

The Guidelines for New Scheme for Undergraduate

B. Tech. Courses in Engineering & Technology

1. Bikaner Technical University, Bikaner and Rajasthan Technical University, Kota have implemented the AICTE Model Curriculum for Undergraduate Degree Courses in Engineering & Technology (with some modifications):
 - i. For students admitted in Session 2018-19 and onwards.
 - ii. For students admitted in Session 2017-18, from II year onwards.
 - iii. The CGPA system shall be implemented for students admitted in session 2018-19 and onwards. However, for the students admitted in session 2017-18 the percentage (absolute marks) system shall prevail as per existing rules.

2. Definition of Credit:

Table: 2.1

1 Hr. Lecture (L) per week	1 credit
1 Hr. Tutorial (T) per week	1 credit
1 Hr. Practical (P) per week	0.5 credits

3. General rules for Credits:

- i. Total 166 credits will be required to earn by a student to be eligible to get Undergraduate Degree in Engineering & Technology.
- ii. Total 125 credits (i.e. 166-41) will be required for a student to be eligible to get Undergraduate Degree in Engineering & Technology admitted through Lateral Entry (LEEP) in 2018-19 and onward.
- iii. A student will be eligible to get B. Tech (Honours) Degree, if he/she completes an additional 20 credits. These 20 credits could be acquired through MOOCs only.
- iv. The structure of the degree will be as follows:

Table: 3.1

Degree	Required Credits
B. Tech	166*
B. Tech (Honours)	166+20 (Through MOOC's)

* For LEEP students 125 Credits.

4. Course Code:

Table: 4.1

SN	UG-Branch	Code (XX)
1	Aeronautical Engineering	AN
2	Mechatronics	MH

5. Semester wise credit system:

Table: 5.1

Sr. No.	Semester	Credits		Total Credit
		Courses	SODECA	
1	I	20	0.5	20.5
2	II	20	0.5	20.5
3	III	24	0.5	24.5
4	IV	23	0.5	23.5
5	V	22.5	0.5	23
6	VI	23	0.5	23.5
7	VII	14.5	0.5	15
8	VIII	15	0.5	15.5
Total		162	04	166

6. Mandatory Trainings:

Table: 6.1

S.No.	Duration of Training	Mode of Training	After	Exam Semester	Credit
1	15 Days	In-house/ Industry	I Year (II Semester)	III	1*
2	45 Days	In-house/ Industry	II Year (IV Semester)	V	2.5
3	45 Days	Industry Only	III Year (VI Semester)	VII	2.5
Total					6

Dates of Training shall be notified in University's academic calendar.

* The Lateral Entry (LEEP) students may complete their Soft Skill part time training, which will be decided at Institute level during III semester.

Distribution of Project/Seminar/Industrial Training (PSIT):

Table: 6.2

PSIT**	Credits			Total Credit
	Project	Seminar	Training	
	7	2	6	15

**Teaching load 1/2/3 Hrs. may be considered for Industrial Training/Seminar/Project in the respective semesters.

7. Examination Scheme:

1 Credit – 50 Marks

166 Credit - 8300 Marks

125 Credit – 6250 Marks for LEEP

There will be an internal assessment for all subjects:

Distribution of Marks:

Theory

Table: 7.1

S.No.	Credit of Theory Paper	End Term Exam (Hours)	Internal Assessment (20%)	End Term Exam (80%)	Total Maximum Marks
1	1	2 Hours	10	40	50
2	2		20	80	100
3	3	3 Hours	30	120	150
4	4		40	160	200

Practical

Table: 7.2

S.No.	Credit of Practical Paper	Internal Assessment	End Term Exam	Total Maximum Mark
1	1	30	20	50
2	1.5	45	30	75
3	2	60	40	100
4	2.5	75	50	125
5	3	90	60	150
6	4	120	80	200
7	7	210	140	350

Internal Assessment Pattern

There will be three internal assessment examinations. The first is named as Mid Term-1 the second as Mid Term-2 and the third as Mid Term-3.

In Mid Term-1 students will be assessed from the syllabus taught from the beginning of the Semester till one week before the commencement of Mid Term-1.

In Mid Term-2 students will be assessed from the syllabus taught from the beginning of the semester till one week before the of commencement of Mid Term-2.

In Mid-Term-3 students will be assessed from the syllabus taught from the beginning of the semester till one week before the of commencement of Mid Term-3.

Components of Internal Assessment are further divided as under:

(a) Theory

Table: 7.3

Credit	Mid Term 1 Marks	Mid Term 2 Marks	Mid Term 3 Marks	Assignment Marks	Total Internal Assessment Marks
1	2	3	3	2	10
2	4	6	6	4	20
3	6	9	9	6	30
4	8	12	12	8	40

(b) Practical

Table: 7.4

Credit	Mid Term 1 Marks	Mid Term-2 Marks	Mid Term-3 Marks	Project Marks	Total Internal Assessment Marks
1	6	9	9	6	30
1.5	9	13.5	13.5	9	45
2	12	18	18	12	60
2.5	15	22.5	22.5	15	75
3	18	27	27	18	90
4 (Minor project)	-	-	-	120	120
7 (Major project)	-	-	-	210	210

Internal Assessment Pattern for Theory Subjects

(a) Credit 1

i. Mid Term-1 : Total 20 Marks

Time : 1 Hr.

Part	Candidate has to attempt/ Total No. of Questions	No. of Questions X Marks per Question.
A	2/2	2 x 2=4
B	2/3	2 x 4=8
C	1/2	1 x 8=8
		Total = 20

ii. Mid Term- 2 and Mid Term-3 : Total 30 Marks

Time : 1 Hr. 30 min.

Part	Candidate has to attempt/ Total No. of Questions	No. of Questions X Marks per Question.
A	4/4	4 x 2=8
B	3/5	3 x 4=12
C	2/3	2 x 5=10
		Total = 30

(b) Credit 2

i) Mid Term-1 : Total 40 Marks

Time : 1 Hr. 30 min.

Part	Candidate has to attempt/ Total No. of Questions	No. of Questions X Marks per Question.
A	4/4	4 x 2 = 8
B	3/5	3 x 6 = 18
C	2/3	2 x 7 = 14
		Total = 40

ii) Mid Term-2 and Mid Term-3 : Total 60 Marks
 Time : 2 Hrs.

Part	Candidate has to attempt/ Total No. of Questions	No. of Questions X Marks per Question.
A	10/10	10 x 2 = 20
B	4/6	4 x 5 = 20
C	2/3	2 x 10 = 20
		Total = 60

(c) Credit 3

i. Mid Term-1 : Total 60 Marks
 Time : 2 hrs.

Part	Candidate has to attempt/ Total No. of Questions	No. of Questions X Marks per Question.
A	5/5	5 x 3 = 15
B	4/6	4 x 6 = 24
C	3/4	3 x 7 = 21
		Total = 60

ii. Mid Term-2 and Mid Term-3 : Total 90 Marks
 Time : 2 hrs. 30 min.

Part	Candidate has to attempt/ Total No. of Questions	No. of Questions X Marks per Question.
A	10/10	10 x 2 = 20
B	5/7	5 x 6 = 30
C	4/5	4 x 10 = 40
		Total = 90

(d) Credit 4

i. Mid Term-1 : Total 80 Marks

Time : 2 hrs.

Part	Candidate has to attempt/ Total No. of Questions	No. of Questions X Marks per Question.
A	10/10	10 x 2 = 20
B	4/6	4 x 6 = 24
C	3/4	3 x 12 = 36
		Total = 80

ii. Mid Term-2 and Mid Term-3 : Total 120 Marks

Time : 2 hrs. 30 min.

Part	Candidate has to attempt/ Total No. of Questions	No. of Questions X Marks per Question.
A	10/10	10 x 2 = 20
B	5/7	5 x 8 = 40
C	4/5	4 x 15 = 60
		Total = 120

Internal Assessment Pattern for Practical Subjects

Credit	Mid Term-1				Mid Term-2 and Mid Term-3			
	Skill	Procedure Writing	Viva	File	Skill	Procedure Writing	Viva	File
1	60				90			
	15	20	5x3=15	10	20	30	5x5=25	15
1.5	90				135			
	20	30	5x5=25	15	30	45	5x8=40	20
2	120				180			
	30	40	30	20	40	60	5x10=50	30
2.5	150				225			
	35	50	5x8=40	25	45	75	5x13=65	40
3	180				270			
	40	60	5x10=50	30	60	90	5x16=80	40

Internal Assessment Pattern for Discipline & Extra Curricular Activity (DECA) / Social Outreach, Discipline & Extra Curricular Activities (SODECA)

Marks Distribution for SODECA

	DECA	SODECA
Anti-Ragging Committee	5	2.5
Discipline Committee	5	2.5
Attendance Committee	5	2.5
*Assignment Assessment Committee	5	2.5
Uniform Committee	5	2.5
Extra-Curricular Activity Committee	25	12.5
Total	50	25

***Overall 50(DECA) / 25(SODECA) marks are carried forward.**

8. Pass Rules for B. Tech (4 Yr. Program)

The result of a candidate will be worked out at the end of each Semester Examination. The absolute marks of a student (p_i) shall be converted into relative marks (x_i) on 100 point scale as below:

$$x_i = \frac{p_i}{p_{max}} q,$$

Where,

X_i = Converted relative marks of an individual student in a particular i th subject/course (rounded off to next higher integer number).

P_i = Absolute percentage (%) of marks obtained by an individual student in the i th subject/course.

p_{max} = It should be from range of highest absolute percentage of marks obtained in a subject, as per the following table:

Table: 8.1

Range of highest absolute percentage (%) marks obtained in a subject paper exam by the student	p_{max} (%)
90-100	90
80-89	80
70-79	70
60-69	60
50-59	50
40-49	40
30-39	30

q = Highest equivalent relative marks taken for conversion purpose (as given in column 2 of the following table).

Table: 8.2

Absolute highest marks obtained in a subject ($p_{absolute\ max}$)	Highest equivalent relative marks taken for conversion purpose (q) on 100 point scale
Column 1	Column 2
$p_{absolute\ max} \geq 75\%$	100
$60\% \leq p_{absolute\ max} < 75\%$	89
$30\% \leq p_{absolute\ max} < 60\%$	79
$p_{absolute\ max} < 30\%$	Not considered for conversion

The Grade and Grade Point shall be awarded to an individual student as under:

Table: 8.3

S.NO.	Relative Marks (x_i)	Grade	Grade Points
1	$x_i \geq 90$	A++	10
2	$85 \leq x_i < 90$	A+	9.0
3	$80 \leq x_i < 85$	A	8.5
4	$75 \leq x_i < 80$	B+	8.0
5	$70 \leq x_i < 75$	B	7.5
6	$65 \leq x_i < 70$	C+	7.0
7	$60 \leq x_i < 65$	C	6.5
8	$55 \leq x_i < 60$	D+	6.0
9	$50 \leq x_i < 55$	D	5.5
10	$45 \leq x_i < 50$	E+	5.0
11	$40 \leq x_i < 45$	E	4.0
12	$x_i < 40$	F	0

- i. For a pass, candidate must obtain at least grade **E** for each theory and practical.
- ii. As per the guidelines of BTU, Bikaner if a student remains “**Absent**” or obtains “**Zero**” marks in any of external component (theory and practical). He/She will be awarded “**F**” grade, candidate fails in a theory subject/course shall have to reappear in theory and mid term both examination similarly, candidate fails in practical subject/course shall have to reappear in external practical and sessional both examination.
- iii. No grace shall be awarded.
- iv. Re-valuation and inspection (View copy) of answer books shall be permissible for Maximum 4 (four) theory papers in which a student is actually appeared in examination. However, change of grade point of individual candidate after the revaluation will be independent and shall not affect the grade point of other students.
- v. For a back examinee the grade and grade point of a particular subject/paper shall be calculated on the basis of its appearance in present (appearing) examination.
- vi. A candidate will be allowed to pass the 4 year B. Tech course with in a maximum duration of 8 year. Maximum four chances will be allowed to a candidate to pass any individual theory paper and practical and sessional subject (as per B.T.U. regulations).
- vii. In case of any mistake being detected during the preparation of the marks sheet or brought to the notice afterwards, the University will be fully empowered to correct the same at any stage of period.
- viii. All court cases shall be subject to the jurisdiction of Bikaner Technical University Head Quarter i.e. Bikaner and not any other place.

- ix. Medium of instruction of the program is English only.
- x. The result may include the absolute marks obtained by students in an individual subject with related grade. However, the mark-sheet will contain the Grade, SGPA and CGPA only along with the important related rules of CBCS system.

9. Semester wise SGPA:

$$SGPA = \frac{\sum_{i=1}^n c_i \times g_i}{\sum_{i=1}^n c_i}$$

Where,

c_i = Number of credits of the i^{th} course of a semester for which SGPA is to be calculated.

g_i = Grade points obtained in i^{th} course.

$i = 1, 2, \dots, n$ represent the number of course in which a student is registered in the concerned semester.

10. Overall CGPA:

$$CGPA = \frac{\sum_{i=1}^m c_i \times g_i}{\sum_{i=1}^m c_i}$$

Where,

c_i = Number of credits of the i^{th} course of a semester.

g_i = Grade points obtained in i^{th} course. The Grade, lower than 'E' (i.e. grade point < 4.0) in a course shall not be taken into account.

$i = 1, 2, \dots, m$ represent the number of courses in which a student was registered and obtained a grade not lower than 'E' up to that semester for which CGPA is to be calculated.

- i. The SGPA/CGPA shall be awarded in each semester.
- ii. SGPA/CGPA shall be rounded off to two decimal digits on higher side.
- iii. Final course merit will be decided on the basis of absolute marks obtained by an individual student considering relevant merit ordinance of the university.
Revaluation result will be taken into account for deciding the merit of the students.
- iv. Conversion of percentage to CGPA

Equivalent Percentage = 10 x CGPA

- v. Award of Division: The division of the student shall be awarded in the following manner (subject to the passing of all the semester courses):

Table: 10.1

1	$CGPA \geq 7$	1 st Division with Distinction
2	$6 \leq CGPA < 7$	1 st Division
3	$5 \leq CGPA < 6$	2 nd Division
4	$4 \leq CGPA < 5$	Pass

vi. Maximum duration for the completion of course will be eight (8) years.

11. End Term Exam Theory Paper Pattern:

Table: 11.1

S.No.	Exam Hours	Max. Marks	Candidate has to attempt/Total number of questions		
			PART A	PART B	PART C
1	2 Hours	40	5/5	4/6	2/3
2		80			
3	3 Hours	120	10/10	5/7	4/5
4		160			

Table: 11.2

S.No.	Exam Time		Max. Marks	
			40	80
1	2 Hours	Part A	$5 \times 2 = 10$	$5 \times 2 = 10$
		Part B	$4 \times 4 = 16$	$4 \times 10 = 40$
		Part C	$2 \times 7 = 14$	$2 \times 15 = 30$
			120	160
1	3 Hours	Part A	$10 \times 2 = 20$	$10 \times 3 = 30$
		Part B	$5 \times 8 = 40$	$5 \times 10 = 50$
		Part C	$4 \times 15 = 60$	$4 \times 20 = 80$

PART A: Short answer questions (up to 25 words)

PART B: Analytical/Problem Solving questions.

PART C: Descriptive/ Analytical/Problem Solving / Design questions

University Examination Fee

(1) Fee structure for filling up Online Examination Forms for Odd/Even semester (Main) exams.

Course	Exam Fee (in Rs.)	Remark
B. Tech	1450/- (Normal Fee)	Fee must be paid on or before the last date declared by the University.
	2900/- (Double Fee)	If fee is paid after the last date declared by the university and on or before the date specified by the university.
	4350/- (Triple Fee)	If fee is paid after the last date declared by the university and on or before the date specified by the university.
	5800/- (Four times Fee)	If fee is paid after the last date declared by the university and on or before the date specified by the university.
	8700/- (Six times fee)	If fee is paid after the last date declared by the university and on or before the date specified by the university.

Note: No form will be accepted after the last date.

(2) Fee structure for filling up Online Examination Forms for B. Tech (Back) exams.

Sr. No	Name of Class	Exam Fee (in Rs.)	Remark
1	B. Tech. I Semester Back Examination	Rs. 550/- + 110 = 660 Each (Theory & Midterm) Subject with maximum equal to fee for main examination i.e. Rs. 1450/-	Fee must be paid on or before the last date declared by the University.
		Double Fee	If fee is paid after the last date declared by the university and on or before the date specified by the university.
		Triple Fee	If fee is paid after the last date declared by the university and on or before the date specified by the university.
		Four Times Fee	If fee is paid after the last date declared by the university and on or before the date specified by the university.
		Six Times Fee	If fee is paid after the last date declared by the university and on or before the date specified by the university.

Note:

1. Candidate fails in a theory subject/course shall have to reappear in theory and midterm both examinations. Similarly, candidate fails in a practical subject/course shall have to reappear in external practical and sessional both examinations while applying for back paper exam., may opt either of the following options :-
 - a.) Wish to carry forward the previous marks of internal assessment.
 - b.) Wish to improve the internal assessment too.
2. No forms will be accepted after the last date.

3. Fee for view copy is Rs. 1000/- per subject.