Enclosure- II D

Yogi Divine Society inspired,

Sarvodaya Kelavani Samaj managed,

Shree Manibhai Virani and Smt. Navalben Virani Science College, Rajkot

(Affiliated to Saurashtra University, Rajkot)

Re-Accredited at 'A' Level by NAAC

STAR college Scheme & Status by MST-DBT

UGC- College with Potential for Excellence (CPE)

UGC-DDU KAUSHAL Kendra

GAAA – Highest Grade A-1 by KCG, Government of Gujarat

GPCB-Government of Gujarat approved Environment Audit Center

UGC-Autonomous College

DEPARTMENT OF CHEMISTRY

M.Sc. Pharmaceutical Organic Chemistry

Enclosure- II D

Shree Manibhai Virani and Smt. Navalben Virani Science College, Rajkot (Autonomous)

Affiliated to Saurashtra University, Rajkot

Department of Chemistry

M.Sc. PHARMACEUTICAL ORGANIC CHEMISTRY

OBJECTIVES OF THE PROGRAM: M.Sc. Pharma. Organic Chemistry:

The curriculum is devised to accomplish the following program objectives which students shall accomplish by the end of their post-graduation study.

1. To impart education at advanced level in a more holistic way and to enthuse students for the subject.
2. To provide flexibility in teaching & learning endowed with space for slow & fast learners.
3. To train the students to make them confident and capable of accepting new challenges in the field of Pharmaceutical Organic Chemistry.
4. To update the students about the current status and new developments in the Pharmaceutical Organic Chemistry.
5. To expose the students to research in Chemistry and to promote the students for an independent research career.
6. To make the students aware of the impact of Chemistry on health & environment and to enable them to imbibe the concept of sustainable development.
7. To foster entrepreneurial spirit in the students and to create linkages with various industries/research centres and others to expose the students to the expectations of the industries & the society.

SCHEME OF INSTRUCTION AND EXAMINATIONS

For Students Admitted from A.Y. 2016-2017 & Onwards

Semester-I							
Subject Code	**Course**	**Hrs. of Instruction**	**Exam Duration (Hrs)**	**Max. Marks**			**Credit**
				CIA	**SEE**	**Total**	
Part - I							
16PCHCC01	**Core 1:** Inorganic Chemistry	4	3	30	70	100	4
16PCHCC02	**Core 2:** Organic Reactions, Rearrangements & Reagents	4	3	30	70	100	4
16PCHCC03	**Core 3:** Physical Chemistry	4	3	30	70	100	4
16PCHCC04	**Core 4:** Pharmaceutical Engineering-I	4	3	30	70	100	4
16PCHCC05	**Core Practical-1:** Inorganic, Organic, Physical Chemistry, Pharmaceutical Engineering-I Practical	12	12	80	120	200	6
Part - II							
16PCHCE01	IT Tools for Chemist	1	1	50	-	50	1
		29				**650**	**23**
Part - III							
16PVE01	Value Education	1	-	Remarks			1
		30				**650**	**24**

Semester-II							
Part - I							
16PCHCC06	**Core 5:** Chemistry of Natural Products	4	3	30	70	100	4
16PCHCC07	**Core 6**: Organic Synthesis: A Disconnection Approach	5	3	30	70	100	5
16PCHCC08	**Core 7**: Selected Topics in Pharmaceutical Chemistry	4	3	30	70	100	4
16PCHCC09	**Core 8**: Pharmaceutical Engineering-II	4	3	30	70	100	4
16PCHCC10	**Core Practical-2:** Chemistry of Natural product, Pharmaceutical Chemistry, Pharmaceutical Engineering-II Practical	12	12	80	120	200	6
Part - II							
16PCHCE02	Scientific Writing (Research)	1	-	50	-	50	1
		30				**650**	**24**

Semester-III							
Part - I							
16PCHCC11	**Core 9:** Pharmaceutical Technology	4	3	30	70	100	4
16PCHCC12	**Core 10**: Medicinal Chemistry-I	4	3	30	70	100	4
16PCHCC13	**Core 11**: Stereo Chemistry	4	3	30	70	100	4
16PCHCC14	**Core 12**: Computer Based Test	-	-	50	-	50	1
16PCHDC01/ 16PCHDC02	**DSE – Core -1:** Separation Techniques **OR** Technologies in Chemical Industries	4	3	30	70	100	4
16PCHCC15	**Core Practical-3:** Pharmaceutical Technology, Medicinal Chemistry	10	9	60	90	150	5
16PCHDC03/ 16PCHDC04	**DSE – Core -1 Practical**: Separation Techniques **OR** Technologies in Chemical Industries Practical	2	3	20	30	50	1
-	Dissertation	1	-	Evaluated at the end of Sem-IV			-
Part - II							
16PCHCE03	Pilot Plant Operation	1	-	50	-	50	1
		30				**700**	**24**

Semester-IV							
Part - I							
16PCHCC16	**Core 13**: Heterocyclic Chemistry	5	3	30	70	100	5
16PCHCC17	**Core 14**: Medicinal Chemistry -II	4	3	30	70	100	4
16PCHCC18	**Core 15**: Dissertation	16	-	60	90	150	10
16PCHDC05/ 16PCHDC06	**DSE – Core -2:** Modern Analytical Techniques **OR** Chemical Reaction Engineering	4	3	30	70	100	4
Part - II							
16PCHCE04	Instrumental Training	1	-	50	-	50	1
		30				**500**	**24**
	TOTAL					**2500**	**96**

TOTAL MARKS & CREDIT DISTRIBUTION

Sr. No.	PART	Total Marks	Total Credits
1.	**PART-I: Core & DSE Courses**	2300	91
2.	**PART-II : Competency Enhancement Courses**	200	04
3.	**PART-III : Value Education**	-	01
	TOTAL	**2500**	**96**

DISTRIBUTION OF COURSES

● Part – I: CORE & DSE CORE

CORE COURSES [Theory]

Sr. No.	Semester	Course Code	Course
1.	I	16PCHCC01	Inorganic Chemistry
2.		16PCHCC02	Organic Reactions, Rearrangements & Reagents
3.		16PCHCC03	Physical Chemistry
4.		16PCHCC04	Pharmaceutical Engineering-I
5.	II	16PCHCC06	Chemistry of Natural Products
6.		16PCHCC07	Organic Synthesis: A Disconnection Approach
7.		16PCHCC08	Selected Topics in Pharmaceutical Chemistry
8.		16PCHCC09	Pharmaceutical Engineering-II
9.	III	16PCHCC11	Pharmaceutical Technology
10.		16PCHCC12	Medicinal Chemistry-I
11.		16PCHCC13	Stereo Chemistry
12.		16PCHCC14	Computer Based Test
13.	IV	16PCHCC16	Heterocyclic Chemistry
14.		16PCHCC17	Medicinal Chemistry -II

CORE COURSES [Practical]

Sr. No.	Semester	Course Code	Course
1.	I	16PCHCC05	Inorganic, Organic, Physical Chemistry Practical
2.	II	16PCHCC10	Chemistry of Natural product, Pharmaceutical Chemistry Practical
3.	III	16PCHCC15	Pharmaceutical Technology, Medicinal Chemistry Practical

OTHER CORE COURSES

Sr. No.	Semester	Course code	Course
1	III-IV	16PCHCC18	Dissertation

DSE CORE COURSES [Theory & Practical]

Students are required to opt for any one of the courses offered in each semester respectively.

Sr. No.	Sem.	Theory		Practical	
		Course Code	Course	Course Code	Course
1.	III	16PCHDC01/	Separation Techniques/	16PCHDC03 /	Separation Techniques Practical/
2.		16PCHDC02	Technologies in Chemical Industries	16PCHDC04	Technologies in Chemical Industries Practical
3.	IV	16PCHDC05/	Modern Analytical Techniques/	-	-
4.		16PCHDC06	Chemical Reaction Engineering	-	-

● Part – II: COMPETANCY ENHANCEMENT COURSES

Sr. No.	Semester	Course Code	Course
1.	I	16PCHCE01	IT Tools for Chemist
2.	II	16PCHCE02	Scientific Writing (Research)
3.	III	16PCHCE03	Pilot Plant Operation
4.	IV	16PCHCE04	Instrumental Training

● Part – III: VALUE EDUCATION

Sr. No.	Semester	Course Code	Course
1.	I	16PVE01	Value Education