

## Department of Chemical Engineering

R.V. College of Engineering, Bengaluru- 560059

(Autonomous Institution Affiliated to VTU, Belagavi)

## FIRST SEMESTER CREDIT SCHEME FOR PHYSICS CYCLE

## (COMMON TO ALL PROGRAMS)

Sl. No	Course Code	Course Title	BoS	CREDIT ALLOCATION				Total Credits
				L	T	P	S	
1	16MA11	Applied Mathematics- I	MAT	3	1	0	1	5
2	16PH12	Engineering Physics (Theory and Practice)	Physics	4	0	1	0	5
3	16CV13	Elements of civil Engineering	CV	4	1	0	0	5
4	16ME14	Computer Aided Engineering Drawing (Theory and Practice)	ME	1	0	2	0	3
5	16EE15	Elements of Electrical Engineering	EE	4	0	0	1	5
6	16HSC16	Constitution of India and Legal Studies for Engineers	HSS	2	0	0	0	2
7	16HSK17*	Kannada*	HSS	1	0	0	0	0
		<b>Total No. of Credits</b>						<b>25</b>
		<b>No. Of Hrs.</b>		<b>19</b>	<b>04</b>	<b>6</b>	<b>8**</b>	<b>29</b>

**FIRST SEMESTER CREDIT SCHEME FOR CHEMISTRY CYCLE  
(COMMON TO ALL PROGRAMS)**

S.No	Course Code	Course Title	BoS	CREDIT ALLOCATION				Total Credits
				L	T	P	S	
1	16MA11	Applied Mathematics-I	MAT	3	1	0	1	5
2	16CH12	Engineering Chemistry (Theory and Practice)	Chemistry	4	0	1	0	5
3	16CS13	Programming in C (Theory and Practice)	CS	4	0	1	0	5
4	16EC14	Basics of Electronic Engineering	ECE	4	0	0	1	5
5	16ME15	Basics of Mechanical Engineering (Theory and Practice)	ME	4	0	1	0	5
6	16HSE16*	Professional Practice-I (Communicative English)	HSS	2	0	0	0	0
		<b>Total No. of Credits</b>						<b>25</b>
		<b>No. Of Hrs.</b>		<b>21</b>	<b>2</b>	<b>6</b>	<b>8**</b>	<b>29</b>

\*Mandatory Audit course 2 Hrs per week \*\* Non contact hours

**SECOND SEMESTER CREDIT SCHEME FOR PHYSICS CYCLE  
(COMMON TO ALL PROGRAMS)**

Sl. No	Course Code	Course Title	BoS	CREDIT ALLOCATION				Total Credits
				L	T	P	S	
1	16MA21	Applied Mathematics-II	MAT	3	1	0	1	5
2	16PH22	Engineering Physics (Theory and Practice)	Physics	4	0	1	0	5
3	16CV23	Elements of civil Engineering	CV	4	1	0	0	5
4	16ME24	Computer Aided Engineering Drawing (Theory and Practice)	ME	1	0	2	0	3
5	16EE25	Elements of Electrical Engineering	EE	4	0	0	1	5
6	16HSC26	Constitution of India and Legal Studies for Engineers	HSS	2	0	0	0	2
7	16HSK27*	Kannada*	HSS	1	0	0	0	0
		Total No. of Credits						25
		No. Of Hrs.		19	04	6	8**	29

**SECOND SEMESTER CREDIT SCHEME FOR CHEMISTRY CYCLE  
(COMMON TO ALL PROGRAMS)**

Sl.No	Course Code	Course Title	BoS	CREDIT ALLOCATION				Total Credits
				L	T	P	S	
1	16MA21	Applied Mathematics-II	MAT	3	1	0	1	5
2	16CH22	Engineering Chemistry (Theory and Practice)	Chemistry	4	0	1	0	5
3	16CS23	Programming in C (Theory and Practice)	CS	4	0	1	0	5
4	16EC24	Basics of Electronic Engineering	ECE	4	0	0	1	5
5	16ME25	Basics of Mechanical Engineering (Theory and Practice)	ME	4	0	1	0	5
6	16HSE26*	Professional Practice-I (Communicative English)	HSS	2	0	0	0	0
		<b>Total No. of Credits</b>						<b>25</b>
		<b>No. Of Hrs.</b>		<b>21</b>	<b>2</b>	<b>6</b>	<b>8**</b>	<b>29</b>

\*Mandatory Audit course 2 Hrs per week \*\* Non contact hours

THIRD SEMESTER								
Sl. No.	Course Code	Course Title	BoS	Credit Allocation				Total Credits
				Lecture	Tutorial	Practical	SS (EL)	
1	16MA31C	Applied Mathematics-III	Maths	3	1	0	0	4
2	16EM32B	Engineering Materials	ME	2	0	0	0	2
3	16CH33	Chemical Engineering Thermodynamics	CH	3	1	0	0	4
4	16CH34	Momentum Transfer	CH	3	0	1	1	5
5	16CH35	Process Principles and Calculations	CH	4	0	0	1	5
6	16CH36	Technical Chemistry	Chem	3	0	1	1	5
7	16DMA37*	Bridge Course Mathematics	Maths	2	0	0	0	0
		Total No. of Credits						25
		No. Of Hrs.		20	4	4	12**	28

\*Mandatory Audit course for lateral entry diploma students

\*\*Non contact hours

**1Hr. Theory= 1 credit**

**2Hrs. Practical=1credit**

**2Hrs. Tutorial=1 credit**

**4Hrs. SS (EL) = 1 Credit**

FOURTH SEMESTER								
Sl. No	Course Code	Course Title	BOS	Credit Allocation				Total Credits
				Lecture	Tutorial	Practical	SS (EL)	
1	16MA41C	Applied Mathematics IV	Maths	3	1	0	0	4
2	16ET42	Environmental Technology	BT	2	0	0	0	2
3	16CH43	Process Heat Transfer	CH	3	0	1	1	5
4	16CH44	Particulate Technology	CH	3	0	1	1	5
5	16CH45	Chemical Technology	CH	3	0	0	1	4
6	16CH46	Mass Transfer-I	CH	3	1	0	0	4
7	16HS47	Professional Practice-II (Communication Skills and Professional Ethics)\$	HSS	0	0	0	0	1
8	16DCS48	Bridge Course C Programming *	CSE	2	0	0	0	0
		Total No. of Credits						25
		No. Of Hrs.		19	4	4	12**	27

\*Mandatory Audit course for lateral entry diploma students \*\*Non contact hours

\$ 3 days (18 Hrs) in 3<sup>RD</sup> semester and 3 days (18 Hrs) in 4<sup>th</sup> semester, in the event of student not able to take the regular allotment, may have to complete this credit by attending other branch program.

**1Hr. Theory= 1 credit**

**2Hrs. Practical=1credit**

**2Hrs. Tutorial=1 credit**

**4Hrs. SS(EL) = 1 Credit**

FIFTH SEMESTER								
Sl.No	Course Code	Course Title	BOS	Credit Allocation				Total Credits
				Lecture	Tutorial	Practical	SS (EL)	
1	16HEM51	Foundations of Management and Economics	HSS	3	0	0	0	3
2	16CH52	Chemical Reaction Engineering	CH	3	0	1	1	5
3	16CH53	Mass transfer-II	CH	3	0	1	1	5
4	16CH54	Chemical Plant utilities and safety systems	CH	3	0	0	0	3
5	16CH55	Chemical Process Integration	CH	3	1	0	0	4
6	16CH5AX	Elective A (PE)	CH	3	0	0	1	4
7	16G5BXX	Elective B (OE)		4	0	0	0	4
		Total No. of Credits		22	1	2	3	28
		No. Of Hrs.			2	4	12**	

\*\*Non-contact hours

Elective A (PE)	Elective Title	Elective B (OE)	Elective Title
16CH5A1	Nanotechnology	16G5BXX	Fuel Cell Technology
16CH5A2	Renewable Energy Technologies		
16CH5A3	Applied mathematics for chemical Engineering		
16CH5A4	Piping Engineering Design		

SIXTH SEMESTER								
Sl. No.	Course Code	Course Title	BOS	Credit Allocation				Total Credits
				Lecture	Tutorial	Practical	SS (EL)	
1	16HS161	IPR & Entrepreneurship	HSS	2	0	0	0	2
2	16CH62	Chemical Equipment Design and Drawing	CH	3	0	1	1	5
3	16CH63	Process Simulation and Modeling	CH	3	1	1	0	5
4	16CH64	Heterogeneous Reaction Systems	CH	3	0	0	1	4
5	16CH6CX	Elective C (PE)	CH	3	0	0	1	4
6	16CH6DX	Elective D (PE)	CH	4	0	0	0	4
7	16G6XX	Elective E (O E)	CH	3	0	0	0	3
8	16HS68	Professional Practice-III (Employability Skills and Professional Development of Engineers)	HSS	1	0	0	0	1
		Total No. of Credits		22	1	2	3	28
		No. Of Hrs.		22	2	4	12**	

\$\$ 3 days (18 Hrs) in 5<sup>th</sup> semester and 3 days (18 Hrs) in 6<sup>th</sup> semester \*\*Non-contact hours

Elective C (PE)	Elective Title	Elective D (PE)	Elective Title	Elective E (OE)	Elective Title
16CH6C1	Nanofabrication	16CH6D1	Biochemical Engineering	16G6BXX	Green Technology
16CH6C2	Fuel cell Technology	16CH6D2	Pollution control Engineering		
16CH6C3	Computational methods for chemical Engineers	16CH6D3	Novel separation Techniques		
16CH6C4	Pilot plant and scale up studies	16CH6D4	Polymer Science and Technology		

SEVENTH SEMESTER								
Sl. No	Course Code	Course Title	BOS	Credit Allocation				Total Credits
				Lecture	Tutorial	Practical	SS (EL)	
1	16CH71	Transport Phenomena	CH	4	0	1	0	5
2	16CH72	Process Dynamics and Control	CH	3	1	1	0	5
3	16CH73	Process Engineering Economics	CH	3	0	0	0	3
4	16CH7FX	Elective F (PE)	CH	4	0	0	0	4
5	16CH7GX	Elective G(PE)	CH	4	0	0	0	4
6	16G7HXX	Elective H (OE)	CH	3	0	0	0	3
		Total No. of Credits		21	1	2	0	24
		No. Of Hrs.		21	2	4	0	27

\* EI, EE, CV, EC, ME – 6 hrs. / week Minor Project.

Elective F (PE)	Elective Title	Elective G(PE)	Elective Title	Elective H (OE)	Elective Title
16CH7F1	Nanotechnology applications	16CH7G1	Food Technology	16G7HXX	Industrial Safety and Risk Management
16CH7F2	Biofuel Engineering	16CH7G2	Petrochemical Processing		
16CH7F3	Computational Fluid Dynamics	16CH7G3	Industrial Safety and Risk Management		
16CH7F4	Instrumental Methods of Analysis	16CH7G4	Polymer Composites		
<b>PE - PROFESSIONAL ELECTIVE</b>			<b>OE- OTHER ELECTIVES</b>		

<b>EIGHTH SEMESTER</b>								
<b>Sl. No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>BOS</b>	<b>Credit Allocation</b>				<b>Total Credits</b>
				<b>Lecture</b>	<b>Tutorial</b>	<b>Practical</b>	<b>EL</b>	
1	16CHP81	Major Project	CH	0	0	16	0	16
2	16CHS82	Technical Seminar	CH	0	0	2	0	2
3	16HSS83	Innovation and Social Skills	HSS	0	0	2	0	2
		Total No. of Credits		0	0	20	0	20
		No. Of Hrs.		0	0	40	0	40