



**Rashtrasant Tukadoji Maharaj Nagpur University**

**Scheme of Absorption for  
B. Tech (Chemical Engineering)**

**Board of Studies, Chemical Engineering**

Scheme of Absorption for to Semester Pattern of 1 <sup>st</sup> Semester B. Tech. Chemical Engineering (CBCS)								
As Per Rashtrasant Tukadoji Maharaj Nagpur University (CBS Pattern)					As Per Rashtrasant Tukadoji Maharaj Nagpur University CBCS Pattern Scheme			
FIRST SEMESTER B. TECH (CHEMICAL ENGINEERING)					FIRST SEMESTER B. TECH (CHEMICAL ENGINEERING)			
Sr. No.	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical
1	CE (BGE) 1.01	BGE	Engineering Mathematics I	Theory	CE-BS-101T	BGE	Maths I	Theory
2	CE (BGE) 1.02	BGE	Applied Inorganic Chemistry	Theory	CE-BS-103 T	BGE	Chemistry-I	Theory
3	CE (BGE) 1.03	BGE	Applied Organic Chemistry	Theory	CE-BS-104 T	BGE	Fundamental of Reaction Mechanism	Theory
4	CE (BGE) 1.04	BGE	Applied Physics	Theory	CE-BS-102 T	BGE	Physics	Theory
5	CE (BGE) 1.05	BGE	Applied Mechanics	Theory	CE-GES -105 T	BGE	Engineering Solid & Mechanics	Theory
6	CE (BGE) 1.06	BGE	Applied Inorganic Chemistry Laboratory	Practical	CE-BS-108 P	BGE	Chemistry I Laboratory	Practical
7	CE (BGE) 1.07	BGE	Applied Organic Chemistry Laboratory	Practical	CE-BS-109 P	BGE	Fundamental of Reaction Mechanism Laboratory	Practical
8	CE (BGE) 1.08	BGE	Applied Physics Laboratory	Practical	CE-BS-107 P	BGE	Physics Laboratory	Practical
9	CE (BGE) 1.09	BGE	Engineering Graphics	Practical	CE-GES-110 P	BGE	Engineering Solid & Mechanics Laboratory	Practical
10	CE (BGE) 1.10	BGE	Communication Skill Laboratory	Practical	CE -HSMC-HS -111P	BGE	HASS-I: (Communication Skill/English)	Practical
11	CE (BGE) 1.11	BGE	Computational Skill Laboratory	Practical	CE-HSMC-HS -106 T	BGE	HASS-I: (Communication Skill/English)	Theory

*[Signature]*

Scheme of Absorption for to Semester Pattern of 2 <sup>nd</sup> Semester B. Tech. Chemical Engineering (CBCS)					As Per Rashtrasant Tukadoji Maharaj Nagpur University			
As Per Rashtrasant Tukadoji Maharaj Nagpur University (CBS Pattern)					As Per Rashtrasant Tukadoji Maharaj Nagpur University CBCS Pattern Scheme			
SECOND SEMESTER B. TECH (CHEMICAL ENGINEERING)					SECOND SEMESTER B. TECH (CHEMICAL ENGINEERING)			
Sr. No.	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical
1	CE (BGE) 2.01	BGE	Engineering Mathematics II	Theory	CE-BS-201 T	BGE	Maths II	Theory
2	CE (BGE) 2.02	BGE	Applied Physical Chemistry-I	Theory	CE-BS-203 T	BGE	Chemistry-II	Theory
3	CE (BGE) 2.03	BGE	Applied Physics II	Theory	CE-BS-202 T	BGE	Properties of Matter	Theory
4	CE (BGE) 2.04	BGE	Basic Electrical Engineering	Theory	CE-GES-206 T	BGE	Electrical & Electronics Engineering	Theory
5	CE (BGE) 2.05	BGE	Basic Mechanical Engineering	Theory	CE-GES-205 T	BGE	Thermodynamics I	Theory
6	CE (BGE) 2.06	BGE	Ethical Science	Theory	CE-HSMC-HS -106 T	BGE	HASS-I: (Communication Skill/English) <sup>ss</sup>	Theory
7	CE (BGE) 2.07	BGE	Applied Physical Chemistry Laboratory-I	Practical	CE-BS-208 P	BGE	Chemistry II Laboratory	Practical
8	CE (BGE) 2.08	BGE	Applied Physics II Laboratory	Practical	CE-BS-207 P	BGE	Properties of Matter Laboratory	Practical
9	CE (BGE) 2.09	BGE	Basic Electrical Engineering Laboratory	Practical	CE-GES-210 P	BGE	Electrical & Electronics Engineering Laboratory	Practical
10	--	--	--	--	CE-BS-204 T	BGE	Organic Process Technology <sup>*</sup>	Theory
11	--	--	--	--	CE-BS-209 P	BGE	Organic Process Technology Laboratory <sup>**</sup>	Practical
12	CE (BGE) 2.10	BGE	Workshop	Practical	CE-GES-211 P	BGE	Engineering Graphics	Practical
13			NCC/NSS		--	--	--	--

\* Students to appear in university theory examination as per the new scheme

\*\* Students to appear in university practical examination as per the new scheme

<sup>ss</sup> Students to appear for these subjects in University Theory/Practical examination offered in any of the previous semester of B.Tech Chemical Engineering (CBCS)

Scheme of Absorption for to Semester Pattern of 3 <sup>rd</sup> Semester B. Tech. Chemical Engineering (CBCS)					As Per Rashtrasant Tukadoji Maharaj Nagpur University CBCS Pattern Scheme			
As Per Rashtrasant Tukadoji Maharaj Nagpur University (CBS Pattern)					As Per Rashtrasant Tukadoji Maharaj Nagpur University CBCS Pattern Scheme			
THIRD SEMESTER B. TECH (CHEMICAL ENGINEERING)					THIRD SEMESTER B. TECH (CHEMICAL ENGINEERING)			
Sr. No.	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical
1	BTCHE 301T	BGE	Strength of Materials	Theory	CE-GES -105 T	BGE	Engineering Solid & Mechanics <sup>ss</sup>	Theory
2	-----	-----	-----	-----	CE-PCC-301T	BCE	Material & Energy Balance Computations*	Theory
3	BTCHE 302T	BGE	Plant Utilities	Theory	CE-GES-205 T	BGE	Thermodynamics I <sup>ss</sup>	Theory
4	-----	-----	-----	-----	CE-PCC-303T	BCE	Thermodynamics – II*	Theory
5	-----	-----	-----	-----	CE-GES-304T	BGE	Material Science*	Theory
6	BTCHE 303T	BGE	Engineering Mathematics – III	Theory	CE-BS-305T	BGE	Maths – III	Theory
7	BTCHE 304T	BGE	Numerical Methods & Computer Programming	Theory	CE-PCC-302T	BCE	Particle & Fluid Particle Processing	Theory
8	BTCHE 305T	BGE	Applied Physical Chemistry – II	Theory	CE-BS-306T	BGE	Elementary Molecular Approach	Theory
9	BTCHE 306P	BGE	Numerical Methods & Computer Programming	Practical	CE-PCC-3010P	BCE	Particle & Fluid Particle Processing Lab	Practical
10	BTCHE 307P	BGE	Applied Physical Chemistry – II	Practical	CE-BS-308P	BGE	Elementary Molecular Approach –Laboratory	Practical
11	BTCHE 308P	BGE	Machine Drawing	Practical	CE-GES-307P	BGE	Material Science Laboratory	Practical
12	-----	-----	-----	-----	CE-GES-309P	BGE	Engineering workshop	Practical

\* Students to appear in university theory examination as per the new scheme

\*\* Students to appear in university practical examination as per the new scheme

<sup>ss</sup> Students to appear for these subjects in University Theory/Practical examination offered in any of the previous semester of B.Tech Chemical Engineering (CBCS)



Scheme of Absorption for to Semester Pattern of 4 <sup>th</sup> Semester B. Tech. Chemical Engineering (CBCS)					As Per Rashtrasant Tukadoji Maharaj Nagpur University CBCS Pattern Scheme			
As Per Rashtrasant Tukadoji Maharaj Nagpur University (CBS Pattern)					As Per Rashtrasant Tukadoji Maharaj Nagpur University CBCS Pattern Scheme			
FOURTH SEMESTER B. TECH (CHEMICAL ENGINEERING)					FOURTH SEMESTER B. TECH (CHEMICAL ENGINEERING)			
Sr. No.	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical
1	BTCHE 401T	BCHE	Process Calculations	Theory	CE-PCC-301T	BCE	Material & Energy Balance Computations <sup>ss</sup>	Theory
2	-----	-----	-----	-----	CE-PCC-401T	BCE	Process Technology & Economics*	Theory
3	BTCHE 402T	BGE	Electronics & Instrumentation	Theory	CE-GES-206 T	BGE	Electrical & Electronics Engineering <sup>ss</sup>	Theory
4	-----	-----	-----	-----	CE-PCC-402T	BCE	Mass Transfer I*	Theory
5	BTCHE 403T	BCHE	Mechanical Operations	Theory	CE-PCC-302T	BCE	Particle & Fluid Particle Processing <sup>ss</sup>	Theory
6	-----	-----	-----	-----	CE-PCC-403T	BCE	Fluid Mechanics*	Theory
7	-----	-----	-----	-----	CE-PCC-404T	BCE	Numerical Methods in Chemical Engineering	Theory
8	BTCHE 404T	BGE	Inorganic Process Technology	Theory	CE-PCC-405T	BGE	Inorganic Process Technology	Theory
9	-----	-----	-----	-----	CE-PCC-406T	BGE	HASS II: Functional English*	Theory
10	BTCHE 405T	BGE	Organic Process Technology	Theory	CE-BS-204 T	BGE	Organic Process Technology <sup>ss</sup>	Theory
12	-----	-----	-----	-----	CE-PCC-407P	BCE	Fluid Mechanics Lab**	Practical
13	BTCHE 406P	BGE	Electronics & Instrumentation	Practical	CE-GES-210 P	BGE	Electrical & Electronics Engineering Laboratory <sup>ss</sup>	Practical
14	-----	-----	-----	-----	CE-PCC-408P	BCE	Numerical Methods in Chemical Engineering Lab	Practical
15	BTCHE 407P	BCHE	Mechanical Operations	Practical	CE-PCC-3010P	BCE	Particle & Fluid Particle Processing Lab <sup>ss</sup>	Practical
16	BTCHE 408P	BGE	Inorganic Process Technology	Practical	CE-PCC-409P	BGE	Inorganic Process Technology Laboratory	Practical
17	BTCHE 409P	BGE	Organic Process Technology	Practical	CE-BS-209 P	BGE	Organic Process Technology Laboratory <sup>ss</sup>	Practical
18	-----	-----	-----	-----	MC	BCE	Environmental Sciences**	Audit Course

\* Students to appear in university theory examination as per the new scheme

\*\* Students to appear in university practical examination as per the new scheme

<sup>ss</sup> Students to appear for these subjects in University Theory/Practical examination offered in any of the previous semester of B.Tech Chemical Engineering (CBCS)

Scheme of Absorption for to Semester Pattern of 5 <sup>th</sup> Semester B. Tech. Chemical Engineering (CBCS)					As Per Rashtrasant Tukadoji Maharaj Nagpur University CBCS Pattern Scheme			
As Per Rashtrasant Tukadoji Maharaj Nagpur University (CBS Pattern)					As Per Rashtrasant Tukadoji Maharaj Nagpur University CBCS Pattern Scheme			
FIFTH SEMESTER B. TECH (CHEMICAL ENGINEERING)					FIFTH SEMESTER B. TECH (CHEMICAL ENGINEERING)			
Sr. No.	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical
1	BTCHE 501T	BCHE	Fluid Mechanics	Theory	CE-PCC-403T	BCE	Fluid Mechanics <sup>ss</sup>	Theory
2	BTCHE 502T	BCHE	Chemical Engineering Thermodynamics	Theory	CE-PCC-303T	BCE	Thermodynamics – II <sup>ss</sup>	Theory
3	BTCHE 503T	BCHE	Mass Transfer	Theory	CE-PCC-402T	BCE	Mass Transfer I <sup>ss</sup>	Theory
4	BTCHE 504T	BCHE	Heat Transfer	Theory	CE-PCC-501T	BCE	Heat Transfer	Theory
5	BTCHE 505T	BCHE	Biochemical Engineering	Theory	CE-PCC-502T	BCE	Chemical Reaction Engineering I	Theory
6	-----	-----	-----		CE-PCC-503T	BCE	Mass Transfer II <sup>†</sup>	Theory
7	-----	-----	-----		CE-CEL-504T	BCE	Core Elective I <sup>†</sup>	Theory
8	-----	-----	-----		CE-OEL-505T	BCE	Open Elective I <sup>†</sup>	Theory
9	-----	-----	-----		CE-HSMC- HS-506T	BCE	HASS III: Industrial Economics & Project Management <sup>†</sup>	Theory
10	BTCHE 506P	BCHE	Fluid Mechanics	Practical	CE-PCC-407P	BCE	Fluid Mechanics Lab <sup>ss</sup>	Practical
12	-----	-----	-----		CE-PCC-507P	BCE	Chemical Reaction Engineering I Lab <sup>**</sup>	Practical
13	BTCHE 507P	BCHE	Mass Transfer	Practical	CE-PCC-508P	BCE	Mass Transfer Lab	Practical
14	BTCHE 508P	BCHE	Heat Transfer	Practical	CE-PCC-509P	BCE	Heat Transfer Lab	Practical
15	-----	-----	-----		MC		Constitution of India/ Essence of Indian Traditional Knowledge <sup>†</sup>	Audit Course

\* Students to appear in university theory examination as per the new scheme

\*\* Students to appear in university practical examination as per the new scheme

<sup>ss</sup> Students to appear for these subjects in University Theory/Practical examination offered in any of the previous semester B. Tech Chemical Engineering (CBCS)



Scheme of Absorption for to Semester Pattern of 6 <sup>th</sup> Semester B. Tech. Chemical Engineering (CBCS)					As Per Rashtrasant Tukadoji Maharaj Nagpur University CBCS Pattern Scheme			
As Per Rashtrasant Tukadoji Maharaj Nagpur University (CBS Pattern)					SIXTH SEMESTER B. TECH (CHEMICAL ENGINEERING)			
Sr. No.	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical
1	BTCHE 601T	BCHE	Separation Processes	Theory	CE-PCC-503T	BCE	Mass Transfer II <sup>ss</sup>	Theory
2	-----	-----	-----	-----	CE-PCC-601T	BCE	Chemical Reaction Engineering II*	Theory
3	BTCHE 602T	BCHE	Environmental Engineering	Theory	CE-OEL-505T	BCE	Open Elective I: Environmental Pollution and Control <sup>ss</sup>	Theory
4	BTCHE 603T	BCHE	Process Equipment Design	Theory	CE-PCC-602T	BCE	Process Equipment Design	Theory
5	BTCHE 604T	BCHE	Chemical Reaction Engineering	Theory	CE-PCC-502T	BCE	Chemical Reaction Engineering I <sup>ss</sup>	Theory
6	-----	-----	-----	-----	CE-PCC-603T	BCE	Process Dynamics & Control*	Theory
7	BTCHE 605T	BCHE	Elective-I	Theory	CE-CEE-604T	BCE	Core Elective- II	Theory
8	-----	-----	-----	-----	CE-OEL-605T	BCE	Open Elective- II*	Theory
9	-----	-----	-----	-----	CE- HSMC- HS -606T	BCE	HASS IV Industrial organization & Entrepreneurship Development*	Theory
10	BTCHE 606P	BCHE	Environmental Engineering	Practical	CE-PCC-607P	BCE	Chemical Reaction Engineering II Lab	Practical
12	BTCHE 607P	BCHE	Process Equipment Design	Practical	CE-PCC-608P	BCE	Process Equipment Design & Drawing Lab	Practical
13	BTCHE 608P	BCHE	Separation Processes	Practical	CE-PCC-508P	BCE	Mass Transfer Lab <sup>ss</sup>	Practical
14	BTCHE 609P	BCHE	Minor Project	Practical	CE-PCC-609P	BCE	Process Dynamics & Control Lab	Practical
15					CE-PCC-610P	BCE	Summer Internship (3-4 weeks) (to be evaluated in seventh semester)*	Practical

\* Students to appear in university theory examination as per the new scheme

\*\* Students to appear in university practical examination as per the new scheme

<sup>ss</sup> Students to appear for these subjects in University Theory/Practical examination offered in any of the previous semester B. Tech Chemical Engineering (CBCS)

Scheme of Absorption for to Semester Pattern of 7 <sup>th</sup> Semester B. Tech. Chemical Engineering (CBCS)					As Per Rashtrasant Tukadoji Maharaj Nagpur University CBCS Pattern Scheme			
As Per Rashtrasant Tukadoji Maharaj Nagpur University (CBS Pattern)					SEVENTH SEMESTER B. TECH (CHEMICAL ENGINEERING)			
Sr. No.	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical
1	BTCHE 701T	BCHE	Transport Phenomena	Theory	CE-PCC-701T	BCE	Transport Phenomena	Theory
2	BTCHE 702T	BCHE	Process Control and Instrumentation	Theory	CE-PCC-603T	BCE	Process Dynamics & Control <sup>ss</sup>	Theory
3	BTCHE 703T	BCHE	Chemical Reactor Design	Theory	CE-PCC-601T	BCE	Chemical Reaction Engineering II <sup>ss</sup>	Theory
4	-----	-----	-----	-----	CE-PCC-702T	BCE	Process Modelling and Simulation *	Theory
5	BTCHE 704T	BCHE	Elective-II	Theory	CE-CEL-703T	BCE	Core Elective- III	Theory
6	-----	-----	-----	-----	CE-CEL-704T	BCE	Core Elective- IV*	Theory
7	BTCHE 705T	BCHE	Finishing Techniques	Theory	CE-PCC-406T	BGE	HASS II: Functional English <sup>ss</sup>	Theory
8	-----	-----	-----	-----	CE-OEL-705T	BCE	Open Elective- III*	Theory
9	-----	-----	-----	-----	CE-OEL-706T	BCE	Open Elective- IV*	Theory
10	BTCHE 706P	BCHE	Chemical Reactor Design	Practical	CE-PCC-607P	BCE	Chemical Reaction Engineering II Lab <sup>ss</sup>	Practical
12	-----	-----	-----	-----	CE-PCC-707P	BCE	Process Modelling and Simulation Lab**	Practical
13	BTCHE 707P	BCHE	Seminar	Practical	CE-PCC-708P	BCE	Seminar and Summer Internship Evaluation	Practical
14	BTCHE 708P	BCHE	Project/Dissertation- Stage I	Practical			###	Practical

\* Students to appear in university theory examination as per the new scheme

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<sup>ss</sup> Students to appear for these subjects in University Theory/Practical examination offered in any of the previous semester B. Tech Chemical Engineering (CBCS)

<sup>###</sup> As per CBCS curriculum, entire 8<sup>th</sup> semester duration is allotted for project/Internship, Therefore, Project/Dissertation- Stage I offer in CBS curriculum Will be compensated in 8<sup>th</sup> Semester.



Scheme of Absorption for to Semester Pattern of 8 <sup>th</sup> Semester B. Tech. Chemical Engineering (CBCS)					As Per Rashtrasant Tukadoji Maharaj Nagpur University CBCS Pattern Scheme			
As Per Rashtrasant Tukadoji Maharaj Nagpur University (CBS Pattern)					EIGHTH SEMESTER B. TECH (CHEMICAL ENGINEERING)			
EIGHTH SEMESTER B. TECH (CHEMICAL ENGINEERING)					EIGHTH SEMESTER B. TECH (CHEMICAL ENGINEERING)			
Sr. No.	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical	Sub Code Theory/ Practical	Board	Subject	Theory/ Practical
1	BTCHE 801T	BCHE	Computational Chemical Engineering	Theory	CE-PCC-702T	BCE	Process Modelling and Simulation <sup>ss</sup>	Theory
2	BTCHE 802T	BCHE	Process Dynamics and Control	Theory	CE-PCC-603T	BCE	Process Dynamics & Control <sup>ss</sup>	Theory
3	BTCHE 803T	BCHE	Entrepreneurship and Project Management	Theory	CE-HSMC-HS-506T	BCE	HASS III: Industrial Economics & Project Management <sup>ss</sup>	Theory
4	BTCHE 804T	BCHE	Elective -III	Theory	CE-CEL-704T	BCE	Core Elective- IV <sup>ss</sup>	Theory
5	BTCHE 805P	BCHE	Computational Chemical Engineering	Practical	CE-PCC-707P	BCE	Process Modelling and Simulation Lab <sup>ss</sup>	Practical
6	BTCHE 806P	BCHE	Process Control	Practical	CE-PCC-609P	BCE	Process Dynamics & Control Lab <sup>ss</sup>	Practical
7	BTCHE 807P	BCHE	Project/Dissertation- Stage II	Practical	CE-PCC-801P	BCE	Industry Internship / Project	Practical

\* Students to appear in university theory examination as per the new scheme

\*\* Students to appear in university practical examination as per the new scheme

<sup>ss</sup> Students to appear for these subjects in University Theory/Practical examination offered in any of the previous semester B. Tech Chemical Engineering (CBCS)