III SEMESTER B.E. (CHEMICAL ENGINEERING)

S. No.	Course		Course Title	Teaching Department	Teaching hours/week			Examination				Credits
					Theory/ Lecture	Tutorial	Practical/ Drawing	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
	Type	Code			L	T	P					
1	BSC	MVJ20MCH31	Fourier Series, Transforms, Numerical &Optimization Techniques	Mathematics	2	2	0	3	50	50	100	3
2	PCC	MVJ20CH32	Chemical Process Calculations	Chemical Engineering	2	4	0	3	50	50	100	4
3	PCC	MVJ20CH33	Momentum Transfer	Chemical Engineering	2	2	0	3	50	50	100	3
4	PCC	MVJ20CH34	Mechanical Operations	Chemical Engineering	2	2	0	3	50	50	100	3
5	PCC	MVJ20CH35	Materials Science for Chemical Engineers	Chemical Engineering	3	0	0	3	50	50	100	3
6	PCC	MVJ20CH36	Technical Chemistry	Chemistry	3	0	0	3	50	50	100	3
7	PCC	MVJ20CHL37	Momentum Transfer Lab	Chemical Engineering	0	1	3	3	50	50	100	2
8	PCC	MVJ20CHL38	Technical Chemistry Lab	Chemistry	0	1	3	3	50	50	100	2
9	HSMC	MVJ20SK/BK39	Samskruthika Kannada/Balake Kannada	Humanities	1	0	0	3	50	50	100	1
		MVJ20CPH39	CPH		1	0	0	3	50	50		
10	BSC	MVJ20MATDIP31*	Additional Mathematics - I*	Mathematics	2*	2*	0	3	50	50	100	-
11	UHV	MVJ20UHV310	Universal Human Values - I	Chemical Engineering	1	0	0	3	50	50	100	1
Total					16	12	6	33	550	550	1100	25

Note: BSC: Basic Science, PCC: Professional Core Course, HSMC: Humanity and Social Science & Management Course; MVJ20MATDIP31*- Mandatory non-credit course

IV SEMESTER B.E. (CHEMICAL ENGINEERING)

S. No.	Course		Course Title	Teaching Department	Teaching hours/week			Examination				Credits
					Theory/ Lecture	Tutorial	Practical/ Drawing	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
	Type	Code			L	T	P					
1	BSC	MVJ20MCH41	Complex Analysis, Probability and Sampling Theory	Mathematics	2	2	0	3	50	50	100	3
2	PCC	MVJ20CH42	Chemical Engineering Thermodynamics	Chemical Engineering	3	2	0	3	50	50	100	4
3	PCC	MVJ20CH43	Chemical Reaction Engineering- 1	Chemical Engineering	2	2	0	3	50	50	100	3
4	PCC	MVJ20CH44	Chemical Technology	Chemical Engineering	3	0	0	3	50	50	100	3
5	PCC	MVJ20CH45	Process Heat Transfer	Chemical Engineering	2	2	0	3	50	50	100	3
6	PCC	MVJ20CH46	Instrumental Analysis	Chemical Engineering	3	0	0	3	50	50	100	3
7	PCC	MVJ20CHL47	Chemical Engineering Drawing Lab	Chemical Engineering	0	1	3	3	50	50	100	2
8	PCC	MVJ20CHL48	Mechanical Operations Lab	Chemical Engineering	0	1	3	3	50	50	100	2
9	HSMC	MVJ20SK/BK49	Samskruthika Kannada/ Balake Kannada	Humanities	1	0	0	3	50	50	100	1
		MVJ20CPH49	CPH		1	0	0	3	50	50		
10	BSC	MVJ20MATDIP41*	Additional Mathematics - II*	Mathematics	2*	1*	0	3	50	50	100	-
				Total	16	10	6	30	500	500	1000	24

Note: BSC: Basic Science, PCC: Professional Core Course, HSMC: Humanity and Social Science & Management Course;
MVJ20MATDIP41*- Mandatory non-credit course

V SEMESTER B.E. (CHEMICAL ENGINEERING)

S. No.	Course		Course Title	Teaching Department	Teaching hours/week			Examination				Credits
					Theory/ Lecture	Tutorial	Practical/ Drawing	Duration in Hours	CIE Marks	EE Marks	Total Marks	
	Type	Code			L	T	P					
1	HSMC	MVJ20TEM51	Technical Management & Entrepreneurship	Any Branch/MBA	3	0	0	3	50	50	100	3
2	PCC	MVJ20CH52	Chemical Reaction Engineering-II	Chemical Engineering	3	2	0	3	50	50	100	4
3	PCC	MVJ20CH53	Mass Transfer I	Chemical Engineering	3	2	0	3	50	50	100	4
4	PCC	MVJ20CH54	Industrial Pollution control	Chemical Engineering	3	0	0	3	50	50	100	3
5	PE	MVJ20CH55X	Professional Elective-1	Chemical Engineering	3	0	0	3	50	50	100	3
6	PCC	MVJ20CHL56	Chemical Reaction Engineering Lab	Chemical Engineering	0	0	4	3	50	50	100	2
7	PCC	MVJ20CHL57	Heat Transfer Lab	Chemical Engineering	0	0	4	3	50	50	100	2
8	PCC	MVJ20CHL58	Pollution Control & Instrumental Analysis Lab	Chemical Engineering	0	0	4	3	50	50	100	2
9	HSMC	MVJ20ENV59	Environmental Studies	Civil Engineering	1	0	0	2	50	50	100	1
10	UHV	MVJ20UHV510	Universal Human Values - II	Chemical Engineering	2	0	0	3	50	50	100	2
Total					18	4	12	29	500	500	1000	26

Note: PCC: Professional Core Course, PE: Professional Elective, HSMC: Humanity and Social Science & Management Course

Professional Elective - 1

Course code under MVJ20CH55X	Course Title
MVJ20CH551	Petroleum Refinery Engineering
MVJ20CH552	Colloid and Interfacial Science
MVJ20CH553	Fermentation Technology
MVJ20CH554	Polymer Technology
TVS Course	IoT Stacks

VI SEMESTER B.E (CHEMICAL ENGINEERING)

S. No.	Course		Course Title	Teaching Department	Teaching hours/week			Examination				Credits
					Theory/ Lecture	Tutorial	Practical/ Drawing	Duration in Hours	CIE Marks	EE Marks	Total Marks	
	Type	Code			L	T	P					
1	PCC	MVJ20CH61	Mass Transfer II	Chemical Engineering	3	2	0	3	50	50	100	4
2	PCC	MVJ20CH62	Process Equipment Design &Drawing	Chemical Engineering	3	0	2	4	50	50	100	4
3	PE	MVJ20CH63X	Professional Elective-2	Chemical Engineering	3	0	0	3	50	50	100	3
4	PE	MVJ20CH64X	Professional Elective-3	Chemical Engineering	2	2	0	3	50	50	100	3
5	OE	MVJ20CH65X	Open Elective-1	Chemical Engineering	3	0	0	3	50	50	100	3
6	PCC	MVJ20CHL66	Mass Transfer Lab	Chemical Engineering	0	0	4	3	50	50	100	2
7	PCC	MVJ20CHL67	Computer Applications in Chemical Engineering Laboratory	Chemical Engineering	0	0	4	3	50	50	100	2
8	Proj	MVJ20CHP68	Mini-Project	Chemical Engineering	0	0	4	3	50	50	100	2
Total					14	4	14	25	400	400	800	23

Note: PCC: Professional Core Course, PE: Professional Elective, OE: Open Elective, Proj: Project Work

Professional Elective -2		Professional Elective -3		Open Elective –1	
Course code under MVJ20CH63X	Course Title	Course code under MVJ20CH64X	Course Title	Course code under MVJ20CH65X	Course Title
MVJ20CH631	Petrochemicals	MVJ20CH641	Pilot Plant & Scaleup Studies	MVJ20CH651	Wastewater Treatment
MVJ20CH632	Nano Technology	MVJ20CH642	Process Modelling & Simulation	MVJ20CH652	Composite Materials
MVJ20CH633	Biochemical Engineering	MVJ20CH643	Chemical Process Integration	MVJ20CH653	Introduction to Biotechnology
MVJ20CH634	Process Instrumentation	MVJ20CH644	Piping Engineering & Design	MVJ20CH654	Industrial Safety
TVS Course	Industry 4.O				

VII SEMESTER B.E. (CHEMICAL ENGINEERING)

S. No.	Course		Course Title	Teaching Department	Teaching hours/week			Examination				Credits
					Theory/ Lecture	Tutorial	Practical/ Drawing	Duration in Hours	CIE Marks	EE Marks	Total Marks	
	Type	Code			L	T	P					
1	PCC	MVJ20CH71	Transport Phenomena	Chemical Engineering	3	2	0	3	50	50	100	4
2	PCC	MVJ20CH72	Process Control	Chemical Engineering	3	2	0	3	50	50	100	4
3	PE	MVJ20CH73X	Professional Elective-4	Chemical Engineering	3	0	0	3	50	50	100	3
4	PE	MVJ20CH74X	Professional Elective-5	Chemical Engineering	2	2	0	3	50	50	100	3
5	OE	MVJ20CH75X	Open Elective-2	Chemical Engineering	3	0	0	3	50	50	100	3
6	PCC	MVJ20CHL76	Process Control Lab	Chemical Engineering	0	0	4	3	50	50	100	2
7	PCC	MVJ20CHL77	Chemical Process Simulation Lab	Chemical Engineering	0	0	4	3	50	50	100	2
8	Proj	MVJ20CHP78	Project Phase - I	Chemical Engineering	0	0	4	0	50	0	50	2
				Total	14	6	12	21	400	350	750	23

Note: PCC: Professional Core Course, PE: Professional Elective, OE: Open Elective, Proj: Project Work

Professional Elective -4		Professional Elective -5		Open Elective –2	
Course code under MVJ20CH73X	Course Title	Course code under MVJ20CH74X	Course Title	Course code under MVJ20CH75X	Course Title
MVJ20CH731	Advanced Membrane Separations	MVJ20CH741	Computational Fluid Dynamics	MVJ20CH751	Green Technology
MVJ20CH732	Pharmaceutical Chemistry	MVJ20CH742	Process Engineering Economics	MVJ20CH752	Air Pollution & Control
MVJ20CH733	Novel Separation Techniques	MVJ20CH743	Process Intensification	MVJ20CH753	Nanoscience & Nanotechnology
MVJ20CH734	Nano Fabrication	MVJ20CH744	Multi-Component Distillation	MVJ20CH754	Solid Waste Management
TVS Course	Industrial Automation				

VIII SEMESTER B.E. (CHEMICAL ENGINEERING)

S. No.	Course		Course Title	Teaching Department	Teaching hours/week			Examination				Credits
					Theory/ Lecture	Tutorial	Practical / Dr awing	Duration in Hours	CIE Marks	EE Marks	Total Marks	
	Type	Code			L	T	P					
1	Proj	MVJ20CHP83	Project Phase - II	Chemical Engineering	0	0	16	3	50	50	100	8
2	Int	MVJ20CHI84	Internship	Chemical Engineering	0	0	0	3	50	50	100	3
3	Sem	MVJ20CHS85	Seminar	Chemical Engineering	0	0	2	3	50	50	100	1
4	CRT	MVJ20CHC86	Certification	Industry/Institute	0	0	0	0	0	0	0	2
Total					0	0	**18**	**9**	150	150	**300**	**14**
Note: Proj: Project Work, Int: Internship, Sem: Seminar, CRT: Certification Course (Can be carried out during the program period but same will reflect in the final semester grade card)												