



VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
(An Autonomous Institution Affiliated to Anna University- Chennai)



CHOICE BASED CREDIT SYSTEM

B.E. / B.Tech. Degree (8-Semester) Full-time Programme

REGULATIONS 2015

Degree of Bachelor of Engineering / Bachelor of Technology

The following regulations are applicable to the students admitted to B.E. / B.Tech. Degree Programme in the Institution from the Academic year 2015 – 2016 onwards.

1. Preliminary Definitions

- i. **Programme:** Programme means Undergraduate Degree Programme leading to award of a B.E. / B.Tech. Degree or certificate.
- ii. **Discipline:** Discipline means specialization or branch of B.E./B.Tech. Degree Programme, like Computer Science and Engineering, Information Technology, etc.
- iii. **Academic Year:** Two consecutive (one odd + one even) semesters constitute one academic year.
- iv. **Choice Based Credit System (CBCS):** The CBCS provides choice for students to select from the prescribed courses (Humanities and Social Sciences, Basic Sciences, Engineering Sciences, Professional Core, Professional Electives, Open Electives and Enhanced Employability Courses).
- v. **Course:** Usually referred to, as 'papers' is a component of a programme. All courses need not carry the same weight. The courses should define course objectives and course outcomes. A course may be designed to comprise lectures / tutorials / laboratory work / field work / outreach activities / project work / vocational training / viva / seminars / internal tests / assignments / quizzes / presentations / self-study etc. or a combination of some of these.
- vi. **Credit Based Semester System (CBSS):** Under the CBSS, the requirement for awarding a degree or certificate is prescribed in terms of number of credits to be completed by the students.
- vii. **Credit:** It is a unit by which the course work is measured. It determines the number of hours of instructions required per week.
- viii. **Credit Point:** It is the product of grade point and number of credits for a course.
- ix. **Semester Grade Point Average (SGPA):** It is a measure of performance of work done in a semester. It is the ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.

- x. **Cumulative Grade Point Average (CGPA):** It is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.
- xi. **First Attempt:** If a student has completed all formalities and become eligible to attend the examinations and has attended at least one head of passing, such attempt (first sitting) shall be considered as first attempt.
- xii. **Grade Point:** It is a numerical weight allotted to each letter grade on a 10-point scale.
- xiii. **Letter Grade:** It is an index of the performance of students in a said course. Grades are denoted by letters **O, A⁺, A, B⁺, B, RA and SA.**
- xiv. **Grade Sheet or Transcript:** Based on the grades earned, a grade sheet shall be issued to all the registered students after every semester. The grade sheet will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester and CGPA earned till that semester.
- xv. **Controller of Examinations:** He / She is an authority of the Institution who is responsible for all activities of the End Semester Examinations (ESE) of the Institution.
- xvi. **Head of the Institution:** He / She is the Principal of the College / Institution who is responsible for all the academic activities of that College / Institution and for implementation of relevant rules of this Regulation.
- xvii. **Head of the Department:** He / She is the Head of the Discipline concerned.
- xviii. **Institution:** Institution means Vivekanandha College of Engineering for Women.
- xix. **University:** University means Anna University, Chennai.

2. Programme offered and Admission requirements

2.1 Programme offered

- i. B.E. (Computer Science and Engineering)
- ii. B.E. (Electronics and Communication Engineering)
- iii. B.E. (Electrical and Electronics Engineering)
- iv. B.Tech. (Information Technology)
- v. B.Tech. (Biotechnology)

2.2 Admission requirements

2.2.1 Students seeking admission to the first semester of the eight semesters B.E. / B.Tech. Degree Programme:

Should have passed the Higher Secondary (10+2) Examinations of Curriculum (Academic Stream) prescribed by the Government of Tamilnadu with Mathematics, Physics and Chemistry as three of the four courses of study under Part-III or any examination of any

other University or authority accepted by the Syndicate of Anna University as equivalent thereto.

(OR)

Should have passed the Higher Secondary Examination of Vocational stream (Vocational groups in Engineering / Technology) as prescribed by the Government of Tamil Nadu.

(OR)

Should possess a Diploma in Engineering / Technology awarded by the State Board of Technical Education, Tamilnadu or any other authority accepted by the Syndicate of the Anna University, as equivalent thereto.

Note: The eligibility criteria for admission shall be as prescribed by the Syndicate of Anna University from time to time.

2.2.2 *Lateral entry admission*

Students who possess Diploma in Engineering / Technology awarded by the State Board of Technical Education, Tamilnadu or its equivalent are eligible to apply for lateral entry admission to the third semester of B.E. / B.Tech. in the branch corresponding to the branch of study.

(OR)

Students who possess a Bachelor Degree in Science (B.Sc.) (10+2+3 stream) with Mathematics as a course at the degree level are eligible to apply for lateral entry admission to the third semester of B.E. / B.Tech. Such students shall undergo two or three additional Engineering courses / practical, in the third, fourth and fifth or sixth semesters respectively as prescribed by the respective discipline (Refer Annexure - II).

3. Duration of the Programme

- 3.1 A student is normally expected to complete the B.E. / B.Tech. Programme in 4 years (8 semesters) but in any case not more than 8 years (16 Semesters) for H.Sc. students and not more than 14 semesters for lateral entry Diploma / B.Sc. students.
- 3.2 Each semester shall normally consist of 90 teaching days. The Head of the Department shall ensure that every teacher imparts instruction as per the number of periods specified in the syllabus covering the full content of the syllabus for the course being taught.
- 3.3 The total duration for completion of the Programme reckoned from the commencement of the first semester to which the student was admitted shall not exceed the maximum period as specified in Clause 3.1, irrespective of the period of break of study (vide Clause 17) or prevention (vide clause 6.5), in order that she may be eligible for the award of the Degree (vide Clause 13).

4. Structure of the Programme

4.1 **Choice Based Credit System (CBCS)** is followed for all UG programme from the academic year 2015–2016 onwards. The CBCS provides choice for students to select from the prescribed courses.

4.2 Categorization of Courses

Every B.E. / B. Tech. Programme will have a curriculum with syllabi consisting of theory and practical courses that shall be categorized as follows:

- i. **Humanities and Social Sciences (HS)** courses include Technical English, Employability Skills, Engineering Ethics and Human Values, Communication skills, Environmental Science and Engineering.
- ii. **Basic Sciences (BS)** courses include Mathematics, Physics, Chemistry, Biology, etc.
- iii. **Engineering Sciences (ES)** courses include Engineering practices, Engineering Graphics, Basics of Electrical / Electronics / Mechanical / Computer Engineering, etc.
- iv. **Professional Core (PC)** courses include the core courses relevant to the chosen specialization/branch.
- v. **Professional Elective (PE)** courses include the elective courses relevant to the chosen specialization/branch.
- vi. **Open Elective (OE)** courses include the courses relevant to the chosen specialization / branch which a student can choose from the curriculum of other B.E. / B. Tech. programmes and courses offered by the Department of Science and Humanities.
- vii. **Employability Enhancement Courses (EEC)** includes Project Work and/or Internship, Seminar, Professional Practices, Case Study and Industrial/Practical Training.

4.3 Each course is normally assigned a certain number of credits:

- i. One credit for each lecture period allotted per week
- ii. One credit for two tutorial period allotted per week
- iii. One credit for each seminar / practical session / project work / Mini-project of 2 periods per week and 2 credits for 4 periods of practical session per week
- iv. Three credits for 6 weeks of internship or summer training during semester vacations
- v. The minimum prescribed credits required for the award of the Degree shall be within the limits specified below:

Programme	Prescribed Credits
B.E. / B.Tech.	180 to 185

4.4 Board of Studies of concerned discipline will choose the convenient credit pattern for every course based on the requirement. However, generally, a course shall be of 3 or 4 credits.

- 4.5 Each semester curriculum shall normally have a blend of 5 or 6 lecture courses and practical courses not exceeding 2. In addition, Employability Enhancement Course(s) may also be included. Each course may have credits assigned as per clause 4.3. However, the total number of courses per semester shall not exceed 10 (including EEC).
- 4.6 The number of credits to be earned for the successful completion of the Programme shall be as specified in the curriculum of the respective specialization of the Undergraduate Programme.
- 4.7 The curriculum and syllabi of all the Undergraduate Programme shall be approved by the Academic Council of the Institution.
- 4.8 Internship Training or Summer Project during summer / winter vacation, if specified in the curriculum, shall not exceed the maximum duration of 6 weeks. The institution will not provide any kind of Financial Assistance to any student for internship.

5. Course Enrollment and Registration

- i. Each student, on admission shall be assigned to a Class Advisor (vide clause 7) who shall advise and counsel the student about the details of the academic programme and the choice of courses considering the student's academic background and career objectives.
- ii. Every student shall enroll for the course of the succeeding semester in the current semester. However, the student shall confirm the enrollment by registering for the courses within the first five working days after the commencement of the concerned semester.
- iii. After registering for a course, a student shall attend the classes, satisfy the attendance requirements, earn Continuous Assessment marks and appear for the End Semester Examinations.
- iv. Each student on admission shall register for **all the courses prescribed in the curriculum in the student's first Semester of study.**
- v. The enrollment for all the courses of the Semester II will commence 10 working days prior to the last working day of Semester I. The student shall confirm the enrollment by registering for the courses within the first five working days after the commencement of the Semester II. However, the student is allowed to register for courses for which the student has not enrolled, if these are the courses in which the student has failed.
- vi. The enrollment for the courses of the Semesters III to VIII will commence 10 working days prior to the last working day of the preceding semester. The student shall enroll for the courses with the guidance of the student's Class Advisor. If the student wishes, the student may drop or add courses (vide clause 5.3) within **five** working days after the commencement of the concerned semester and complete the registration process

duly authorized by the Class Advisor. The student is allowed to register for courses for which the student has not enrolled, if these are the courses in which the student has failed.

- vii. Maximum number of students to be registered in each course shall depend upon the physical facilities available. The information on list of all the courses offered in every department specifying the credits, the prerequisites, a brief description of syllabus or list of topics, the faculty who is offering the course and the time slot may be made available in the Institution website and/or Department Notice Board.
- viii. No course shall be offered by a Department unless a minimum of 11 students register for that course.
- ix. In any department, preference for registration shall be given to those students of that department for whom the course is a Professional core course. The registration for the Professional / Open Elective course shall be on first come first served basis, provided the student fulfills prerequisites for that course, if any.
- x. The number of students to be registered shall be based on the class room and laboratory capacity. Every effort shall be made by the Department to accommodate as many students as possible.
- xi. Normally, every Lecture-based course shall be given by one teacher
- xii. *Open Elective*
In the slot of Open Elective course, the students with CGPA equal to or greater than 8.0 can opt for a course from other departments. The students having a CGPA less than 8.0 have to opt for the courses only from the list of her parent department in this slot.
- xiii. *Self Study Courses*
 - a. The Department may offer self study courses. Students may be permitted to credit at most one Self Study course with the approval of Board of Studies and Academic Council.
 - b. The purpose of the self study course is to permit the student to choose a course / topic based on the student's choice. The students shall study self study courses themselves under the guidance of a faculty member. No formal lectures are needed. The syllabus of the course and mode of assessments shall be approved by the Board of Studies and the formal approval of the course by the Academic Council is needed, preferably before the commencement of the semester. The self study course with 3 credits can be considered as one elective course. One Faculty member who is deputed by the Head of the Department shall be responsible for the periodic monitoring and evaluation of the course.

xiv. *One Credit Courses*

- a. One credit courses shall be offered by the respective Department with the prior approval of Board of Studies and Academic Council. The syllabus of the course and mode of assessments shall be approved by the Board of Studies and the formal approval of the course by the Academic Council is necessary, preferably before the commencement of the semester. The credits earned through the one credit courses shall be over and above the total credit requirement prescribed in the curriculum for the award of the degree.
- b. Students can take a maximum of two one credit courses. They shall be allowed to take one credit courses offered in other Departments with the permission of Head of the Department who is offering the course.

5.1 Course pre-requisite

A course may have one or more courses listed as its pre-requisite. A student who has qualified in all the courses in the pre-requisite would be allowed to register in the course. The faculty concerned would have the prerogative to waive the prerequisite for a student if he/she is satisfied through a test that the student otherwise have gained sufficient proficiency to take up the course.

- 5.2 The medium of instruction is English for all courses, examinations, seminar presentations, mini project and project / thesis reports.

5.3 Flexibility to Add or Drop courses

- i. A student has to earn the total number of credits specified in the curriculum of the respective Programme of study in order to be eligible to obtain the degree. However, if the student wishes, then the student is permitted to earn more than the total number of credits prescribed in the curriculum of the student's programme.
- ii. From the III to VIII semesters, the student has the option of registering for additional courses or dropping existing courses. Total number of credits of such courses cannot exceed 6. However the maximum number of credits the student can register in a particular semester cannot exceed 30 credits (including courses for which the student has done reappearance registration (vide clause 5.4)).
- iii. The student shall register for the project work in the VIII semester only.

5.4 Reappearance Registration

- 5.4.1 If a student fails in a theory course, the student shall do reappearance registration for that course in the subsequent semester when it is offered next. The student shall earn Continuous Assessment marks and attend End Semester Examination.
- 5.4.2 The student may attend the classes for the reappearance registration courses, if the student wishes. However, the attendance requirement (vide clause 6) is not compulsory for such courses.

- 5.4.3 If the theory course, in which the student has failed, is a professional elective or an open elective, the student may register for the same or any other professional elective or open elective course respectively in the subsequent semesters.
- 5.4.4 The student who fails in any Laboratory Course/ Project work / Seminar and any other EEC course shall register for the same in the subsequent semester, when offered next, and **repeat** the course. In this case, the student shall attend the classes, satisfy the attendance requirements (vide clause 6), earn Continuous Assessment marks and appear for the End Semester Examinations. The facility of Reappearance Registration is not available for such courses.
- 5.4.5 If a student is prevented from writing end semester examination of a course due to lack of attendance, the student has to register for that course again, when offered next, attend the classes and fulfill the attendance requirements as per clause 6. If the course, in which the student has lack of attendance, is a Professional Elective or an Open Elective, the student may register for the same or any other Professional Elective or Open Elective course respectively in the subsequent semesters.

6. Requirements for appearing for the End Semester Examination of a course

A student who has fulfilled the following conditions (vide clause 6.1 and 6.2) shall be deemed to have satisfied the requirements for completion of a semester:

- 6.1 Ideally, every student is expected to attend all classes and secure 100% attendance. However, in order to give provision for certain unavoidable reasons such as medical / participation in sports / personal, the student is expected to attend at least 75% of the classes during any semester commencing from first semester. Therefore, she shall secure an overall attendance not less than 75% (after rounding off to the nearest integer), taking into account the total number of periods attended by the student in a semester within 90 teaching days (including examination days) in all courses put together, against the total number of periods in all courses offered during the semester.
- 6.2 However, a student who secures an overall attendance between 65% and 74% in that current semester due to medical reasons (prolonged hospitalization / accident / specific illness) / participation in sports events, may be permitted to appear for the current ESEs, course to the condition that the student shall submit the medical certificate / sports participation certificate / related other certificate from the competent authority within THREE working days from the date of rejoining the college after the particular period of leave on medical ground or extra – curricular activities or both.
- 6.3 The following activities shall be considered for the award of attendance (On Duty Leave):
- Sports and Games: TIES, Inter collegiate, Inter Zonal, Inter University, State level, National level and Open Tournaments
 - Medical emergency due to Sports participation

- Seminar / Symposia: Paper presentation / Quiz
- Value added courses / Specialized training programme (Limited period)
- Institutional Association activities
- Projects in Industries/Organization
- Placement activities

The students those who are good in curriculum progress ONLY be considered for the grant of under co-curricular / extra-curricular activities by the competent authorities.

- 6.4 A student shall normally be permitted to appear for End semester examination of the course if the student has satisfied the attendance requirements (vide Clause 6.1 – 6.2) and has registered for examination in those courses of that semester by paying the prescribed fee.
- 6.5 Students who do not satisfy clause 6.1 and 6.2 and who secure **less than 65%** attendance in a course will not be permitted to write the End-Semester Examination of that course. The student has to register and repeat this course in a subsequent semester when it is offered next (vide clause 5.4.5).
- 6.6 In the case of reappearance registration for a course (vide Clause 5.4), the attendance requirement as mentioned in Clauses 6.1 - 6.4 is not applicable. However, the student has to register for examination in that course by paying the prescribed fee.
- 6.7 A student who has already appeared for a course in a semester and passed the examination is not entitled to reappear in the same course for improvement of letter grades / marks.

7. **Class Advisor**

There shall be a Class Advisor for each class from the first semester till the end of the Programme. The Class Advisor will be one among the course instructors of the class, at least in the first semester. He / She will be appointed by the concerned Head of the Department. The Class Advisor is the ex- officio member and the convener of the Class Committee. The responsibilities for the Class Advisor are:

- i. To act as the channel of communication between the Head of the Department and the students of the respective Class.
- ii. To collect and maintain various statistical details of the students.
- iii. To help the chairperson of the Class Committee in planning and conduct of the Class Committee meetings.
- iv. To monitor the academic performance of the students including attendance and to inform the Class Committee.
- v. To monitor the students' activities / achievements like awards, medals, scholarships, industrial visits, etc.

8. Course Committees

8.1 Common Course Committee

- i. A theory course handled by more than one teacher shall have a “Common Course Committee” comprising of all teachers teaching that course and some students who have registered for that course. There shall be two student representatives from each batch of that course. One of the teachers shall be nominated as Course Coordinator by the Chairman BoS duly approved by the Academic Council.
- ii. The first meeting of the Common Course Committee shall be held within fifteen days from the date of commencement of the semester. The nature and weightage of the continuous assessments shall be decided in the first meeting, within the framework of the Regulations. Two or three subsequent meetings in a semester may be held at suitable intervals. During these meetings, the student members shall meaningfully interact and express their opinions and suggestions of all the students to improve the effectiveness of the teaching-learning process. It is the responsibility of the student representatives to convey the proceedings of these meetings to the whole batch.
- iii. In addition the “Common Course Committee” (without the student representatives) shall meet to ensure uniform evaluation of continuous assessments after arriving at a common scheme of evaluation for the assessments (vide clause 10). Wherever feasible, the common course committee (without the student representatives) shall prepare a common question paper for the continuous assessment tests also. The question paper for the end semester examination is common and shall be set by the Course Coordinator in consultation with all the teachers.

8.2 Multiple Courses Committee

- i. If a programme has in a semester, course(s) handled by a single teacher, there will be have a “Multiple Courses Committee” comprising of all the above teachers and two student representatives from each course. One of the above teachers, nominated by the Head of the Department shall coordinate the activities of this committee. The functions of this committee are similar to that of the common course committee, which is as follows:
- ii. The first meeting of the Multiple Courses Committee shall be held within fifteen days from the date of commencement of the semester. The nature and weightage of the continuous assessments shall be decided in the first meeting, within the framework of the Regulations. Two or three subsequent meetings in a semester may be held at suitable intervals. During these meetings, the student members shall meaningfully interact and express their opinions and suggestions of all the students to improve the effectiveness of the teaching-learning process. It is the responsibility of the student representatives to convey the proceedings of these meetings to all the students.

8.3 Overall Monitoring Committee

- i. In addition, there shall be a overall monitoring committee for each semester of a programme which comprises of (i) the Course Coordinators / Course teachers (as applicable), (ii) the Class Advisor of the programme and (iii) the Head of Department. This overall monitoring committee shall meet periodically to discuss academic related matters, progress and status of the students of the semester concerned.
- ii. The overall monitoring committee can invite the Class Advisors or students for any of the committee meetings if necessary.

9. System of Examination

- 9.1 Performance in each course of study shall be evaluated based on (i) Continuous Assessments (CA) throughout the semester (ii) End Semester Examinations (ESE).
- 9.2 Each course such as Theory, Practical, Internship training, Project and Mini project shall be evaluated for a maximum of 100 marks. Further the CA and ESE will carry 50 marks each. However the Internship training or Summer Project, Technical Seminar, Professional Practices, One credit Courses and Mini project shall carry 100 marks and shall be evaluated through CA only. Project Work or Mini project may be allotted to a group of 2 to 4 students.
- 9.3 The ESE for Theory and Practical courses of 3 hours duration shall ordinarily be conducted between October/December and April/June during the odd and even semesters respectively. Supplementary Examinations (SE) may also be conducted, at such times, for the benefit of the students as decided by the Institution. The SE shall be conducted for the students who admitted under R2015 (CBCS) onwards in every semester after publishing the results.
- 9.4 The ESE for Project Work shall consist of evaluation of the final report submitted by the student or students of the project group (not exceeding 4 students) by an External Examiner followed by a Viva-Voce Examination conducted separately for each student by a committee consisting of an External Examiner, an Internal Examiner and the Supervisor of the project group.
- 9.5 The Internal and External Examiners for the ESEs in theory / practical courses, including Project Work shall be appointed by the Controller of Examinations.
- 9.6 ESE Question paper patterns for B.E. / B.Tech. Degree programme are enclosed in Annexure - III, Annexure – IV, Annexure – V and Annexure – VI.

10. Procedure for awarding marks for Continuous Assessment

The evaluation of the student shall be based on continuous assessment. The structure for evaluation is as follows:

10.1 Theory Courses

- i. Assessment and evaluation processes happen in a continuous mode. However, for reporting purposes, a semester is divided into 2 discrete components identified as

Internal Assessment 1 (IA1) and Internal Assessment 2 (IA2).

- ii. The apportioning of IA1 for 50 marks shall be as follows:
 - a) 40 marks for Term Test 1
 - b) 10 marks for Quiz/Test/Publication/Presentation/Field Trip/Assignment
- iii. The apportioning of IA2 for 50 marks shall be as follows:
 - a) 40 marks for Term Test 2
 - b) 10 marks for Quiz/Test/Publication/Presentation/Field Trip/Assignment
- iv. The total (IA1 + IA2) marks out of 100 shall be reduced for 50 marks.

If a student has failed (vide clause 11.5) in a theory course, the continuous assessment marks the student has earned is no longer valid. The student on doing reappearance registration has to appear for the assessments along with the current batch of students and earn continuous assessment marks again.

10.2 Practical Courses

Every practical exercise / experiment shall be evaluated based on the performance of the student as follows:

- i. Pre – lab test 10%
- ii. Implementation and output 70%
- iii. Post – lab test 20%

The total marks for all the experiments are reduced for 50 marks.

The student who fails (vide clause 11.5) in the laboratory course shall register for the same in the subsequent semester, when offered next, and repeat the laboratory course again.

10.3 Project Work

- i. For Project work out of 100 marks, the maximum marks for Continuous Assessment is fixed as 60 and the End Semester Examination (project report evaluation and viva-voce examination) carries 40 marks. Project work may be assigned to a single student or to a group of students not exceeding 4 per group.
- ii. There shall be two assessments (each 100 marks) during the semester by a review committee. The student shall make presentation on the progress made before the committee. The Head of the Department shall constitute a review committee for each programme. There shall be a minimum of three members in the review committee. The project Guide will be one of the members of the Review Committee. The total marks obtained in the two Reviews shall be 60 marks.
- iii. The student(s) is expected to submit the project report on or before the last working day of the semester. The End semester examination for project work shall consist of evaluation of the final project report submitted by the student or students of the project group by an external examiner followed by a viva-voce examination

conducted separately for each student by a committee consisting of the external examiner, the guide of the project group and an internal examiner. The Internal and External Examiner shall be appointed by the Controller of Examinations from the Panel of Examiners submitted by the Head of the Department. The continuous assessment and End Semester Examinations marks for Project Work and the Viva-Voce Examination will be distributed as indicated below:

Continuous Assessment (60 Marks)				End Semester Examinations (40 Marks)			
Review I		Review II		Report Evaluation	Viva - Voce (30 Marks)		
Review Committee (excluding guide)	Guide	Review Committee (excluding guide)	Guide	External Examiner	Internal Examiner	External Examiner	Guide
20	10	20	10	10	10	10	10

- iv. If a student fails to appear for the Viva-Voce Examination after submitting the report on Project Work on the date, she will be marked as absent for the Project Work. Such student has to register again and clear the Project Work in a subsequent semester. Failure / absence in the final Viva-Voce examination results in re-registration of the Project Work.

Note: CA marks shall be displayed by the respective Head of the Department within 5 days from the last working day.

10.4 Internship training or Summer Project / Mini Project

- i. Internship Training or Summer Project, if specified in the curriculum, shall not exceed the maximum duration of 6 weeks and should be organized by the Head of the Department for every student. At the end of Internship Training or Summer Project, the student shall submit a certificate from the organization where she has undergone the training.
- ii. The Internship Training or Summer Project / Mini project shall carry 100 marks and shall be evaluated through CA only.
- iii. The evaluation of Internship training or Summer Project / Mini project will be made based on a brief report and Viva-Voce examination, conducted internally by a three member Departmental committee constituted by the Head of the Department. In the case of Internship Training or Summer Project, Certificates (issued by the Organization) submitted by the student shall be attached to the mark list sent to the Controller of Examinations by the Head of the Department.

10.5 Self Study Course

The Faculty member approved by the Head of the Department shall be responsible for periodic monitoring and evaluation of the course. The course shall be evaluated through Continuous Assessment and End Semester Examination (ESE). The evaluation methodology shall be the same as that of a theory course (vide clause 10.1 of UG R 2015).

10.6 One Credit Course

One credit course shall carry 100 marks and shall be evaluated through **continuous assessments only**. Two Assessments shall be conducted during the semester by the Department concerned. The Head of the Department may identify a faculty member as coordinator for the course. A committee consisting of the Head of the Department, faculty handling the course (if available) coordinator and a Senior Faculty member nominated by the Head of the Department shall monitor the evaluation process. The grades shall be assigned to the students by the above committee based on their relative performance.

10.7 Seminar / Professional Practices / Case Study / Technical report writing

The seminar / Case study shall carry 100 marks and shall be evaluated through continuous assessment only. Every student is expected to present a minimum of 2 seminars / presentation per semester before the evaluation committee and for each seminar / presentation marks can be equally apportioned. The three member committee appointed by Head of the Department will evaluate the seminar / presentation and at the end of the semester the marks can be consolidated and taken as the final mark. The evaluation shall be based on the seminar paper / report (40%), presentation (40%) and response to the questions asked during presentation (20%).

10.8 In case a student misses the assessment due to medical reasons (hospitalization / accident / specific illness) or due to participation in the College / University / State / National / International level Sports events with prior permission from the Head of the Institution a Reassessment may be given at the end of the semester after getting approval from the Head of the Department through the concerned Class Advisor.

If a student remains absent for all the Internal Assessment tests conducted, the Internal Assessment Marks is considered as AB and shall be marked as zero for the course against the Registration Number of the student in the internal marks sheet submitted to the Controller of Examinations by the Head of the Department.

10.9 Attendance and Assessment Record

Every teacher is required to maintain an 'ATTENDANCE AND ASSESSMENT RECORD' which consists of attendance marked in each lecture or practical or project work class, the record of class work (topics covered) and the test marks separately for each course. This should be submitted to the Head of the Department periodically (at least three times in a semester) for checking the syllabus coverage and the records of test marks and attendance. The Head of the Department will sign after due verification. At the end of the semester, the record shall be

verified by the Head of the Institution who will keep this document under safe custody (for three years). The inspection or audit team appointed by the University or Accreditation body may inspect the records of attendance and assessment of both current and previous semesters.

11. Award of Letter Grades and Grade Points, Performance Analysis Committee and Passing Requirements

11.1 Award of Letter Grade and Grade Point

Each student, based on her performance, will be awarded a final letter grade and grade point as given in the table infra for each course at the end of each semester by the following:

- i. Relative Grading System for theory courses having CA and ESE.
- ii. Absolute Grading System for all other courses including Laboratory courses, Project Work / Mini-project / Internship / Seminar / Report writing and Courses carrying only CA marks.
- iii. If the class strength is less than or equal to 10 in a theory course, then, absolute grading shall be adopted instead of the class-wise relative grading system

11.2 Relative Grading System

In relative grading system, the grades are awarded to the students based on their performance relative to the other in the class as detailed below:

- 11.2.1 For each course, the total mark, M (where M is equal to CA marks secured + ESE marks secured) is computed for each student. For each course the statistical parameters mean (μ), and standard deviation (σ) of the distribution of marks is arrived as given below:

$$\mu_i = \sum_{j=1}^n \frac{M_j}{n} \quad \text{and} \quad \sigma_i = \sqrt{\frac{\sum_{j=1}^n (M_j - \mu_i)^2}{n}}$$

Where

M_j = Total marks of each student in a particular course and

N = No. of students who have appeared for the examination in that particular course.

- 11.2.2 The above statistical parameters are revised by eliminating outliers M_j in the range $[M_j > (\mu_i + 2\sigma_i), M_j < (\mu_i - 2\sigma_i)]$ and the revised statistical parameters; mean (μ) and standard deviation (σ) are computed using the above relationships, considering the updated number of students.

- 11.2.3 The letter grade and the grade point for the courses are generally awarded based on the statistical parameters, mean (μ) and standard deviation (σ) of the distribution of marks as detailed below:

Total Mark M secured by the student ($M = CA+ESE$)	Grade	Relative Grade point GP
$M \geq \mu + 1.65\sigma$	O	10
$\mu + 0.85\sigma \leq M < \mu + 1.65\sigma$	A ⁺	9
$\mu \leq M < \mu + 0.85\sigma$	A	8
$\mu - 1.2\sigma \leq M < \mu$	B ⁺	7
$\mu - 1.8\sigma \leq M < \mu - 1.2\sigma$	B	6
$M < \mu - 1.8\sigma$	RA	0
Shortage of Attendance	SA	0
Withdrawal from Examination	W	0

11.2.4 While applying relative grading, if the minimum mark corresponding to “B” grade happens to be less than 50, then that mark will be set as the minimum mark required to pass the course. Similarly, when the class average is high, marks above 50 may result in “RA” grade. Under such circumstances, the student will be awarded “B” grade and declared pass.

11.3 Absolute Grading System

In absolute grading system, the letter grade and grade points are awarded to each student based on the percentage of marks secured by her in Laboratory courses, Project Work / Mini-project / Internship Training / Seminar / Report writing and courses carrying only CA marks, as detailed below.

Range of percentage of total marks	Letter Grade	Grade Points
91- 100	O (Outstanding)	10
81- 90	A ⁺ (Excellent)	9
71 - 80	A (Very Good)	8
61 - 70	B + (Good)	7
50 - 60	B (Above average)	6
RA	Reappearance Registration	0
SA	Shortage of Attendance	0

The range of marks for each grade is decided statistically

‘RA’ denotes Reappearance registration is required for that particular course.

‘SA’ denotes shortage of attendance (as per Clause 6) and hence prevented from writing end semester examination.

11.4 Performance Analysis Committee

The Performance Analysis Committee chaired by the Head of the Institution and consisting of the Controller of Examinations and all the Heads of the Departments will, by collective wisdom, decide the scaling factors for different grades and minimum pass mark for ESE alone if found necessary, so as to ensure that the clustering and differentiation of students are made in a reasonable manner for each course separately.

11.5 Passing Requirements

- i. The Passing requirement for a student in a course is determined statistically based on the analysis of the marks obtained both in Continuous Assessment and End Semester Examinations. A student who earns a minimum of 6 grade points in a course is declared to have successfully passed the course.
- ii. If a student fails to secure a pass in a theory course (except electives), the student shall do reappearance registration for that course in the subsequent semester, when offered next, earn continuous assessment marks and attend the end semester examination.
- iii. If the course, in which the student has failed, is a professional elective or an open elective, the student may be permitted to register for the same or any other professional elective or open elective course in the subsequent semesters, attend the classes and fulfill the attendance requirements as per Clause 6.
- iv. If a student fails to secure a pass in a laboratory course, the student shall register for the course again, when offered next.
- v. If a student fails to secure a pass in project work, the student shall register for the course again, when offered next.
- vi. The passing requirement for the courses which are assessed only through continuous assessment (EEC courses except project work), shall be determined statistically based on the marks obtained in continuous assessment tests.

11.6 Cumulative Grade Point Average

11.6.1 After the results are declared, Grade Sheets will be issued to each student which will contain the following details:

- i. The Institution in which the student has studied.
- ii. The list of courses enrolled during the semester and the grades scored.
- iii. The Grade Point Average (GPA) for the semester.
- iv. The Cumulative Grade Point Average (CGPA) of all courses enrolled from first semester onwards.

- 11.6.2 GPA for a semester is the ratio of the sum of products of the number of credits acquired for courses and their corresponding grade points to the sum of the number of credits acquired for all the courses in the semester and is calculated using the formula.

$$GPA = \frac{\text{Sum of [Credits acquired x Grade points in the given semester]}}{\text{Sum of Credits acquired in the given semester}}$$

- 11.6.3 CGPA will be calculated considering all the courses registered from the first Semester “RA” and “SA” grades will be excluded for calculating GPA and CGPA and is calculated using the formula.

$$CGPA = \frac{\sum_{i=1}^n C_i GP_i}{\sum_{i=1}^n C_i}$$

Where

C_i – is the credits assigned to the course.

GP_i – is the point corresponding to the grade obtained for the given course.

N – is number of all courses successfully cleared during the particular semester in the case of GPA and during all the semesters in the case of CGPA.

- 11.6.4 CGPA will be calculated in a similar manner, considering all the courses enrolled from first semester. “RA” and “SA” grades will be excluded for calculating GPA and CGPA.
- 11.6.5 If a student studies more number of electives (PE/OE) than required as per the student’s programme curriculum, the courses with higher grades alone will be considered for calculation of CGPA.

12. Revaluation

- i. A Student can apply for a photocopy of her answer book to the Controller of Examinations through the Head of the Institution within one week from the date of declaration of results, on payment of a prescribed fee. She can apply for revaluation of the same within one week from the date of receiving of the photocopy and on payment of a prescribed fee.
- ii. A Student can apply for revaluation of answer scripts only after obtaining their photocopies and for courses not exceeding 5 at a time. The Controller of Examinations will arrange for the revaluation and the results will be published. Revaluation is not permitted for Practical courses, Seminars, Report writing, Internship training and Project work / Mini-project.

13. Eligibility for Award of the Degree

13.1 A student shall be declared to be eligible for the award of the B.E. / B.Tech. Degree provided the student has

- i. Successfully gained the required number of total credits as specified in the curriculum corresponding to the student's programme within the stipulated time.
- ii. Successfully completed the course requirements, appeared for the End-Semester examinations and passed all the courses prescribed in all the 8 semesters within a maximum period of 8 years reckoned from the commencement of the first semester to which the student was admitted.
- iii. Successfully passed any additional courses prescribed by the Academic Council whenever readmitted under regulations other than R-2015 (vide clause 17.3)
- iv. Successfully completed the NCC / NSS / NSO / YRC requirements.
- v. No disciplinary action pending against the student.
- vi. The award of Degree must have been approved by the Syndicate of the University.

14. Classification of the Degree awarded

14.1 First Class with Distinction:

A student who satisfies the following conditions shall be declared to have passed the examination in First class with Distinction:

- i. Should have passed the examination in all the courses of all the eight semesters in the student's First Appearance within **five** years, which includes authorized break of study of one year. Withdrawal from examination (vide Clause 15) will not be considered as an appearance.
- ii. Should have secured a CGPA of not less than **8.50**
- iii. Should NOT have been prevented from writing end semester examination due to lack of attendance in any of the courses

14.2 First Class:

A student who satisfies the following conditions shall be declared to have passed the examination in **First class**:

- i. Should have passed the examination in all the courses of all eight semesters **within five years** , which includes one year of authorized break of study (if availed) or prevention from writing the End Semester Examination due to lack of attendance (if applicable).
- ii. Should have secured a CGPA of not less than **7.00**

14.3 Second Class:

All other students (not covered in clauses 14.1 and 14.2) who qualify for the award of the degree (vide Clause 13.1) shall be declared to have passed the examination in **Second Class**.

14.4 A student who is absent in End Semester Examination in a course / project work after having registered for the same shall be considered to have appeared in that examination (except approved withdrawal from end semester examinations as per clause 15) for the purpose of classification

15. Provision for withdrawal from End Semester Examination

15.1 A student may, for valid reasons, (medically unfit / unexpected family situations / sports approved by HoD and Head of Institution) be granted permission to withdraw from appearing for the end semester examination in any course or courses in ANY ONE of the semester examinations during the entire duration of the degree programme. The application shall be sent to CoE through HoD with required documents.

15.2 Withdrawal application shall be valid only if the student is otherwise eligible to write the examination (Clause 6) and if it is made within TEN working days before the commencement of the end semester examination in that course or courses and also recommended by the Head of the Department

15.3 Notwithstanding the requirement of mandatory TEN working days notice, applications for withdrawal for special cases under extraordinary conditions will be considered on the merit of the case.

15.4 Withdrawal shall not be considered as an appearance for deciding the eligibility of a student for First Class with Distinction.

15.5 Withdrawal is permitted for the end semester examinations in the final semester only if the period of study the student concerned does not exceed 5 years as per clause 14.1.

16. Industrial visit

Every student is required to undergo a minimum of one industrial visit in a year starting from the second year of the Programme and the visit will be arranged by the Class Advisor with the approval from the Head of the Department.

17. Provision for authorized break of study

17.1 A Student is permitted to go on break of study for a maximum period of one year either as two breaks of one semester each or a single break of one year.

17.2 The student applies for break of study; the student shall apply to the Head of Institution in advance, in any case, not later than the last date of the first assessment period. The application (downloaded from website) duly filled by the student shall be submitted through the Head of the Department. In the case of short term employment/ training/ internship, the application for break of study shall be approved and forwarded by the Head of Department to Head of the Institution.

- 17.3 The students permitted to rejoin the programme after break of study / prevention due to lack of attendance, shall be governed by the Curriculum and Regulations in force at the time of rejoining. The students rejoining in new Regulations shall apply to the CoE in the prescribed format through Head of the Department at the beginning of the readmitted semester itself for prescribing additional/equivalent courses, if any, from any semester of the regulations in-force, so as to bridge the curriculum in-force and the old curriculum.
- 17.4 The total period for completion of the programme reckoned from, the commencement of the first semester to which the student was admitted shall not exceed the maximum period specified in clause 3.1 irrespective of the period of break of study in order that the student may be eligible for the award of the degree (vide clause 13).
- 17.5 In case there is any period of break of study more than the permitted duration of break of study, the student shall be permitted to continue the programme only if the approval is obtained from the Head of Institution through the concerned HOD before the end of the semester in which the student has taken break of study.
- 17.6 If a student has not reported to the department for a period of two consecutive semesters without any intimation, the name of the student shall be deleted permanently from the college enrollment. Such students are not entitled to seek readmission under any circumstances.
- 17.7 If the student has not reported back to the department, even after the extended Break of Study, the name of the student shall be deleted permanently from the college enrollment. Such students are not entitled to seek readmission under any circumstances.

18. Personality and character development

All students shall enroll, on admission, in any one of the personality and character development programme (like the NSS / NSO / YRC) and undergo training for about 80 hours and attend a camp of about seven days. The training shall include classes on hygiene and health awareness and also training in first-aid.

- i. **National Service Scheme (NSS)** will have social service activities in and around the Institution.
- ii. **National Sports Organization (NSO)** will have sports, Games, Drills and Physical exercises.
- iii. **Youth Red Cross (YRC)** will have activities related to social services in and around the Institution.

While the training activities will normally be during weekends, the camp will normally be during vacation period. Every student shall put in a minimum of 75% attendance in the training and attend the camp compulsorily. The training and camp shall be completed during the first year of the Programme. However, for valid reasons, the Head of the Institution may permit a student to complete this requirement in the higher semesters.

19. Discipline

Every student is required to observe disciplined and decorous behavior both inside and outside the Institution and not to indulge in any activity which will tend to bring down the prestige of the Institution. The Head of the Institution shall constitute a disciplinary committee consisting of the Head of the Institution, two Heads of Department of which one should be from the Class of the student to enquire in to the acts of indiscipline and to recommend the disciplinary action. In case of any serious disciplinary action which leads to suspension or dismissal, then the standing disciplinary committee of the Institution shall take the final decision.

20. Academic Malpractice

Academic malpractice shall be viewed seriously and punished appropriately in order to discourage students indulging such an activity. Each case shall be enquired by a 'Malpractice Committee' constituted by the Institution and suitable punishments awarded, if the malpractice is proven. If a student indulges in malpractice in any of the CA Tests, all the examinations written in that period shall be awarded zero marks in all courses registered in that semester. If a student indulges in malpractice in the ESE, all the regular and reappearance courses in which the student was eligible to write and also the registered and attended ESE shall be awarded 'RA' grade, as a punishment. They have to register all such courses in the subsequent semester when it is offered next.

21. Disposal of Answer Books

The course teacher is required to maintain a detailed record of the performance of the students in each assessment. When all the assessments in the course are complete, total marks obtained are converted into a grade. The disposal of Answer Books of CA should be done a year after the declaration of exam results and the disposal of Answer Books of ESE should be destroyed after the declaration of exam result and revaluation of the examination concerned.

22. Revision of Regulation and Curriculum

The Academic Council of the Institution may from time to time revise, amend or change the regulations, curriculum, syllabi and scheme of examinations, if found necessary.

23. Special Cases

In the event of any clarification in the interpretation of the above rules and regulations, they shall be referred to the Standing Committee. The Standing Committee will offer suitable interpretations / clarifications / amendments required for special case on such references and get them ratified in the next meeting of the Academic Council. The decision of the Academic Council is final.

ANNEXURE- I



VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
(An Autonomous Institution Affiliated to Anna University, Chennai)



INSTITUTE SEMESTER REGISTRATION FORM

_____ Semester _____ Programme 20__ 20__

1. Date of Registration: _____
2. Name of the Student: _____
3. Course Registration Number: _____
4. Register No. : _____
5. Department/Branch: _____
6. Whether paid Institute fees: Amount: Rs. _____ Date: _____

Mode of Payment and details:

(Attach self attested copy of payment receipt)

7. Courses of study:

Sl.No.	Course Code	Name of the Course(s)

Date:

Signature of the student

Course(s)/ Course Code Verified by

Date:

Signature of Class Advisor

Forwarded by

Approved by

Head of the Dept.

Principal

ANNEXURE- II

Additional courses to be studied by the B.Sc. graduates admitted to the III semester B.E. / B.Tech. Under Lateral Entry Scheme

The following additional courses are prescribed for the B.Sc. graduates:

- a. The course to be studied either in the III semester or V semester of study.

S.No.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	U15GE101	Engineering Graphics	2	0	3	4

- b. The courses to be studied either in the IV or VI semester of study as applicable to their discipline.

- i. **For Non-Circuit Branches:** (Biotechnology)

S.No.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	U15BT201	Biochemistry	3	0	0	3
2.	U15BT202	Biochemical Thermodynamics	3	0	0	3
3.	U15BT203	Biochemistry Lab	0	0	4	2

- ii. **For Circuit Branches:** (Computer Science and Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering & Information Technology)

S.No.	COURSE CODE	COURSE TITLE	L	T	P	C
1.	U15GE203	Basic Civil and Mechanical Engineering	3	2	0	4
2.	U15CS203	Object Oriented Programming	3	0	0	3

Note: L – Lecture; T – Tutorial; P – Practical; C – Credit.

ANNEXURE – III

Question Paper Pattern for End Semester Examinations for B.E. / B.Tech.

Total Marks: 100

Duration: 3 hrs

Part – A (20 Questions)

Answer ALL Questions

20x1=20

(Objective type testing conceptual / logical thinking with every wrong answer carrying 0.25 negative marks.)

Part – B (10 Questions)

Answer ALL Questions

10x2=20

(Objective type testing lower order analytical skills and requiring short calculations / brief analysis, with every wrong answer carrying 0.5 negative marks.)

Part – C (6 Questions)

Answer either “a” or “b” from each question, but not both

6x10=60

(Problems / questions testing the ability for higher order analysis / synthesis / concepts.)

Six questions will be asked in the **EITHER OR** Pattern. The first four questions will be from each unit (first unit to fourth unit) and the remaining two questions from fifth unit, which is not covered in the two term tests.

ANNEXURE – IV

Question Paper Pattern for Engineering Graphics

- Five questions will be asked in the **EITHER OR** Pattern covering all units of the syllabus.
- All questions will carry equal marks of 20 each making a total of 100.
- Students shall answer the questions by using only standard drafting instruments.

ANNEXURE – V

Question Paper Pattern for English for Communication I & II

English for Communication I

Term Test 1

Question Paper Pattern for Test 1

Paper	Details	Marks	Outcome
Reading 1 hour	Reading: 7 parts – 45 items.	45 marks	Shows whether the student can read and understand the main points from graphs or charts, messages and emails, and can use vocabulary and structure correctly.
Listening (about 40 minutes, including transfer time)	4 parts – 30 items	30 marks	Shows the student's ability to follow and understand a range of spoken materials including interviews and discussions on everyday life.

Term Test 2

Question Paper Pattern for Test 2

Paper	Details	Marks	Outcome
Reading and Writing (1 hour 30 minutes)	Reading: 7 parts – 45 items.	45 marks	Shows whether the student can read and understand the main points from graphs or charts, messages and emails, and can use vocabulary and structure correctly.
	Writing: 2 tasks.	Task 1 – 10 marks Task 2 – 20 marks	Student is required to be able to produce two short pieces of writing: an internal communication, such as a note or a message, and some business correspondence, such as an email / letter.

Question Paper Pattern for End Semester Examination

Paper	Details	Marks	Outcome
Reading and Writing (1 hour 30 minutes)	Reading: 7 parts – 50 items.	50 marks	Shows whether the student can read and understand the main points from graphs or charts, messages and emails, and can use vocabulary and structure correctly.
	Writing: 2 tasks.	Task 1 – 10 marks Task 2 – 10 marks	Student is also required to be able to produce two short pieces of writing: an internal communication, such as a note or a message and some business correspondence, such as an email/ letter.
Listening - about 40 minutes	4 parts – 30 items	30 marks	Requires the student to be able to follow and understand a range of spoken materials including interviews and discussions on everyday life.

English for Communication II

Term Test 1

Question Paper Pattern for Test 1

Paper	Details	Marks	Outcome
Reading 1 hour	Reading: 7 parts – 45 items.	45 marks	Shows whether the student can read and understand the main points from graphs or charts, messages and emails, and can use vocabulary and structure correctly.
Listening (about 40 minutes, including transfer time)	4 parts – 30 items	30 marks	Requires the student to be able to follow and understand a range of spoken materials including interviews and discussions about everyday life.

Term Test 2

Question Paper Pattern for Test 2

Paper	Details	Marks	Outcome
Reading and Writing (1 hour 30 minutes)	Reading: 7 parts – 45 items.	45 marks	Shows whether the students can read and understand the main points from graphs or charts, messages and emails, and can use vocabulary and structure correctly.
	Writing: 2 tasks.	Task 1 – 10 marks Task 2 – 20 marks	Student is also required to be able to produce two short pieces of writing: an internal communication, such as a note or a message and some business correspondence, such as an email/ letter.

Question Paper Pattern for End Semester Examination

Paper	Details	Marks	Outcome
Reading and Writing (1 hour 30 minutes) 50% of the total marks will be taken	Reading: 7 parts – 50 items.	50 marks	Shows whether the student can read and understand the main points from graphs or charts, messages and emails, and can use vocabulary and structure correctly.
	Writing: 2 tasks.	Task 1 – 15 marks Task 3 – 30 marks	Student is also required to be able to produce two short pieces of writing: an internal communication, such as a note or a message, and some business correspondence, such as an email / letter.
Listening - about 40 minutes 25% of the total marks will be taken	4 parts – 30 items	30 marks	Requires the student to be able to follow and understand a range of spoken materials including interviews and discussions about everyday life.
Speaking (12 minutes per pair of students) 25% of the total marks will be taken	3 parts	25 marks	Requires the student to take part in conversation, asking and answering questions, and express freely opinions, when discussing business-related topics. Speaking test will be conducted face-to-face with 2 students at a time.

ANNEXURE – VI

Basic Civil and Mechanical Engineering Question Paper Pattern

Part – A

Answer ALL Questions

(Objective type testing conceptual / logical thinking, with every wrong answer carrying **0.25negative marks.**)

20x1=20

Part – B

Answer ALL Questions

(Objective types requiring short calculations / brief analysis with every wrong answer carrying **0.5negative marks.**)

10x2=20

Part – C

Answer either “a” or “b” from each question, but not both

6x10=60

(Problems / questions testing the ability for higher order analysis / synthesis / concepts.)

Six questions will be asked in the **EITHER OR** Pattern. The first four questions will be from each unit (first unit to fourth unit) and the remaining two questions from fifth unit, which is not covered in the two term tests.

6x10=60

Total Marks: 100