Mohan Lal Sukhadia University
Udaipur

B. Tech. Program
(Effective from session 2021-2022)

Guidelines under CBCS Scheme

The guidelines for B.Tech. (4 Yr. Program) under CBCS scheme

1. Definition of Credit:

Table: 1.1

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

2. General rules for Credits:

(i) Total 170 credits will be required to earn by a student to be eligible to get Undergraduate Degree in Engineering & Technology.
(ii) Total 128 credits will be required for a student to be eligible to get Undergraduate Degree in Engineering & Technology admitted through Lateral Entry.
(iii) The structure of the degree will be as follows:

Table: 2.1

Degree	Required Credits
B. Tech.	**170***
B. Tech. (Honours)	**128****

* For lateral entry students 128 credits
** Total credit multiply by 75% (170*75%)

3. Structure of Undergraduate Engineering & Technology Program (B. Tech.):

Table: 3.1

S. No.	**Category**	**Abbreviation**	**Break up of Credits**
1	Humanities and Social Sciences including Management courses	HSMC	**10**
2	Basic Science courses	BSC	**23**
3	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.	ESC	**27**
4	Professional core courses	PCC	**88**
5	Professional Elective courses relevant to chosen specialization/branch	PEC	

6	Open subjects — Electives from other technical and /or emerging subjects	OE	6
7	Project work, seminar and internship in industry or elsewhere	PSIT	**16**
	Total credits required for award of B. Tech. Degree		**170**

4. Definition of Course Code:

<BT><N1 >< *XX* >< N2 >< —>< YY >< N3 >

(i) BT: Program Code
(ii) N1: "Semester Code" in numeric single digit, i.e. 1 to 8.
(iii) XX: "Branch Code" in two digit alphabets as per the following:

Table: 4.1

SN	UG-Branch	**Code *(XX)***
1	First Year	FY
2	Civil Engineering	CE
3	Computer Science & Engineering	CS
4	Electronics & Communication Engineering	EC
5	Electrical Engineering	EE
6	Mechanical Engineering	ME

(iv) N2: "Course Code" in numeric double digit, i.e. 01 to 20
(v) <—>: Symbol dash.
(vi) YY: CT or CP; CT is Credit Theory and CP is Credit Practical
(vii) N3: "Subject Code" in numeric double digit, i.e. 01 to 10

5. Semester wise credit system:

Table: 5.1

Sr. No.	Semester	Total Credit
1	I	21
2	II	21
3	III	24/25
4	IV	25/24
5	V	24/25
6	VI	25/24
7	VII	15
8	VIII	15
	Total	170

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	**3**

3	45 Days	Industry only	III Year (VI Semester)	VII	**3**
	Total				**7**

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

*The Lateral Entry 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

	Credits			Total Credit
PSIT**	Project	Seminar	Training	
	7	**2**	**7**	**16**

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

7. Distribution of number of Theory and Practical Courses in each semester.

I to VI Semesters:
Table: 7.1

Category	Total Number of papers
Theory	**5-8**
Practical	**3-5**

VII Semester:
Table: 7.2

Category	Total Number of papers
Theory	**2-3**
Practical	**3-4**

VIII Semester:
Table: 7.3

Category	Total Number of papers
Theory	**2-3**
Practical	**2**

8. I Semester (First Year): Common to all branches of UG Engineering & Technology

Table: 8.1

S. No.	Category	Credit
1	Theory	14
2	Practical	7
Total		21

Table: 8.2

Semester I

SN	Category	Course Code	Course Title	Credit				Contact Hours				Max. Marks		
				Total	L	T	P	Total	L	T	P	IA	ETE	Total
1	BSC	BT1FY01-CT01	Engineering Mathematics-I	**4**	3	1	0	4	3	1	-	40	160	**200**
2	BSC	BT1FY02-CT02/ BT1FY03-CT03	Engineering Physics/ Engineering Chemistry	**4**	3	1	0	4	3	1	-	40	160	**200**
3	HSMC	BT1FY04-CT04/ BT1FY05-CT05	Communication Skills/ Human Values	**2**	2	0	0	2	2	-	-	20	80	**100**
4	ESC	BT1FY06-CT06/ BT1FY07-CT07	Programming for Problem Solving/ Basic Mechanical Engineering	**2**	2	0	0	2	2	-	-	20	80	**100**
5	ESC	BT1FY08-CT08/ BT1FY09-CT09	Basic Electrical Engineering/ Basic Civil Engineering	**2**	2	0	0	2	2	-	-	20	80	**100**
6	BSC	BT1FY10-CP01/ BT1FY11-CP02	Engineering Physics Lab/ Engineering Chemistry Lab	**1**	0	0	**1**	**2**	-	-	2	20	30	**50**
7	HSMC	BT1FY12-CP03/ BT1FY13-CP04	Language Lab/ Human Values Activities and Sports	**1**	0	0	**1**	**2**	-	-	2	20	30	**50**
8	ESC	BT1FY14-CP05/ BT1FY15-CP06	Computer Programming Lab/ Manufacturing Practices Workshop	**2**	0	0	**2**	**4**	-	-	4	40	60	**100**
9	ESC	BT1FY16-CP07/ BT1FY17-CP08	Basic Electrical Engineering Lab/ Basic Civil Engineering Lab	**1**	0	0	**1**	**2**	-	-	2	20	30	**50**
10	ESC	BT1FY18-CP09 BT1FY19-CP10	Computer Aided Engineering Graphics/ Computer Aided Machine Drawing	**2**	0	0	**2**	**4**	-	-	4	40	60	**100**
Total				**21**	12	2	7	**28**	12	2	14	280	770	**1050**

L = Lecture, **T** = Tutorial,
P = Practical, **IA**=Internal Assessment**, ETE**=End Term Exam, **Cr**=Credits

9. II Semester (First Year): Common to all branches of UG Engineering & Technology

Table: 9.1

S. No.	Category	Credit
1	Theory	**14**
2	Practical	7
Total		21

Table: 9.2

Semester II

SN	Category	Course Code	Course Title	Credit				Contact Hours				Max. Marks		
				Total	**L**	**T**	**P**	**Total**	**L**	**T**	**P**	**IA**	**ETE**	**Total**
1	BSC	BT2FY01-CT01	Engineering Mathematics-II	**4**	3	1	0	4	3	1	-	40	160	**200**
2	BSC	BT2FY03-CT03	Engineering Chemistry/	**4**	3	1	0	4	3	1	-	40	160	**200**
		BT2FY02-CT02	Engineering Physics											
3	HSMC	BT2FY05-CT05/	Human Values/	**2**	2	0	0	2	2	-	-	20	80	**100**
		BT2FY04-CT04	Communication Skills											
4	ESC	BT2FY07-CT07/	Basic Mechanical Engineering	**2**	2	0	0	2	2	-	-	20	80	**100**
		BT2FY06-CT06	Programming for Problem Solving											
5	ESC	BT2FY09-CT09	Basic Civil Engineering	**2**	2	0	0	2	2	-	-	20	80	**100**
		BT2FY08-CT08	Basic Electrical Engineering/											
6	BSC	BT2FY11-CP02	Engineering Chemistry Lab	**1**	0	0	**1**	**2**	-	-	2	20	30	**50**
		BT2FY10-CP01/	Engineering Physics Lab/											
7	HSMC	BT2FY13-CP04	Human Values Activities and Sports	**1**	0	0	**1**	**2**	-	-	2	20	30	**50**
		BT2FY12-CP03/	Language Lab/											
8	ESC	BT2FY15-CP06	Manufacturing Practices Workshop	**2**	0	0	**2**	**4**	-	-	4	40	60	**100**
		BT2FY14-CP05/	Computer Programming Lab/											
9	ESC	BT2FY17-CP08	Basic Civil Engineering Lab	**1**	0	0	**1**	**2**	-	-	2	20	30	**50**
		BT2FY16-CP07/	Basic Electrical Engineering Lab/											
10	ESC	BT2FY19-CP10	Computer Aided Machine Drawing	**2**	0	0	**2**	**4**	-	-	4	40	60	**100**
		BT2FY18-CP09	Computer Aided Engineering Graphics/											
Total				**21**	12	2	7	**28**	12	2	14	280	770	**1050**

L = Lecture, **T** = Tutorial,
P = Practical, **IA=**Internal Assessment**, ETE=**End Term Exam, **Cr**=Credits

10. III/ IV Semester (Second Year):

Table: 10.1

S. No.	Category	Credit
1	Theory	17/17
2	Practical	7/7
3	PSIT (Training)	1
Total		25/24

11. V/VI Semester (Third Year)

Table: 11.1

S. No.	Category	Credit
1	Theory	16/17
2	Practical	6/8
3	PSIT (Training)	2
Total		24/25

12. VII/VIII Semester (Fourth Year):

Table: 12.1

S. No.	Category	Credit
1	Theory	6/6
2	Practical	4/2
3	PSIT (Training)	3/0
4	PSIT (Seminar)	2/0
5	PSIT (Project)	0/7
Total		15

13. Examination Scheme:

1 Credit — 50 Marks

170 Credit — 8500 Marks

128 Credit — 6250 Marks for Lateral Entry

There will be an internal assessment for all theory subjects:

Distribution of Marks for Theory Paper:

Table: 13.1

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**

Distribution of Marks for Practical Paper:

Table: 13.2

Practical	Internal	External
	40%	**60%**

For credit theory courses the internal assessment component shall be further divided as under :

Table: 13.3

S. No	**Credit of Theory Paper**	**MARKS**	**Mid Term**	**Assignments/ Presentations/Attendance**
			50%	**50%**
1	**1**	10	5	5
2	**2**	20	10	10
3	**3**	30	15	15
4	**4**	40	20	20

14. 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 academic performance of a student is graded on a ten point scale. The letter grades, the guidelines for conversion of marks to letter grades and their equivalent grade points are as follows:

Table: 14.1

S. No.	Marks (x_i)	Grade	Grade Points
1	$x_i \geq 90$	O	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

For a Pass, candidate must obtain at least grade E for each theory and practical.

If a student remains "**Absent**" or obtains "**Zero**" marks in any of external component of theory or practical, he/she will be awarded "**F**" grade, respectively and will be required to appear in the subsequent back examinations. "**F**" grade student 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.

(iii) Grace marks awarded will be maximum 6 marks per semester. Grace marks shall not be counted towards merit position.

(iv) Revaluation and copy view system will prevail as per existing examination regulations. 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) The result may include the absolute marks obtained by student 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.

15. 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, ….n represent the number of course in which a student is registered in the concerned semester.

16. 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,…… 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: 16.1

1	CGPA> 7	1st Division with Distinction
2	6<CGPA<7	1st Division
3	5<CGPA<6	2nd Division
4	4<CGPA<5	Pass

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

17. End Term Exam Theory Paper Pattern:

Table: 17.1

S. No.	Exam Hours	Max. Marks	Candidate has to attempt/ Total number of questions		
			PART A (Compulsary)	PART B (internal choice)	PART C (internal choice)
1	2 Hours	**40**	**10/10**	**5/10**	**2/4**
2		**80**			
3	3 Hours	**120**	**10/10**	**5/10**	**4/8**
4		**160**			

Table: 17.2

S. No.	Exam Time		Max. Marks	
			40	**80**
1	2 Hours	Part A	10x1=10	10x2=20
		Part B	5x3=15	5x6=30
		Part C	2x7.5=15	2x15=30
			120	**160**
2	3 Hours	Part A	10x2=20	10x3=30
		Part B	5x8=40	5x10=50
		Part C	4x15=60	4x20=80

PART A: Short answer questions (up to 25 words).
PART B: Analytical/Problem Solving questions.
PART C: Descriptive/ Analytical/Problem solving/Design questions.