

## **B .TECH.**

### **REGULATIONS**

#### **1.0 Admission**

- 1.1 The number of seats in B. Tech. programme for which admission is to be made in the Faculty of Science & Engineering will be decided by the Board of Management of Jharkhand Rai University (JRU).
- 1.2 Admission to the B. Tech. Programme in any academic year will be based on the results of Entrance Test (JRUEE) in that year /the percentage of marks or CGPA obtained in the qualifying examination.. The minimum percentage of marks or CGPA for appearing in the entrance test will be as prescribed by the University.
- 1.3 The Admission Committee will decide on the procedure for conducting the JRUEE.
- 1.4 (i) The eligibility criteria, for appearing at Entrance Test (JRUEE), as well as the criteria to be satisfied to apply for direct admission in any year will be decided by the Admission Committee. The qualifying degree should be from a university recognized by this university.  
(ii) Candidates appeared in AIEEE/ JCECE and other competitive admission test conducted by any state/board are also eligible for admission in B. Tech.  
(iii) At the time of admission, a candidate should have appeared / passed in the final examination of the qualifying examinations.
- 1.5 Notwithstanding the above, the actual admissions will be based on the rules and regulations of the UGC/Competent authorities.
- 1.6 The selected candidate will be admitted to the B. Tech. programme after he or she completes the admission formalities and pays the prescribed fees.
- 1.7 In the matter of admission to the B. Tech. programme the decision of the Admission Committee is final.
- 1.8 If, at any time after admission, it is found that a candidate has not fulfilled all the requirements stipulated in the offer of admission, the Director/ Dean of Faculty of Management may revoke the admission of the candidate and report the matter to the Vice Chancellor.

## **2.0 ELIGIBILITY FOR B. Tech. PROGRAMME ( 4 Years Duration)**

### **2.1. For B. Tech (4-Year Course)**

The minimum qualification for admission to B. Tech degree program (Regular) shall be:

Pass in the 10+2 (Higher Secondary) examination with PCM or any other equivalent examination recognized by this University, with a minimum aggregate of marks in Mathematics, Physics and Chemistry as specified by the Admission Committee.

### **2.2. Lateral Entry System for B. Tech (3- Years)**

Under lateral entry system, following categories of candidates are eligible for admission to the 3rd semester of the B. Tech programs.

- (i) those who have acquired a Diploma in Engineering/Technology through a minimum of three years of institutional study, after the 10<sup>th</sup> (SSLC) examination, recognized by this University,
- (ii) those who have acquired a Diploma in Engineering/Technology through a minimum of 2 years of institutional study, after the 10+2 (Higher Secondary) examination, recognized by this University
- (iii) those who have acquired a Bachelor's degree in Mathematics/Physics/Chemistry or any other equivalent degree through a minimum of 3 years of institutional study, after the 10+2 (Higher Secondary) examination, recognized by this University.

## **3.0 DURATION AND STRUCTURE OF THE B. Tech. PROGRAMME (4 years programme)**

### **3.1 The programme is organized on semester basis with a total of eight semesters in the following branches:**

- Mechanical Engineering (ME)
- Electrical & Electronic Engineering (EEE)
- Civil Engineering (CE)
- Mining Engineering (MiE)
- Computer Science Engineering (CSE)

The branch is allocated at the time of admission as per the choice and availability of the seat or according to the marks of the candidate in entrance/ qualifying exam.

### **3.2 A candidate shall be required to complete the course of study and qualify for the B. Tech. Degree programme within Six years (12 Consecutive Semesters) from the date of registration in the first semester to the last semester of the Degree programme. However in special cases**

the Vice chancellor on the recommendation of a committee specially constituted for this purpose may further extend this limit for completion of all the requirements for the degree.

- 3.3 In the case of Lateral Entry, candidate shall be required to complete the course of study and qualify for this degree Programs in three years (6 semesters) and maximum five years (10 consecutive semesters) from the date of admission to the third semester. However in special cases the Vice chancellor on the recommendation of a committee specially constituted for this purpose may further extend this limit for completion of all the requirements for the degree.
- 3.4 The students can choose an elective papers in the last two semesters. The electives chosen by the students from the curriculum shall be offered, provided that a minimum number of students, to be fixed by the department concerned registered for the same.
- 3.5 Every branch of the B. Tech Programs will have a curriculum and course contents (syllabi) proposed by the syllabus committee and approved by the Academic Council.
- 3.6 The complete programme will consist of 4 categories: 1) Core courses 2) Functional and Industry based elective courses and general courses 3) Projects and viva voce 4) Two Assignments
- 3.7 B. Tech. programme will have a curriculum and course contents (syllabi) for the courses approved by the Academic Council.
- 3.8 Credits are assigned to the courses based on the following general pattern:  
One credit for each lecture (L) period;  
One credit for two tutorial (T) periods;  
One credit for two laboratory/practical/project/seminar (P) periods  
Theory based courses are that with 'L' & 'T' or 'L' alone or 'T' alone. Courses with theory and practical components are that with 'L', 'T' & 'P' or 'T' & 'P' or 'L' & 'P'. Courses with only practical component are that with 'P' alone.
- 3.9 The curriculum of B. Tech programme is designed to have a total of minimum 180 credits for the award of the B. Tech degree. For lateral entry students the number of credits to be earned for the award of the Diploma in Engineering will be minimum 132 credits.
- 3.10 The medium of instruction and examination will be in English.

#### **4.0 Mentorship Programme**

- 4.1 Jharkhand Rai University have a '**Mentorship Program**' for the betterment of the students where the teachers are assigned a particular class/ section for mentoring them

4.2 **Mentor** acts as a bridge between the students and the university. They monitor their academic as well as personal growth. In academic progress, the mentor looks after their attendance, discipline, assignments, examination, class notes etc. For personal growth, a mentor empathizes with the students. They assess the causes of their personal problems and try to cater their needs as and when required and wherever possible. The concerned teacher mentor gives students a platform to take some responsibility of themselves and their classmates and assign few students as a ‘**Class Representative**’ and ‘**Peer Mentors**’.

4.3 The concerned **Mentor** selects two students for **Class Representatives** of the particular class who in turn take the responsibility of the class. They act as a bridge between the students and the mentor. They are responsible for any academic and nonacademic activities of all the students of their respective classes. Besides this they are not only responsible for maintaining discipline inside the class but they are also responsible for informing students about various notices, class timings etc. They meet the mentor on daily basis, discuss about any issues related to the class and immediately get a solution for the same. The mentors keep a regular check of the class activity on daily basis through the Class Representatives.

4.4 **Peer Mentors** take charge of a group of students and are responsible for helping other students of the class in studies, notes and other academic problems. Students who have a sound academic background are elected as peer mentors. This inculcates leadership and team building in the students.

4.5 Teacher Mentors deals with the problems and gives the solution related to social, psychological, emotional and academic issues of the students wherever possible. The students always feel free to discuss their concern with their mentor. The teacher mentor always encourages the students to express their grievances / problems freely and frankly, without any fear.

## 5.0 **Class Committee**

5.1 A class committee consists of teachers of the B. Tech. programme, Class representatives , the Head of the Department and Chairperson Dean .

5.2 The constitution of Class committee for the programmes of each semester will be as follows:

- a. Teachers of the Programme
- b. Two students of class chosen as Class Representative of the class.
- c. One professor, preferably not associated with teaching of the class, to be nominated by the Dean to act as the Chairman of the class committee
- d. Faculty Mentor of the respective class.

- 5.3 The basic responsibilities of the class committee are
- a. To review periodically the progress of the classes,
  - b. To discuss problems concerning curriculum and syllabi and the conduct of the classes
  - c. Informing the student representatives about the academic schedule including the dates of assessments and the syllabus coverage for each assessment.
  - d. The method of assessment in the course will be decided by the teacher in consultation with the class committees and will be announced to the students at the beginning of the semester.
  - e. Analyzing the performance of the students of the class and finding the ways and means of solving problems, if any.
  - f. Identifying the weak students, if any requesting the teachers concerned to provide some additional help or guidance or coaching to such weak students.
  - g. The class committees shall meet at least twice in a semester, once at the beginning of the semester and once towards the end of the semester.
- 5.4 The class committee shall be constituted on the first working day of any semester or earlier.

## **6.0 Registration and Enrolment**

Students are enrolled after they pay the prescribed fees. Registration and enrolment will be controlled by the office of Faculty of Science and Engineering. For a student to attend classes he/she has to complete both registration and enrolment.

A student will be eligible for enrolment only if he/she satisfies the eligibility criteria as in 6.1 and will be permitted to enroll only if he/she has cleared all dues to the University, Hostel , Library etc. and he/ she is not debarred for enrolment by a disciplinary action of the university.

## 6.1 Registration / Enrolment Requirement

The registration requirement is stipulated below:

To enrol for	Minimum no. of credits to be earned
III Semester	50% of the credits registered in I&II Semester.
V Semester	50% of the credits prescribed in I to IV Semesters
VII Semester	50% of the credits prescribed in I to VI Semesters.

In case the student does not meet the above requirements he/she shall discontinue the studies temporarily, earn the requisite credits and re-join the programme in the year where he/she discontinued. Further at the time of readmission no disciplinary action shall be in force against the student.

## 7.0 Maximum duration of the programme

Each semester shall normally consist of 90 working days or 450 hours. A student is ordinarily expected to complete the B.Tech programme in eight semesters and six semesters for B.Tech (Lateral) programme . However a student may complete the programme at a slower pace by taking more time but in any case not more than twelve semesters under regular B.Tech programme and ten semesters under B.Tech(Lateral) programme excluding semesters withdrawn on medical grounds etc.

## 8.0 Temporary withdrawal from the programme

A student may be permitted by the Director/Dean of the Faculty of Science & Engineering to withdraw from the programme for a semester or longer for reasons of ill health or other valid reasons. Normally a student will be permitted to discontinue from the programme only for a maximum continuous period of two semesters.

## 9.0 Attendance

Attendance is the physical presence of the students in the class. It is a well observed fact that the students who score good grades are those who attend classes regularly. Therefore the students must attend all the classes without fail.

A B. Tech. student will be deemed to have completed the course in any semester only if

- a. He / She secures not less than 75% of attendance in overall course in that semester on the total number of period offered in that course during that semester. Condonation of attendance up to 10% is permitted on medical grounds. Relaxation in attendance is permitted up to 10% for students who represent the University in sports, games, cultural, symposium and other similar activities. The above two relaxations either individually or jointly should not exceed 10% but it is applicable for individual course.
- b. His / her progress and conduct have been satisfactory throughout the semester.
- c. Condonation should be applied for, through proper channel and should be approved by the Dean.

A candidate who is not permitted to appear for the University examinations due to lack of attendance requirements will have to re-register themselves in the same semester by paying the Semester Fees and do the courses when they are offered subsequently

## 10.0 Assessment procedure

- 10.1 The complete academic performance of a student is evaluated internally by the concerned teachers/departments.
- 10.2 The student's performance in each course, in general, is evaluated based on in-semester assessment (internal marks) and end semester examination.
- 10.3 The assessment method is further detailed below:
- (a) Theory Courses

Assessment Tool	Weight age	Remarks
Assignment 1	10%	Individual or group assignment to be submitted by the student and presentation/ Viva- Voice supervise by the concerned faculty
Assignment 2	10%	Individual or group assignment to be submitted by the student and presentation/ Viva- Voice supervise by the concerned faculty
Class Participation	10%	Active participation in class: Raising doubts and questions / Taking initiative/ Participating in discussion / Seminar presentation / Notes Making
End semester Examination	70%	Duration – 3 hours

### 10.4 Practical Examination : 50 marks (30 marks internal and 20 marks external)

10.5 **Project Evaluations:** B.Tech Projects as far as possible should be Industry based, research oriented and socially relevant engagements. Every student is expected to complete this requirement successfully in time. All the students should submit their project report to the



internal guide allocated for this purpose and a Viva voce examination will be conducted at the time of end semester exam by internal/external experts.

- 10.6** The evaluation of the Project is done in last two semesters aggregating to 300 marks. Project 1 comprises of 100 marks and project 2 comprises of 200 marks. In project 1, 50 marks are awarded by faculty for the project report, presentation seminar and viva voce and 50 marks at the time of end semester exam by viva-voce by internal/external experts. In project 2, 100 marks are awarded by faculty for the project report, presentation seminar and viva voce and 100 marks by viva-voce at the time of end semester exam by internal/external experts.

### **11.0 Examination:**

- 11.1 Registration for the University Examination is mandatory.
- 11.2 The End semester examination will be ordinarily conducted during November to December in the odd semesters and during May to June in the even semester.
- 11.3 The question papers for all the theory courses consists of three sections namely SECTION-A, SECTION- B & SECTION-C. Section –A consists of short answer type questions of 5 marks each, Section-B consists of Long answer type questions of 10 marks each and Section –C consists of application based question of 20 marks.
- 11.4 All the practical examinations including project work, Viva Voce will be conducted by internal and/ or external examiners appointed by the university.
- 11.5 The student’s performance in the semester will be evaluated on the basis of continuous class assessment and end semester examination. The continuous assessment of the student is based upon the assignment submitted and the class participation. The assessment marks are provided at the end of semester. The end semester assessment shall be comprised of written Examination, Project reports, Practical’s and Viva- Voce.
- 11.6 The distribution of marks for assessment, end semester theory papers, Projects and sessional shall be as prescribed in the course scheme.
- 11.7 The marks obtained in the course comprises of marks obtained in continuous assessment in the class and End semester Examination for both theory and sessional papers.
- 11.8 Minimum Pass marks in each theory subject including continuous assessment marks should be at least 35%. With a minimum of 30% marks in each theory paper in the end semester examination.

11.9 The minimum Pass marks in Sessional/Viva Voce/Project report is 50%.

11.10 It is essential for the student to pass in the non-credit courses in order to qualify for the award of degree/ Certificate of Diploma.

## **12.0 Promotion Requirements**

12.1a A candidate satisfying all the requirements of the Clause 11.8 & 11.9 shall be promoted to the next academic year.

12.1b Candidate shall be eligible for provisional promotion to the next academic year provided:

- I. For enrolment in 2<sup>nd</sup> Year, he/ She earns at least 50% of the total credit of the I<sup>st</sup> and II<sup>nd</sup> Semester.(Ist Year).
- II. The student who will not be able to fulfill the above requirement will be discontinued from the program temporarily at the end of first year.
- III. For enrolment in 3<sup>rd</sup> Year, he/ she earn at least 50% of the total credit of the I<sup>st</sup> and II<sup>nd</sup> year.
- IV. The student who will not be able to fulfill the above requirement will be discontinued from the program temporarily at the end of second year.
- V. For enrolment in 4<sup>th</sup> Year, he/ She earns at least 50% of the total credit of the I<sup>st</sup> , II<sup>nd</sup> year and III<sup>rd</sup> Year
- VI. The student who will not be able to fulfill the above requirement will be discontinued from the program temporarily at the end of third year.
- VII. If a candidate fails to secure a pass in particular course/courses, he/she should continue to register and reappear for the examination till he/she secures a pass upto maximum course duration.
- VIII. Students will be provided with the maximum course duration (i.e. 6 years for B.Tech 4 year programme and 5 years for B.Tech Lateral programme) to complete the programme.

12.1c The student must complete the requirements within the maximum time allowed.

12.1d The student must complete all the non-credit requirements as specified by the university from time to time.

12.1e The student who is unable to fulfill the requirement mentioned in clause 12.1 c and 12.1d will be terminated from the program me.

**Table:**

<b>B. Tech</b>					
<b>Year/Course</b>	<b>M.E</b>	<b>E.E.E.</b>	<b>C.S.E</b>	<b>CIVIL</b>	<b>MiE</b>
<b>1st Year</b>	48	48	48	48	48
<b>2nd Year</b>	43	42	44	44	44
<b>3rd Year</b>	45	44	44	44	44
<b>4th Year</b>	44	46	44	44	44

Total Credits in each year

**Table**

<b>To enroll for</b>	<b>Minimum no. of Credits to be earned</b>	<b>B. Tech (Minimum)</b>				
		<b>M.E</b>	<b>E.E.E.</b>	<b>C.S.E</b>	<b>CIVIL</b>	<b>MiE</b>
<b>1st Year</b>						
<b>2nd Year</b>	50% of the credits required in 1st year	24	24	24	24	24
<b>3rd Year</b>	50% of the credits required in 1st and 2nd year (till 2nd year)	45	45	46	46	46
<b>4th Year</b>	50% of the credits required in 1st , 2nd and 3rd year (till 3rd year)	68	67	68	68	68

Total credits required to earn each academic year

12.2. However, in special cases the final decision regarding promotion and termination lies at the discretion of the Vice-Chancellor.

12.3 For Students who have completed the normal duration of the program but still have the courses with F Grades, the full marks (100%) shall be assigned to the marks scored in the subsequent

attempt (Reappear/Supplementary Examination) and the marks of internal assessment scored during the program will be ignored.

### 13.0 Award of Letter Grades

13.1 All assessment of a course will be done on absolute basis. However, for the purpose of reporting the performance of a candidate, letter grades each carrying certain points, will be awarded as per the range of total marks obtained by the candidate.

- **Credit scheme applicable for academic sessions from June 2012 & June 2013.**

#### **Division of Grades:**

<b>% Range</b>	<b>Grade</b>	<b>Grade Point</b>
95 – 100	A++	4
90 – 94	A+	3.8
85 – 89	A	3.5
80 – 84	A-	3.2
75 - 79	B++	3
70 - 74	B+	2.8
65 - 69	B	2.5
60 - 64	B-	2.2
55 - 59	C++	2
50 - 54	C+	1.8
45 - 49	C	1.5
40 - 44	C-	1.2
35 - 39	D	1

**Grade Secured 'E' in any subject means reappear in that subject.**

- **Credit scheme applicable from academic session June 2014**

**Division of Grades**

<b>% Range</b>	<b>Grade</b>	<b>Grade Point</b>	<b>% Range</b>	<b>Grade</b>	<b>Grade Point</b>
<b>90 &amp; ABOVE</b>	<b>O</b>	<b>10</b>	<b>50 – 59</b>	<b>B</b>	<b>6</b>
<b>80 - 89</b>	<b>A+</b>	<b>9</b>	<b>40 – 49</b>	<b>C</b>	<b>5</b>
<b>70 - 79</b>	<b>A</b>	<b>8</b>	<b>35 – 39</b>	<b>P</b>	<b>4</b>
<b>60 - 69</b>	<b>B+</b>	<b>7</b>	<b>&lt; 35</b>	<b>F</b>	<b>0</b>

- **To earn academic credit in a course a student should get a grading of ‘P’ or above.**
- **Ab denotes absent in subject.**

**13.2** After the results are declared, Grade sheets will be issued to each student, consisting of the list of courses enrolled during that semester, the grade scored and the Semester Grade Point Average for the semester.

SGPA will be calculated as

$$\text{SGPA} = \frac{\text{Total credit points}}{\text{Total Credits}}$$

$$\text{Credit Points} = \text{Credit(s) for the course} \times \text{Grade Point}$$

**13.3** The Grade sheet for Final Semester will include the list of courses enrolled during that semester, the grade scored, semester Grade point average for the semester and Cumulative Grade Point Average.

CGPA will be calculated in a similar manner, considering all the courses enrolled from the first semester.

**14.0 Discipline**

14.1 Every student is required to observe discipline and decorous behaviour both inside and outside the campus and not to indulge in any activity that will tend to bring down the prestige of the university.

14.2 Any act of indiscipline of a student will be considered first by the HOD. If the issue demands more serious consideration the indiscipline will be reported to the Director/Dean who will

refer it to Discipline and welfare committee of the university, constituted by the Vice Chancellor.

The committee will enquire into the charges and recommend suitable actions if the charges are substantiated. The Dean will take appropriate action based on the recommendation of the Committee.

14.3 Dean may suspend a student pending inquiry depending upon the prima facie evidence. If on completion of inquiry the student is declared innocent, he /she shall be given attendance during the period of suspension

14.4 Appeal: The student may appeal to the Vice Chancellor whose decision will be final and binding.

#### **15.0 Eligibility for the award Degree**

A student shall be declared eligible for the award of Degree provided:

- a. The student has successfully completed the entire course requirement and has passed all the prescribed examination within the maximum duration allowed for the program.
- b. No disciplinary action is pending against the student.

#### **16.0 Revision of Regulations and Curriculum**

The Academic Council of Jharkhand Rai University may from time to time revise, amend or change the regulations, scheme for examinations and syllabi if found necessary.