

 <p>शिवजी विद्यापीठ कोल्हापूर आत्ममेवामृतम् Estd. 1962 "A++" Accredited by NAAC (2021) With CGPA 3.52</p>	<p><b>SHIVAJI UNIVERSITY, KOLHAPUR</b> <b>416 004, MAHARASHTRA</b> PHONE : EPABX - 2609000, BOS Section - 0231-2609094, 2609487 Web : <a href="http://www.unishivaji.ac.in">www.unishivaji.ac.in</a> Email: <a href="mailto:bos@unishivaji.ac.in">bos@unishivaji.ac.in</a> <b>शिवजी विद्यापीठ, कोल्हापूर ४१६ ००४, महाराष्ट्र</b> दूरध्वनी - इपीबीएक्स - २०६०९०००, अभ्यासमंडळे विभाग : ०२३१- २६०९०९४, २६०९४८७ वेबसाईट : <a href="http://www.unishivaji.ac.in">www.unishivaji.ac.in</a> ईमेल : <a href="mailto:bos@unishivaji.ac.in">bos@unishivaji.ac.in</a></p>		
--	---	---	---

जा.क्र./शि.वि/अं.म./ 115

दिनांक:- १५/०३/२०२५

प्रति,  
संचालक,  
तंत्रज्ञान अधिविभाग,  
शिवजी विद्यापीठ, कोल्हापूर

विषय:- बी.टेक. अभ्यासक्रमातील नियमावलीतील किरकोळ दुरुस्तीबाबत.

संदर्भ — या कार्यालयाचे जा.क्र-SU/BOS/Scie&Tech/706 दिनांक:- ३०/०९/२०२३

महोदय,

उपरोक्त संदर्भिय विषयास अनुसरून आपणास आदेशान्वये कळविण्यात येते की, राष्ट्रीय शैक्षणिक धोरण २०२० नुसार शैक्षणिक वर्ष २०२३-२४ पासून लागू करण्यात आलेल्या B.Tech अभ्यासक्रमातील नियमावलीमध्ये किरकोळ दुरुस्ती करण्यात आलेली आहे.

सोबत सदर अभ्यासक्रमाच्या नियमावलीची प्रत जोडली आहे. तसेच विद्यापीठाच्या <https://www.unishivaji.ac.in> (NEP-2020@suk/ Online syllabus) या संकेस्थळावर ठेवण्यात आला आहे.

सदर अभ्यासक्रमातील नियमावली सर्व संबधित विद्यार्थी व शिक्षकांच्या निदर्शनास आणावी.

कळावे.

आपला विश्वासू,



उपकुलसचिव

अभ्यास मंडळ विभाग

सोबत — अभ्यासक्रमाची प्रत,

प्रत :- माहितीसाठी व पुढील योग्यत्या कार्यवाहीसाठी

मा. संचालक, परीक्षा व मुल्यमापन मंडळ	प्र. अधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा
तंत्रज्ञान अधिविभाग, शिवजी विद्यापीठ, कोल्हापूर	इतर परीक्षा ४ विभागास.
परीक्षक नियुक्ती ए व बी विभागास.	संलग्नता टी. १ व टी. २ विभागास
पीजी प्रवेश विभागास	पीजी सेमिनार विभागास
संगणक केंद्र / आयटी सेल	पात्रता विभागास

**Shivaji University**  
**Vidyanagar, Kolhapur - 416 004, Maharashtra.**

**Department of Technology**



**As per NEP2020 guidelines**

**MDM Featured B. Tech (All Programs)**

**Rules & Regulations w.e.f 2023-24**

### A. Definition of Credit

1 Hr. Lecture (L) per week	1 Credit
1 Hr. Tutorial (T) per week	1 Credit
2 Hr. Practical(Lab) per week	1 Credit

### B. Credits for award of Degrees

- a) A total of **176 credits** are required for all the students to get entitled for **Under Graduate Degree in Engineering (Major) with a Multidisciplinary Minor (MDM)**. This feature is the **fourth vertical(Level 6.0)**from the National Credit Framework. For such a candidate the degree offered would be: B.Tech in Major Degree Title with Multidisciplinary Minor. The routine fees will be charged for award of the degree with multidisciplinary minor. There will be a pool of multidisciplinary minors for each major UG Program.
- b) A student will be entitled to acquire this 'MDM featured' **Under Graduate Degree with Honors**, if the candidate earns an **additional 17 credits**. Out of these 17 credits, 15 credits will be against 5 different theory courses (3 credits each) pertaining to the Major Discipline while 2 credits will be against an advance laboratory practice in the respective discipline of studies. These theory credits could be acquired preferably through MOOCs the title of which will be well declared to the aspirants. This particular feature is the **fifth vertical(Level 6.0)**from the National Credit Framework. For such a candidate the degree offered would be: B.Tech Honors in Major Degree and Multidisciplinary Minor. For this option of Honors, the interested candidates have to pay the separate fees as decided by the institute.
- c) A student will be entitled to acquire this 'MDM featured' **Under Graduate Degree having an option of Honors with Research**. For the same, the candidate, in addition to those **17 credits** allotted to the Honors, has to earn an **additional of 3 credits against an extra research project**. (As regards this extra project work, it is mandatory to be successful in publishing at least one research paper based on the research topic.) This feature is the **sixth vertical(Level 6.0)**from the National Credit Framework. For such a candidate the degree offered would be: B.Tech Honors with Research in Major Degree and Multidisciplinary Minor. The interested candidates for this option will have to pay the separate fees as decided by the institute.
- d) A student will be entitled to acquire this 'MDM featured' **Under Graduate Degree with additional Specialization Minor**, if the candidate earns an **additional 14 credits against one more minor from the specialization**. These will be a separate pool of the specialization minors for choice. (The courses under minors could be through MOOCs also). This is the case of double minors and it is the **seventh vertical(Level 6.0)**from the National Credit Framework. For such a candidate the degree offered would be: B.Tech in Major Degree with double minors. (Multidisciplinary Minor and Specialization minor.) For this option of additional specialization minor, the interested candidates will have to pay the separate fees as decided by the institute.

**C. Component wise distribution of credits****(Expected range of credits as per AICTE & NEP2020 guidelines is 160-176)**

All the Programs will have the details of curriculum components distribution in their curriculum document for SY B.Tech and Onwards.

**D. Notation/CoursecodeandDefinition**

Notation/Coursecode	Definitions
L	Lecture
T	Tutorial
P	Practical
MDM	Multidisciplinary Minor
SPM	Specialization Minor
ISE	In Semester Examination
ESE or SEE	End Semester Examination/Semester End Examination
IE or IOE or IPE	Internal Evaluation/Internal Oral Evaluation/Internal Practical Evaluation
EE or EOE or EPE	External Evaluation/External Oral Evaluation/External Practical Evaluation
BSC	BasicScienceCourse
ESC	EngineeringScienceCourse
HSMEC	HumanitiesandSocialSciencesincluding Management , Environmental Course
PCC	ProfessionalCoreCourse
PEC	ProfessionalElectiveCourse
OEC	OpenElectiveCourses
VSEC	Vocational and Skill Enhancement Courses
IKS	Indian Knowledge System
AEC	Ability Enhancement Course
VEC	Value Education Courses
MAC	Mandatory Audit Course
PSI	Project, Seminar, Internship
PBL	Project Based Learning
PBL, PBI	Project Based Learning Program Based Internship
MN , HN, HNR	Minor , Honors, Honors with Research

CC, DC	Certificate Course, Diploma Course
CHE, CE,CST	Chemical Engineering, Civil Engineering, Computer Science and Technology
ETC, FT, ME	Electronics and Telecommunication Engineering, Mechanical Engineering, Food Technology

**Mandatory Induction Program at FY B. Tech First Term Commencement  
(3 Weeks Duration)**

- a) Physical activity
- b) Creative Arts
- c) Universal Human Values
- d) Literary
- e) Proficiency Modules
- f) Lectures by Eminent People
- g) Visits to local Areas
- h) Familiarization to Dept./Branch & Innovations

**Note:** On the campus, besides the curriculum structure, as co-curricular activities, National Cadet Corps (India) i.e. NCC is available for the interested & selected students while National Service Scheme i.e. NSS unit is for all the volunteer students who will contribute as and when necessarily called for the services.

**E. Academic Rules and Regulations for MDM featured Four-Year B. Tech. Degree**

**INDEX**

Sr. No.	Rule No.	Description
1.	R.B.T. 1	Admission
2.	R.B.T. 2	Award of Degree
3.	R.B.T. 3	Attendance Rule
4.	R.B.T. 4	Academic Progress Rules (ATKT Rules)
5.	R.B.T. 5	Academic Flexibility
6.	R.B.T. 6	Credit system
7.	R.B.T. 7	Features of Credit System at Department of Technology, Shivaji University, Kolhapur.
8.	R.B.T. 8	Course credits assignment
9.	R.B.T. 9	Detailed Evaluation Scheme

10.	R.B.T. 10	Earning credits
11.	R.B.T.11	CGPA Improvement Policy for award of degree
12.	R.B.T. 12	Evaluation System
13.	R.B.T. 13	Entry of Students from previous credit to new Credit Pattern
14.	R.B.T. 14	Audit Courses
15.	R.B.T. 15	Award of Grades for Re-Examination
16.	R.B.T. 16	Showing Evaluated End Semester Examination Answer Papers, Re-evaluation, and applying for revaluation
17.	R.B.T. 17	Change of Branch
18.	R.B.T. 18	Disciplines and Conduct
19.	R.B.T. 19	Details regarding B.Tech Major, Multidisciplinary Minor, Honors, Honors with Research, Specialization Minor and Multiple entry, multiple exit features

### Glossary

**B. Tech.:** Bachelor of Technology, an Under Graduate Degree awarded from the Shivaji University, Kolhapur

**Director:** Director, Department of Technology, Shivaji University, Kolhapur

**Program:** The specialization in B.Tech (Particular Major Branch)

**Program Head:** The Head of the Specialized Branch of B.Tech studies

**DC:** Department Committee

**DEC:** Departmental Examination Coordinator

**Semester:** The academic year will be divided into two regular semesters of approximately 20 weeks' duration each. Typically, the odd semester will be from the first week of July to last week of November while the even semester will be from the first week of January to the last week of May. This will include the period of academic delivery (14 to 15 weeks), Internal Evaluation (CIE) i.e. In Semester Examination and Assignments, End Semester Examination (ESE) assessment and declaration of results.

**R.B.T.:** Rule B.Tech

**Course:** Subject

**Course Coordinator:** Subject teacher

**Course Credit:** Weighted sum of the number of Lecture hours (L), Tutorial hours (T), and Practical hours (P) associated with the course.

**Credits Earned:** The sum of course credits for credit courses in which a student has passed.

**Grade:** Assessment of the student's performance in a course indicated by the letters, "AA", "AB", "BB", "BC", "CC", "CD", "DD", "FF", "XX", "ABSENT", "PP", "NP".

**Grade Point:** Number equivalent of the letter grades given by 10, 9, 8, 7, 6, 5, 4 corresponding to grades "AA", "AB", "BB", "BC", "CC", "CD", "DD" respectively. "FF" and "XX" carry zero grade points.

**Instructor:** Member of faculty who will be assigned to teach a specific course.

**Semester Grade Points:** The sum of the products of credits and Grade Points for each course registered by a student in a semester.

**SGPA: Semester Grade Point Average**

**CGPA: Cumulative Grade Point Average**

**ATKT:** Allowed to Keep Terms.

#### **R.B.T. 1 Admission:**

At the Department of Technology, Shivaji University, candidates are admitted to all the available specialized B. Tech Programs according to norms and conditions prescribed as per AICTE, New Delhi and DTE, Mumbai, Maharashtra.

#### **R.B.T. 2 Award of Degree:**

Following rules prevail for the award of degree:

1. B. Tech Degree will be awarded to the student, who has registered and earned all the credits of prescribed courses under the general departmental requirements.
2. In addition to the credit requirement prescribed above for the Degree award, each student will have to complete the requirements of Audit Course (AC) during the programme. All the students will receive certification as PP (*for Passed*), and NP (*for not passed*) in AC, in the mark sheet. While obtaining certification as PP is a mandatory requirement for the Degree award of a student, this will not be taken into account for computing the final Cumulative Grade Point Average.
3. A student has obtained CGPA  $\geq 4.5$ .
4. A student has paid all the institute dues and satisfied all the requirements prescribed.

5. A student has no case of indiscipline pending against him/her.
6. University authorities will recommend the award of B. Tech. Degree to a student who is declared to be eligible and satisfies the said norms.

**R.B.T. 3 Attendance Rule:**

All students must attend every lecture, tutorial and practical class. However, to account for late registration, sickness or other such contingencies, the attendance requirement will be a minimum of 75% of the classes actually held. A student with less than 75% attendance in a course during the semester, in lectures, tutorials and laboratories taken together (as applicable), will be awarded an 'XX' grade in that course irrespective of his/her performance in the tests.

Attendance record will be maintained based upon roll calls (or any equivalent operation) in every scheduled lecture, tutorial and practical class. The course coordinator will maintain and consolidate attendance record for the course (lectures, tutorials and laboratories together, as applicable).

**R.B.T. 4 Academic Progress Rules (ATKT Rules)**

1. If a candidate fails in any number of courses (subject heads) of Semester I, will be allowed to proceed to Semester II.
2. A candidate, who earns 50% of total credits of Level 4.5 (FY B.Tech), will be allowed to keep terms in Level 5.0 (SY B.Tech).
3. If a candidate fails in any number of courses (subject heads) of Semester III, will be allowed to proceed to Semester IV.
4. A candidate, who earns 50% of total credits of Level 5.0 (SY B.Tech), will be allowed to keep terms in Level 5.5 (TY B.Tech).
5. No candidate will be allowed to proceed to Semester V (TY B.Tech), unless candidate has passed in all courses of Level 4.5 (FY B.Tech).
6. If a candidate fails in any number of courses (subject heads) of Semester V, will be allowed to proceed to Semester VI.
7. A candidate, who earns 50% of total credits of Level 5.5 (TY B.Tech), will be allowed to keep terms in Level 6.0 (Final Year B.Tech).
8. No candidate will be allowed to proceed to Semester VII (Final Year B.Tech), unless candidate has passed in all courses of Level 5.0 (SY B.Tech).



9. If a candidate fails in any number of courses (subject heads) of Semester VII, shall be allowed to proceed to Semester VIII.
10. In case, if the rules of any Apex body differ from these rules, then the rules of that apex body will be applicable. However under the National Education Policy, the rules extended by University from time to time regarding ATKT will be applicable.
11. While considering the passing heads, for a year (both the semesters), 45 % aggregate score is mandatory failing to which the same will be considered as one more passing head. Any such student needs to improve the score in either of the courses to maintain 45 % aggregate for the year through appearing in re-examination or repeated examination. In such cases, the award of grade for calculation of SGPA and CGPA will be as per the table no.3 from clause R.B.T 12 with the consideration of one grade penalty as mentioned under the clause R.B.T 15, f.
12. A student who has obtained 'FF' grade in ESE of a regular semester and has obtained 'FF' grade in 2<sup>nd</sup> attempt of ESE will be eligible to choose one of the two options below to clear the backlog:
  - i. Re-registration for the next regular semester course whenever that course is offered.
  - ii. Application for Repeated Examination.
13. A student who has been detained in a regular semester and obtained 'XX' grade can Re-register for the next regular semester whenever it is offered.
14. The maximum duration for getting B. Tech. degree for students admitted in the first semester of U.G. program will be 16 semesters (eight academic years) while for lateral entry students admitted in the third semester will be 14 semesters (seven academic years) from their date of admission. The maximum duration of the program includes the period of withdrawal, absence and different kinds of leaves permissible to a student but excludes the period of rustication of a student from the department.
15. If a student is unable to gain all credits of first year in three years from the date of the admission, then the candidate will be declared as "Not Fit for Engineering" leading to discontinuation of candidate's registration with the department.
16. Depending upon the academic progress of a student, department may take a decision regarding continuation or discontinuation of candidate's registration with the institute.

### **R.B.T. 5 Academic Flexibility**

1. Flexibility in deciding curriculum structure and contents of curriculum with reasonable frequency for changes in the same.
2. Continuous assessment of student's performance with newly adopted NEP 2020 Credit system based on Award of Grade.
3. Credits are quite simply a means of attaching relative values to courses different components. These are a currency of learning, and in general regarded as a measure of the time typically required to achieve a given curricular outcome.
4. All courses (year-wise) under each program/discipline are unitized

### **R.B.T. 6 Credit system:**

Education at the Institute is organized around the semester-based credit system of study. The prominent features of the credit system are a process of continuous evaluation of a student's performance/progress and flexibility to allow a student to progress at an optimum pace suited to candidate's ability or convenience, subject to fulfilling minimum requirements for continuation.

A student's performance/progress is measured by the number of credits that the candidate has earned, i.e. completed satisfactorily. Based on the course credits and grades obtained by the student, grade point average is calculated. A minimum grade point average is required to be maintained for satisfactory progress and continuation in the program. Also a minimum number of earned credits and a minimum grade point average should be acquired in order to qualify for the degree. All programs are defined by the total credit requirement and a pattern of credit distribution over courses of different categories.

**R.B.T. 7 Features of Credit System at Department of Technology, Shivaji University, Kolhapur:**  
Every course is allotted credits based on its academic importance/weightage.

1. All courses may not have same credits.
2. 21 credits / semester for First Year B.Tech while 20 credits /semester for remaining 6 semesters. Thus there are 162 credits against the B.Tech Major plus additional 14 credits against the chosen Multidisciplinary Minor. So the total credits of this Multidisciplinary Minor (MDM) Featured B.Tech Degree is 176. The particular Degree falls under the **fourth vertical**(Level6.0) as per the National Credit Framework.

3. Absolute grading System with 7 passing Grades viz. AA, AB, BB, BC, CC, CD, DD and FF for failure.
4. Standardization of courses; with few exceptional cases, each course is of 6 units.
5. In Semester Examination (ISE) and End Semester Examination (ESE), both having (30:70) weightage in the student's performance in course work/laboratory work and other activities. A student's performance in a subject will be judged by taking into account the results of In Semester Examination and End Semester Examination together. Students must score 40% marks in ESE irrespective of the ISE marks.

(Note: The ISE will be conducted as In Semester Exam and assignments throughout the semester on dates announced in advance by the department and its results to be made known to the students from time to time. However, the dates for the ESE will be fixed at the University level.)

6. Continuous internal evaluation consists of 'In Semester Examination' of 20 marks and assignment of 10 marks handled by Department of Technology and setting of question papers should be done by course coordinator. Assignments may be of varied nature for each course based on the need of the course coordinator.
7. End Semester Examination (ESE) to be conducted by the Department of Technology however setting of question papers will be as per University Rules. The ESE will include a written examination for theory courses and practical/design/drawing examination with built-in oral part for laboratory/ design/drawing courses.

7.1 End Semester Examination (ESE) of the courses offered for the MOOCs will be conducted by MOOC offering Institute. The credits earned by the students will be communicated to the University and to be converted as per the weightage of the said course in the structure. Student may get failure in the said MOOC or the examination may get delayed by the MOOC offering institute, in either cases, ESE of the said course will be conducted as per the University rules.

8. In case the candidate is absent on the scheduled ISE, request for separate In Semester Examination for the students representing in co-curricular, extracurricular activities or on medical grounds will only be considered. On receipt of application from the student, the DC will take decision for the conduct of the In Semester Examination.
9. Care will be taken to ensure that the total numbers of days for academic work are  $\geq 180$  per year.

10. Academic schedule prescribed will be strictly adhered and applicable to all the UG Programs.

**R.B.T. 8 Course credits assignment:**

Each course, except a few special courses, has a certain number of credits assigned to it depending upon its lecture, tutorial and laboratory contact hours in a week. This weightage is also indicative of the academic expectation that includes in-class contact and self-study outside of class hours.

**Lectures and Tutorials:** One lecture or tutorial hour per week per semester is assigned one credit.

**Practical/Laboratory:** One laboratory hour per week per semester is assigned half credit.

**Sample Example:** Course: Fluid Flow Operations: 05 credits (3-1-2)

The credits indicated for this course are computed as follows:

3 hours/week lectures = 3 credits

1 hours/week tutorial = 1 credit

2 hours/week practical =  $2 \times 0.5 = 1$  credit

Also, (3-1-2) 5 credit course = (3 hr. Lectures + 1 hr. Tutorial + 2 hr. Practical) per week  
= 6 contact hours per week = 5 credits

**R.B.T. 9 Detailed Evaluation Scheme:**

1. Out of total 100% theory weightage, 30% weightage is allotted for In Semester Examination (ISE). Appearing for ISE is must and student must submit the assignments to become eligible for End Semester Examination (ESE) of respective course.

ISE (30% weightage) includes:

a. In Semester Examination of 20 Marks of one Hour

b. Assignments of 10 Marks during entire semester

2. For the End Semester Examination (ESE), 70 marks question paper will be set in which student must secure 40% (28 Marks out of 70) as university examination pass head and candidate must be appeared for ISE to become eligible for ESE of respective course.

3. Final theory marks (out of 100) will be the addition of ISE (30 Marks) and ESE (70Marks).

4. Final laboratory letter grade will be awarded (100%) will be the addition of IE (50%) and EE (50%) as applicable to the course.

5. End Semester Examination (ESE) for laboratory consists of internal evaluation (IE) and External Evaluation (EE). Nature of the evaluation as viva-voce or practical will be as applicable to the course which will be well mentioned in the course description.
6. There will be no EE for laboratory courses of the First Year. The entire assessment of a student will be based on IE 100% weightage and a minimum performance of 40% in IE will be required to obtain the passing grade. IE of laboratory work will be based on turn-by-turn supervision of the student's work and the quality of the candidate's work as prescribed through laboratory journals and the candidate's performance in oral or Practical/Oral evaluation uniformly distributed throughout the semester. Student must submit and secure 40% marks in the IE of the concerned course. Non submission of the term work and the IE score below 40% marks will lead to term not grant (TNG). The TNG cases must be promptly communicated by the course teacher to the examination cell of the Department of Technology. The Departmental Examination Coordinator (DEC) will communicate the same to the office of the Director, Board of Examinations and Evaluation, Shivaji University, Kolhapur for further actions.
7. The assessment of laboratory courses from the 3<sup>rd</sup> semester onwards will be carried out in two parts.
  - i. ISE of laboratory will be based on turn-by-turn supervision of the student's work and the quality of candidate's work as prescribed through laboratory journals and the performance in oral or Practical/Oral evaluation uniformly distributed throughout the semester. Student must submit and secure 40% marks in the IE of the concerned course. Non submission of IE will lead to term not grant (TNG).
  - ii. ESE of laboratory will be based on performing an experiment followed by an oral or writtenevaluation.
  - iii. The relative weightage for IE and EE for assessment of laboratory courses will be 50% and 50% respectively from second year onwards and a minimum performance of 40% in both IE and EE separately will be required to obtain the passing grade.
  - iv. EE for laboratory course will normally be held one week before the ESE for theory courses and will be conducted by a panel of examiners consisting of external and internal examiner. This activity will be coordinated by Department Examination Coordinator (DEC) in consultation with Coordinator of the respective Program.

8. A student failed in EE of a laboratory course in a regular semester will be eligible to appear for examination conducted along with ESE of laboratory courses of the subsequent semester. Such examination will be fairly comprehensive (generally of 3 hours similar to EE i.e. External Examinations) to properly judge candidate's practical skill and theoretical knowledge for that laboratory course. The candidate will suffer a grade penalty as per Table 3.
9. Assessment of Seminar, Mini-project, Major Project, internship etc.:
  - i. The Seminar/Project report must be submitted by the prescribed date usually two weeks before the end of academic session of the semester.
  - ii. It is desirable that the topics for seminar/project be assigned by the end of previous semester.
  - iii. The seminar report and the presentation of seminar will be evaluated by panel of three departmental faculty members (decided by Branch Coordinator).
  - iv. The mini-project will be evaluated jointly by a panel of three Internal Examiners.
  - v. The report on field training will be evaluated by a panel of three Internal Examiners.
  - vi. The assessment of B. Tech major project work will be carried out in two phases as follows:

For IE, there will be

    - a) Departmental Committee (To approve synopsis submission based on seminar)
    - b) Project work assessment by Guide

Departmental Committee constitution will be as follow:

    - (1) Director- Chairman
    - (2) Branch Coordinator from respective branch – member
    - (3) Senior faculty from respective branch – member
    - (4) Guide/Course Coordinator- member

EE consists of progress seminar and presentation to be evaluated by panel of internal and external examiners. The process will be as below:

    - a) Project work assessment by Guide
    - b) Report submission based on seminar which will be evaluated by Departmental Committee

- c) EE (Viva-voce and presentations): Evaluation by panel of external and internal examiners.
- vii. The evaluation of industrial internship: Students will undergo industrial internship for one semester (8<sup>th</sup> Semester). Students have to prepare a report related to the work carried out during this internship. This may include study of the new science/technology, applications of the technology/development of the technology and its implementation /designing/obtaining practical or numerical solution etc. By the Program, there will random and surprise visits to the place of internship so as to record the attendance and performance of the interns. The evaluation will be as per the university examination similar to the project evaluation.
- 10.** The duration of End Semester Examination will be 2.5 hrs. however there might be few courses having duration of End Semester Examination as 3 hrs.
- 11.** In respect of IE and Laboratory work, a target date will be fixed for the completion of each sheet, job, Project, experiment or assignment and the same either complete or incomplete will be collected on the target date and assessed immediately at the respective departments by the concerned teachers and % marks (or grades) will be submitted to the Co-ordinator. The Co-ordinator of the Department of Technology will communicate this % of marks (or grades) to the University.
- 12.** In respect of IE of the audit (Non Credit) courses, the respective course in charge will organise and plan activities for the conduct of the evaluation. Preferably, the teacher will announce 5 assignments each one carrying 10 marks. So based on the assignments submitted by the candidate, there will be evaluation out of 50 marks. The passing is for 20 marks. The passing is mandatory for every student. However, the course in charge will communicate to the examination section whether the student has passed the audit course or not. As mentioned earlier, in case of audit courses, the result will appear over the mark sheet and certificate as either PP for passed and NP for not passed.

**R.B.T. 10 Earning credits:**

At the end of every course, a letter grade is awarded in each course for which a student had registered. On obtaining a pass grade ( $\geq 40\%$  minimum grade DD), the student accumulates the course credits as earned credits. A student's performance is measured by the number of credits that the candidate has earned and by the weighted grade point average.

The credit system enables continuous evaluation of a student's performance, and allows the students to progress at an optimum pace suited to individual ability and convenience, subject to fulfilling minimum requirement for continuation.

As regards earning credits against certificate or Diploma award (exit after the first year and the second respectively) also through Honors, Honors with Research, Specialization Minors, all these are the optional for the interested ones. The earning of credits for certificate and diploma is mandatory to take place immediately within 45 days from the last day of respective even End Semester Examination. In case of the credits against the Honors, Honors with Research, Specialization Minor, interested candidates need to plan for the same from SY B. Tech to Final Year B. Tech completion. As per the list of interested students to opt for these features, the Department of Technology will plan the activities regarding conduct/mentoring of the course/s by such students. Further from time to time, the Department will communicate the details of such students to the University Examination section. The students will have their respective End Semester Examination in continuation to the End Semester Examination of the Majors.

The details regarding credits assigned against all these features are elaborated in R.B.T. 19.

#### **R.B.T. 11 CGPA Improvement Policy for award of degree:**

A student getting CGPA  $\leq 4.50$  with grade 'DD' in any course or grade 'FF' in any course will have the possibility to repeat one or more 'DD' graded courses along with the failed courses, /are being offered in a semester.

An opportunity will be given to a student who has earned all the credits required by the respective program with CGPA greater than or equal to 4.00 but less than 4.50, to improve his/her grade by allowing him/her to appear for next ESE of maximum two theory courses of the year in which he/she has secured that grade.

#### **R.B.T. 12 Evaluation System:**

##### **1. Semester Grade Point Average (SGPA)**

$$= \frac{\sum(\text{Course credits in passed courses} \times \text{Earned Credits})}{\sum(\text{Course credits in registered courses})}$$

##### **2. Cumulative Grade Point Average (CGPA)**



$$= \frac{\sum(\text{Course credits in passed courses} \times \text{Earned Credits}) \text{ of all Semesters}}{\sum(\text{Course credits in registered courses})}$$

- i. Cumulative Grade Point Average (CGPA) will be calculated cumulatively for Sem. I to Sem. VIII for regular students.
  - ii. Cumulative Grade Point Average (CGPA) will be calculated cumulatively for Sem. III to Sem. VIII for lateral entry students.
3. At the end of B. Tech Program, student will be placed in any one of the divisions as detailed below:

I<sup>st</sup> Division with distinction : CGPA  $\geq$  7.5 and above

I<sup>st</sup> Division : CGPA  $\geq$  6.0 and  $<$  7.5

II<sup>nd</sup> Division : CGPA  $\geq$  5.5 and  $<$  6.0

New gradation suggested as follows.

**Table 1**

Grade Points	Equivalent Range
5.5	55%
6.0	60%
6.5	65%
7.0	70%
7.5	75%

Conversion of CGPA to percentage marks for CGPA  $\geq$  4.5 can be obtained using equation.

**Percentage marks = (CGPA x 10)**

An example of these calculations is given below (It's a sample calculation):

Typical academic performance calculations - I semester

**Table 2**

Course no.	Course credits	Grade awarded	Earned credits	Grade points	Points secured
Col 1	Col 2	Col 3	Col 4	Col 5	Col 6 (col4 * col5)
MALXXX	5	CC	5	6	30
CSLXXX	4	CD	4	5	20
PHLXXX	4	AA	4	10	40
PHPXXX	2	BB	2	8	16
MELXXX	4	FF	0	0	00
TTNXXX	2	AB	2	9	18
Total	21		17	38	124

1. Total Points earned for this semester = 124

$$\text{Semester Grade Point Average (SGPA)} = \frac{124}{21} = 5.90$$

2. Cumulative Grade Point Average (CGPA) =

$$\text{Cumulative points earned in all passed courses} = 124 \text{ (past semesters)} + 124 \text{ (this semester)} = 248$$

$$\text{Cumulative earned credits} = 23 \text{ (past semesters)} + 21 \text{ (this sem.)} = 44$$

$$\text{Cumulative Grade Point Average (CGPA)} = \frac{\Sigma(124 + 124)}{\Sigma(23 + 21)} = 5.63$$

The students secured  $\leq 28$  and  $\leq 40$  in End Semester Examination (ESE) and candidate appeared for ISE but his final theory marks addition of ESE and ISE is less than 40 out of 100. In order to resolve the issue of result processing a penalty grade DD # should be introduced for this case as below.

**Table 3: System of Evaluation**

Grade	Grade Points	Marks obtained (%)			Description of Performance
		Regular Semester	Re-examination	Repeated Examination	
AA	10	90-100	--	--	Outstanding
AB	09	80-89	90-100	--	Excellent
BB	08	70-79	80-89	90-100	Very Good
BC	07	60-69	70-79	80-89	Good
CC	06	50-59	60-69	70-79	Fair
CD	05	45-49	50-59	60-69	Average
DD	04	40-44	40-49	40-59	Poor
DD\$	04	Below 40	Below 40	Below 40	Poor (Subject to Application of Ordinance 96)
<b>DD #</b>	<b>03</b>	<b>28-39</b>	<b>28-39</b>	<b>28-39</b>	<b>ESE+ISE &lt; 40</b>
FF	00	Below 28	Below 28	Below 28	Fail
XX	--	--	--	--	Detained
ABSENT	--	--	--	--	Absent
PP	--	--	--	--	Passed (Audit Course)
NP	--	--	--	--	Not Passed (Audit Course)

**Note:** An equivalent certificate of CGPA to percentage of marks will be provided to student on candidate's demand after remitting prescribed fees by Shivaji University.

### **R.B.T. 13 Entry of Students from previous credit to new Credit Pattern**

A student of Department of Technology, Shivaji University, Kolhapur admitted before academic year 2023-24 and having backlogs such student will clear back log subjects as per the equivalence given by the respective program.

**R.B.T. 14 Audit Courses:**

Additional courses are included as audit courses in each semester. While the performance of the student in audit courses will be included in the Grade Card, these grades do not contribute to SGPA or CGPA of the concerned student. However the passing in Audit Courses is mandatory for every student.

**R.B.T. 15 Awards of Grades for Re-Examination:**

- a) A student who has obtained grade 'FF' in any course /courses in regular semesters (Both Odd and Even) will be eligible to appear for the re-examination.
- b) This re-examination will be conducted immediately after the result declaration of that academic year's even semester examination, prior to commencement of the next academic year.
- c) In such cases In Semester Examination performance of a student will not be wiped out.
- d) A student will apply for re-examination before the last date of such application and will appear for re-examination.
- e) 70% weightage similar to ESE will be given to re-examination.
- f) A student who is eligible for re-examination but remains absent for re-examination will be given grade 'Absent'.
- g) A student will be awarded a grade between 'AB' to 'DD', or 'FF' or 'XX' as given in Table 3 depending upon the cumulative marks obtained by him/her in IE and Re-examination of ESE. Here a student has to suffer a grade penalty by accepting one grade lower as compared with the regular grades.

**R.B.T. 16 Showing Evaluated End Semester Examination Answer Papers, Re-evaluation, and applying for revaluation:**

After the declaration of result, the evaluated answer book will be shown to the student immediately as per the timetable prepared by the exam cell of Department of Technology. The grievances regarding the incorrect total and assessment of the unassessed questions will be done by the respective evaluator upon submission of the grievance form to the exam cell of the

Department of Technology. A student having doubt regarding the grade declared in a course can apply for the photocopy of the answer book by remitting the prescribed fee as specified; a student can also apply for rechecking of his/her ESE answer book as per Shivaji University rules. The same modus operandi will be applicable for the re-examination also.

**R.B.T. 17 Change of Branch:**

Students will be eligible to apply for Change of Branch after completing the first two semesters. The change of branch will be permitted strictly on merit basis subject to the rules and regulations prescribed by Directorate of Technical Education, Maharashtra State/Admission Regulatory authority, Maharashtra State time to time.

**R.B.T. 18 Disciplines and Conduct:**

- i. Every student will be required to observe discipline and decorous behaviour both inside and outside the campus and not to indulge in any activity which will tend to bring down the prestige of the Department.
- ii. Any act of indiscipline of a student reported to the Department will be referred as per Shivaji University norms.
- iii. If a student while studying in the institute is found indulging in anti-national activities contrary to the provisions of acts and laws enforced by Government, the candidate will be liable to be expelled from the Department without any notice.
- iv. If a student is involved in any kind of ragging, the student will be liable for strict action as per Maharashtra anti-ragging act 1999, which is in effect from 15<sup>th</sup> May 1999.
- v. If any statement/information supplied by the student in connection with his/her admission is found to be false/ incorrect at any time, his/ her admission will be cancelled and the candidate will be expelled from the institute and fees paid will be forfeited.
- vi. Student once admitted in the Department of Technology will follow instructions issued from time to time.
- vii. If a student is found guilty of malpractice in examinations then the candidate will be punished as per the recommendations of the Shivaji University, Kolhapur.

- viii. Every admitted student will be issued photo identification (ID) card which must be retained by the student while the candidate is registered at Department of Technology. The student must have valid ID card with him/her while in the Department of Technology.
- ix. Any student who alters or intentionally mutilates an ID card or who uses the ID card of another student or allows his/her ID card to be used by another student will be subjected to disciplinary action.
- x. The valid ID card must be presented for identification purpose as and when demanded by authorities. Any student refusing to provide an ID card will be subjected to disciplinary action.

**R.B.T. 19 Details regarding B. Tech Major, Multidisciplinary Minor, Honors, Honors with Research, Specialization Minor and Multiple entry, multiple exit features:**

**(Major means the respective 6 UG Programs available on the Campus at the Department of Technology)**

- I. **B. Tech Major:** The B. Tech Major requires earning the routine no. of credits i.e. 162 (First Two semesters, 21 credits each plus remaining 6 semesters @ 20 Credits=120 credits.), thus the total credits against the Major will be  $42 + 120 = 162$ . Along with that, there will be mandatory audit courses in each semester.
- II. **B. Tech Multidisciplinary Minor (MDM):** There will be at least one Multidisciplinary Minor Program for each UG Major. For that sake, extra 14 Credits are mandatory to be earned. The credit split up is as follows: 3 Courses each of 3 credits plus 3 credits against MDM based internship plus 2 credits against MDM based Mini Project.
- III. With the aforesaid I & II, every enrollee under a particular UG Degree program, after the successful completion of the same will be the awardee of **B.Tech in Major Degree Title with Multidisciplinary Minor** (Minor Title Mention). *As per the National Credit Framework's mention of verticals, this particular Degree falls under the **fourth vertical (Level 6.0)**.* Routine fees as decided by the institute will be applicable to all the enrolled students.  
As usual if these graduates want to pursue PG, it will be of 2 years duration for them.
- IV. The credits distribution for the MDM featured B.Tech Degree in a particular Major Program is as follows:  $21+21+20+23+23+23+23+22=176$ . The SGPA and CGPA calculation will be as per this distribution.

**V. B. Tech (Honors):** This is purely an option to all the students. There will be additional **17** credits out of which **15** credits will be earned through successful completion of 05 courses 3 Credits each **plus 2** credits will be against a course in advanced laboratory practice from the major. (These courses could be preferably through the MOOCs. If so, these MOOCs need to be other than MOOCs of Semester VIII). The courses to be completed throughout four years starting from second year. The interested students have to pay separate fees for the same. *As per the National Credit Framework's mention of verticals, this particular case falls under the **fifth vertical (Level 6.0)**.* As per NEP 2020 guidelines, such successful candidates will be eligible to enter at the Second Year of PG in the respective specialization.

**VI.B. Tech (Honors with Research):** This is also purely an option to all the students. There will be **17 credits** earned as in case of Honors **plus** there will be **3 more credits** earned against an additional Project Work with success in publishing at least one research paper based on the research topic. The interested students have to pay separate fees for the same. *As per the National Credit Framework's mention of verticals, this particular case falls under the **sixth vertical (Level 6.0)**.* As per NEP 2020 guidelines, such successful candidates will be eligible to pursue PhD studies **provided the candidate's entire CGPA is 7.5 and above.**

**VII. B. Tech Double Minor:** This is also purely an option to all the students. As mentioned in I & II, the candidate in addition to Multidisciplinary Minor (MDM) along with the Major Degree, may choose to opt for one more minor from the Pool of Specialization Minors (SPM) and earns 14 extra credits against this minor. The successful candidates will be the awardees of B.Tech in Major Degree with Double Minors. (Mention of the Multidisciplinary and Specialization Minors). The interested students have to pay separate fees for the same. *As per the National Credit Framework's mention of verticals, this particular case falls under the **seventh vertical (Level 6.0)**.*

**VIII. Multiple entry and multiple exit feature:**

- i. **After First year,** any candidate desiring exit from first year with a claim to be an awardee of certificate course in respective specialization, the enrollee has to complete (in addition to the First Year Credits 42 in number), two, '2 credits theory courses' and a skill based 4 credits course (i.e. 1 Month Industrial Training). These additional 08 credits to be earned by such aspirants. The details of these courses to be defined by the respective specialization and designed and well narrated to the aspirants. The interested students

have to pay separate fees for the same. *As per the National Credit Framework's mention of verticals, this particular case falls under the **first vertical (Level 4.5)**.*

- ii. **After Second Year**, any candidate desiring to exit from second year with a claim to be an awardee of Diploma in respective specialization, the enrolee must have completed the courses against the Certificate. Moreover, the enrolee has to complete (in addition to the First Year and Second Year Credits 85 in number), three, '2 credits theory courses' and a skill based 4 credits course (i.e. 1 Month Industrial Training). These additional 10 credits to be earned by such aspirants. The details of these courses to be defined by the respective specialization and designed and well narrated to the aspirants. The interested students have to pay separate fees for the same. *As per the National Credit Framework's mention of verticals, this particular case falls under the **second vertical (Level 5.0)**.*
- iii. **After Third Year**, any candidate desiring to exit from third year will be an awardee of Bachelor's Degree in Vocation (B.Voc.) in respective specialization, provided the enrolee must have completed all the courses till T.Y B.Tech (Credits 131 in number). However, such a candidate needs to earn additional 8 credits that include any two '2 credits theory courses' and a skill based 4 credits course (i.e. 1 Month Industrial Training). The choice of these two theory courses could be from the two courses which are listed against the exit after first year for certificate and three courses which are listed against the exit after S.Y.B.Tech with a claim for Diploma in respective specialization. *As per the National Credit Framework's mention of verticals, this particular case falls under the **third vertical (Level 5.5)**.*
- iv. In case of multiple entry-multiple exit features, to undergo the one-month internship against the certificate and diploma, also in case of all other internships, the selection of skill imparting industry or organisation will be preferably from the **AICTE approved SKPs (Skill knowledge Providers)** list.

**IX. About the courses through MOOCs:** In case of the non-availability of the MOOCs, the students will prepare for the course in a self-study mode under the mentorship of a teacher assigned by the respective Program Coordinator and the Director of the Department of Technology. The students also will have option to choose to appear for the End Semester Examination either by the MOOCs organisers or that by the Shivaji University.

**N.B.:** All the students will be mandatorily enrolled under the academic bank of credits. As regards, multiple entries, any student from same specialization who desires to join at second,

third or Final Year has to have accumulation of those minimum numbers credits in the ABC account till the candidate's last year to that of the entry year.

**Note:** Also one more feature of this revision is that, besides the curriculum structure, as co-curricular activities, National Cadet Corps (India) i.e. NCC and National Service Scheme i.e. NSS units are available for the interested ones the selections of whom will be as per the respective norms.

#### **F. Engineering Graduate Attributes**

1. Domain specific Engineering Knowledge
2. Problem Analysis Ability
3. Acquiring Skills that enable them to Design & Develop Solutions to the Problems
4. Capacity to investigate Complex Problems
5. Familiarity of using Modern Tools
6. Understanding Engineer's role and connectivity towards Society
7. Awareness about Environment & Sustainability
8. Practicing ethics and values
9. Ability to work as an Individual & in a Team also
10. Acquiring Communication skills
11. Becoming well verse with task of Project management & Finance aspects
12. Developing Lifelong Learning attitude

**(Note:** For every program, there are its own Program Educational Objectives (PEOs) while there are 12 Program Outcomes (POs) which are aligned with these graduate attributes for the engineers.)



Sr. No.	Component	Total additional Credits	Fees to be charged* INR
1.	Exit After FY B.Tech claiming Certification in respective specialization	08	8000/-
2.	Exit After SY B.Tech claiming Diploma in respective specialization	10	10000/-
3.	Exit After TY B.Tech claiming Bachelor's Degree in Vocation (B.Voc.) in respective specialization.	08	8000/-
4.	B.Tech Double minor (Only for Specialization Minor)	14	14000/-
5.	B.Tech (Honors)	17	17000/-
6.	B.Tech (Honor with Research)	20	20000/-

#### G. Fees structure for Multiple Entry/Exit, Minor, Honors, Honors with Research

\*For these optional features, the fees calculation is based on INR1000 per Credit. These fees against the additional optional features are applicable to the batch enrolled in the year 2023-24. All these fees will be in addition to the management approved total tuition fees per year for the MDM featured B.Tech Majors plus the admissible and payable other fees.