BASED CREDIT SYSTEM REGULATIONS (R-16) FOR Four Year BACHELOR OF TECHNOLOGY (B.Tech.) Degree Program

(w.e.f. the batch of candidates admitted into First Year B.Tech. from the academic year 2016-2017).

1 MINIMUM QUALIFICATIONS FOR ADMISSION

A candidate seeking admission into I Year of B.Tech. Degree Course should have passed either Intermediate examination conducted by the Board of Intermediate Education, Andhra Pradesh with Mathematics, Physics, and Chemistry as optional subjects (or any equivalent examination recognized by the Acharya Nagarjuna University) or A candidate seeking admission into II Year of B.Tech. Degree Course should have passed either Diploma in Engineering in the relevant branch conducted by the State Board of Technical Education & Training of Andhra Pradesh (or equivalent Diploma recognized by Acharya Nagarjuna University).

The selection is based on the rank secured by the candidate at the EAMCET / ECET (FDH) examination conducted by A.P. State Council of Higher Education. The candidate shall also satisfy any other eligibility requirements stipulated by the University and / or the Government of Andhra Pradesh from time to time.

2 BRANCHES OF STUDY

The B.Tech. Course is offered in the following branches of study:

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

3 DURATION OF THE COURSE AND MEDIUM OF INSTRUCTION

3.1 The duration of the course is Four academic years consisting of two semesters in each academic year. The medium of instruction and examination is English.

3.2 The duration of the course for the candidates (Diploma Holders) admitted under lateral entry into II Year B.Tech. is Three academic years consisting of two semesters in each academic year. The medium of instruction and the examination is English.

4 MINIMUM INSTRUCTION DAYS

Each semester shall consist of a minimum number of 90 days of instruction excluding the days allotted for tests, examinations and preparation holidays.

5 REGISTERING THE COURSES OFFERED

5.1 A candidate has to register and secure 189 credits out of which 54 credits from laboratory courses including project work.

5.2 A candidate has to register 12 courses in First, Second and Third Years of study and 10 courses in Fourth year of study.

5.3 A candidate can register for a minimum of 5 courses and maximum of 7 courses in each semester of II Year, III Year and IV Year I Semester of study.

5.4 National Cadet Corps (NCC) / National Service Organisation (NSO) / National Service Scheme (NSS) Requirements:

- All candidates admitted to the B.Tech. programme will have to take either NCC or NSO or NSS as an extra-curricular programme.
- The NCC / NSO / NSS programme will be held as announced by the respective Co-ordinator(s).
- The NCC / NSO / NSS requirements should be completed before III Year II Semester.
- Enrollment of NCC / NSO / NSS programme will be initiated from the date of commencement of class work for II Year I Semester.
- NCC / NSO / NSS certificate must be submitted on or before the last instruction day of III Year II Semester, otherwise his / her Semester End Examination results will not be declared.

5.5 MOOCS (Massive Open Online Courses) Requirements:

- Enrollment of MOOCS course will be initiated from the date of commencement of class work for III Year I Semester.
- MOOCS course completion certificate must be submitted on or before the last instruction day of IV Year I Semester, otherwise his / her Semester End Examination results will not be declared.
- List of organisations offering MOOCS course(s) will be announced by the respective Board of Studies at the time of commencement of class work for III Year I Semester.

5.6 Internship / Industrial Training / Certification Course :

- Enrollment of Internship / Industrial Training / Certification Course will be initiated from the end of II Year II Semester.
- Internship / Industrial Training / Certification Course completion certificate must be submitted on or before the last instruction day of IV Year I Semester, otherwise his / her Semester End Examination results will not be declared.

6 EVALUATION

The performance of the candidates in each semester shall be evaluated Course wise.

6.1 The distribution of marks between Sessional Examination (based on internal assessment) and Semester End Examination is as follows:

Nature of the Courses	Sessional Marks	Semester End Exam. Marks
Theory Courses / Design and / or Drawing / Practicals	40	60
Mini Project / Term paper	100	---
Project work	40	60 (Viva voce)

6.2 In each of the Semesters, there shall be two Mid Term examinations and two Assignment Tests in every theory course. The Sessional marks for the midterm examinations shall be awarded giving a weightage of 15 marks out of 18 marks (80% approx.) to that midterm examination in which the candidate scores more marks and the remaining 3 marks (20% approx.) for other midterm examination in which the candidate scores less marks. Similarly a weightage of 10 marks (80% approx.) out of 12 marks earmarked for assignment tests shall be given for the assignment in which the candidate scores more marks and remaining 2 marks (20% approx.) shall be given for the assignment test in which the candidate scores less marks.

A maximum of five marks are allotted for attendance in the respective theory courses in a graded manner as indicated in **clause 8.2**. The remaining 5 marks out of the 40 marks earmarked for the sessional marks are awarded (quiz / online examination) by the concerned teacher in the respective theory courses.

- 6.3 The evaluation for Laboratory class work consists of a weightage of 25 marks for day to day laboratory work including record work and 15 marks for internal laboratory examination including Viva-voce examination.

In case of Project work, the sessional marks shall be awarded based on the day-to-day progress, the performance in two Seminars and the Project Report submitted at the end of the semester. The allotment of sessional marks for Seminars and day-to-day work shall be 15 and 25 respectively.

NOTE : A candidate who is absent for any Assignment / Mid Term Exam, for any reason whatsoever, shall be deemed to have scored zero marks in that Test / Exam and no make-up test / Exam shall be conducted.

- 6.4 A candidate who could not secure a minimum of 50% aggregate sessional marks is not eligible to appear for the Semester End Examination and shall have to repeat that Semester.

7 LABORATORY / PRACTICAL COURSES

In any semester, a minimum of 10 experiments / exercises specified in the syllabus for laboratory course shall be completed by the candidate and get the record certified by the concerned Head of the Department, to be eligible to face the Semester End Examination in that Practical course.

8 ATTENDANCE REGULATIONS

- 8.1 Regular course of study means a minimum average attendance of 75% in all the courses computed by totalling the number of hours / periods of lectures, design and / or drawing, practical's and project work as the case may be, held in every course as the denominator and the total number of hours / periods actually attended by the candidate in all the courses, as the numerator.

- 8.2 A weightage in sessional marks up to a maximum of 5 marks out of 40 marks in each theory course shall be given for those candidates who put in a minimum of 75% attendance in the respective theory in a graded manner as indicated below:

Attendance of 75% and above but less than 80%	- 1 mark
Attendance of 80% and above but less than 85%	- 2 marks
Attendance of 85% and above but less than 90%	- 4 marks
Attendance of 90% and above	- 5 marks

- 8.3 Condonation of shortage in attendance may be recommended on genuine medical grounds, up to a maximum of 10% provided the candidate puts in at least 65% attendance as calculated in **clause 8.1**, provided the Principal is satisfied with the genuineness of the reasons and the conduct of the candidate.

- 8.4 A candidate who could not satisfy the minimum attendance requirements in any semester as mentioned in **clause 8.1**, is not eligible to appear for the Semester End Examinations and shall have to repeat the same Semester.

9 DETENTION

A candidate, who fails to satisfy either the minimum attendance requirements as stipulated in **Clause-8**, or the requirement of minimum aggregate sessional marks as stipulated in **Clause-6**, shall be detained. Such candidate shall have to repeat the same semester.

10 SEMESTER END EXAMINATION

- 10.1 For each theory course, there shall be a comprehensive Semester End Examination at the end of each Semester.
- 10.2 For each Practical course the Semester End Examination shall be conducted by one internal and one external examiner appointed by the Principal of the College, the duration being that approved in the detailed Schemes of Instruction & Examination.
- 10.3 Viva-voce Examination in Project Work shall be conducted by one internal examiner and one external examiner appointed by the Principal.

11 CONDITIONS FOR PASS

A candidate shall be declared to have passed in individual course if he / she secures a minimum of 35% marks in theory and 50% marks in Practical courses/drawing courses/Project Viva-voce in Semester End Examination and minimum of 40% marks in both Sessional & Semester End Examination put together.

12 AWARD OF CREDITS

- 12.1 Credits are awarded for each Theory / Practical Courses. Each theory course is awarded three credits and each practical course is awarded two credits. Project work is awarded eight credits. The total number of credits for all Four years put together shall be 189.

12.2 AWARD OF GRADES

S.No.	Range of Marks	Grade	Grade Points
1	≥ 90	S	10.0
2	≥ 80 - < 90	A	9.0
3	≥ 70 - < 80	B	8.0
4	≥ 60 - < 70	C	7.0
5	≥ 50 - < 60	D	6.0
6	≥ 40 - < 50	E	5.0
7	< 40	F	0.0
8	The grade 'W' represents withdrawal / absent (subsequently changed into pass or E to S or F grade in the same semester)	W	0.0

- 12.3 A candidate securing 'F' grade in any course there by securing zero grade points has to reappear and secure at least 'E' grade in the subsequent examinations for that course.
- 12.4 A candidate who has earned 'F' grade in any course can repeat the course by re-registering it when the course is offered next time.
- 12.5 After each semester, Grade sheet will be issued which will contain the following details:
- The list of courses for each semester and corresponding credits and grades obtained
 - The Semester Grade Point Average (SGPA) for each semester and
 - The Cumulative Grade Point Average (CGPA) of all courses put together up to that semester.

SGPA is calculated based on the following formula:
$$\frac{\sum [\text{No. of Credits} \times \text{Grade Points}]}{\sum \text{No. of Credits}}$$

CGPA will be calculated in a similar manner, considering all the courses up to that semester.

- 12.6 A consolidated Grade Sheet shall be issued to the candidate, after completing all , indicating the CGPA of all the Four years put together.
- 12.7 Conversion of CGPA into equivalent Percentage.: Percentage of Marks = 9.25 x CGPA

13 CONDITIONS FOR PROMOTION

- 13.1 A candidate shall be eligible for promotion to next semester, if he/she satisfies the minimum requirements of attendance and sessional marks as stipulated in **Clauses 6 and 8**.
- 13.2 A candidate shall be eligible for promotion to III Year, if he / she secures a minimum of 70% of the total number of credits of I Year by the time the classwork commences for III Year, in addition to satisfying the minimum requirements of attendance and sessional marks stipulated in **Clauses 6 and 8** in II Year II Semester.
- 13.3 A candidate shall be eligible for promotion to IV Year, if he / she secures a minimum of 70% of the total number of credits of I & II Years put together, by the time the classwork commences for IV Year, in addition to satisfying the minimum requirements of attendance and sessional marks stipulated in **Clauses 6 and 8** in III Year II Semester.
- 13.4 A candidate (Diploma Holder) admitted under lateral entry into II Year, shall be eligible for promotion to IV Year, if he/she secures a minimum of 70% of the total number of credits of II & III Year put together by the time the classwork commences for IV Year, in addition to satisfying the minimum requirements of attendance and sessional marks stipulated in **Clauses 6 and 8** in III Year II Semester.

14 ELIGIBILITY FOR AWARD OF B.TECH. DEGREE

The B.Tech. Degree shall be conferred on a candidate who has satisfied the following requirements:

- 14.1 The candidate must have satisfied the conditions for pass in all the courses of all the years as stipulated in **Clauses 11**.
- 14.2 **Maximum Time Limit for completion of B.Tech Degree**
A candidate, who fails to fulfil all the academic requirements for the award of the degree within eight academic years from the year of admission, shall forfeit his/her seat in B.Tech. course.
- 14.3 A candidate (Diploma Holder) admitted under lateral entry into II B.Tech., who fails to fulfil all the academic requirements for the award of the degree within six academic years from the year of admission, shall forfeit his/her seat in B.Tech. course.

15 AWARD OF CLASS

A candidate who becomes eligible for the award of B.Tech. Degree as stipulated in **Clause 12** shall be placed in one of the following Classes.

S.No.	Class	CGPA
1	First Class With Distinction	8.0 or more
2	First Class	6.5 or more but less than 8.0
3	Second Class	5 or more but less than 6.5

16 IMPROVEMENT OF CLASS

A candidate, after becoming eligible for the award of the Degree, may improve the CGPA by appearing for the Semester End Examination in any of the theory course as and when conducted. But this provision shall be within a period of two academic years after becoming eligible for the award of the Degree. However, this facility cannot be availed by a candidate who has taken the Original Degree Certificate.

17 AWARD OF RANK

The rank shall be awarded based on the following:

- 17.1 Ranks shall be awarded in each branch of study for the top five percent of the candidates appearing for the Regular Semester End Examinations or the top ten candidates whichever is minimum.
- 17.2 Only such candidates who pass the Final year examination at the end of the fourth academic year after admission as regular final year candidate along with others in their batch and become eligible for the award of the degree shall be eligible for the award of rank. The Rank will be awarded only to those candidates who complete their degree within four academic years.
- 17.3 For the purpose of awarding rank in each branch, only such candidates who passed all courses in the first attempt only shall be considered.

18 SUPPLEMENTARY EXAMINATIONS

- 18.1 In addition to the Regular semester end examinations held at the end of each semester, supplementary examinations will also be conducted during the academic year. Such candidates taking the Regular / Supplementary examinations as supplementary candidates may have to take more than one examination per day.
- 18.2 Instant examination will be conducted immediately after the declaration of IV Year II Semester results for those candidates who cleared all courses except one course in IV Year II Semester.

19 TRANSITORY REGULATIONS

A Candidate, who is detained or discontinued in the semester, on readmission shall be required to do all the courses in the curriculum prescribed for such batch of candidates in which the candidates joins subsequently.

- 19.1 A candidate, studied under R-12 regulations of RVR & JCCE (Autonomous) curriculum, detained due to lack of academics/attendance at the end of the II Year I Semester, shall join in II Year I Semester of R-16 regulations. The candidate has to clear all the I B.Tech. backlog courses, if any, by appearing the supplementary examinations, conducted by the college under R-12 curriculum. The class will be awarded based on the academic performance of the candidate, such candidates will be considered on par with lateral entry candidates of R-16 regulations and will be governed by regulations applicable to lateral entry candidates' category.
- 19.2 A candidate, studied under R-12 regulations of RVR & JCCE (Autonomous) curriculum, detained due to lack of academics / attendance at the end of the II Year II Semester and also at the subsequent semesters will follow the same R-12 regulations/curriculum and he/she has to complete all the courses by appearing in the examination conducted by the college under R-12 curriculum. The class will be awarded based on the academic performance of the candidate as per R-12 regulations.
- 19.3 A candidate, transferred from other institutions / universities into I Year II Semester and also at the subsequent semesters of B.Tech., shall join at appropriate semester of R-16 curriculum. Such candidate shall study all the courses prescribed for that batch, in which, the candidate joins. The candidate has to clear the backlog courses, if any, in the semesters which he/she has studied in the earlier institutions / universities by appearing the supplementary examinations conducted by the college in R-16 curriculum courses / equivalent courses. The equivalent courses will be decided by concerned Board of Studies.

20 CONDUCT AND DISCIPLINE

- 20.1 Candidates shall conduct themselves within and outside the premises of the institute in a manner befitting the candidates of our institution.
- 20.2 As per the order of Honourable Supreme Court of India, ragging in any form is considered as a criminal offence and is banned. Any form of ragging will be severely dealt with.
- 20.3 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.
 - a Lack of courtesy and decorum, indecent behaviour anywhere within or outside the campus.
 - b Wilful damage of college / individual property
 - c Possession, consumption or distribution of alcoholic drinks or any kind of narcotics or hallucinogenic drugs.
 - d Mutilation or unauthorized possession of library books.
 - e Noisy and unseemly behaviour, disturbing studies of fellow candidates.
 - f Hacking of 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 cyber-crime etc.)
 - g Usage of camera / cell phone in the campus
 - h Plagiarism of any nature
 - i Any other acts of gross indiscipline as decided by the academic council from time to time.
- 20.4 Commensurate with the gravity of offense, the punishment may be reprimand, fine, expulsion from the institute / hostel, debar from examination, disallowing the use of certain facilities of the institute, rustication for a specified period or even outright expulsion from the institute or even handing over the case to appropriate law enforcement or the judiciary, as required by the circumstances.
- 20.5 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.
- 20.6 Cases of adoption of unfair means and / or any malpractice in an examination shall be reported to the principal for taking appropriate action.
- 20.7 All cases of serious offence, possibly requiring punishment other than reprimand, shall be reported to the academic council.
- 20.8 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.
- 20.9 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 actions shall be placed before the academic council for ratification. Any emergency modification of regulation, approved by the appropriate authority, shall be reported to the academic council for ratification.
- 20.10 "Grievance and Redressal Committee" (General) constituted by the Principal shall deal with all grievances pertaining to the academic / administrative / disciplinary matters.

21 MALPRACTICES

- 21.1 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. Such committee shall follow the approved scales of punishment. The principal shall take necessary action, against the erring candidates basing on the recommendations of the committee.
- 21.2 Any action on the part of a candidate during an examination trying to get undue advantage or trying to help another, or drive the same through unfair means is punishable according to the provisions contained hereunder. The involvement of the staff, who are in-charge of conducting examinations, valuing examination papers and preparing / keeping records of documents relating to the examinations in such acts (inclusive of providing incorrect or misleading information) that infringe upon the course of natural justice to one and all concerned in the examination shall be viewed seriously and recommended for award of appropriate punishment after thorough enquiry.

22 AMENDMENTS TO REGULATIONS

The College may, from time to time, revise, amend, or change the Regulations, Schemes of Examinations, and / or Syllabus.

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