

# **REGULATION FOR B.TECH DEGREE**

w.e.f. 2017-18 Regular Admission Batch



**ASSAM SCIENCE AND TECHNOLOGY UNIVERSITY**  
**Guwahati, Assam**

**Assam Science and Technology University** is established on 4<sup>th</sup> January, 2010 by the Act, 2009 and notified by the Govt. of Assam vide letter No. ATE.222/2008/48 dated 26<sup>th</sup> Feb, 2010 that the “Assam Science and Technology University Act 2009” shall come into force with immediate effect.

Regulations for 4 (four) years Bachelor of Technology (B.Tech.) degree course in semester systems for the Engineering Colleges affiliated to Assam Science and Technology University of the state of Assam.

Approved by the Academic Council of ASTU, Jalukbari, Assam in 17<sup>th</sup> Academic Council Meeting held on 12/09/2017.

### **OBJECTIVE:**

1. Regulation of Courses and the Examination system for both Undergraduate and Postgraduates Programme including the degree leading to Ph.D. for Science and Technology discipline for all the Engineering Colleges in the state of Assam.
2. Introduction of Post Graduate Courses in identified thrust areas.
3. Establishment of Research and Development Activities.
4. Development of a Data Bank for Natural Resources. Assam Science and Technology University has been established to bring all the Engineering Colleges/Institutions of Assam under a single platform and to provide uniform standards of technical education.

### **VISION:**

1. Give synchronized strategic and operational leadership to technical education of Assam through a unified structure.
2. Create state of the art infrastructure and train excellent academic personnel to be with the international peers.

### **MISSION:**

1. Establish a platform to participate together by Government and Private organization under unified umbrella.
2. Create facilities for all to participate; Interaction with industries.

### **STRATEGY:**

- Interfacing between ASTU and Government Institutes.
- Immediate formation of review committees for Syllabi from all experts from Assam, AEC, JEC, IITG & others (confidence building); Introduce in 2017-18 session.
- Review new courses.
- Participation in various univ. boards by Senior Faculties of Government Institution.
- Establish QA programme to define roles and responsibilities of all stakeholders.
- Ph.D guide for qualified faculties of these organizations.
- Bring in freshness by augmenting infrastructure to be at par with recognized establishments; share them to optimize utilization.
- Seminars, Workshops, Brain storming meetings among stakeholders.

## **RULES AND REGULATION OF B.TECH DEGREE PROGRAMS:**

### **1. B.TECH DEGREE PROGRAMS:**

1.1 Under Graduate (B.Tech. Degree) programs will be offered in the following disciplines:

Civil Engineering, Electrical Engineering, Mechanical Engineering, Electronics and Communication Engineering, Electrical and Electronics Engineering, Chemical Engineering, Computer Science and Engineering, Chemical and Process Control Engineering, Electrical and Instrumentation Engineering, Applied Electronics and Instrumentation Engineering, Power Electronics and Instrumentation Engineering, Instrumentation Engineering, Production Engineering and any other programs as and when University decides.

Other teaching departments are:

- Mathematics
- Physics
- Chemistry
- Humanities and Social Sciences

1.2 The provisions of these regulations shall be applicable to any new discipline that may be introduced from time to time.

### **2. COURSE STRUCTURE:**

**Course Structure will be decided by the Academic Council. The Academic Council will discuss and finalize the exact credits offered for the program and the semester-wise distribution, as well as the syllabi of all courses offered by the University from time to time.**

### **3. ADMISSION ELIGIBILITY**

As per Directorate of Technical Education, Assam, directives.

### **4. DEGREE REQUIREMENTS:**

The requirements for a student of B.Tech degree program are as follows:

- (a) Must have CGPA 4.00.
- (b) The minimum duration for a student for complying with the Degree requirement is FOUR academic years from the date of first registration for his/her first semester.
- (c) A student admitted in the B.Tech Programme in 3<sup>rd</sup> semester (Lateral Entry) shall have to pass the same in minimum 3 (three) academic years
- (d) The maximum duration for a student for complying with the Degree requirement is Eight academic years from the date of first registration for his/her first semester.

- (e) A student admitted in the B.Tech Programme in 3<sup>rd</sup> semester (Lateral Entry) shall have to pass the same in maximum 6 (six) academic years
- (f) No student shall be allowed to appear in the University Examinations of B.Tech programme beyond the respective limits mentioned in above. However, under very special circumstances, the Vice-Chancellor of the University, after due recommendation of Principal of the Colleges and Academic Council, may allow a student to avail extra chance (one year) in the University Examinations of B.Tech Programme.
- (g) A student shall be awarded the “Bachelor of Technology” degree in respective branch where he/she pass all the courses of the Curriculum for all the eight semesters.
- (h) Credit as mentioned in the course structure of B.Tech degree for Regular and Lateral Entry must be achieved by the students.

**5. ATTENDANCE:** Following are the rules relating to attendance requirements:

- 5.1 Every student is expected to have 100% attendance in each subject in which he/she has registered in the beginning of the semester. However, condonation for shortage of attendance up to 25% may be granted on On-duty, Medical or other genuine grounds. Such students must submit to the Head of the Institution a medical/relevant certificate/document from the appropriate authority, within a week after they return to the Institute. Certificates submitted after one week shall not be entertained on any account.
- 5.2. A student should have average 75% or more of attendance in a semester, taking all theory and practical classes together, for eligibility of appearing in the End-semester Examinations. No individual subject should have less than 65% of attendance. Students with average attendance of 75% or more but less than 65% attendance in one or more subjects will be treated at non-collegiate (NC).
- 5.3. Student with 65% and more but less than 75% average attendance (taking all theory and practical classes together) shall be treated as non-collegiate (NC). NC students will be eligible to appear at the End-semester Examinations after paying fine to be fixed by the University.
- 5.4. Students with less than 65% of average attendance (taking all theory and practical classes together), shall be considered as Dis-Collegiate (DC) for that semester and shall not be allowed to appear at the End-semester Examinations. No appeal in this regard will be entertained.
- 5.5. Student with DC in a particular semester will not be promoted to the next semester and require to attend the classes of that particular semester in next academic session

**6. REGISTRATION FOR END SEMESTER EXAMINATION:**

- 6.1 Every student is required to register for end semester examination within the notified dates by the University.

- 6.2. A student who does not register on the day announced for the purpose may be permitted, in consideration of any compelling reason, late registration within the next week on payment of additional late fee as prescribed by the University. Normally no late registration shall be permitted after one week from the scheduled date.

## 7. PROMOTION RULES:

### Promotion Rule for admission to a higher semester classes and Requirements for appearing in the End-semester Examinations:

|     |   |   |
|-----|---|---|
| 7.0 | General (Academic Requirements)             | <p><b>Eligible conditions for appearing in the End-semester Examinations:</b></p> <ul style="list-style-type: none"> <li>i. A student should satisfy the attendance criteria as per Clause No. 5</li> <li>ii. Must register the End-semester examinations (examination form fill-up).</li> <li>iii. Must pay the requisite fees.</li> <li>iv. Must secure 35% marks in CE for Theory and Practical subjects</li> </ul> <p><b>Eligible conditions for attending the higher semester:</b></p> <ul style="list-style-type: none"> <li>i. A student should satisfy the attendance criteria as per Clause No. 5</li> <li>ii. Must register the End-semester examinations (examination form fill-up).</li> <li>iii. No Student with “DC” shall be allowed to attend higher semester classes.</li> </ul> |
| 7.1 | 1 <sup>st</sup> to 2 <sup>nd</sup> Semester | A student of 1 <sup>st</sup> semester will be allowed to attend 2 <sup>nd</sup> semester classes, if he/she has completed the Academic Requirements of 1 <sup>st</sup> semester.  |
| 7.2 | 2 <sup>nd</sup> to 3 <sup>rd</sup> Semester | A student of 2 <sup>nd</sup> semester will be allowed to attend 3 <sup>rd</sup> semester classes, if he/she has completed the Academic Requirements of 2 <sup>nd</sup> semester.  |
| 7.3 | 3 <sup>rd</sup> to 4 <sup>th</sup> Semester | A student of 3 <sup>rd</sup> semester will be allowed to attend 4 <sup>th</sup> semester classes, if he/she has completed the Academic Requirements of 3 <sup>rd</sup> semester.  |
| 7.4 | 4 <sup>th</sup> to 5 <sup>th</sup> Semester | A student of 4 <sup>th</sup> semester will be allowed to attend 5 <sup>th</sup> semester classes, if he/she has completed the Academic Requirements of 4 <sup>th</sup> semester.  |
| 7.5 | 5 <sup>th</sup> to 6 <sup>th</sup> Semester | A student of 5 <sup>th</sup> semester will be allowed to attend 6 <sup>th</sup> semester classes, if he/she has completed the Academic Requirements of 5 <sup>th</sup> semester.  |
| 7.6 | 6 <sup>th</sup> to 7 <sup>th</sup> Semester | A student of 6 <sup>th</sup> semester will be allowed to attend 7 <sup>th</sup> semester classes, if he/she has completed the Academic Requirements of 6 <sup>th</sup> semester.  |

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|-----|--|--|
| 7.7 | 7 <sup>th</sup> to 8 <sup>th</sup> Semester                            | A student of 7 <sup>th</sup> semester will be allowed to attend 8 <sup>th</sup> semester classes, if he/she has completed the Academic Requirements of 7 <sup>th</sup> semester.   |
| 7.8 | Student not eligible for promotion to the next higher semester classes | In case a student of particular semester does not fulfil the eligibility criteria of promotion to the next higher semester classes, he/she will not be allowed to enroll and attend classes in the next higher semester, but will be eligible to appear in all failed subject(s) of the previous semester examinations. Moreover, he/she will have to attend the classes of the concerned semester in next academic session. |
| 7.9 |  | <i>There shall be no makeup (back or special) examination to clear the failed subject(s). A student has to appear in the failed subject(s) in the respective semester examinations as and when it is held.</i>   |

## 8. EVALUATION - Grading System:

8.1

- (a) As a measure of student's performance, a 9-scale grading system using the following letter grades and corresponding grade points per credit shall be followed:

| Internal Assessment | University Evaluation | Grand Total           | Grading System  |       |               |             |
|---------------------|-----------------------|-----------------------|-----------------|-------|---------------|-------------|
| CE                  | ESE                   | Grand Total= CE + ESE | Total Marks (%) | Grade | Description   | Grade Point |
| 30                  | 70                    | 100                   | 90 & above      | O     | Outstanding   | 10          |
|                     |                       |                       | 80 – 89         | A+    | Excellent     | 9           |
|                     |                       |                       | 70 – 79         | A     | Very Good     | 8           |
|                     |                       |                       | 60 – 69         | B+    | Good          | 7           |
|                     |                       |                       | 50 – 59         | B     | Above Average | 6           |
|                     |                       |                       | 45 – 49         | C     | Average       | 5           |
|                     |                       |                       | 35 – 44         | P     | Pass          | 4           |
|                     |                       |                       | Below 35        | F     | Failed        | 0           |
| Absent              | Abs                   | Absent                | 0               |       |               |             |

CE – Continuous Evaluation (Internal), both for theory and practical.

ESE – End Semester Examination (Central Evaluation)

- (b) The minimum marks of CE should be 11 out of 30 marks for theory subjects which is necessary to become eligible to appear in the End Semester Examination (ESE).
- (c) To be eligible to pass in a theory subject with minimum 'P' grade, the following conditions must be fulfilled
  - i) Must appear in CE and ESE.
  - ii) Must obtain 35% marks in CE i.e. 11 marks (rounded) out of 30 marks
  - iii) Must obtain 35% marks in ESE i.e. 25 marks (rounded) out of 70 marks
  - iv) Must obtain 35% marks in (CE+ESE) out of 100 marks
- (d) To be eligible to pass in a Practical (Laboratory, Seminar, Project, Workshop etc.) subject, a student –
  - i) Must appear in CE and ESE
  - ii) Must obtain 35% marks in CE i.e. 5 marks (rounded) out of 15 marks
  - iii) Must obtain 35% marks in ESE i.e. 12 marks (rounded) out of 35 marks
  - iv) Must obtain 35% marks in (CE+ESE) i.e. 18 marks (rounded) out of 50 marks

8.2 The norms for the award of the letter grade are as follows:

No student can be awarded P or better grade without securing at least 4 Grade Point in any course in End Semester examination

In addition, a student may be assigned the grades 'PS' and 'NPS' for pass marks and non-passing marks respectively, for pass/ No-pass courses, or the transitional grade 'I' (incomplete).

- i) A student is considered to have completed a course successfully and earned the credits if she/he secures a letter grade other than 'F', 'NPS', 'Ab', 'I'.
- ii) A letter grade 'F' or 'NPS' in any course implies a failure in that course.
- iii) In exceptional cases, a student is assigned the grade 'I' in a course if the student was compelled to absent himself/herself from the end-semester examination (after registration for End Semester Examination) on account of :
  - A) Illness or accident which disabled him from appearing at the examination.
  - B) A calamity in the family at the time of examination which, in the opinion of the College/Institute, required the student to absent himself from the examination.
- iv) A student will be eligible for the award of grade 'I' only if his/her attendance at classes and performance in other components of assessment are complete and satisfactory.

8.3 At the end of each semester, the following measures of the performance of a student in the semester and in the programme up to that semester will be computed and made known to that student together with the grades obtained by the student in each course:

- i) The Semester Grade Point Average (SGPA): From the grades obtained by a student in the courses of a semester, the SGPA will be calculated using the following formula:

$$\text{SGPA} = \frac{\sum_{i=1}^n \text{GP}_i \times \text{NC}_i}{\sum_{i=1}^n \text{NC}_i}$$

Where  $\text{GP}_i$  = Grade points earned in the course

$\text{NC}_i$  = Number of credits for the course and

$n$  = the number of courses in the semester.

- ii) The Cumulative Grade Point Average (CGPA): From the SGPA's obtained by a student in the completed semesters, the CGPA will be calculated using the following formula:

$$\text{CGPA} = \frac{\sum_{i=1}^n \text{SGPA}_i \times \text{NSC}_i}{\sum_{i=1}^n \text{NSC}_i}$$

Where  $\text{SGPA}_i$  = Semester Grade Point Average of the  $i^{\text{th}}$  semester.

$\text{NSC}_i$  = Number of credits for the  $i^{\text{th}}$  semester.

$n$  = Number of semesters completed.

- iii) Both the SGPA and CGPA will be rounded off to the second place of decimal and recorded as such.
- iv) The CGPA may be converted into a percentage, if needed, using the following formula:

$$\text{Percentage marks} = \text{CGPA} \times 10$$

- 8.4 Both the SGPA and CGPA will be rounded off to the second place of decimal and recorded as such. Whenever these CGPA are to be used for the purpose of determining the merit ranking of a group of students, only the rounded off values will be used.
- 8.5 When a student gets the grade 'I' for any course during a semester, the SGPA for that semester and the CGPA at the end of that semester will be tentatively calculated ignoring the 'I' graded course(s). After the conversion of 'I' grade(s) to appropriate grade(s), the SGPA for that semester and CGPA will finally be recalculated after taking the converted grade(s) into account.



- 8.6 There are academic and non-academic requirements for the B.Tech. Programme where a student will be awarded the 'PS' and 'NPS' grades. All non-credit courses (such as NCC/NSO/NSS, industrial training, field visits and Extra Academic Activities) belong to this category. No Grade points are associated with these grades and these courses are not taken into account in the calculation of the SGPA or CGPA. However, the award of the degree is subject to obtaining a 'PS' grade in all such courses.
- 8.7 In the case of an audit course, the letters 'AU' shall be written alongside the course name in the Grade Sheet. A student is not required to register again for passing a failed audit course.

## **9. RE-EVALUATION**

9.1. Student can apply for re-evaluation of the answer scripts, maximum three subjects in a semester, within 25 days after declaration of result. No application after **25 days** will be accepted.

9.2. Re-Evaluated marks will be considered for calculation of Grade point.

## **10. TRANSITIONAL GRADES:**

(a) Grade I:

When a student gets I Grade for any subject(s) during a semester, the SGPA of that semester and the CGPA at the end of that semester will be tentatively calculated ignoring this (these) subjects. After these transitional grades have been converted to appropriate grades, the SGPA for the semester and CGPA at the end of the semester will be recalculated after taking into account the new grades.

(b) About Grade F:

When a student gets the 'F' grade in any subject during a semester, the SGPA and the CGPA from that semester onwards will be tentatively calculated, taking only 'zero point' for each such 'F' grade. After the 'F' grade has been substituted by better grades during a subsequent semester, the SGPA and CGPA of all the semesters starting from the earliest semester in which the 'F' grade has been updated will be recomputed and recorded to take this change of grade into account.

## **11. ASSESSMENT OF ACADEMIC PERFORMANCE:**

11.1 Each theory subject in a semester is evaluated to 100 marks, with the following weightages:

### Sub-components Weightage

|   |          |
|---|----------|
| Continuous Evaluation (Class tests/Surprise tests/Assignments /<br>Quizzes/Project/Seminar; at least two class test for each subject to be conducted<br>in each semester) | 30 marks |
| End-Semester Examination (Entire syllabus)  | 70 marks |

11.2 Each laboratory course in a semester is evaluated for 50 marks, with the following weightages:

### Sub-component Weightage:

|  |          |
|--|----------|
| Continuous evaluation (Lab report, Viva, Quiz) | 15 marks |
| End Semester examination                       | 35 marks |

## 12. INTERNAL EVALUATION & END-SEMESTER EXAMINATIONS:

- 12.1** Head of the Institution/College sends the list of courses registered by each student for the semester along with average percentage of attendance of all subjects (including theory and practical).
- 12.2** Class tests, surprise tests, assignments, quizzes, viva-voce, laboratory assignments etc. are the constituent components of continuous assessment process, and a student must undergo the continuous assessment process as prescribed by the teacher/coordination committee of the subject. If due to any compelling reason (such as his/her illness, calamity in the family etc.) a student fails to meet any of the requirements within/on the scheduled date and time, the teacher/coordination committee in consultation with the concerned Department may take such steps (including the conduct of compensatory tests/examinations) as are deemed fit.
- 12.3** Appearing in the end-semester examination in the theory and laboratory subjects is mandatory for a student. Unless exempted as stated in clause **(8.2.iii)**, if a student fails to appear for the end-semester examination, he/she shall be awarded 'Ab' grade in the subject. He/She can be permitted to appear in the examinations as and when this is held along with the end semester examination.
- 12.4.** In Theory Subject(s) of B.Tech End-Semester Examinations, a Candidate securing at least 'P' grade may improve his/her performance in the **subsequent** End-Semester Examinations as and when it is held by the University in a maximum of 03 (Three) subject(s) he/she desires to improve. This provision is however, allowed **only once**. The candidate needs to appear all the three subject(s) at the same sitting. In such cases the better marks secured by the candidate in **ESE** will be considered.

Further, there shall **not** be any provision for improving **CE** marks for the above category of candidate."

**The evaluation of end semester examination will be controlled by the Controller of Examinations of the University.**

- 12.5** Any change of grade of a student in a subject consequent upon detection of any genuine error of omission and/or commission on part of the concerned teacher must be recommended by the Controller of Examinations and shall be forwarded by the Principal/Chairman, Coordination Committee through the Head of the concerned Department within **20 (twenty) days from the issue of grade card.**
- 12.6** As a process of learning by students and also to ensure transparency, the answer scripts after correction of class tests, assignments etc., will be shown to the Students by the Institute.
- 12.7** The student can appeal to the Controller of Examination for any arbitration **within 20 days** from the date of official publication of results.
- 12.8** The valued scripts (Examination Forms, Answer Scripts, Counter Foils, Attendance Summary etc.) shall be preserved for a maximum period of **12 months** after publication of results. After 12 months no application in this regard will be received.
- 12.9** Examination **marks** record of all students shall be maintained in the office of the Controller of Examination of the University.

### **13. ELIGIBLE FOR APPEARING (REPEAT) THE EXAMINATION WITH GRADE F, Ab AND I:**

Students with “F” or “Ab” or “I” Grade only are eligible to repeat the Examination as and when it is held.

### **14. TEMPORARY WITHDRAWAL FROM THE INSTITUTE:**

A student who has been admitted to an undergraduate degree course of the Institute may be permitted to withdraw temporarily for a period of one semester or more from the Institute on grounds of prolonged illness or acute problem in the family, which compelled him/her to stay at home, provided that he/she applies to the Institute within 15 days of the commencement of the Semester or from the date he/she last attended his/her classes whichever is later, stating fully the reasons for such withdrawal together with supporting documents and endorsement of the parent/guardian. The Institute is satisfied that, including the period of withdrawal, the student is likely to complete his/her requirements for the degree within the time limits specified.

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