

## Chemical and Biochemical Engineering

### SEMESTER - I (Common for all B.Tech Courses)

S.No	C. Code	Course	L	T	P	C
1	MA108T	Calculus	3	1.5	0	9
2	PH101T	Quantum Physics and Applications	2	1	0	6
3	PH101L	Hands on Science Laboratory – I	0	0	3	3
4	CS101C	Computer Programming	3	0	3	9
5	HS101T	Design Thinking and Creativity	1	0	0	PP/NP
6	CH101T	Fundamental Concepts & Applications of Chemistry	3	0	0	6
7	BB101T	Introduction to Modern Biology	3	0	0	6
8	CC	NCC/NSO/NCA/NSS	0	0	2	2
		<b>Total Credits</b>				<b>41</b>

### Semester II

S.No	Course Code	Course Name	L	T	P	C
1	MA109T	Linear Algebra and Differential Equations	3	1.5	0	9
2	ME101C	Engineering Graphics Lab	1	0	3	6
3	ME101L	Hands on Engineering Lab	0	0	3	3
4	CL101T	Introduction to Chemical Engineering	3	0	0	6
5	BB201T	Biomolecules	2	1	0	6
6	CH201T	Organic Chemistry	3	0	0	3
7	CC	NCC/NSO/NCA/NSS	0	0	2	2
		<b>Total Credits</b>				<b>35</b>

### Semester III

S.No	Course Code	Course Name	L	T	P	C
1	EE205T	Introduction to Probability	3	0	0	6
2	EE207T	Data analysis	3	0	0	3
3	CL204T	Fluid Mechanics and Mechanical Operations	3	0	0	6
4	CL205T	Heat Transfer for Chemical Engineers	3	0	0	6
5	CL203T	Introduction to Chemical Engineering Thermodynamics	3	0	0	6
6	ME201T	Engineering Mechanics	2	1	0	6
7	BB401T	Basics of Cell Biology and Genetics	3	0	0	6
		<b>Total Credits</b>				<b>36</b>

### Semester IV

S.No	Course Code	Course Name	L	T	P	C
1	CS204T	Artificial Intelligence	3	0	0	6
2	CS201L	Artificial Intelligence lab	0	0	3	3
3	CL206T	Materials Science for Chemical Engineers	3	0	0	6

4	BB403T	Biophysics	3	0	0	3
5	BB201L	Biology Lab I	0	0	3	3
6	CL201L	Chemical Engineering lab 1 (Thermodynamics and fluid	0	0	3	3
7	CL201T	Reaction Engineering	3	0	0	6
8	CL202T	Mass Transfer	3	0	0	6
		Total Credits				<b>36</b>

### Semester V

S.No	Course Code	Course Name	L	T	P	C
1	CL304T	Applications of Mass Transfer	3	0	0	6
2	CL308T	Advanced Chemical Reaction Engineering	3	0	0	6
3	CL307T	Process Dynamics and Control	3	0	0	6
4	CL302T	Process Equipment Design and Economics	3	0	0	6
5	CL301L	Chemical Engineering Lab II	0	0	3	3
6	HS201T	Economics	3	0	0	6
		Total Credits				<b>33</b>

### Semester VI

S.No	Course Code	Course Name	L	T	P	C
1	CL301T	Introduction to Transport Phenomena	3	0	0	6
2	CL301C	Numerical Method in Chemical Engineering	3	0	0	6
3	CL302L	Chemical Engineering Lab III	0	0	3	3
4		Program Elective-I	3	0	0	6
5	CL306T	AI in Chemical Engineering	3	0	0	6
6	CL303L	Chemical Engineering Lab IV	0	0	3	3
7	CE301T	Environmental Studies	3	0	0	6
		Total Credits				<b>36</b>

### Semester VII

S.No	Course Code	Course Name	L	T	P	C
1	CL405T	Bio Process Engineering	3	0	0	6
2	CL401S	Scientific Presentation	0	0	3	3
3		Program Elective-II	3	0	0	6
4		Program Elective-III/BTP-I	3	0	0	6
5		HSS Elective-I	3	0	0	6
		Total Credits				<b>27</b>

### Semester VIII

S.No	Course Code	Course Name	L	T	P	C
1		Program Elective-IV	3	0	0	6
2		Program Elective-V/BTP-II	3	0	0	6
3		Institute Elective-I	3	0	0	6
4		HSS Elective-II	3	0	0	6

		Total Credits	24
	Overall Credits Required (Minimum)		268
	Program Electives	5	268
	Institute Electives	1	
	HSS Electives	2	