

Rashtrasant Tukdoji Maharaj Nagpur University

Direction No. 26 of 2012

Direction issued under section 14(8) of the Maharashtra Universities Act, 1994, relating to B.TECH. 1st Year (Semester Pattern) for the award of Degree of Bachelor of Technology Full Time in the Faculty of Engineering and Technology.

Whereas, the Maharashtra Universities Act No. XXXV of 1994 has come into force with effect from 22nd July, 1994

AND

Whereas, the amendment to the said Act came to be effected from 12th September, 2006 S

AND

Whereas, the Dean and the Faculty of Engineering and Technology has concurred with the recommendations of the Board of studies in General Engineering (CHEM.TECH.,CHEM.ENGG.,BIO.TECH.)in the Faculty of Engineering and Technology on 30th January 2012,18th February 2012.

AND

Whereas, the Board of Studies in Board of studies in General Engineering (CHEM.TECH.,CHEM.ENGG.,BIO.TECH.) in the Faculty of Engineering and Technology at its meeting held on 30th April 2012, have decided to make amendment related to First year B.TECH. in semester pattern for award of degree of Bachelor of Technology of Full time in the Faculty of Engineering and Technology.

AND

Whereas, the Academic Council in its meeting held on 23rd February, 2012 vide item No. 326 and sub-committee constituted in the meeting of joint Board of studies in General Engineering (CHEM.TECH., CHEM.ENGG.,BIO.TECH.)in the Faculty of Engineering and Technology at its meeting held on 30th January, 2012 and Faculty in its meeting held on 18th February, 2012 have considered and approved the scheme of examination of semester pattern with credit based system for B.Tech. first year in Faculty of Engineering & Technology and absorption scheme to be implemented from the academic session 2012-13.

AND

Whereas, the Management Council in its meeting held on 11th May,2012 vide item No. 103 has considered and approved the scheme of examination of semester pattern with credit based system for B.Tech. First year in Faculty of Engineering & Technology and absorption scheme to be implemented from the academic session 2012-13.

AND

Whereas, the recommendations made by the Board of studies in General Engineering (CHEM.TECH.,CHEM.ENGG.,BIO.TECH.) as approved by the Vice Chancellor pertains to Examination leading to the B.TECH. First Year (Semester-I and Semester-II) for award of degree of Bachelor of Technology in the Faculty of Engineering and Technology.

AND

Whereas, it is expedient to provide an Ordinance for the purposes of describing examination in the semester patten leading to the First and Second Semester for award of Degree of Bachelor of Technology in the Faculty of Engineering and Technology, indicating there in the syllabus and scheme of examination including absorption scheme and award of Grades.

AND

Whereas, an Ordinance is in existence for the award of the degree with yearly pattern scheme and the same is now changed in to semester pattern scheme and this could be done only by way of making amendment to the concerned ordinance and seems making of amendment to the concerned ordinance is time consuming process and it is not possible to make amendment in the time limit.

Now, therefore, I Dr. V.S.Sapkal, Vice Chancellor of Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur in exercise of powers vested in me under section 14(8) of the Maharashtra Universities Act, 1994, do hereby issued the following Direction pertaining to the amendment as made for semester-I and Semester-II for award of Bachelor of Technology, in the Faculty of Engineering and Technology.

1. This Direction shall be called "Direction regarding Semester Pattern Scheme and Examination leading to B.TECH. First Year(Semester I and Semester II) to the Degree of Bachelor of Technology in the Faculty of Engineering and Technology Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur.

2. Subject to the compliance with the provisions of this Direction and any other Ordinance which is in force from time to time shall be applicable.
3. The Scheme of Examination for Semester-I and Semester – II shall be as mentioned in the Table below –

**SCHEME OF EXAMINATION FOR
First Year B. Tech (Chemical Engineering and Biotechnology)
Semester-I**

Sr. No	Subject	Workload				Credit				Marks				Total Marks
		L	P	T	Total	L	P	T	Total	Theory		Practical		
										Sessional	University	Sessional	University	
1	Engineering Mathematics-I	3	-	1	4	3	-	1	4	20	80	-	-	100
2	Applied Inorganic Chemistry	2	3	1	6	2	2	1	5	20	80	25	25	150
3	Applied Organic Chemistry	2	3	1	6	2	2	1	5	20	80	25	25	150
4	Applied Physics-I	2	3	1	6	2	2	1	5	20	80	25	25	150
5	Applied Mechanics	2	-	1	3	2	-	1	3	20	80	-	-	100
6	Communication Skill	-	2	-	2	-	2	-	2	-	-	25	25	50
7	Engineering Graphics	-	2	-	2	-	2	-	2	-	-	25	25	50
8	Computational Skill	-	2	-	2	-	2	-	2	-	-	25	-	25
9	Total	11	15	5	31	11	12	5	28	100	400	150	125	775

Note:

1. Communication Skill shall be taught by a qualified and competent teaching faculty and shall be assigned to the Board of studies in General Engineering (CHEM.TECH.,CHEM.ENGG.,BIO.TECH.)
2. Computational Skill shall be taught by a qualified and competent teaching faculty and shall be assigned to the Board of Studies of CS/CT/IT/CSE.
3. The students of B.E. Second Year Direct Admission (Diploma Holder) old pattern should be exempted from Applied Mathematics – I.

4. The Students of B.E. Part time should also be exempted from Applied Mathematics - I.

First Year B. Tech (Chemical Engineering and Biotechnology)

Semester-II

Sr. No	Subject	Workload				Credit				Marks				
		L	P	T	Total	L	P	T	Total	Theory		Practical		Total Marks
		L	P	T	Total	L	P	T	Total	Sessional	University	Sessional	University	
1	Engineering Mathematics-II	3	-	1	4	3	-	1	4	20	80	-	-	100
2	Applied Physical Chemistry	2	3	1	6	2	2	1	5	20	80	25	25	150
3	Applied Physics	2	3	1	6	2	2	1	5	20	80	25	25	150
4	Basic Electrical Engineering	2	2	1	5	2	1	1	4	20	80	25	25	150
5	Basic Mechanical Engineering	2	-	1	3	2	-	1	3	20	80	-	-	100
6	Ethical Science	2	-	-	2	2	-	-	2	50	-	-	-	50
7	Workshop	-	2	-	2	-	2	-	2	-	-	25	25	50
8	NSS/NCC	-	1	-	1	-	-	-	-					
	Total	13	11	5	29	13	7	5	25	150	400	100	100	750

Note:

1. Ethical Sciences shall be taught by a qualified and competent teaching faculty from Social Sciences and shall be assigned to the Board of studies in General Engineering (CHEM.TECH.,CHEM.ENGG.,BIO.TECH.)
2. The students of B.E. Second Year Direct Admission (Diploma Holder) old pattern should be exempted from Applied Mathematics - II.

3. The Students of B.E. Part time should also be exempted from Applied Mathematics - II.

**Scheme of Examination for First Year B. Tech.
(Chemical Technology)
Year to Semester Pattern (credit based system)
Semester-I**

Sr. No	Subject	Workload				Credit				Marks				Total Marks
		L	P	T	Total	L	P	T	Total	Theory		Practical		
										Sessional	University	Sessional	University	
1	Engineering Mathematics-I	4	-	1	5	4	-	1	5	20	80	-	-	100
	Applied Physical Chemistry	2	3	1	6	2	2	1	5	20	80	25	25	150
2	Applied Inorganic Chemistry	2	3	1	6	2	2	1	5	20	80	25	25	150
4	Applied Physics-I	2	3	1	6	2	2	1	5	20	80	25	25	150
5	Basic Mechanical Technology	2	-	1	3	2	-	1	3	20	80	-	-	100
6	Ethecal Science(Mission of late Raobahaddur D. Laxminarayana)	2	-	-	2	2	-	-	2	-	-	25	25	50
7	Workshop	-	3	-	3	-	2	-	2	-	-	25	25	50
8	Computational Skills	-	2	-	2	-	2	-	2	-	-	25	-	25
9	NSS/NCC	-	2	-	2	-	2	-	2	-	-	-	-	-
	Total	14	16	5	34	13	12	5	31	100	400	150	125	775

Note:

- Ethical Sciences shall be taught by a qualified and competent teaching faculty from Social Sciences and shall be assigned to the Board of studies in General Engineering (CHEM.TECH.,CHEM.ENGG.,BIO.TECH.)

2. Computational Skill shall be taught by a qualified and competent teaching faculty and shall be assigned to the Board of Studies of CS/CT/IT/CSE.
3. The students of B.E. Second Year Direct Admission (Diploma Holder) old pattern should be exempted from Applied Mathematics – I.
4. The Students of B.E. Part time should also be exempted from Applied Mathematics -I.

Semester-II

Sr. No	Subject	Workload				Credit				Marks				Total Marks
		L	P	T	Total	L	P	T	Total	Theory		Practical		
										Sessional	University	Sessional	University	
1	Engineering Mathematics-II	4	-	1	5	4	-	1	5	20	80	-	-	100
2	Applied Organic Chemistry	2	3	1	6	2	2	1	5	20	80	25	25	150
3	Applied Physics II	2	3	1	6	2	2	1	5	20	80	25	25	150
4	Basic Electrical Technology	2	3	1	6	2	2	1	5	20	80	25	25	150
5	Applied Mechanics	2	-	1	3	2	-	1	3	20	80	-	-	100
6	Communication Skill	2	-	-	2	2	-	-	2	10	40	-	-	50
7	Engineering Graphics	-	2	-	2	-	2	-	2	-	-	25	25	50
8	NSS/NCC	-	2	-	2	-	2	-	2					
	Total	14	13	5	32	14	10	5	29	110	440	100	100	750

Note :

1. Communication Skills shall be taught by a qualified and competent teaching faculty from Social Sciences and shall be assigned to the Board of studies in General Engineering (CHEM.TECH.,CHEM.ENGG.,BIO.TECH.).

2. Absorption Scheme for yearly to semester pattern for B.TECH. First Year (shall be as mentioned in the table below :

**Scheme of Absorption for Yearly to Semester Pattern of First Year B. Tech.
(Chemical Engineering)**

As per RTM Nagpur University Semester Pattern Scheme				As per RTM Nagpur University Yearly Pattern Scheme		
Semester-I						
Sr. No	Sub Code Theory/Practical	Subject	Th/ Pr	Sub Code Theory/Practical	Subject	Th/ Pr
1	CE (BGE) 1.01	Engineering Mathematics I	Theory	CE 04 (BGE)	Applied Mathematics I	Theory
2	CE (BGE) 1.02	Applied Inorganic Chemistry	Theory	CE 02 (BGE)	Applied Inorganic Chemistry	Theory
3	CE (BGE) 1.06	Applied Inorganic Chemistry Laboratory	Practical	CE 10 (BGE)	Applied Inorganic Chemistry Laboratory	Practical
4	CE (BGE) 1.03	Applied Organic Chemistry	Theory	CE 03 (BGE)	Applied Organic Chemistry	Theory
5	CE (BGE) 1.07	Applied Organic Chemistry Laboratory	Practical	CE 11 (BGE)	Applied Organic Chemistry Laboratory	Practical
6	CE (BGE) 1.04	Applied Physics I	Theory	CE 05 (BGE)	Applied Physics	Theory
7	CE (BGE) 1.08	Applied Physics I Laboratory	Practical	CE 12 (BGE)	Applied Physics Laboratory	Practical
8	CE (BGE) 1.05	Applied Mechanics	Theory	CE 07 (BGE)	Applied Mechanics	Theory
9	CE (BGE) 1.09	Engineering Graphics	Practical	CE 13 (BGE)	Engineering Drawing I	Practical
10	CE (BGE) 1.10	Communication Skill Laboratory	Practical			
11	CE (BGE) 1.11	Computational Skill Laboratory	Practical		Computer Programming	Theory

**Scheme of Absorption for Yearly to Semester Pattern of First Year B. Tech.
(Chemical Engineering)**

As per RTM Nagpur University Semester Pattern Scheme				As per RTM Nagpur University Yearly Pattern Scheme		
Semester-II						
Sr.No	Sub Code (Board) Theory/Practical	Subject	Th/ Pr	Sub Code Theory/Practical	Subject	Th/ Pr
1	CE (BGE) 2.01	Engineering Mathematics II	Theory	CE 04 (BGE)	Applied Mathematics I	Theory
2	CE (BGE) 2.02	Applied Physical Chemistry	Theory	CE 01 (BGE)	Applied Physical Chemistry I	Theory
3	CE (BGE) 2.07	Applied Physical Chemistry Laboratory	Practical	CE 09 (BGE)	Applied Physical Chemistry II Laboratory	Practical
4	CE (BGE) 2.03	Applied Physics II	Theory	CE 05 (BGE)	Applied Physics	Theory
5	CE (BGE) 2.08	Applied Physics II Laboratory	Practical	CE 12 (BGE)	Applied Physics Laboratory	Practical
6	CE (BGE) 2.04	Basic Electrical Engineering	Theory			
7	CE (BGE) 2.09	Basic Electrical Engineering Laboratory	Practical			
8	CE (BGE) 2.05	Basic Mechanical Engineering	Theory	CE 08 (BGE)	Production Engineering	Theory
9	CE (BGE) 2.06	Ethical Science	Theory			
10				CE 06 (BGE)	Computer Programming	Theory
11	CE (BGE) 2.10	Workshop	Practical	CE 14 (BGE)	Workshop	Practical
12		NSS/NCC				

As per RTM Nagpur University Semester Pattern Scheme				As per RTM Nagpur University Yearly Pattern Scheme		
Semester-I						
Sr.No	Sub Code Theory/Practical	Subject	Th/ Pr	Sub Code Theory/Practical	Subject	Th/ Pr
1	BT (BGE) 1.01	Engineering Mathematics I	Theory	BT 04 (BGE)	Applied Mathematics I	Theory
2	BT (BGE) 1.02	Applied Inorganic Chemistry	Theory	BT 02 (BGE)	Applied Inorganic Chemistry	Theory
3	BT (BGE) 1.06	Applied Inorganic Chemistry Laboratory	Practical	BT 10 (BGE)	Applied Inorganic Chemistry Laboratory	Practical
4	BT (BGE) 1.03	Applied Organic Chemistry	Theory	BT 03 (BGE)	Applied Organic Chemistry	Theory
5	BT (BGE) 1.07	Applied Organic Chemistry Laboratory	Practical	BT 11 (BGE)	Applied Organic Chemistry Laboratory	Practical
6	BT (BGE) 1.04	Applied Physics I	Theory	BT 05 (BGE)	Applied Physics	Theory
7	BT (BGE) 1.08	Applied Physics I Laboratory	Practical	BT 12 (BGE)	Applied Physics Laboratory	Practical
8	BT (BGE) 1.05	Applied Mechanics	Theory	BT 07 (BGE)	Applied Mechanics	Theory
9	BT (BGE) 1.09	Engineering Graphics	Practical	BT 13 (BGE)	Engineering Drawing I	Practical
10	BT (BGE) 1.10	Communication Skill Laboratory	Practical			
11	BT (BGE) 1.11	Computational Skill Laboratory	Practical		Computer Programming	Theory

**Scheme of Absorption for Yearly to Semester Pattern of First Year B. Tech.
(Biotechnology)**

As per RTM Nagpur University Semester Pattern Scheme				As per RTM Nagpur University Yearly Pattern Scheme		
Semester-II						
Sr.No	Sub Code (Board) Theory/Practical	Subject	Th/ Pr	Sub Code Theory/Practical	Subject	Th/ Pr
1	BT (BGE) 2.01	Engineering Mathematics II	Theory	BT 04 (BGE)	Applied Mathematics I	Theory
2	BT (BGE) 2.02	Applied Physical Chemistry	Theory	BT 01 (BGE)	Applied Physical Chemistry I	Theory
3	BT (BGE) 2.07	Applied Physical Chemistry Laboratory	Practical	BT 09 (BGE)	Applied Physical Chemistry II Laboratory	Practical
4	BT (BGE) 2.03	Applied Physics II	Theory	BT 05 (BGE)	Applied Physics	Theory
5	BT (BGE) 2.08	Applied Physics II Laboratory	Practical	BT 12 (BGE)	Applied Physics Laboratory	Practical
6	BT (BGE) 2.04	Basic Electrical Engineering	Theory			
7	BT (BGE) 2.09	Basic Electrical Engineering Laboratory	Practical			
8	BT (BGE) 2.05	Basic Mechanical Engineering	Theory	BT 08 (BGE)	Production Engineering	Theory
9	BT (BGE) 2.06	Ethical Science	Theory			
10				BT 06 (BGE)	Computer Programming	Theory
11	BT (BGE) 2.10	Workshop	Practical	BT 14 (BGE)	Workshop	Practical
12		NSS/NCC				

**Scheme of Absorption for Yearly to Semester Pattern of First Year B. Tech.
(Chemical Technology)**

As per RTM Nagpur University Semester Pattern Scheme				As per RTM Nagpur University Yearly Pattern Scheme		
Semester-I						
Sr.No	Sub Code Theory/Practical	Subject	Th/ Pr	Sub Code Theory/Practical	Subject	Th/ Pr
1	CT (BGE) 1.01	Engineering Mathematics I	Theory		Applied Mathematics I	Theory
2	CT (BGE) 1.02	Applied Physical Chemistry	Theory		Applied Physical Chemistry-I	Theory
3	CT (BGE) 1.06	Applied Physical Chemistry Laboratory	Practical		Applied Physical Chemistry –I Laboratory	Practical
4	CT (BGE) 1.03	Applied Inorganic Chemistry	Theory		Applied Inorganic Chemistry	Theory
5	CT (BGE) 1.07	Applied Inorganic Chemistry Laboratory	Practical		Applied Inorganic Chemistry Laboratory	Practical
6	CT (BGE) 1.04	Applied Physics I	Theory		Applied Physics	Theory
7	CT (BGE) 1.08	Applied Physics I Laboratory	Practical		Applied Physics Laboratory	Practical
8	CT (BGE) 1.05	Basic Mechanical Technology	Theory		Production Technology	Theory
9	CT (BGE) 1.09	Ethical Science(Mission of late Raobahaddur D. Laxminarayan)	Practical			
10	CT (BGE) 1.10	Workshop	Practical		Workshop	Practical
11	CT (BGE) 1.11	Computational Skills				
12		NSS/NCC	Practical			

**Proposed Scheme of Absorption for Yearly to Semester Pattern of First Year B. Tech.
(Chemical Technology)**

As per RTM Nagpur University Semester Pattern Scheme				As per RTM Nagpur University Yearly Pattern Scheme		
Semester-II						
Sr.No	Sub Code (Board) Theory/Practical	Subject	Th/ Pr	Sub Code Theory/Practical	Subject	Th/ Pr
1	CT (BGE) 2.01	Engineering Mathematics II	Theory		Applied Mathematics II of 3 rd Semester	Theory
2	CT (BGE) 2.02	Applied Organic Chemistry	Theory		Applied Organic Chemistry	Theory
3	CT (BGE) 2.07	Applied Organic Chemistry Laboratory	Practical		Applied Organic Chemistry Laboratory	Practical
4	CT (BGE) 2.03	Applied Physics II	Theory		Applied Physics	Theory
5	CT (BGE) 2.08	Applied Physics II Laboratory	Practical		Applied Physics Laboratory	Practical
6	CT (BGE) 2.04	Basic Electrical Technology	Theory		Special Technology-I	Theory
7	CT (BGE) 2.09	Basic Electrical Technology Laboratory	Practical			
8	CT (BGE) 2.05	Applied Mechanics	Theory		Production Engineering	Theory
9	CT (BGE) 2.06	Communication Skill	Theory			
10	CT (BGE) 2.10	Engineering Graphics	Practical		Engineering Drawing	Theory
11		NSS/NCC	Practical			

3. The A.T.K.T. Rules shall be same as per the existing provisions in which First Year B.TECH shall be read as First and Second Semester.

1. (i) The Scope of subject shall be as indicated in the syllabus
(ii) The medium of instruction and examination shall be English

2. The provisions of Ordinance no. 7(a) relating to "condonation of deficiency of marks" for passing an examination and of Ordinance no. 10 as amended up-to-date relating to "exemptions and compartments" shall apply to the examination under this Ordinance.

3. An Examinee who does not pass or who fails to present himself/ herself for the examination shall be eligible for readmission to the same examination, on payment of a fresh fee and such other fees as may be prescribed from time to time. However, readmission to semester should be allowed only when a regular sessions is running for a particular semester.

8. The computation of Semester Grade Point Average (SGPA) and

Cumulative Grade Point Average (CGPA) of an examinee shall be implemented progressively as from the academic session 2012-13 onwards.

The marks will be allotted in all examinations which will include college assessment marks and the total marks for each Theory / Practical shall be converted into Grades as per Table II.

SGPA shall be calculated based on Grade Points corresponding to percentage of marks as given in Table II and the Credits allotted to respective Theory / Practical shown in the scheme for respective semester.

SGPA shall be computed for every semester and CGPA shall be computed only in VIII semester. The CGPA of VIII semester shall be calculated based on SGPA of VII and SGPA of VIII semester as per following computation :-

$$SGPA = \frac{C1 \times G1 + C2 \times G2 + \dots + Cn \times Gn}{C1 + C2 + \dots + Cn}$$

Where C1 = Credit of individual Theory / Practical

G1 = Corresponding Grade Point obtained in the respective Theory / Practical

$$CGPA = \frac{(SGPA)_{VII} \times (Cr)_{VII} + (SGPA)_{VIII} \times (Cr)_{VIII}}{(Cr)_{VII} + (Cr)_{VIII}}$$

Where (SGPA)_{VII} = SGPA of VII Semester

(Cr)_{VII} = Total Credits for VII Semester

(SGPA)_{VIII} = SGPA of VIII Semester

(Cr)_{VIII} = Total Credits for VIII Semester

CGPA equal to 6.00 and above shall be considered as equivalent to First Class which shall be mentioned on Grade Card of VIII Semester as a foot note.

TABLE II
THEORY

Grade	Percentage of Marks	Grade Points
AA	80 ≤ Marks ≤ 100	10
AB	70 ≤ Marks < 80	9
BB	60 ≤ Marks < 70	8
BC	55 ≤ Marks < 60	7
CC	50 ≤ Marks < 55	6
CD	45 ≤ Marks < 50	5
DD	40 ≤ Marks < 45	4
FF	00 ≤ Marks < 40	0
ZZ	Absent in Examination	—

PRACTICAL

Grade	Percentage of Marks	Grade Points
AA	85 ≤ Marks ≤ 100	10
AB	80 ≤ Marks < 85	9
BB	75 ≤ Marks < 80	8
BC	70 ≤ Marks < 75	7
CC	65 ≤ Marks < 70	6
CD	60 ≤ Marks < 65	5
DD	50 ≤ Marks < 60	4
FF	00 ≤ Marks < 50	0
ZZ	Absent in Examination	—

10.As soon as possible, after the examination the Board of Examinations shall publish a list of successful examinees.

11. I, further direct that the aforesaid Direction shall come into force from the date of issuance and shall remain in force till the relevant Ordinance comes into being in accordance with the provisions of Maharashtra Universities Act, 1994 and the relevant provisions published by this Direction shall be physically repealed from the existing Ordinance.

Nagpur

Date : 22/6/2012

Sd/-
(Dr.V.S.Sapkal)
Vice Chancellor