

**COURSE SCHEME  
EXAMINATION SCHEME  
ABSORPTION SCHEME**

**&**

**Syllabus to be implemented from June, 2018-19**

**Of**

**First, Second, Third & Fourth Semester**

**Choice Base Credit System (CBCS)**

**Of**

**Master of Technology (M.Tech)**

**In**

**CHEMICAL ENGINEERING**

**CHEMICAL ENGINEERING – CBCS PATTERN**

SEMESTER - I																				
Sr. No	Course (Subject Title)	TEACHING SCHEME									EXAMINATION SCHEME									
		THEORY			TUTORIAL			PRACTICAL			THEORY					PRACTICAL			TERM WORK	
		Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Hours	Mode	Marks	Total Marks	Min	Hours	Max	Min	Hours	Max
1	PCC-CH101	3	3	3	1	1	1	-	-	-	As per BOS Guidelines	CIE	30	100	40	-	-	2	25	10
2	PCC-CH102	3	3	3	1	1	1	-	-	-		ESE	70			100	40	-	-	2
3	PCC-CH103	3	3	3	1	1	1	-	-	-		CIE	30	100	40	-	-	2	25	10
4	PCE-CH	3	3	3	-	1	1	-	-	-		ESE	70			100	40	-	-	-
5	PCE-CH	3	3	3	-	1	1	-	-	-		CIE	30	100	40	-	-	-	-	-
6	MC-CH101	-	-	-	-	-	-	1	2	2		ESE	70			100	40	-	-	-
7	MC-CH102	-	-	-	-	-	-	1	2	2		-	-	-	-	-	-	-	2	25
	<b>TOTAL</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>2</b>	<b>4</b>	<b>4</b>			<b>500</b>			<b>-</b>			<b>150</b>	
SEMESTER –II																				
1	PCC-CH201	3	3	3	1	1	1	-	-	-	As per BOS Guidelines	CIE	30	100	40	-	-	2	25	10
2	PCC-CH202	3	3	3	1	1	1	-	-	-		ESE	70			100	40	-	-	2
3	PCC-CH203	3	3	3	1	1	1	-	-	-		CIE	30	100	40	-	-	2	25	10
4	PCE-CH	3	3	3	-	1	1	-	-	-		ESE	70			100	40	-	-	-
5	PCE-CH	3	3	3	-	1	1	-	-	-		CIE	30	100	40	-	-	-	-	-
6	MC-CH201	-	-	-	-	-	-	1	2	2		ESE	70			100	40	25	10	2
7	MC-CH202	-	-	-	-	-	-	1	2	2		-	-	-	-	25	10	-	-	-
	<b>TOTAL</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>3</b>	<b>5</b>	<b>5</b>	<b>2</b>	<b>4</b>	<b>4</b>			<b>500</b>			<b>50</b>			<b>100</b>	
	<b>TOTAL</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>06</b>	<b>10</b>	<b>10</b>	<b>04</b>	<b>08</b>	<b>08</b>			<b>1000</b>			<b>50</b>			<b>250</b>	

CIE- Continuous Internal Evaluation  
ESE – End Semester Examination

• Candidate contact hours per week : 24 Hours (Minimum)	• Total Marks for M.Tech. Sem I & II : <b>1300</b>
• Theory and Practical Lectures : 60 Minutes Each	• Total Credits for M.Tech. Sem I & II : <b>40</b>
• In theory examination there will be a passing based on separate head of passing for examination of CIE and ESE.	
• There shall be separate passing for theory and practical (term work) courses.	

**CHEMICAL ENGINEERING – CBCS PATTERN**

<b>SEMESTER - III</b>																					
<b>Sr. No</b>	<b>Course (Subject Title)</b>	<b>TEACHING SCHEME</b>									<b>EXAMINATION SCHEME</b>										
		<b>THEORY</b>			<b>TUTORIAL</b>			<b>PRACTICAL</b>			<b>THEORY</b>					<b>PRACTICAL</b>			<b>TERM WORK</b>		
		<b>Credits</b>	<b>No. of Lecture</b>	<b>Hours</b>	<b>Credits</b>	<b>No. of Lecture</b>	<b>Hours</b>	<b>Credits</b>	<b>No. of Lecture</b>	<b>Hours</b>	<b>Hours</b>	<b>Mode</b>	<b>Marks</b>	<b>Total Marks</b>	<b>Min</b>	<b>Hours</b>	<b>Max</b>	<b>Min</b>	<b>Hours</b>	<b>Max</b>	<b>Min</b>
1	SI-CH301	-	-	-	-	-	-	-	2	4	4	-	-	-	-	-	-	2	50	20	
2	MC-CH301	-	-	-	-	-	-	-	2	4	4	-	-	-	-	-	-	2	50	20	
2	PW-CH302	-	-	-	-	-	-	-	8	16	16	-	-	-	-	2	50	20	2	50	20
	<b>TOTAL</b>	-	-	-	-	-	-	-	<b>12</b>	<b>24</b>	<b>24</b>								<b>150</b>		
<b>SEMESTER –IV</b>																					
1	PW-CH401	-	-	-	-	-	-	-	16	32	32	-	-	-	-	2	100	40	2	100	40
	<b>TOTAL</b>	-	-	-	-	-	-	-	<b>16</b>	<b>56</b>	<b>56</b>								<b>100</b>		
	<b>TOTAL</b>	-	-	-	-	-	-	-	<b>28</b>	<b>60</b>	<b>60</b>								<b>150</b>	<b>250</b>	

CIE- Continuous Internal Evaluation  
ESE – End Semester Examination

• Candidate contact hours per week : 24 Hours (Minimum)	• Total Marks for M.Tech. Sem III & IV : <b>400</b>
• Theory and Practical Lectures : 60 Minutes Each	• Total Credits for M.Tech. Sem III & IV : <b>28</b>
• In theory examination there will be a passing based on separate head of passing for examination of CIE and ESE.	
• There shall be separate passing for theory and practical (term work) courses.	

## COURSE CODE AND DEFINITION

Sr. No.	Course code	Definitions
1	PCC	PROFESSIONAL CORE COURSES
2	PCE	PROFESSIONAL CORE ELECTIVES
3	MC	MANDATORY COURSE
4	SI	SUMMER INTERNSHIP
5	PW	PROJECT Work

### Semester I

Sl. No	Code No.	Subject	Semester	Credits
1.	PCC-CH101	Advanced Momentum and Heat Transfer	1	4
2.	PCC-CH102	Advanced Chemical Engineering Thermodynamics	1	4
3.	PCC-CH103	Process Modeling in Chemical Engineering	1	4
4.	PCE-CH	Elective I	1	3
5.	PCE-CH	Elective-II	1	3
6.	MC-CH101	Advanced Separation Laboratory	1	1
7.	MC-CH102	Seminar-I	1	1
<b>Total</b>				<b>20</b>

### Semester II

Sl. No	Code No.	Subject	Semester	Credits
1.	PCC-CH201	Advanced Mass Transfer	2	4
2.	PCC-CH202	Modern Reaction Engineering	2	4
3.	PCC-CH203	Chemical Process Control	2	4
4.	PCC-CH	Elective-III	2	3
5.	PCC-CH	Elective-IV	2	3
6.	MC-CH201	Analytical Laboratory	2	1
7.	MC-CH202	Comprehensive Viva	2	1
<b>Total</b>				<b>20</b>

### Semester III

Sr. No	Code No.	Subject	Semester	Credits
1.	SI-CH301	In-Plant Training	3	2
2.	MC-CH102	Seminar-II	2	2
3.	PW-CH302	Dissertation Phase-I	3	8
<b>Total</b>				<b>12</b>

### Semester IV

Sr. No	Code No.	Subject	Semester	Credits
1.	PW-CH401	Dissertation Phase II	4	16
<b>Total</b>				<b>16</b>

### List of Electives

<b>ELECTIVE -I</b>	
PCE-CH101	Nano-Technology
PCE-CH102	Green Technology
PCE-CH103	Pharmaceutical Biotechnology
<b>ELECTIVE -II</b>	
PCE-CH104	Catalysis and Surface Phenomena
PCE-CH105	Bioprocess Engineering
PCE-CH106	Materials Engineering
PCE-CH107	Process and Equipment Design

**ELECTIVE -III**

PCE-CH201	Computational Fluid Dynamics'
PCE-CH202	Energy Engineering
PCE-CH203	Research Methodology

**ELECTIVE -IV**

PCE-CH204	Project Management
PCE-CH205	Advance Separation techniques
PCE-CH206	Downstream Process Technology
PCE-CH207	Operational research

