

**U.P. TECHNICAL UNIVERSITY, LUCKNOW**  
**REVISED STUDY AND EVALUATION SCHEME**

**B.Tech. First Year (Common to all Branches)**

**EFFECTIVE FROM THE SESSION: 2004-05**

**B.Tech. Bio-Chemical Engineering**

**Year: 1 Semester- I**

S.No	Course No.	Subject	Periods			Evaluation Schemes			Subject Total	
			L	T	P	Sessional Exam.		Exam. ESE		
						CT	TA			Total
<b>THEORY SUBJECTS</b>										
1.	TAS-101/ TAS-102	Physics/Chemistry	03	01	00	30	20	50	100	150
2.	TAS-103	Professional Communication	03	01	00	30	20	50	100	150
3.	TAS-104	Mathematics-I	03	01	00	30	20	50	100	150
4.	TEE-101/ TME-101	Electrical Engineering/ Mechanical Engineering	03	01	00	30	20	50	100	150
5.	TEC-101/ TIT-101	Electronics Engineering/ Information Technology	03	01	00	30	20	50	100	150
<b>PRACTICAL / DESIGN / DRAWING</b>										
6.	TAS-151/ TAS-152	Physics/ Chemistry	0	0	02	10	10	20	30	50
7.	TEE-151/ TME-151	Electrical Engineering/ Mechanical Engineering	0	0	02	10	10	20	30	50
8.	TCS-151/ TWS-151	Computer Programming Lab / Workshop Practice	0	1	02	10	10	20	30	50
9.	TCE-151	Engineering Graphics	0	0	03	10	10	20	30	50
10.	GP 101	General Proficiency	-	-	-	-	-	50	-	50
		<b>Total</b>	<b>15</b>	<b>6</b>	<b>9</b>	<b>-</b>	<b>-</b>	<b>350</b>	<b>650</b>	<b>1000</b>

**B.Tech. Bio-Chemical Engineering**

**Year: 1 Semester- II**

S.No	Course No.	Subject	Periods			Evaluation Schemes			Subject Total	
			L	T	P	Sessional Exam.		Exam. ESE		
						CT	TA			Total
<b>THEORY SUBJECTS</b>										
1.	TES-201	Environmental Studies	03	01	00	30	20	50	100	150
2.	TAS-202/ TAS-201	Chemistry/ Physics	03	01	00	30	20	50	100	150
3.	TAS-204	Mathematics-II	03	01	00	30	20	50	100	150
4.	TME-201/ TEE-201	Mechanical Engineering/ Electrical Engineering	03	01	00	30	20	50	100	150
5.	TIT-201/ TEC-201	Information Technology/ Electronics Engineering	03	01	00	30	20	50	100	150
<b>PRACTICAL / DESIGN / DRAWING</b>										
6.	TAS-252/ TAS-251	Chemistry/ Physics	0	0	02	10	10	20	30	50
7.	TME-251/ TEE-251	Mechanical Engineering/ Electrical Engineering	0	0	02	10	10	20	30	50
8.	TWS-251/ TCS-251	Workshop Practice / Computer Programming Lab	0	1	02	10	10	20	30	50
9.	TAS-253	Communication Lab (English)	0	0	03	30*	20*	50	-	50
10.	GP 201	General Proficiency	-	-	-	-	-	50	-	50
		<b>Total</b>	<b>15</b>	<b>6</b>	<b>9</b>	<b>-</b>	<b>-</b>	<b>410</b>	<b>590</b>	<b>1000</b>

**CT - Cumulative test, TA -Teacher Assessment, ESE - End Semester Examination**

- - Day to day evaluation

**B.Tech. Bio-Chemical Engineering**
**Year: II Semester- III**

Sl. No.	Course Code	Subject	Periods			Evaluation Scheme				Subject Total
			L	T	P	Sessionals			ESE	
CT	TA	Total								
1.	* TAS – 301	Mathematics – III	3	1	0	30	20	50	100	150
2.	** TCY – 301	Chemistry – I	3	1	0	30	20	50	100	150
3.	*** TCH – 307	Fluid Flow and Solid Handling	3	1	0	30	20	50	100	150
4.	TBE – 301	Microbiology	3	1	0	30	20	50	100	150
5.	***TME-307	Mechanics of Solids	3	1	0	30	20	50	100	150
<b>Practicals</b>										
7.	***TCH-357	Fluid Mechanics lab	0	0	3	10	10	20	30	50
8.	** TCY – 351	Chemistry – I Lab.	0	0	3	10	10	20	30	50
9.	TBE- 351	Microbiology Lab.	0	0	6	20	20	40	60	100
10.	GP-301	<b>General Proficiency</b>						50	-	50
<b>Grand Total</b>										<b>1000</b>

\* Common to all engineering and chemical Technology Branches; \*\* Common to Chemical Engineering and Chemical Technology; \*\*\* Common to all Branches of Chemical Technology.

**B.Tech. Bio-Chemical Engineering**
**Year: II Semester- IV**

S. No.	Course code	Subject	Periods			Evaluation Scheme				Subject Total
			L	T	P	Sessionals			Exam.	
						CT	TA	Total		
1.	** TAS-401	Computer Based Numerical Methods	3	1	0	30	20	50	100	150
2.	**TCY-401	Chemistry-II	3	1	0	30	20	50	100	150
3.	**TCH-401	Heat Transfer Operations	3	1	0	30	20	50	100	150
4.	**TCH-407	Industrial Fuels and Process Calculations	3	1	0	30	20	50	100	150
5.	TBE-401	Biochemistry	3	1	0	30	20	50	100	150
<b>Practicals</b>										
7.	** TAS-451	Numerical Techniques Lab	0	0	3	10	10	20	30	50
8.	**TCY-451	Chemistry-II Lab	0	0	3	10	10	20	30	50
9.	TBE-451	Biochemistry Lab.	0	0	6	20	20	40	60	100
10.	GP-401	General Proficiency						50	--	50
<b>Grand Total</b>										<b>1000</b>

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\*\*\*Common to Chemical Technology Branches.

S.No.	Course Code	Subject	Evaluation Scheme								Sub Total
			Period			Sessionals			Exam.		
			L	T	P	TA	CT	Total	ESE		
1.	*THU – 501	Industrial Economics & Principles of Management	3	1	0	30	20	50	100	150	
2.	**TCH– 506	Mass Transfer Operations –I	3	1	0	30	20	50	100	150	
3.	TBE – 501	Bioprocess principles	3	1	0	30	20	50	100	150	
4.	TBE – 502	Molecular Biology & Genetic Engineering	3	1	0	30	20	50	100	150	
5.	TBE – 503	Fermentation Biotechnology-I	3	1	0	30	20	50	100	150	
Practicals											
6.	TBE – 551	Molecular Biology & Genetics Lab.	0	0	6	20	20	40	60	100	
7.	TBE – 552	Fermentation Lab.	0	0	6	20	20	40	60	100	
8.	GP – 501	General Proficiency						50		50	
									Grand Total	1000	

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S.No.	Course Code	Subject	Evaluation Scheme								Sub Total
			Period			Sessionals			Examination		
			L	T	P	TA	CT	Total	ESE		
1.	***TCH-606	Chemical Engineering Thermodynamics	3	1	0	30	20	50	100	150	
2.	**TCH-607	Mass Transfer Operations -II	3	1	0	30	20	50	100	150	
3.	TBE – 601	Fermentation Biotechnology-II	3	1	0	30	20	50	100	150	
4.	TME-609	Machine Design	3	1	0	30	20	50	100	150	
5.	TBE – 602	Biotechnology of Waste Treatment	3	1	0	30	20	50	100	150	
Practicals											
6.	***TCH-655	Chemical Engineering Operations lab	0	0	3	10	10	20	30	50	
7.	TBE – 651	Waste Water analysis Lab.	0	0	6	20	20	40	60	100	
8.	TBE– 652	Seminar	0	0	3	50		50		50	
9.	GP – 601	General Proficiency						50		50	
									Grand Total	1000	

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\*\*\*Common to Chemical Technology Branches.

**B.Tech. Bio-Chemical Engineering**
**Year: IV Semester- VII**

S.No	Course Code	Subject	Evaluation Scheme							Sub Total
			Periods			Sessionals			Exam.	
			L	T	P	TA	CT	Total	ESE	
1	TBE-701	Bioprocess Engineering-I	3	1	0	30	20	50	100	150
2.	TBE – 702	<b>Enzyme Engineering</b>	3	1	0	30	20	50	100	150
3.	***TCH-706	Instrumentation and Process Control	3	1	0	30	20	50	100	150
4.	***TCH-707	Chemical Reaction Engineering	3	1	0	30	20	50	100	150
5.	##TOE-41	Open Elective – Bio Technology	3	1	0	30	20	50	100	150
	Practicals									
6	TBE-751	Bioprocess Engineering-Lab	0	0	6	20	20	40	60	100
7.	TBE-752	Project(Term Work)	0	0	3	25	25	50		50
8.	TBE-753	Industrial Training	0	0	3	25	25	50		50
9	GP-701	General Prophecy	0	0	3			50		50
<b>Grand Total</b>										1000

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\*\*\*Common to Chemical Technology Branches.

## For Branches other than Oil Technology

**B.Tech. Bio-Chemical Engineering**
**Year: IV Semester- VIII**

S.No	Course Code	Subject	Evaluation Scheme							Sub Total
			Periods			Sessionals			Examination	
			L	T	P	CT	TA	Total	ESE	
1.	TBE-011 TBE-012	Elective Environmental Management	3	1	0	30	20	50	100	150
	TBE-013 TBE-014	Bioinformatics Plants Cell Biotechnology Preservation of Biomaterials								
2.	TBE-801	Bioseparation	3	1	0	30	20	50	100	150
3.	TBE-802	Food Biotechnology	3	1	0	30	20	50	100	150
4.	TBE-803	Bio Process Engineering-II	3	1	0	30	20	50	100	150
5.	***TCH-806	Industrial Safety and Hazard Management	3	1	0	30	20	50	100	150
	<b>Practicals</b>									
6.	TBE-851	Project	0	0	12	25	25	50	100	150
7.	TBE-852	Industrial Tour						50		50
8.	GP-801	General Proficiency						50		50
<b>Grand Total</b>										1000

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# U.P. TECHNICAL UNIVERSITY LUCKNOW



Syllabus  
of

B.Tech. I Year (I & II Semester)  
[Common to all Branches]

**Effective from the Session : 2004-05**