



Vel Tech
Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

VTUR15

**ACADEMIC
REGULATIONS 2015
FOR
B.TECH
PROGRAMMES**

Amendments made till 22nd Academic Council meeting are incorporated

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1. SHORT TITLE AND COMMENCEMENT

- a) The regulations listed under this Section are common for Engineering Degree Undergraduate level programmes (B. Tech.) offered by Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology (Deemed to be University u/s 3 of UGC act, 1956) with effect from the academic year 2015-16 and they are called “VTUR15” regulations.
- b) The regulations here under are subject to amendments as may be made by the Academic Council of the university from time to time, keeping the recommendations of the Board of Studies (BOS) in view. Any or all such amendments shall be effective from such date and to such batches of students including those already undergoing the programme, as may be decided by the Academic Council.

2. DEFINITIONS

- a) “Commission” means University Grants Commission (UGC)
- b) “Council” means All India Council for Technical Education (AICTE)
- c) “University” means Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology
- d) “Programme” means cohesive arrangement of courses, co-curricular and extracurricular activities to accomplish predetermined objectives leading to the award of a degree.
- e) “Course” means a unit of teaching, which encompasses various topics, that typically lasts one semester, is led by one or more faculty and has a fixed set of registered students.
- f) “Degree” means an academic degree conferred by the University upon those who complete the undergraduate programme successfully.

- g) “Regular Students” means students enrolled into the four year programme in the first year
- h) “Lateral entry Students” means students enrolled into the four year programme in the second year
- i) “Academic Year” means constituting of two consecutive (one odd + one even) semesters.
- j) “Choice Based Credit System” means providing choice for students to select courses from the prescribed course categories (core, elective, value-based, complementary skill courses), in the preferred semester complying prerequisites and based on their learning aptitudes.

3. ACADEMIC PROGRAMMES

3.1 Nomenclature of Programmes

3.1.1 The nomenclature and its abbreviation given below shall continue to be used for the degree programmes under the University, as required by the Council and the Commission.

- a) **Bachelor of Technology shall be abbreviated as B.Tech. in parenthesis.** Besides, the subject of the programme shall be indicated. For example undergraduate (UG) degree programme in Mechanical Engineering shall be mentioned as

Bachelor of Technology (B.Tech.)

in

Mechanical Engineering

- b) Undergraduate (UG) engineering degree programme with specialization, specialization shall be indicated in parenthesis after the subject of the program. For example undergraduate

(UG) degree programme in Civil Engineering with specialization in Civionics shall be mentioned as

Bachelor of Technology (B.Tech.)

in

Civil Engineering (Civionics)

c) Undergraduate (UG) engineering degree programme in collaboration with industry/research collaborator, collaborator name shall be mentioned after subject of the programme. For example undergraduate (UG) degree programme in Mechanical Engineering with specialization in automobile engineering in collaboration with Automotive Research Association of India (ARAI) shall be mentioned as

Bachelor of Technology (B.Tech.)

in

Mechanical Engineering (Automobile Engineering)

in collaboration with Automotive Research Association of India (ARAI)

3.1.2 Bachelor of Technology (B. Tech.) degree programmes are offered in:

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

If the university on the recommendation of Academic Council offers any other new programme(s)/specialization(s) or modify the existing

programme(s)/specialization(s), the same regulations shall be applicable.

4. DURATION OF THE PROGRAMME

4.1 Minimum Duration of the Programme

4.1.1 The minimum duration of the programme for regular students shall be four years consisting of eight semesters.

4.1.2 The minimum duration of the programme for lateral entry students, who are admitted in the second year, shall be three years consisting of six semesters.

4.2 Maximum Duration of the Programme

The maximum duration which a student can take to complete a programme shall be as follows for students admitted from 2016 -17 academic year onwards:

- a) *Maximum duration = $N+2$ years, where N stands for the minimum duration (In Years) prescribed for completion of the programme.*
- b) *Under any exceptional circumstance, a further extension of one more year may be granted subject to approval of Vice-chancellor for the requisition made by the student.*
- c) *During the extended period the student shall be considered as a private candidate and also not eligible for first class.*

[Amended as per the 22nd Academic Council Meeting Item 22.19]

4.3 Minimum Duration of a Semester

Each semester consists of a minimum of 90 instructional days as per the guidelines of Commission and Council.

5. ADMISSION CRITERIA

The eligibility criteria for admission into UG programmes are as per the norms of Commission, Council and Board of Management from time to time.

6. CREDIT SYSTEM AND GRADE POINTS

6.1 Credit Definition

A credit is the unit by which the course work is measured. It determines the number of contact hours, 50 minutes, of instructions required per week. One credit is equivalent to one contact hour of lecturing or two contact hours of practical work/tutorial/field work per week.

6.2 Credit Structure

A typical credit structure for course work (B.Tech Programme) based on the above definition is given in Table 1.

Table 1. Typical credit allocation scheme for courses

Lectures (L)	Tutorials (T)	Practical (P)	Total Contact Hours	Total Credits (C)
4	-	-	4	4
3	2	-	5	4
3	-	2	5	4
2	-	4	6	4
3	-	-	3	3
2	2	-	4	3
2	-	2	4	3
1	-	4	5	3
2	-	-	-	2
-	-	4	4	2
1	-	-	1	1
-	-	2	2	1

6.3 Course Registration

6.3.1 The student shall register and withdraw the courses at least five working days before and after the commencement of the academic semester, respectively. The dates for registration and withdrawal shall be mentioned in the academic calendar. Maximum number of students allowed to register for a course shall be indicated against each course.

6.3.1.1 The student is eligible to register course if he/she fulfills the requirement of pre-requisite by acquiring minimum 75% attendance in such course.

6.3.2 The student shall register in a semester minimum of 18 credits and maximum of 28 credits, out of which minimum 15 credits shall be from Section 7.2.1 and/or 7.2.2.

6.3.3 The registration of minimum credits prescribed in Section 6.3.2 may be exempted in following cases:

6.3.3.1 The registration of minimum credits may fall below 18 credits if the student has acquired at least 150 credits subjected to the prior approval of the Dean of the school concerned.

6.3.3.2 The registration of minimum 15 credits from section 7.2.1 and/or 7.2.2 as prescribed in Section 6.3.2 may be exempted, if the student has acquired minimum 90 credits from section 7.2.1 and/or 7.2.2.

6.4 Course registration after minimum duration of the program

The student may register the courses before their maximum duration of the program as mentioned in Section 4.2, to fulfil the minimum credit requirement mentioned in Table 4/Table 5 by

paying the requisite fee.

6.5 Grade Points and Letter Grade for a Course

The grade points and letter grade shall be awarded to student in each course based on his/her performance as per the grading system shown in Table 2.

Table 2. Grade points and letter grade scheme for a course

Range of Marks	Letter Grade	Grade Point
90-100	S	10
80-89	A	9
70-79	B	8
60-69	C	7
50-59	D	6
00-49	RA	0
Absent	AB	0

6.6 Semester Grade Points Average (SGPA)

It is a measure of performance of work done in a semester. It is the ratio of sum of product of credit and grade point earned by a student in various courses in a semester and the sum of the credits earned in that semester. It shall be expressed up to two decimal places and shall be computed using the formula given below.

$$SGPA = \frac{\sum_{i=1}^n C_i G_i}{\sum_{i=1}^n C_i}$$

where C_i denotes the credit earned in the i th course,

n is the number of courses through which credits earned by a student in a semester and

G_i is the Grade Points secured by a student in the i th course.

SGPA shall be mentioned in the grade sheet as per the format below.

Total credits registered in a semester	Total credits earned in a semester	SGPA
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6.7 Cumulative Grade Point Average (CGPA)

6.7.1 It is a measure of cumulative performance of a student in a programme. The CGPA is the ratio of sum of product of credit and grade point earned by a student in various courses in all the semesters and total credits earned in all the semesters. It shall be expressed up to two decimal places and shall be computed using the formula given below.

$$CGPA = \frac{\sum_{i=1}^m C_i G_i}{\sum_{i=1}^m C_i}$$

where C_i denotes the credit earned in the i th course,

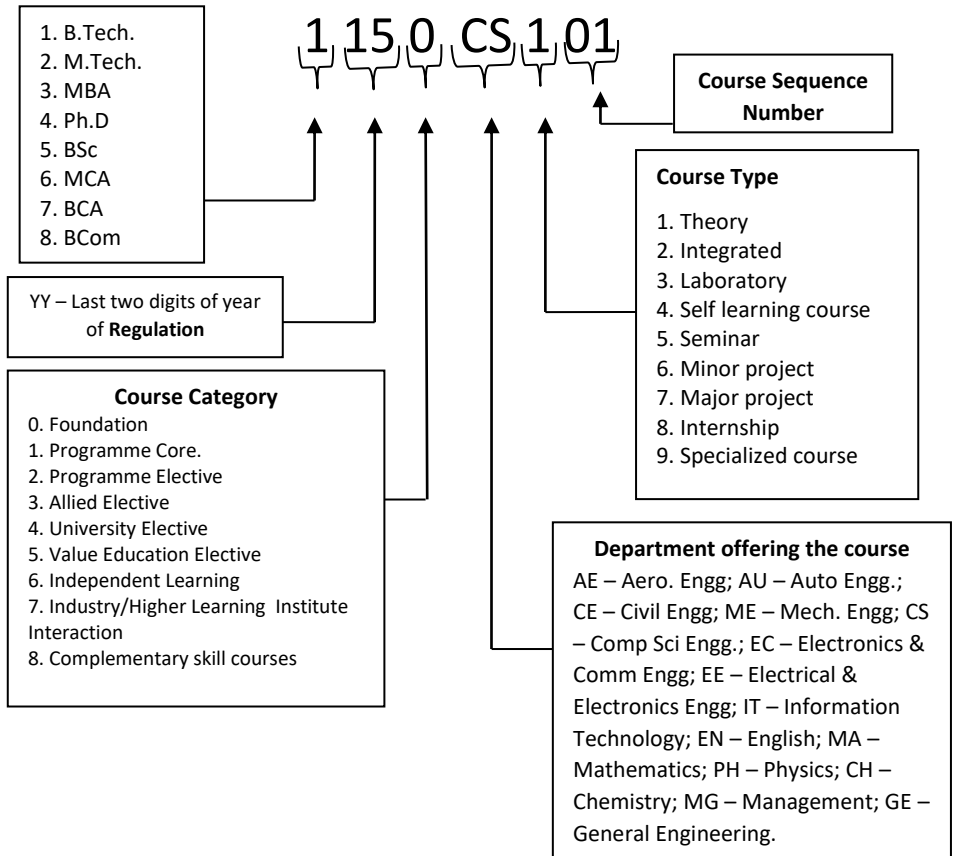
m is the number of courses through which credits earned by a student in all the semesters and

G_i is the Grade Points secured by a student in the i th course.

6.7.2 The CGPA shall be calculated as per section 6.7.1, considering the courses selected by the students, satisfying the prescribed norms in Section 13.1.

6.8 Course Numbering Scheme

The course number consists of digits/alphabets. A typical course number is illustrated below.



7. CURRICULUM FRAMEWORK

7.1 Preamble

- 7.1.1 Curriculum framework is important in setting the right direction for a Degree programme as it takes into account the type and quantum of knowledge necessary to be acquired by a student to qualify for an award in his/her chosen programme.
- 7.1.2 Besides, this also helps in assigning the credits for each course, sequencing the courses, and finally arriving at the total number of courses to be studied, and the total number of credits to be earned by a student to fulfill the requirements for the award of the degree.
- 7.1.3 Each theory course shall consist of five units.

7.2 Programme Structure

The programme structure is designed in such a way that it facilitates the courses required to attain the expected knowledge, skills and attitude by the time of their graduation as per the needs of the stakeholders and Graduate Attributes of NBA, New Delhi. The programme structure consists of various course categories (as described in Sections 7.2.1 to 7.2.9) to cover the depth and breadth required for the programme and for the attainment of programme outcomes of the corresponding programme. The curriculum shall satisfy the programmes specific criteria recommended by professional bodies of the respective programme. Courses shall be offered under various categories as explained below, among which only programme core and programme elective courses shall have flexible credits while other courses shall have same fixed credits.

7.2.1 Foundation Courses

Foundation courses enhance the knowledge, skills and attitude of UG engineering graduates of all programmes to the expected level. The foundation courses shall have the courses related to basic sciences and mathematics, basic engineering sciences and humanities and social sciences.

1. Basic Sciences and Mathematics courses may include courses such as Engineering Physics, Engineering Chemistry and Engineering Mathematics.
2. Basic Engineering Science courses may include courses such as Introduction to Computing, Basics of Electrical Engineering, Basics of Mechanical Engineering and Engineering Graphics.
3. Humanities and Social Sciences courses may include courses such as Technical English and Communication Skills, Professional Ethics, Environmental Studies and Engineering Economics and Finance.

7.2.2 Programme Core Courses

Programme core consists of set of courses considered necessary for the students of the specific programme. The courses and their contents under this category should satisfy the programme specific criteria prescribed by the appropriate professional societies. Each programme shall cover minimum three major areas pertaining to the programme.

7.2.3 Programme Electives

Programme electives are the courses offered in the programme which covers depth and breadth to further strengthen the programme specific knowledge. The students may register for appropriate electives offered in the programme based on their area of interest.

7.2.4 Allied Electives

Allied electives are the courses offered in the respective school which provides the students with desired knowledge and skills in allied areas. The students may register for appropriate electives offered in the school based on their area of interest.

7.2.5 University Electives

University electives are the courses offered across the schools to enhance the knowledge breadth and professional competency of the students. The student shall register the courses offered by other schools as an elective. The courses offered under this category cover the interdisciplinary/ transdisciplinary knowledge.

7.2.6 Value Education Electives

Value education electives are the set of value based courses which are aimed at man-making education. These courses shall engineer the attitudes of the students and bring constructive behavioral changes. They are one credit courses which shall be offered at university level and shall primarily address transferable skills related programme outcomes. Courses under this category may include the following and the students shall earn at least four credits from the list given below.

1. Human Values & Technology
2. Technology & Community Development
3. Multi-Cultural studies (National & International)
4. Value based Minor Project
5. Cross Cultural Issues.
6. Multilingual Communication
7. Entrepreneurship development & IPR
8. Current Geo Political Issues
9. Music & Drama
10. Politics & World Religion
11. Business Communication (including writing)

12. Thirukkural
13. Literature

7.2.7 Independent Learning

The students are expected to learn the courses offered under this category on their own. The courses offered under this category include:

7.2.7.1 Self-Learning Course:

The self-learning courses shall be taken from the list of approved MOOCs in the respective Board of Studies. Students shall earn a minimum of two credits from these courses.

7.2.7.2 Seminar, Minor Project and Major Project:

- (a) Two seminars, which carry one credit each, shall be delivered by the students, maximum of three in a group, in two different semesters. The seminar topics shall be related to the contemporary aspects of the programme and approved by the Seminar Review Committee (SRC).
- (b) Minor Project, which carries four credits, shall be carried out by the students, maximum of three in a group, in the major areas pertaining to the programme approved by the Project Review Committee (PRC). The minor project may address societal problems/issues related to the programme.
- (c) Major Project, which carries 12 credits, shall be carried out by the students, maximum of three in a group, for a minimum period of six months. The major project shall be carried out in the major areas pertaining to the programme approved by the Project Review Committee (PRC) and may address societal problems/issues related to the programme. In order to register for major project, the student shall earn the minimum credits as required in various categories of courses as mentioned in Section 7.2 except Sections 7.2.6 and 7.2.9.

7.2.8 Industry/Higher Learning Institute Interaction

7.2.8.1 The students shall earn a minimum of two credits by undergoing internship and/or specialized courses as mentioned in the following clauses 7.2.8.2 & 7.2.8.3, respectively.

7.2.8.2 Internship:

The students shall undergo Internship in the industry/higher learning institute approved by Industry-Institute Interaction Cell (IIC) during any time after the second academic year.

7.2.8.3 Specialized Courses:

The students shall undergo the courses offered either by the industrial experts whose minimum academic qualification is Bachelor of Engineering or equivalent or faculty expert from higher learning institutions approved by IIC. The students shall choose either one two credits course or one one credit course or two one credit courses.

7.2.9 Complementary Skill Courses

The courses offered under this category are to complement the knowledge, skill and attitude acquired through the regular curricular courses. The students shall take all the courses listed in Group-I and at least one course each from group II and III as given in Table 3. No credits shall be awarded for the courses under this category. The student shall fulfill the minimum requirements as prescribed in the evaluation guidelines for mere completion of the course which is mandatory for the award of the degree.

Table 3. List of Complementary Skill Courses

Group	Category
Group-I	Soft Skills
	Aptitude Proficiency
	English Proficiency Certification
Group-II	Sports/Yoga
	National Cadet Corps
	National Service Scheme
	Extra Curricular Activities
Group-III	Value Added Courses
	Globally accepted Certification Courses
	Co-curricular Activities
	Foreign Languages

7.2.10 Special Curricular Accomplishments

7.2.10.1 Research Publications:

The students shall be awarded additional credits if they publish a paper in any one of the journals approved by the Dean of the respective school. The number of additional credits, awarded to the students, is based on the recommendations of the expert committee constituted as per the direction of the Dean of the school. The expert committee shall review the published paper and shall give its recommendations for the award of additional credits. This shall be applicable to the first author only.

7.2.10.2 Skill based Vocational Courses:

The student accomplishment in a skill based vocational course in level 5 and above courses framed under National Skill Qualification Framework (NSQF), by National Skill Development

Agency (NSDA), may be given three credits and grade points by BOS in the appropriate course category mentioned in Section 7.2.

7.3 Minimum Credits Required in Various Course Categories

7.3.1. Regular students

The students shall earn credits in various course categories as indicated in Table 4.

Table 4. Minimum credits required for regular students in various course categories

Section Number	Course Category	Minimum Credits Required
7.2.1	Foundation courses	60
7.2.2	Programme core	60
7.2.3	Programme elective	18
7.2.4	Allied elective	6
7.2.5	University elective	10
7.2.6	Value education elective	4
7.2.7	Independent learning	20
7.2.8	Industry/Higher Institute Learning Interaction	2
Total		180

7.3.2. Lateral entry students

The students shall earn credits in various course categories as indicated in Table 5.

Table 5. Minimum credits required for regular students in various course categories

Section Number	Course Category	Minimum Credits Required
7.2.1	Foundation courses	25
7.2.2	Programme core	50

7.2.3	Programme elective	18
7.2.4	Allied elective	6
7.2.5	University elective	10
7.2.6	Value education elective	4
7.2.7	Independent learning	20
7.2.8	Industry/Higher Institute Learning Interaction	2
Total		135

7.3.3 Program specialization

The students enrolled for program specialization shall earn credits in various course categories as indicated in Table 6.

Section Number	Course Category	Minimum Credits Required
7.2.3	Programme elective	18
7.2.7	Independent learning	20
7.2.8	Industry/Higher Institute Learning Interaction	2
Total		40

7.4 Medium of Instruction and Examination

The medium of instruction and examination is English.

8. EXAMINATIONS AND SCHEME OF EVALUATION

8.1 Description

- 8.1.1 Continuous Evaluation (CE) shall be conducted by the course handling faculty/course coordinator all through the semester; it includes unit tests, midterm tests, assignments, projects and other means covering the entire syllabus/all the course outcomes.
- 8.1.2 Semester End Examination (SE) shall be conducted by the Controller of Examinations at the end of a semester, as per the academic calendar and it includes a written examination for theory courses, and practical examination and viva voce for laboratory/project courses.

8.2 Scheme of Continuous Evaluation

- 8.2.1 For all the theory courses, the continuous evaluation shall be for a maximum of 40 marks consisting of two unit tests, two mid-term tests, two assignments and regularity of students. The tests shall be conducted on the dates mentioned in the academic calendar and assignment submission dates shall be given by the course faculty.
- 8.2.2 There shall be two unit tests each carrying 10 marks. Two-third of the best unit test mark and one-third of the other unit test mark shall be considered for continuous evaluation. It shall measure the knowledge of the students in understand and above levels as mentioned against the respective course outcomes, in cognitive learning domain, as per the revised Bloom's taxonomy. The test shall consist of two questions each carrying five marks.
- 8.2.3 There shall be two mid-term tests each carrying 20 marks. Two-third of the best mid-term test mark and one-third of the other mid-term test mark shall be considered for continuous evaluation.

It shall measure the knowledge of the students in all levels as mentioned against the respective course outcomes, in cognitive learning domain, as per the revised Bloom's taxonomy. The test shall consist of two parts – Part A and Part B. Part A shall cover remember and understand level questions and carry five marks. Part B shall cover understand and above levels questions as mentioned against the respective course outcomes and it shall consist of four questions each carrying five marks, out of which students shall answer any three questions.

8.2.4 There shall be two assignments each carrying five marks. Two-third of the best assignment mark and one-third of the other assignment mark shall be considered for continuous evaluation. It shall measure the knowledge of the students in apply and above levels, in cognitive learning domain, as per the revised Bloom's taxonomy.

8.2.5 Attendance marks for each theory course shall be awarded as given in Table 7.

Table 7. Attendance marks for theory courses

Attendance (%)	Marks
90% and above	5
80 to 89%	4
75 to 79%	3
Below 75%	No mark

8.2.6 For all the laboratory courses, the continuous evaluation shall be for a maximum of 40 marks consisting of student's performance in each laboratory session and model test.

8.2.7 For each experiment in a laboratory course, maximum of 15 marks shall be awarded as per the rubrics shown in the Table 8. The average of all the experiment marks shall be considered for

continuous assessment. The rubric shall be informed to the students well in advance before the evaluation.

Table 8. Rubrics for evaluation of laboratory experiment

Performance in conducting experiment (5)	Result and analysis (3)	Viva Voce (3)	Record (4)
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8.2.8 In each laboratory course, model laboratory test shall be conducted for maximum of 25 marks on appropriate dates as mentioned in the academic calendar. A rubric, prepared considering the performance indicators given in Table 9, shall be informed to the students well in advance before the evaluation.

Table 9. Rubrics for evaluation of model laboratory test experiment

Performance in conducting experiment (15)	Result and analysis (5)	Viva Voce (5)
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8.2.9 For the integrated courses which have more than 50% credit contribution from lecture classes, the continuous evaluation shall be for a minimum of 40 marks consisting of two mid-term tests and one practical test. The tests shall be conducted on the dates mentioned in the academic calendar and assignment submission dates shall be given by the course faculty.

Mid-term Tests: There shall be two mid-term tests each carrying 20 marks. Two-third of the best mid-term test mark and one-third of the other mid-term test mark shall be considered for continuous evaluation. It shall measure the knowledge of the students in all levels as mentioned against the respective course

outcomes, in cognitive learning domain, as per the revised Bloom’s taxonomy. The test shall consist of two parts – Part A and Part B. Part A shall cover remember and understand level questions and carry five marks. Part B shall cover understand and above levels questions as mentioned against the respective course outcomes and it shall consist of four questions each carrying five marks, out of which students shall answer any three questions.

Practical Test: A practical test shall be conducted for maximum of 20 marks on appropriate dates as mentioned in the academic calendar. A rubric, prepared considering the performance indicators given in Table 10, shall be informed to the students well in advance before the evaluation.

Table 10. Rubrics for evaluation of laboratory test experiment in theory dominated integrated course

Performance in conducting experiment (5)	Result and analysis (5)	Viva Voce (5)	Record (5)
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8.2.10 For the integrated courses which have more than 50% credit contribution from practical classes, the continuous evaluation shall be for a maximum of 40 marks consisting of students’ performance in each laboratory session and model test as mentioned in Sections 8.2.6, 8.2.7 and 8.2.8.

8.2.11 For project work, Head of the department shall constitute the Project Review Committee (PRC) consisting of two faculty members with diversified specializations and the project guide. Continuous evaluation for 40 marks shall be done as given in Table 11.

Table 11. Continuous assessment scheme for project work

Review I	Review II	Assessment by Project Guide	Total
10 Marks	15 Marks	15 Marks	40 Marks

Rubrics shall be prepared by Project Review Committee using appropriate performance indicators for Review I and II separately and informed to the students well in advance. Average marks of Project Review Committee members shall be scaled to 10 marks for Review I and 15 marks for Review II. Separate Rubrics shall also be prepared by the individual project guide with appropriate performance indicators based on the nature of the project work and shall be approved by the PRC. Project guide shall evaluate for maximum of 15 marks during the entire project period.

8.3 Scheme of Semester End Examination

8.3.1 For all the theory, practical, and project courses, the semester end examination shall be for a maximum of 60 marks. For seminar, internship/industrial training and industry offered courses, the semester end examination shall be for a maximum of 100 marks.

8.3.2 The semester end examination for theory courses shall be conducted for maximum of 60 marks on dates as mentioned in the academic calendar. It shall measure the knowledge of the students in all levels as mentioned against the respective course outcomes, in cognitive learning domain, as per the revised Bloom's taxonomy. The examination shall consist of three parts – Part A, B and C.

- Part A shall cover remember and understand level questions and carry 10 marks.

- Part B shall cover only understand level questions and consist of five questions of either or type, one from each unit, and carry 20 marks.
- Part C shall cover understand and above levels questions and consist of five questions of either or type, one from each unit, and carry 30 marks.

The questions in Part A, Part B and Part C shall evenly address all the course outcomes.

However, a different pattern of question paper can be recommended by the BOS to meet the course specific requirement to the Vice-Chancellor.[Amended as per the 22nd Academic Council Meeting Item 22.5]

- 8.3.3 The semester end examination for laboratory courses shall be conducted for maximum of 60 marks on appropriate dates as mentioned in the academic calendar and shall be evaluated as per the rubrics given in Table 12.

Table 12. Rubrics for evaluation of semester end laboratory examination

Performance in conducting experiment (30)	Result and analysis (20)	Viva Voce (10)
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- 8.3.4 For the integrated courses which have more than 50% credit contribution from lecture classes, the semester end examination shall be conducted for a maximum of 60 marks as same as for theory courses.
- 8.3.5 For the integrated courses which have more than 50% credit contribution from practical classes, the semester end examination shall be conducted for a maximum of 60 marks on appropriate

dates as mentioned in the academic calendar. Rubrics, prepared for model test, shall be used with proper scaling based on mark distribution as given in Table 13.

Table 13. Rubrics for evaluation of semester end laboratory examination in practical dominated course

Part-A	Part-B		
Theory questions to evaluate the knowledge and understanding (20)	Performance in conducting experiment (25)	Result and analysis (10)	Viva-Voce (5)

- 8.3.6 For evaluation of project works, Semester end Project Evaluation Committee (PEC) shall be constituted with three examiners; one member from PRC (Section 8.2.11) nominated by HoD, one member nominated by VC and project guide. For each student in a project team, the semester end evaluation for 60 marks shall be conducted on dates as mentioned in the academic calendar. Separate Rubrics shall be prepared and made available for semester end project evaluation. Average marks of Project Evaluation Committee members shall be scaled to 60 marks.
- 8.3.7 For evaluation of seminars, Seminar Review Committee (SRC) shall evaluate the individual student for 100 marks based on the rubrics prepared for the purpose on date(s) as mentioned in the academic calendar.
- 8.3.8 For evaluation of Industry/Higher Learning Institute Interaction courses, student shall submit the comprehensive report to the department within a week time after the completion of the internships. Two credits shall be awarded to the student who underwent either one spell of internship which has a minimum of

ten days duration with at least 8 hrs per day or two spells which have a minimum duration of five days each with at least 8 hrs per day. Based on the Rubrics prepared for the purpose, the report shall be evaluated for 100 marks by a three-member review committee constituted by the Head of the Department.

- 8.3.9 The semester end examination for courses under specialized courses category shall be evaluated for 100 marks by the industrial/faculty experts who offered the course or by the faculty nominated by the Head of the department in consultation with the course handling faculty. The question paper pattern shall be decided by the course handling faculty at the beginning of the course and the same shall be approved by the Head of the department.

8.4 Scheme of Evaluation for Complementary Skill Courses

No credits shall be awarded for the courses under this category. The student shall fulfill the minimum requirements as prescribed in the guidelines below for mere completion of the course which is mandatory for the award of the degree.

8.4.1 Sports

1.	Prerequisites / Eligibility conditions	A bonafide student of the University.
2.	Details	Indoor Events / Outdoor Events – Athletics. Games: Football, Volleyball and Basket ball. Athletics: Sprint events, throws and Jumps. Indoor: Chess, Table Tennis, and Badminton.

3.	Total number of hours and minimum attendance requirement	20 Hours; Minimum attendance 80%
4.	Number of contact hours and practice hours per week	2 Hours
5.	Passing requirements	Representation of the University in Open

8.4.2 Yoga

1.	Prerequisites / Eligibility conditions	A bonafide student of the University.
2.	Total number of hours and minimum attendance requirement	One Semester
3.	Number of contact hours and practice hours per week	2 Hours
4.	Passing requirements	Minimum attendance 80%

8.4.3 National Cadet Corps

Particulars	Exam
After Completion of 2 years NCC training and one NCC Camp	Eligibility for NCC B – Certificate Exam

8.4.4 National Service Scheme (NSS)

S.No	Condition / Attribute	Fulfilling Requirement(s)
1.	Prerequisites / Eligibility conditions	A bonafide student of the University.
2.	Details of the orientation programme	At least one programme per year
3.	Membership in NSS	One year

4.	Assessment procedure	As per NSS Norms, presence behavior
5.	Passing requirements	Must be participated in any 5 activities during the two years period.

8.4.5 Extra Curricular Activities

S.No	Condition / Attribute	Fulfilling Requirement(s)
1.	Prerequisites / Eligibility conditions	A bonafide student of the University for inter-college/inter-university competitions, students will be shortlisted based on their Previous achievements / the selection process.
2.	Details	As prescribed by the organization / department / clubs. Activities include Photography, Music, Dance, Literature club, Quiz club, Debate club, Nature club and any other activity.
3.	Passing requirements	Participation in the University level activities with minimum of Two Events.

8.4.6 English Proficiency Certification

S.No	Condition / Attribute	Fulfilling Requirement(s)
1.	Pre-requisites / Eligibility conditions	As given by certification issuing authority. Students are eligible to appear for the BEC exam at any semester.
2.	Detailed course content / Syllabus	As given by the certifying authority
3.	Duration of the course, total number of hours and minimum attendance requirement	Two weeks intensive training; minimum attendance 80%.

4.	Number of contact hours and practice hours per week	45 hours of training followed by online assessment.
5.	Assessment Procedure – Tests, Examination	Examination conducted by the certifying authority
6.	Passing requirements	A minimum score in TOEFL iBT, GRE A minimum total score in IELTS A minimum score in the examination conducted by the Cambridge University (BEC)

8.4.7 Soft Skills

Content:

Module 1: Personality Grooming and Communication Skills

Module 2: Analytical and Problem Solving Skills

Module 3: Presentation Skills, Group Discussion, Interview Skills

Duration: 3 Weeks (One Week after the 2nd Semester, One Week after 3rd or 4th Semester and One Week after the 5th or 6th Semester).

Assessment: Shall be made by the trainer at the end of each week.

8.4.8 Value Added Courses

These courses shall be conducted by the respective departments and the students from other departments may also be allowed to attend the same.

Assessment Procedure: Online / Written Examination conducted by the certifying authority.

8.4.9 Aptitude Proficiency Certification

S.No	Condition / Attribute	Fulfilling Requirement(s)
1.	Prerequisites / Eligibility conditions	Students can take these exams after completion of the 4 th semester
2.	Detailed course content / Syllabus	As given by the certifying authority
3.	Duration of the course, total number of hours and minimum attendance requirement	40 to 80 hours, based on the nature of the course; minimum attendance 80%.
4.	Assessment Procedure – Tests, Examination	Examination conducted by the certifying authority
5.	Passing requirements	*GRE : A minimum total score of 1000 (for verbal and quantitative reasoning – the max score is 1600) *GMAT : A minimum score of 500 (for verbal and quantitative reasoning – the max score is 800)
6.	Any rules to be adhered to, specific to the individual courses	*Score valid for only two years

8.4.10 Globally Accepted Certification Courses

These courses are conducted by

1. HP ATA

HP ATA Cloud

HP ATA Connected devices

¾ HP ATA Networks

¾ HP ATA Servers and Storage

2. Microsoft

MCTS – Microsoft Certified Technologist Specialist (.Net)

MCITP – Microsoft Certified IT Professional
MCPD - Microsoft Certified Professional Developer (.Net)
MCDBA - Microsoft Certified Database Administrator
MCTS - Microsoft Certified SQL Server
MCSE - Microsoft Certified System Engineer
MCSA - Microsoft Certified System Administration
MCAD – Microsoft Certified Application Developer (.Net)
MCSA - Microsoft Certified Solution Developer (.Net)

3. National Instruments (Labview)

CLA – Certified Labview Architect Examination
CLD – Certified Labview Developer Examination
CLAD – Certified Associate Developer Examination

4. Oracle

Oracle – 10g/11g Administrator
Oracle – 10g/11g Certified Associate
Oracle – 10g/11g Certified Professional

5. IBM Certification

IBM Professional Certification Program
IBM Certified Solution designer – Relational Software
IBM Certified Advanced Deployment personnel – Tivoli
IBM Certified System Administrator – Websphere
IBM Service Oriented Architecture

6. CISCO Networking Academy

CCNA - Certification course

7. Adobe

9A0-055 – Adobe Dream Weaver CS3 ACE Examination
9A0-058 – Adobe Flash CS3 ACE
9A0-311 – Certified Macromedia Flash 8 Examination
9A0-803 – Certified Dream Weaver 8 Developer
Examination Adobe certified associate.

8. Red Hat Linux Certification

RHCE – RedHat Certified Engineer

RHCT – RedHat Certified Technician

9. Sun Microsystems

SCJP – Sun Certified Java Programmer

SCJD – Sun Certified Java Developer

SCSA – Sun Certified System Administrator (Level 1 & 2)

SCNA – Sun Certified Network Administrator

SCSA – Sun Certified Security Administrator

10. JAVA

OCWCD - Oracle Certified Web Component Developer

OCJP – Oracle Certified Java Programmer

11. Related to Civil Engineering

3D Studio (Viz / Max / Design)Primavera AutoCADD

MS Project STADD. Pro Revit Architecture ANSYS

Arc View GIS

12. Related to Mechanical Engineering

AutoCADD	Solid works	Pro E wild Fire 4
Unigraphics NX5	CATIA	Hyper mesh 10
Ansys 12	Nastran 2010	Patran 2010
ADAMS	Piping and PDS Software	3D Studio

Any new Certification programmes may be included with the permission of the Dean of the school.

Assessment Procedure: Online / Written Examination conducted by the certifying authority.

8.4.11 Co-curricular Activities

S.No	Condition / Attribute	Fulfilling Requirement(s)
1.	Prerequisites / Eligibility conditions	A bonafide student of the University
2.	Details of the course	<p>Co-curricular activities are divided into the following four groups.</p> <p>1. Professional Social Activities: Participation in activities of Professional Societies (National or International) like the Institution of Engineers, ISTE, IEEE, ASME, SAE, IETE, IME, etc., which contributes to the growth of the students.</p> <p>2. Paper presentations / Publications: Symposia / Seminars / Conferences – Choosing a Topic – Preparation of papers.</p> <p>3. Value-Added Courses Content and the details of various value – added courses to be specified by the workshop / Course Co-ordinator.</p> <p>4. Mini-projects / Model Development A mini-project which is relevant to the branch of interest of the student; a simulation model developed by the student with the guidance of a faculty member.</p>
3.	Duration	Two years
4.	Assessment	1. Professional Society

	<p>Procedure – Tests, Examination</p>	<p>Activities: Membership certificate from a professional society for a minimum period of 2 years. Evidence of active participation / involvement in all the activities organized by the professional society. A Completion Certificate from the respective in-charges will be required to clear this activity.</p> <p>2. Paper presentations / Publications: Certificate of presentation of technical papers in symposia / seminars / conferences. A minimum of 1 paper in an inter-college or 2 papers in an intra-college technical event.</p> <p>(OR) Publication of technical articles in National / International magazines /journals/proceedings.</p> <p>3. Value – Added Courses. Certificate of participation in Workshops and short- term courses (Internal or External). The total duration should be at least 3 days. A Completion Certificate from the respective in-charges will be required to clear this activity. The</p>
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		<p>Program Director/ Staff in – charge of this activity is responsible for ensuring the minimum duration and performance of the students as per the guidelines framed by the departments with respect to the nature of the course.</p> <p>4. Mini-projects / Model Development:</p> <p>Developing a simple project / Prototype; computer simulation of a system using an industry – standard software package.</p> <p>An Evaluation Committee formed by the HOD views this activity and the marks are awarded as follows: Report (40%), Presentation (30%) and Oral Examination (30%).</p>
5.	Passing requirements	Satisfactory completion of any two of the four groups given above.

8.5 Conditions for Pass

- 8.5.1 A candidate shall be declared to have passed in individual theory/drawing course if he/she secures a minimum of 50% aggregate marks (continuous evaluation and semester end examination marks put together), subject to a minimum of 45% marks in the semester end examination.
- 8.5.2 For the courses listed under Section 7.2.8, a student shall be declared to have passed if he/she secures a minimum of 50% marks in the semester end examination.
- 8.5.3 A candidate shall be declared to have passed in individual lab/project course, if he/she secures a minimum of 50% aggregate marks (continuous evaluation and semester end examination marks put together), subject to a minimum of 50% marks in the semester end examination.
- 8.5.4 If a candidate fails to secure a pass in foundation courses (Section 7.2.1) and /or programme core courses (Section 7.2.2), it is mandatory that he/she shall register and reappear for the examination in those courses during subsequent supplementary examinations and/or examinations conducted at the end of subsequent semesters. After the publication of the results of every semester examinations, a supplementary examination shall be conducted for the benefit of students who have failed in the current semester courses. If a candidate fails to secure a pass in the course(s) covered under Section 7.2.3 to 7.2.9, he/she shall register and reappear for the examination in those courses or register for any other course(s) in the respective category in the subsequent semesters.
- 8.5.5 On passing a course of a program, the student shall earn assigned

credits for that course.

- 8.5.6 A candidate shall apply for revaluation of his/her semester end examination answer paper in a theory course, within the stipulated time from the declaration of results, on payment of prescribed fee along with prescribed application to the COE.

9. CRITERIA TO ATTEND SEMESTER END EXAMINATION AND PROMOTION TO HIGHER SEMESTER

9.1 Eligibility for Semester End Examinations

A student shall secure a minimum of 75% attendance in a course in order to attend semester end examination of that particular course. Condonation of shortage in attendance may be recommended by the respective course handling faculty through proper channel on genuine medical grounds/participation in sports/co-curricular activities provided the student puts in at least 65% attendance and provided the Vice Chancellor is satisfied with the genuineness of the reasons and the conduct of the student. Students shall have to pay requisite fee towards condonation.

10. BREAK IN STUDY

- 10.1 A candidate is not normally permitted to temporarily break the study. However, if a candidate intends to temporarily discontinue the programme in the middle for valid reasons (such as accident or hospitalization due to prolonged ill health) and to rejoin the programme, he/she shall apply in advance to the Vice Chancellor through the Dean of the concerned school stating the reasons therefore in any case, not later than ten instruction days after starting of the academic session.

- 10.2 The candidate permitted to rejoin the programme after the break shall be governed by the rules and regulations in force at the time of rejoining.
- 10.3 The duration specified for passing all the courses for the purpose of classification as mentioned in Section 13 shall not be altered by the period of such break of study permitted.
- 10.4 The total period for completion of the programme reckoned from the commencement of the first year to which the candidate was admitted shall not exceed the maximum period specified in Section 4 irrespective of the break of study in order that he/she may be eligible for the award of the degree (as mentioned in Section 13).

11. TRANSITORY REGULATIONS

For transitional students, a Transitional Committee shall be formed consisting of Dean of school and HOD of the department concerned. The committee shall refer to the guidelines of BOS and advise transitional students with regard to their curricula, courses and other requirements for the completion of degree. The decision of the committee shall be placed for ratification before BOS, Academic Council and BOM. Every such application shall be disposed of by the Dean concerned in 15 days of receipt of application. While rejoining for the degree programme, a transitory student shall follow the same Regulations as that followed by regular students.

12. MIGRATION

The University academic programme offers Choice Based Credit System and transfer of credits. Transfer of credits enables a student to transfer the credit earned by him in one school to another and from one institution to another. This enables a student to migrate mid stream from

other institutions to this University. Thus students from other universities within and outside India can also join programmes of their choice mid stream subject to eligibility but with facility to transfer the credits earned by such student in the university from which he is migrating.

12.1. Cases of migration

- a. From one department of a School to another within the same School in the University
- b. From one department of a School to another School in the University
- c. From any other university in India to Vel Tech with or without change in Department
- d. From foreign universities to Vel Tech with or without Change in Department as per AIU/Washington Accord membership/UGC equivalence.

12.2. Migration from one department of a school to another within the same school in the university

In case of an application by a student of the University for transfer from the branch of the school in which he has enrolled to another branch in the same school, a Migration Committee consisting of the Dean of the School and the HoD of the transferee Department shall refer to the guidelines of BOS and decide the courses the student would have to complete to qualify to receive a degree from the transferee department subject to the condition that the student fulfills the required number of credits for the new branch including those which can be transferred. The decision of the Migration Committee shall be placed for ratification before the BOS, Academic Council and BOM. In each such case a specific order in writing shall be issued by the Registrar with the approval of the Vice Chancellor and communicated to the student, Dean, HOD of the transferee department, COA, COE and Finance

Departments. Every such application shall be disposed of by the Dean concerned in 15 days of receipt of application with prescribed processing fee.

12.3 Migration from one department of a school to another school in the university

In case of an application by a student of the University for transfer from the branch of the school in which he has enrolled to another branch in a different school, a Migration Committee consisting of the Dean of the School and the HOD of the transferee Department shall refer to the guidelines of BOS and decide the courses the student would have to complete to qualify to receive a degree from the transferee department subject to the condition that the student fulfills the required number of credits for the new branch including those which can be transferred. The decision of the Migration Committee shall be placed for ratification before the BOS, Academic Council and BOM. In each such case a specific order in writing shall be issued by the Registrar with the approval of the Vice Chancellor and communicated to the student, Dean, HOD of the transferee department, COA, COE and Finance Departments. Every such application shall be disposed of by the Dean concerned in 15 days of receipt of application with processing fee.

12.4 Migration from any other university in India to Vel Tech with or without change in Department

In case of an application by a student of any other Indian university for migration into Vel Tech with or without change in Department of study, a Migration Committee consisting of the Registrar, Dean of the School and the HOD of the transferee Department shall refer to the guidelines of BOS and decide the courses the student would have to complete to qualify to receive

a degree from the department to which migration is sought subject to the condition that the student fulfills the required number of credits for the new branch including those which can be transferred. The decision of the Migration Committee shall be placed for ratification before the BOS, Academic Council and BOM. In each such case a specific order in writing shall be issued by the Registrar with the approval of the Vice Chancellor and communicated to the student, Dean, HOD of the transferee department, COA, COE and Finance Departments. Every such application shall be disposed of by the Dean concerned in 15 days of receipt of application with processing fee.

12.5 Migration from any foreign university to Vel Tech with or without change in Department

In case of an application by a student of any foreign university for migration into Vel Tech with or without change in Department of study, a Migration Committee consisting of the Vice Chancellor, Registrar, Dean of the School and HOD of the transferee Department shall refer to the guidelines of BOS and decide the eligibility of the candidate for migration, recognition status of the foreign university with AIU/Washington Accord membership /UGC, Programme / course equivalence , courses the student would have to complete to qualify to receive a degree from the department to which migration is sought for subject to the condition that the student fulfills the required number of credits for new branch including those which can be transferred. The decision of the Foreign University Migration Committee shall be placed for ratification before BOS, Academic Council and BOM. In each such case a specific order in writing shall be issued by the Registrar with the approval of the Vice Chancellor and communicated to the student, Dean of school, HOD of the transferee department, COA, COE and Finance Departments.

Every such application shall be disposed of by the Dean concerned in 15 days of receipt of application with processing fee.

12.6 Course work for migration students

Once the respective migration committee has finalized the course work required to be done by the migrant student for a particular programme and he has been admitted to, the student shall be permitted to do the courses in his pace spread over the balance period of his studies in which such courses are offered. While doing so, he may have the option to attend such course(s) by mutual arrangements with the faculty concerned. For Continuous Internal Assessment purposes, his attendance in the regular course shall be counted and he shall submit the assignments, and write tests and appear for all practicals and other examinations as the regular students of such course(s) do. Marks secured by this process shall be counted for the CIA.

13. ELIGIBILITY FOR AWARD OF B.Tech. DEGREE

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

13.1 Regular Students

a) A regular student shall secure minimum of 180 credits and fulfil the minimum credit requirement in each category as mentioned in Table 4.

AND

b) A regular student shall register for complementary skill courses as prescribed in Section 7.2.9 and shall successfully complete the courses as per the assessment procedure given in Section 8.4.

AND

c) A regular student shall secure a minimum CGPA of 6 in 10 point scale.

AND

d) A regular student shall fulfil the duration of the programme

requirements as given in the Section 4.

13.2 Lateral Entry Students

a) A lateral entry student shall secure minimum of 135 credits and fulfil the minimum credit requirement in each course category as mentioned in Table 5.

AND

b) A lateral entry student shall register for complementary skill courses as prescribed in Section 7.2.9 and shall successfully complete the courses as per the assessment procedure given in Section 8.4.

AND

c) A lateral entry student shall secure a minimum CGPA of 6 in 10 point scale.

AND

d) A lateral entry student shall fulfil the duration of the programme requirements as given in the Section 4.

13.3 Award of program specialization

The program specialization shall be awarded after the completion of programme as per Section 13.1/13.2 and the Student secures minimum credit requirement in course categories mentioned in Table 6 from the program specialization.

13.4 Award of Division

13.4.1 The criteria for award of division after the completion of programme as per Section 13.1 is as shown in Table 14 below.

Table 14. Criteria for award of division

CGPA nominations	Division
$6 \leq \text{CGPA} < 6.5$	Second Class
$6.5 \leq \text{CGPA} < 8$	First Class
$\text{CGPA} \geq 8$	Distinction*

*All the courses contributing to CGPA shall be cleared in the first appearance.

13.2.2 For the purpose of awarding First Class with Distinction, the Award of Degree shall be fulfilled within the minimum duration of the programme.

13.2.3 Break in Study candidate shall be awarded First Class with Distinction, if he/she secures the CGPA greater than or equal to 8, and has taken prior approval of Vice Chancellor as mentioned in Section 10.

13.2.4 For the purpose of awarding First, Second and Pass Class, CGPA obtained in the examinations appeared within the maximum period allowed for the completion of course shall be considered.

13.3 Consolidated Grade Card

A consolidated grade card containing credits and grades obtained by the candidates shall be issued after completion of the four year B.Tech Programme.

14. DISCIPLINE

14.1 Every student is required to observe disciplined and decorous behavior both inside and outside the University and strictly adhere to the conduct rules in force from time to time and not to indulge in any activity which

will tend to bring down the prestige of the University. The Board of Management shall constitute a disciplinary committee consisting of Dean and two Heads of department of which one should be from the faculty of the student, to enquire into acts of indiscipline and notify the University about the disciplinary action recommended for approval.

- 14.2 If a student indulges in malpractice in any of the Class tests / cycle tests / end semester university examinations whether conducted by internal or external examiners including mock tests by trainers etc, such student shall be liable for punitive action as prescribed by the university from time to time under the General Code of Conduct.
- 14.3 Smoking, carrying / holding / drinking alcohol, ragging / eve teasing inside and outside the university campus is viewed as serious misconduct. Such students will be met with severe punishments and may leads dismissal from hostels / and university.

15. MALPRACTICES

- 15.1 The Dean of the school shall refer the cases of malpractices in Continuous Evaluation 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 Dean of the school shall take necessary action, against the erring students based on the recommendations of the committee.
- 15.2 Any action on the part of student at an examination trying to get undue advantage in the performance or trying to help another, or derive the same through unfair means is punishable according to the provisions contained here under. 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 at the examination shall be viewed seriously and recommended for the award of appropriate punishment after thorough enquiry.

16. OTHER MATTERS

- 16.1 The physically challenged candidates who have availed additional examination time and a scribe during their higher secondary (+2) / qualifying entrance examinations shall be given similar concessions on production of relevant proof /documents.
- 16.2 Students who are suffering from contagious diseases shall not be allowed to appear either continuous or semester end examinations.
- 16.3 The Vice Chancellor shall deal with any academic problem/issues, which is not covered under these rules and regulations, in consultation with the Directors, Deans and Heads of the departments in an appropriate manner, and subsequently such actions shall be placed before the Academic Council for ratification.

17. AMENDMENTS TO REGULATIONS

The Academic Council may, from time to time, revise, amend or change the regulations, schemes of examination and/or syllabi.