

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi – 590 018, Karnataka

Phone: 0831 -2498100/2405468 Fax; 2405467

E – Mail: registrar@vtu.ac.in, Web: www.vtu.ac.in



**REGULATIONS GOVERNING
THE DEGREE OF MASTER OF TECHNOLOGY (M.Tech.)
UNDER OUTCOME BASED EDUCATION (OBE)
AND
CHOICE BASED CREDIT SYSTEM (CBCS) SCHEME
(Full-time and Part-time)
Effective from academic year 2018 -19**

2018

Visvesvaraya Technological University, Belagavi

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Definitions of Keywords

The following are the definitions/descriptions that have been followed for the different terms used in the Regulations of M.Tech Programmes:

- 1) **Programme:** Is an educational programme in a particular stream/ branch of Engineering/branch of specialization leading to award of Degree. It involves events/activities, comprising of lectures/ tutorials/ laboratory work/ field work, outreach activities/ project work/ vocational training/ viva/ seminars/ Internship/ assignments/ presentations/ self-study etc., or a combination of some of these.
- 2) **Branch:** Means Specialization or discipline of M.Tech Degree Programme, like Power Electronics, Structures, Machine Design, etc.
- 3) **Semester:** Refers to one of the two sessions of an academic year (vide: serial number 4), each session being of sixteen weeks duration (with working days greater than or equal to ninety).The odd semester may be scheduled from August and even semester from February of the year.
- 4) **Academic Year:** Refers to the sessions of two consecutive semesters (odd followed by an even) including periods of vacation.
- 5) **Course:** Refers to usually referred to as 'papers' and is a component of a programme. All Courses need not carry the same weight. The Courses should define learning objectives and learning outcomes. A Course may be designed to comprise lectures/ tutorials/ laboratory work/ field work/ outreach activities/project work/ vocational training/ viva/ seminars/ term papers/assignments/ presentations/ self-study etc., or a combination of some of these.
- 6) **Credit:** Refers to a unit by which the Course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of lecture or two hours of laboratory/practical Courses/ tutorials/ fieldwork per week etc.
- 7) **Audit Courses:** Means Knowledge/ Skill enhancing Courses without the benefit of a grade or credit for a Course.
- 8) **Choice Based Credit System (CBCS):** Refers to customizing the Course work, through Core, Elective and soft skill Courses, to provide necessary support for the students to achieve their goals.
- 9) **Course Registration:** Refers to formal registration for the Courses of a semester (Credits) by every student under the supervision of a Faculty Advisor (also called Mentor, Counselor etc.,) in each Semester for the Institution to maintain proper record.
- 10) **Course Evaluation:** Means Continuous Internal Evaluation (CIE) and Semester End Examinations (SEE) to constitute the major evaluations prescribed for each Course. CIE and SEE to carry 40 % and 60 % respectively, to enable each Course to be evaluated for 100 marks, irrespective of its Credits.
- 11) **Continuous Internal Evaluation (CIE):** Refers to evaluation of students' achievement in the learning process. CIE shall be by the Course Instructor and includes tests, homework, problem solving, group discussion, quiz, mini-project and seminar throughout the Semester, with weightage for the different components being fixed at the University level.
- 12) **Semester end examinations (SEE):** Refers to examination conducted at the University level covering the entire Course Syllabus. For this purpose, Syllabi to be modularized and SEE questions to be set from each module, with a choice confined to the concerned module only. SEE is also termed as university examination.

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- 13) **First Attempt:** Refers to a student who has completed all formalities and has become eligible to attend the SEE and has attended at least one head of passing, such attempt shall be considered as first attempt.
- 14) **Credit Based System (CBS):** Refers to quantification of Course work, after a student completes teaching – learning process, followed by passing in both CIE and SEE. Under CBS, the requirement for awarding degree is prescribed in terms of total number of credits to be earned by the students.
- 15) **Credit Representation:** Refers to Credit Values for different academic activities considered, as per the Table.1. Credits for seminar, project phases, project viva–voce and internship shall be as specified in the Scheme of Teaching and Examination.
- 16) **Letter Grade:** It is an index of the performance of students in a said Course. Grades are denoted by letters S, A, B, C, D, E and F.

Table 1: Credit Values				
Theory/Lectures (L) (hours/week/Semester)	Tutorials (T) (hours/week/Semester)	Laboratory/Practical (P) (hours/week/Semester)	Credits (L:T:P)	Total Credits
4	0	0	4:0:0	4
3	0	0	3:0:0	3
2	2	0	2:1:0	3
2	0	2	2:0:1	3
2	2	2	2:1:1	4
0	0	6	0:0:3	3

NOTE: Activities like, practical training, study tour and participation in Guest lectures not to carry Credits.

- 17) **Grading:** Grade refers to qualitative measure of achievement of a student in each Course, based on the percentage of marks secured in (CIE plus SEE). Grading is done by Absolute Grading [Refer: 18OMT6.0]. The rubric attached to letter grades are as follows:
S – Outstanding, A – Excellent, B – Very Good, C – Good, D – Above Average, E – Average and F – Fail.
- 18) **Grade Point (GP):** Refers to a numerical weightage allotted to each letter grade on a 10-point scale as under.

Letter Grade and corresponding Grade Points on a typical 10 – Point scale							
Letter Grade	S	A	B	C	D	E	F
Grade Point	10	09	08	07	06	04	00

- 19) **Passing Standards:** Refers to passing a Course only when getting GP greater than or equal to 04 (as per serial number 18).
- 20) **Credit Point:** Is the product of grade point (GP) and number of credits for a Course i.e.,
Credt points (CrP) = GP × Credits for the Course.
- 21) **Semester Grade Point Average (SGPA):** Refers to a measure of academic performance of student/s in a semester. It is the ratio of total credit points secured by a student in various Courses of a semester and the total Course credits taken during that semester. [Refer:18OMT6.0]

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- 22) **Cumulative Grade Point Average (CGPA):** Is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points earned 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. [Refer: 18OMT6.0]
- 23) **Grade Card:** Refers to a certificate showing the grades earned by a student. A grade card shall be issued to all the registered students after every semester. The grade card will display the programme details (Course code, title, number of credits, grades secured) along with SGPA of that semester and CGPA earned till that semester.
- 24) **University:** Visvesvaraya Technological University (VTU), Belagavi.



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Clause	Particulars
18OMT1.0	Title, Duration and Credits of the Programme of Study
18OMT1.1	The Programme shall be called Master of Technology (Subject of Specialization), abbreviated as M.Tech. (Subject of Specialization).
18OMT1.2	There shall be two categories of Programme: 1) Full-time Programme (FT), and 2) Part-Time Programme (PT)
18OMT1.3	Full-time Programme: The Programme shall extend over a period of four semesters and each semester shall have 16 weeks duration.
18OMT1.4	Part -Time Programme: (a) The Programme shall be of 6 semesters. (b) Each semester shall be 16 weeks duration. (c) First, second, third and fourth semesters shall comprise course work and fifth and Sixth semesters shall be same as that of III and IV Semesters of the Full-time Programme. (d) The candidate shall register for a maximum of three courses per semester. (e) The candidates shall register for Laboratory course and Seminar in first and second semesters along with the regular three courses.
18OMT 1.5	Maximum Duration for Programme Completion: (a) A Full-time candidate shall be allowed a maximum duration of 4 years from the first semester of admission to become eligible for the award of Master's Degree, failing which he/she may discontinue the programme or register once again as a fresh candidate to I semester of the programme. (b) A Part -Time candidate shall be allowed a maximum of 6 years duration from the first semester of admission to become eligible for the award of Master's Degree, failing which he/she may discontinue the programme or register once again as a fresh candidate to I semester of the programme.
18OMT1.6	Prescribed Number of Credits for the Programme: The number of credits to be completed for the award of degree shall be 88.
18OMT1.7	The Calendar of events in respect of the Programme shall be notified by the University in advance.
18OMT2.0	Eligibility for Admission(As per the Government orders issued from time to time)
18OMT2.1	Admission to I year/I semester Master of Technology Programme shall be open to all the candidates who have passed B.E./ B. Tech. Examinations of VTU or any other recognized University/ Institution. The decision of the Equivalence committee shall be the final in establishing the eligibility of candidates for a particular Programme. For the foreign degrees, Equivalence certificate from the Association of Indian Universities shall be a must. The candidates who have completed their degree through the distance mode education from any University (National or International) are not eligible for admission to M.Tech. Programs under any quota.

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18OMT2.2	AMIE in respective branches shall be equivalent to B.E./ B. Tech. Programs of VTU for admission to M.Tech.
18 OMT2.3	Admission to M.Tech. Programme shall be open to the candidates (as per 18OMT 2.1 and 2.2) who have passed the prescribed qualifying examination with not less than 50 % of the marks in the aggregate of all the years of the degree examination. However, in the case of candidates belonging to SC/ST and Category I, the aggregate percentage of marks in the qualifying examinations shall not be less than 45%. Rounding off of percentage secured in qualifying examination is not permissible.
18OMT2.4	For admissions under GATE/ PGCET qualification and Roaster system of Government of Karnataka: The candidates should be GATE qualified or should have appeared for the Entrance Examination conducted by an authority recognized by Government of Karnataka (PGCET)/VTU/any other University on approval by Government of Karnataka. For admissions under Management Quota: The candidates should be GATE qualified or should have appeared for the Entrance Examination conducted by an authority recognized by Government of Karnataka PGCET/VTU/any other University on approval by Government of Karnataka. Further, there shall be an Admissions Committee for PG Programme in each college for each branch of PG studies consisting of the Principal of the College as the Chairman, Head of the concerned Department, one senior faculty of the concerned Department as members. The Admissions Committee shall conduct the interview and select the candidates for admissions. For admissions under Sponsored Quota: The candidates should be GATE qualified or should have appeared for the Entrance Examination conducted by an authority recognized by Government of Karnataka PGCET/VTU/any other University on approval by Government of Karnataka.
18OMT2.5	The candidates, who are qualified in the GATE Examination for the appropriate branch of engineering, shall be given priority. They are exempted from taking Entrance Examination. In case a GATE qualified Candidate appears for entrance examination and become qualified to claim a seat under entrance examination quota, he/she will be considered in the order of merit along with other candidates appeared for the entrance examination.
18OMT2.6	If sufficient number of GATE qualified candidates are not available, the remaining vacant seats shall be filled from amongst the candidates appeared for Entrance Examination in the order of merit.
18OMT2.7	The intake under various categories (regular, sponsored candidates and SC/ST) shall be as sanctioned by the AICTE, State Government and VTU, from time to time.
18OMT2.8	Subject to the provisions of 18OMT2.1 and 18OMT2.2, members of the Teaching/Research Staff working in any Engineering College recognized by AICTE either in the State of Karnataka or outside and who have put in a minimum of 03 years of teaching experience on full-time basis in Engineering Colleges, Polytechnic institutions / any other institutions imparting Engineering education shall be eligible for admission to PG Programs under sponsored quota, if they are sponsored by the respective Institutions / DTE.

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18OMT2.9	Subject to the provisions of 18OMT 2.1 and 18OMT 2.2, members working in the State Government/ Central Government/ Quasi Government Organizations/ Public Sector Industries / Reputed Private Industries, who have put in a minimum of 03 years of working experience and sponsored by the concerned Organizations, shall also be eligible to seek admissions to PG Programs against sponsored quota. Preference for admission under 18OMT2.8 and 2.9 shall be given to candidates sponsored by organizations of State and Central Governments.
18OMT2.10	Further that employment of Part-time students shall be in an establishment situated within the 40 km from the place of the institution to which the candidate is seeking admission.
18OMT2.11	Engineering graduates other than the Karnataka candidates shall obtain Eligibility Certificate from VTU to seek admission to P.G. Programme in any of the colleges (Autonomous or Non - Autonomous) affiliated to VTU.
18OMT2.12	Admission to vacant seats: Seats remaining vacant (unfilled), after the completion of PG admission process by Karnataka Examination Authority, shall be filled by the Institution by inviting applications through Press notification. The seats shall be filled by Candidates preferably who have valid GATE/ PG CET score. In the absence of such Candidates, admission shall be based on merit in the entrance test conducted at the Institution level. An Admissions Committee, consisting of the Principal of the College, Head of the concerned Department and the subject experts, shall be in charge of admissions.
18OMT3.0	Courses
18OMT3.1	The curriculum of the Programme shall be any combination of following type of courses: i) One Course on Mathematics supportive to the concerned programme in the first semester. ii) Professional Core Courses (PCC) - relevant to the chosen specialization/ branch [May be split into Hard (no choice) and Soft (with choice), if required]. The core course is to be compulsorily studied by a student and is mandatory to complete the requirements of a programme in a said discipline of study. iii) Professional Electives Courses (PEC) - relevant to the chosen specialization/ branch: these are the courses, which can be chosen from the pool of papers. It shall be supportive to the discipline/ providing extended scope/enabling an exposure to some other discipline / domain / nurturing student skills. iv) Open Electives Courses (OEC), from other technical and/ or emerging specialization areas. v) Project Work, Seminar. vi) Audit Courses (AC): (a) The Audit course can be any credit course offered by the program to which the Candidate is admitted (other than the courses considered for completing the prescribed program credits) or other programs offered in the institution, where the student is studying.

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<p>18OMT3.1 (continued)</p>	<p>(b) The students who are interested in audit courses can register for one audit course at a time during II and IV semesters. Students who have registered to audit the courses, considered on par with students registered to the same course for credit, have to satisfy attendance and CIE requirements. However, they need not have to appear for SEE.</p> <p>(c) Registration for any audit course, in writing, shall be completed at the beginning of II and IV semesters. The Institution should intimate the Registrar (Evaluation) about the registration at the beginning of the semester and obtain a formal approval for inclusion of the audit course/s in the Grade card issued to the students.</p> <p>vii) Internship: Preferably at an industry/R and D organization/IT company/ Government organization of significant repute for a specified period mentioned in Scheme of Teaching and Examination.</p>
<p>18OMT4.0</p>	<p>Internship</p>
<p>18OMT4.1</p>	<p>Internship: The student shall undergo Internship as per the Scheme of Teaching and Examination.</p> <ol style="list-style-type: none"> 1. The internship shall be carried out in any industry/R&D Organization/Research Institute/Institute of national and international repute/recognized national and international Professional Bodies, Societies or Organizations. 2. The Department/college shall nominate a faculty to facilitate, guide and supervise students under internship. 3. The students shall report the progress of the internship to the internal guide in regular intervals and seek his/her advise. 4. The Internship shall be completed during the period specified in Scheme of Teaching and Examination. 5. After completion of Internship, students shall submit a report to the Head of the Department with the approval of both internal and external guides. 6. There will be 40 marks for CIE (Seminar: 20, Internship report: 20) and 60 marks for Viva – Voce conducted during SEE. [To be read along with 18OMT8.8 and 8.9] 7. The internal guide shall award the CIE marks for seminar and internship report after evaluation. He/she will also be the internal examiner for Viva – Voce conducted during SEE. 8. The external guide from the industry shall be an examiner for the Internship viva-voce examination. Viva-Voce on internship shall be conducted at the college and the date of Viva-Voce shall be fixed in consultation with the external Guide. The Examiners shall jointly award the Viva - Voce marks. 9. (i) In case the external Guide is not available or expresses his inability to conduct viva voce, the Chief Superintendent shall be permitted to make alternate arrangement. The examiner, in the order of preference, shall be an industry person or a faculty of another institution chosen from the list of University examiners. The same shall be intimated to the concerned BOE Chairperson. (ii) In case the external Guide accepts to conduct viva-voce examination from his/her workplace, it shall be arranged via Video/web conferencing/Webinar. The external Examiner shall send the mutually agreed signed marks (evaluated for SEE marks) list, soon after the examination, via email/any electronic media. 10. The students shall be permitted to carry out the internship anywhere in India or abroad. The University shall not provide any kind of Financial Assistance to any student for internship.

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18OMT4.2	Failing to undergo Internship: Internship is one of the head of passing. Completion of internship is mandatory. If any student fails to undergo/complete the internship, he/she shall be considered as fail in that Course and shall not be permitted to appear for SEE in that Course. However, such students shall appear for SEE after satisfying the conditions prescribed for Internship. The reappearance shall be considered as an attempt.
18OMT5.0	Seminar and Project
18OMT5.1	Seminar: Seminar is one of the head of passing. i) Each candidate shall deliver seminar as per the Scheme of Teaching and Examination on the topics chosen from the relevant fields for about 30 minutes. ii) The Head of the Department shall make arrangements for conducting seminars through concerned faculty members of the Department. The committee constituted for the purpose by the Head of the Department shall award the CIE marks for the seminar. The committee shall consist of three faculty from the Department and the senior most acting as the Chairman/Chairperson. [To be read along with 18OMT8.8]
18OMT5.2	Project Work: Project is one of the head of passing. Project work shall preferably be on individual basis. The candidate shall submit a soft copy (CD) of the dissertation work to the University. The CD should contain the entire Dissertation in monolithic form as a PDF file (not separate chapters). The Guide, after checking the report for completeness shall upload the Dissertation along with name, University Seat Number, address, mobile number of the candidate, etc., as prescribed in the form available on online Dissertation evaluation portal. The guide shall submit a panel of four approved University Examiners for evaluation of dissertation.
18OMT5.3	Plagiarism Check Once the Guide uploads the dissertation, the same shall be linked for plagiarism check. The allowable plagiarism index is less than or equal to 25%. If the check indicates a plagiarism index greater than 25% : <ul style="list-style-type: none"> • for the first time, the candidate has to resubmit the dissertation, to the Registrar (Evaluation), Regional Center/Head Office, VTU along with the penal fees of Rs. 2000/- (Rupees Two thousand only) in person. • for the second time, the candidate has to resubmit the dissertation along with the penal fees of Rs. 4000/- (Rupees four thousand only) in person. • If the dissertation is rejected again during second resubmission with reference to plagiarism index, the candidate shall redo the project and submit after a semester's time subject to provisions of 18OMT1.5.
18OMT5.4	The dissertation shall be sent through email for evaluation to two examiners - one internal examiner (guide/co-guide) and one external examiner (first) appointed by the University. The evaluation of the dissertation shall be made independently by each examiner.
18OMT5.5	Examiners shall evaluate the dissertation normally within a period of not more than two weeks from the date of receipt of dissertation through email.
18OMT5.6	The examiners shall independently submit the marks through the specified link.
18OMT5.7	Average of the marks awarded by the two Examiners shall be the final evaluation marks for the Dissertation.

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18OMT5.8	<p>(a) Viva-voce examination of the candidate shall be conducted as per 18OMT5.10, if the dissertation work and the reports are accepted by the external examiner (first).</p> <p>(b) If the external examiner (first) finds that the dissertation work and the report are not up to the expected standard and the minimum passing marks cannot be awarded, the dissertation shall not be accepted for SEE.</p> <p>The external examiner (first) can recommend for modifications/suggestions of dissertation or totally reject the dissertation. The examiner shall offer suggestions for improvement of the dissertation for resubmission or list the reasons for rejection of the dissertation.</p> <p>(c) The resubmitted Dissertation incorporating the modifications/suggestions [as per 18OMT5.8 (b)] of the external examiner (first) and satisfying the provision 18OMT5.3 shall be sent again to the external examiner (first) for evaluation. If the dissertation and the report are accepted by the external examiner (first), Viva-voce examination of the candidate shall be conducted as per 18OMT5.10.</p> <p>(d) In case of rejection of Dissertation by the external examiner (first), the same will be sent to a Second Examiner (external) approved by the University. The decision of the Second Examiner (external) is final. If the dissertation and the report are accepted by the Second Examiner (external), Viva-voce examination of the candidate shall be conducted as per 18OMT5.10. If the Second Examiner (external) rejects the dissertation and the report, the candidate shall have to carry out the dissertation work once again and submit the dissertation subject to provisions of 18OMT1.5. In such cases of rejection, the candidate shall redo the entire procedure starting from the submission of Dissertation in soft copy.</p> <p>(e) In case of rejection of Dissertation, with reasons, by the external examiner (first) [as per 18OMT5.8 (b)], the same will be sent to a Second Examiner (external) [not necessarily the same examiner considered under 18OMT5.8 (d)] approved by the University. The decision of the Second Examiner (external) is final. If the dissertation and the report are accepted by the Second Examiner (external), Viva-voce examination of the candidate shall be conducted as per 18OMT5.10. If the Second Examiner (external) rejects the dissertation and the report, the candidate shall have to carry out the dissertation work once again and submit the dissertation subject to provisions of 18OMT1.5. In such cases of rejection, the candidate shall redo the entire procedure starting from the submission of Dissertation in soft copy.</p>
18OMT5.9	<p>The candidate, whose Dissertation is rejected, can rework on the same topic or choose another topic of dissertation under the same Guide or new Guide if necessary. In such an event, the report shall be submitted within four years in case of full-time student and six years in case of part-time student respectively from the date of admission to the Programme.</p>
18OMT5.10	<p>Viva-voce examination of the candidate shall be conducted by the external examiner and internal examiner/ guide.</p> <p>Internal examiner as per the direction of the University shall have to arrive at a mutually convenient date for the conduct of viva-voce examination of the concerned candidate with an intimation to the Registrar (Evaluation). In case one of the examiners expresses his/her inability to attend the viva-voce, the Registrar (Evaluation) shall appoint a substitute examiner in his/her place.</p>
18OMT5.11	<p>The relative weights for the evaluation of dissertation and the performance at the viva voce shall be as per the scheme of teaching and examination.</p>
18OMT5.12	<p>The marks awarded by both the Examiners at the viva voce Examination shall be sent jointly to the University immediately after the examination.</p>

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18OMT5.13	Examination fee as fixed from time to time by the University for evaluation of dissertation report and conduct of viva voce shall be remitted through the Head of the Institution as per the instructions of Registrar (Evaluation) from time to time.																																							
18OMT5.14	The candidates who fail to submit the dissertation work within the stipulated time have to submit the same at the time of next ensuing examination.																																							
18OMT6.0	Computation of SGPA and CGPA																																							
18OMT6.1	<p>(i) The University adopts absolute grading system wherein the marks are converted to grades, and every semester results will be declared with semester grade point average (SGPA) and Cumulative Grade Point Average (CGPA). The CGPA will be calculated for every semester, except for the first semester.</p> <p>(ii) The grading system with the letter grades and the assigned range of marks under absolute grading system are as given below:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th>Level</th> <th>Outstanding</th> <th>Excellent</th> <th>Very Good</th> <th>Good</th> <th>Above Average</th> <th>Average</th> <th>Fail</th> </tr> </thead> <tbody> <tr> <td>Letter Grade</td> <td>S</td> <td>A</td> <td>B</td> <td>C</td> <td>D</td> <td>E</td> <td>F</td> </tr> <tr> <td>Grade Points</td> <td>10</td> <td>9</td> <td>8</td> <td>7</td> <td>6</td> <td>4</td> <td>00</td> </tr> <tr> <td rowspan="2">Percentage of Marks Scored in a Course</td> <td>≥ 90</td> <td><90</td> <td>< 80</td> <td>< 70</td> <td>< 60</td> <td>< 55</td> <td>< 50</td> </tr> <tr> <td>(90 -100)</td> <td>≥80 (80 - 89)</td> <td>≥70 (70 - 79)</td> <td>≥60 (60 - 69)</td> <td>≥ 55 (55 - 59)</td> <td>≥50 (50- 54)</td> <td>(0 - 49)</td> </tr> </tbody> </table> <p>(iii) A student obtaining Grade F in a Course shall be considered fail and is required to reappear in subsequent SEE. Whatever the letter grade secured by the student during his /her reappearance shall be retained. However the number of attempts taken to clear a Course shall be indicated in the grade cards/ transcripts.</p>	Level	Outstanding	Excellent	Very Good	Good	Above Average	Average	Fail	Letter Grade	S	A	B	C	D	E	F	Grade Points	10	9	8	7	6	4	00	Percentage of Marks Scored in a Course	≥ 90	<90	< 80	< 70	< 60	< 55	< 50	(90 -100)	≥80 (80 - 89)	≥70 (70 - 79)	≥60 (60 - 69)	≥ 55 (55 - 59)	≥50 (50- 54)	(0 - 49)
Level	Outstanding	Excellent	Very Good	Good	Above Average	Average	Fail																																	
Letter Grade	S	A	B	C	D	E	F																																	
Grade Points	10	9	8	7	6	4	00																																	
Percentage of Marks Scored in a Course	≥ 90	<90	< 80	< 70	< 60	< 55	< 50																																	
	(90 -100)	≥80 (80 - 89)	≥70 (70 - 79)	≥60 (60 - 69)	≥ 55 (55 - 59)	≥50 (50- 54)	(0 - 49)																																	
18OMT6.2	<p>Grade Point Averages:</p> <p>SGPA and CGPA: The credit index can be used further for calculating the Semester Grade Point Average (SGPA) and the Cumulative Grade Point Average (CGPA), both being important academic performance indices of the student. While SGPA is equal to the credit index for a semester divided by the total number of credits registered by the student in that semester, CGPA gives the sum total of credit indices of all the previous semesters divided by the total number of credits registered in all these semesters. Both the equations together facilitate the declaration of academic performance of a student, at the end of a semester and at the end of successive semesters respectively. Thus,</p> $SGPA = \frac{\sum[\text{Course Credits} \times \text{Grade Points}] \text{ for all the Courses in that Semester}}{\sum[\text{Course Credits}] \text{ for all the Courses in that Semester}}$ $CGPA = \frac{\sum[\text{Course Credits} \times \text{Grade Points}] \text{ for all Courses excluding those with F and transitional grades until that Semester}}{\sum[\text{Course Credits}] \text{ for all Courses excluding those with F grades until that semester}}$																																							

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18OMT6.2 (continued)	(a) SGPA and CGPA Calculations: An Illustrative Example for one academic year					
Semester (Odd :I, Even: II)	Course Number	Credits	Grade	Grade Points	Credit Points	SGPA, CGPA
I	XX101	5:0:0 = 5	B	8	5 × 8 = 40	$SGPA = \frac{117}{25}$ = 4.68
I	XX102	3:2:0 = 5	Absent(F)	0	5 × 0 = 00	
I	XX103	3:0:0 = 3	A	9	3 × 9 = 27	
I	XX104	0:1:1 = 2	F	0	2 × 0 = 00	
I	XX105	4:1:0 = 5	D	6	5 × 6 = 30	
I	XX106	5:0:0 = 5	E	4	5 × 4 = 20	
Total		25 (18*)	Total		117	
(18*): Total credits of the semester excluding the credits of the courses under F grade. Considered for the calculation of CGPA of the two consecutive semesters under consideration.						
II	XX107	3:1:1 = 5	C	7	5 × 7 = 35	$SGPA = \frac{157}{25}$ = 6.28
II	XX108	4:0:0 = 4	B	8	4 × 8 = 32	
II	XX109	3:0:0 = 3	D	6	3 × 6 = 18	
II	XX110	4:1:0 = 5	E	4	5 × 4 = 20	$CGPA = \frac{(117 + 157)}{18 + 23}$ $= \frac{274}{41} = 6.68$
II	XX111	2:1:1 = 4	A	9	4 × 9 = 36	
II	XX112	2:0:0 = 2	F	0	2 × 0 = 00	
II	XX113	0:2:0 = 2	B	8	2 × 8 = 16	
Total		25 (23*)	Total		157	
(23*): Total credits of the semester excluding the credits of the courses under F grade. Considered for the calculation of CGPA of the two consecutive semesters under consideration.						
If the Student secures letter grades as detailed below after reappearance to SEE, then the SGPA and CGPA shall be calculated as indicated below.						
I	XX102	3:2:0 = 5	D	6	5 × 6 = 30	$SGPA (I Semester) = \frac{117 + 30 + 14}{25}$ $= 161/25 = 6.44$
I	XX104	0:1:1 = 2	C	7	2 × 7 = 14	
II	XX112	2:0:0 = 2	D	6	2 × 6 = 12	$SGPA (II Semester) = (157 + 12)/25$ $= 169/25 = 6.76$
<i>CGPA at the end of the academic year after passing all the Courses of the two consecutive semesters under consideration</i> = $\frac{(6.44 \times 25 + 6.76 \times 25)}{50} = 6.60$ ■						
(b) CGPA Calculation of the Programme: An Illustrative Example						
Semester	I	II	III	IV		
Credits of the semester	24	24	20	20		
SGPA	7.00	8.50	9.20	6.86		
$CGPA = \frac{(24 \times 7.00 + 24 \times 8.50 + 20 \times 9.20 + 20 \times 6.86)}{88} = 7.88$ ■						

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18OMT6.3	Grade Card: Based on the secured letter grades, grade points, SGPA and CGPA, a grade card for each semester and a consolidated grade card indicating the performance in all semesters shall be issued. ■
18OMT7.0	Conversions of Grades into Percentage and Class Equivalence Conversion formula for the conversion of CGPA into percentage is given below: Percentage of marks secured, $P = [\text{CGPA Earned} - 0.75] \times 10$ Illustration For A CGPA Of 8.20: $P = [\text{CGPA Earned } 8.2 - 0.75] \times 10 = 74.5 \%$
18OMT7.1	Class Equivalence: After the conversion of final CGPA into percentage of marks (P), a graduating student is reckoned to have passed in (i) First Class with Distinction (FCD) if $P \geq 70\%$ (ii) First Class (FC) if $P \geq 60\%$ but $<70\%$ and (iii) Second Class (SC) if $P < 60\%$.
18OMT8.0	Continuous Internal Evaluation and Semester End Evaluation
18OMT8.1	For each theory and practical paper, the CIE marks shall be 40. For seminar and Project Phase –I, the CIE marks shall be 100. [To be read along with 18OMT8.8]
18OMT8.2	CIE Marks shall be based on a) Tests (for 20 Marks) and b) Assignments, Quizzes, Simulations, Experimentations, Mini project, oral examinations, field work etc., (for 20 Marks) conducted in respective courses.
18OMT8.3	The CIE marks in a theory course, for 20 marks, shall be based on two tests covering the entire syllabus. An additional test may be conducted for the needy students to provide an opportunity to improve their CIE Marks before the end of the semester. The CIE marks shall be the average of the marks scored in at least two of the above tests. [To be read along with 18OMT8.8]
18OMT8.4	The candidates shall write the Tests in Blue Book/s. The Blue book/s and other documents relating to award of CIE marks under 18OMT8.2 (b) shall be preserved by the Principal / Head of the Department for at least six months from the date of announcement of University results and made available for verification at the directions of the Registrar (Evaluation).
18OMT8.5	Every page of the CIE marks list shall bear the signatures of the concerned Teacher, Head of the Department and the Principal.
18OMT8.6	The CIE marks list shall be displayed on the Notice Board and corrections, if any, shall be incorporated before submitting to the University.
18OMT8.7	The CIE marks shall be sent to the university by the Principals well in advance before the commencement of Semester End Examinations. No corrections of the CIE marks shall be entertained after the submission of marks list to the University.
18OMT8.8	Candidates obtaining less than 50% of the CIE marks in any course (Theory/Laboratory/Seminar/Internship/Project) shall not be eligible to appear for the University examination in that course/s. In such cases, the Head of the Department shall arrange for the improvement of CIE marks in the course/ Laboratory when offered in the subsequent semester subject to the provision of 18OMT1.5.

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18OMT8.9	Semester End Evaluation: There shall be a University examination at the end of each semester.
18OMT8.10	There shall be double valuation of theory papers. The theory Answer booklets shall be valued independently by two examiners appointed by the University.
18OMT8.11	If the difference between the marks awarded by the two Examiners is not more than 15 per cent of the maximum marks, the marks awarded to the candidate shall be the average of two evaluations.
18OMT8.12	If the difference between the marks awarded by the two Examiners is more than 15 per cent of the maximum marks, the answer booklet shall be evaluated by a third Examiner appointed by the university. The average of the marks of nearest two valuations shall be considered as the marks secured by the candidate. In case, if one of the three marks falls exactly midway between the other two, then the highest two marks shall be taken for averaging.
18OMT9.0	Eligibility for Passing and Award of Degree
18OMT9.1	(1) A student who obtains any grade S to E shall be considered as passed and if a student secures F grade in any of the head of passing he/she has to reappear in that head for the SEE. (2) A student shall be declared successful at the end of the Programme for the award of Degree only on obtaining CGPA \geq 5.00, with none of the Courses remaining with F Grade. (3) In case, the CGPA fall below 5.00, the student shall be permitted to appear again for SEE for required number of courses (other than seminar and Practical) and times, subject to the provision of 18OMT1.5, to make up CGPA \geq 5.0. The student should reject the SEE results of the previous attempt and obtain written permission from The Registrar (Evaluation) to reappear in the subsequent SEE.
18OMT9.2	For a pass in a theory course, the student shall secure minimum of 40% of the maximum marks prescribed in the Semester End Examination and 50% of marks in CIE and 50 % in the aggregate of CIE and SEE marks. The Minimum Passing Grade in a course is E.
18OMT9.3	For a pass in Internship/Practical/Project/Dissertation/Viva-voce examination, a student shall secure a minimum of 50% of the maximum marks prescribed for the SEE in Internship/Practical/Project/Dissertation/Viva-voce. The Minimum Passing Grade in a course is E.
18OMT9.4	For a pass, a candidate shall obtain a minimum of 50% of maximum marks in Seminar.
18OMT9.5	IV semester Full-time candidates having backlog courses are permitted to upload the dissertation report and to appear for SEE. The IV semester grade card shall be released only when the candidate completes all the backlog courses and become eligible for the award of degree. [To be read along with 18OMT11.2] VI semester Part-time candidates having backlog courses are permitted to upload the dissertation report and to appear for SEE. The VI semester grade card shall be released only when the candidate completes all the backlog courses and become eligible for the award of degree. [To be read along with 18OMT11.2]
18OMT9.6	A candidate may at his/her desire reject his/her latest semester results of University examination in respect to all courses of that semester. However, in the IV semester the rejection shall not include the Project work. Rejection shall be permitted only once during the entire Programme. The CIE marks of the rejected semester shall remain the same. Rejection of results of the University examination including CIE marks is not permitted.

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18OMT9.7	If the rejection of the University examination results of the semester happens to be of an odd semester, the candidate can take admission to the immediate next even semester. However, if the rejection of the University result is of even semester, the candidate cannot take admission to the next odd semester.
18OMT9.8	Application for rejection shall be submitted to the Registrar (Evaluation) through the Principal of the college, within thirty days from the date of announcement of results.
18OMT9.9	A candidate, who opts for rejection of results of a semester shall be eligible for the award of class and distinction, but shall not be eligible for the award of rank.
18OMT9.10	Eligibility for Award of Degree: A student shall be declared to have completed the degree of Master of Technology, provided the student has undergone the stipulated course work as per the regulations and has earned the prescribed Credits, as per the Scheme of Teaching and Examination, of the programme.
18OMT10.0	Attendance Requirement
18OMT10.1	Registration and Enrolment: i) Except for the first semester, registration for a semester will be done during a specified week before the semester end examination of the previous semester. ii) The registration sheet should have the Candidate details, course name and code, number of credits and category (core/elective/audit) for each course of that semester. iii) The Faculty Adviser, assigned by the Head of the Department, will counsel the students in planning their courses of study and provide guidance, motivation, emotional support, and enable the mentees to reach the desired professional and career goals.
18OMT10.2	Courses of each semester shall be treated as a separate unit for calculation of the attendance.
18OMT10.3	The candidate has to put in a minimum attendance of 85% in each course with a provision to condone 10% of the attendance by the Vice-Chancellor on the specific recommendation of the Principal of the college where the candidate is studying, based on medical grounds, participation in University/ State/ National/ International level sports and cultural activities, seminars, workshops, paper presentation etc., of significant value. The necessary documents in support are to be submitted along with recommendations to condone the shortage.
18OMT10.4	In case of late admission, approved by competent authority (DTE/VTU), to I semester of the programme the attendance shall be reckoned from the date of admission to the programme.
18OMT10.5	A candidate, who does not satisfy the attendance requirement (in one or more Courses) as mentioned in 18OMT10.3 shall not be eligible to appear for the SEE of that semester and shall not be permitted to take admission to next higher semester. The candidate shall be required to repeat that semester during the subsequent year.
18OMT10.6	Principals of the concerned colleges shall notify regularly, the list of candidates who fall short of attendance.
18OMT10.7	The list of the candidates falling short of attendance shall be sent to the University at least one week prior to the commencement of the examination.
18OMT11.0	Promotion and Eligibility
18OMT11.1	Promotion: There shall be no restriction for promotion from an odd semester to the next even semester, provided the student has fulfilled the attendance requirement.

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18OMT11.2	<p>(a) Candidates, under full-time programme, with a maximum of two backlog courses of first year shall be eligible for taking admission to second year (III semester).</p> <p>(b) i. Candidates, under part-time Programme, with one backlog subject of an academic year shall be eligible for taking admission to next odd semester from even semester. ii. For admission to V semester, Candidates under part-time Programme must have completed all the courses of I and II semesters.</p> <p>(c) Each credit course shall be treated as a head of passing.</p>
18OMT11.3	The Mandatory non – credit courses, if any, shall not be considered for the Eligibility criterion prescribed for promotion, award of Class, calculation of SGPA and CGPA. However, a pass in the above courses is mandatory before the completion of Degree.
18OMT12.0	Temporary Discontinuation/Break in the Program
18OMT12.1	(a) If a candidate, for any reason, temporarily discontinues the Programme or take a break from programme during any semester, he/she may be permitted to continue in the programme by registering to the same semester of the prevailing scheme. The candidate shall complete all the remaining course work subject to the provision 18OMT1.5. Also the Candidates may have to complete additional course/s, if any, as per the decision of concerned Board of Studies and approval of Dean, Faculty of Engineering, on establishing equivalence between two schemes. A Grade card shall be issued to that effect. Additional course/s shall not be considered for the eligibility criterion prescribed for promotion. However, based on the individual cases, it is considered to decide the SGPA and CGPA to admit the student for the award of degree. Such candidate shall not be eligible for the award of rank.
18OMT12.1 (continued)	(b) Candidates who takes admission to any semester of the existing scheme from another scheme, as a repeater/fresher because of various reasons have to complete additional course/s, if any, as per the decision of concerned Board of Studies and approval of Dean, Faculty of Engineering, on establishing equivalence between two schemes. A Grade card shall be issued to that effect. Additional course/s shall not be considered for the eligibility criterion prescribed for promotion. However, based on the individual cases, it is considered to decide the SGPA and CGPA to admit the student for the award of degree. Such candidate shall not be eligible for the award of rank.
18OMT13.0	Award of Prizes, Medals and Ranks
18OMT13.1	For the award of Prizes and Medals, the conditions stipulated by the Donor shall be considered subject to the provisions of the statutes framed by the University for such awards.
18OMT13.2	<p>(1) For award of rank in a Specialization of Master of Technology, the CGPA secured by the student on completion of the programme is considered.</p> <p>(2) A student shall be eligible for a rank at the time of award of degree of Master of Technology, provided the student</p> <ol style="list-style-type: none"> a. Is not a repeater in any semester b. Has not rejected the results of any semester. c. Has passed I to IV semester in all the courses in first attempt only <p>(3) The total number of ranks awarded shall be 10% of total number of students appeared in IV semester subject to a maximum of 10 ranks in a Specialization.</p> <p>(4) For award of ranks in a Specialization, a minimum of 10 students should have appeared in the IV semester examination.</p> <p>Illustration:</p> <p>(a) If 150 students appeared for the IV semester in VLSI Design and Embedded Systems Branch, the number of ranks to be declared in VLSI Design and Embedded Systems will be 10.</p>

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18OMT13.2 (continued)	<p>(b) If 84 students appeared for the IV semester in Nano Technology, the number of ranks to be declared for Nano Technology will be 08.</p> <p>(c) In case of fractional number of ranks, it is rounded to higher integer only when the first decimal place value is greater than or equal to 5.</p> <p>(5) Students under Part-time Programme are not considered for Rank declaration.</p>
18OMT13.3	Ranks are awarded based on the merit of the students as determined CGPA. If two or more students get the same CGPA, the tie shall be resolved by considering the number of times a student has obtained higher SGPA. If it is not resolved even at this stage, the number of times a student has obtained higher grades like S, A, B etc., shall be taken into account to decide the order of the rank.
18OMT14.0	Applicability and Power to Modify
18OMT14.1	The regulations governing the Degree of Master of Technology of Visvesvaraya Technological University shall be binding on all concerned.
18OMT14.2	<p>i) Notwithstanding anything contained in the foregoing, the University shall have the power to issue directions/ orders to address any difficulty.</p> <p>ii) Nothing in the foregoing may be construed as limiting the power of the University to amend, modify or repeal any or all of the above.</p>

