



PRACTICAL HANDS-ON HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC)

ORGANIZED BY

SHREE NARANJIBHAI LALBHAI PATEL COLLEGE OF PHARMACY, VIDYABHARTI TRUST, UMRAKH, BARDOLI.

REPORT

(5th HPLC BATCH- FEB 2024)



Centre for Continuing Education, GTU CERTIFIED SHORT TERM TRAINING PROGRAMS

Practical Hands-on High-Performance Liquid Chromatography (HPLC)

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INDEX (5th HPLC BATCH- FEB 2024)

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ABOUT GUJARAT TECHNOLOGICAL UNIVERSITY (5th HPLC BATCH- FEB 2024)

1. ABOUT GUJARAT TECHNOLOGICAL UNIVERSITY:

Gujarat Technological University is a premier academic and research institution which has driven new ways of thinking since its 2007 founding, established by the Government of Gujarat vide Gujarat Act No. 20 of 2007. Today, GTU is an intellectual destination that draws inspired scholars to its campus, keeping GTU at the nexus of ideas that challenge and change the world. GTU is a State University with 486 affiliated colleges in its fold operating across the state of Gujarat through its FIVE zones at Ahmedabad, Gandhinagar, Vallabh Vidyanagar, Rajkot and Surat. The University caters to the fields of Engineering, Architecture, Management, Pharmacy and Computer Science. The University has about 4,00,000 students enrolled in a large number of Diploma, Under Graduate, Post Graduate programs along with the robust Doctoral program.

Our education empowers individuals to challenge conventional thinking in pursuit of original ideas. With a commitment to free and open inquiry, our scholars work transforms the way we understand the world, advancing – and creating – fields of study.

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ABOUT THE COLLEGE (5th HPLC BATCH- FEB 2024)

2. ABOUT THE COLLEGE

Shree N. L. Patel College of Pharmacy, Umrakh was established in the year 2004 under the ages of Vidyabharti Trust with main objective of visionary in the mission of quality Pharmacy education. This college is located on the way of Bardoli-Mota road, 3 kilometer away from Bardoli and 34 kilometers away from Surat in a lush green sprawling campus with sufficient infrastructure facilities. The college is approved by the Pharmacy Council of India (PCI), New Delhi and recognized by Government of Gujarat and affiliated to Gujarat Technological University (GTU), Ahmedabad. Accredited by NBA, New Delhi (B. Pharmacy Course upto June 2024).

At this moment, Shree N. L. Patel College of Pharmacy offers B. Pharm and M. Pharm course in Pharmaceutics, Quality Assurance & Pharmacology to input the knowledge and to empower individuals with wisdom to prepare a pharmacist of the future.

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ABOUT COURSE (5th HPLC BATCH- FEB 2024)

3. ABOUT COURSE

GTU certified short term training programs and workshops on – HPLC organized by Shree Naranjibhai Lalbhai Patel college of Pharmacy, Vidyabharti Trust, Umrakh, Bardoli.

Course Coordinator: Dr. Ashok H.

Akabari

Course Duration: 1.5 Months (Total Hrs: 60)

• Course material will be provided from the institute.

ELIGIBILITY:

Fresher / Experience with B.Sc./M.Sc./B. Pharm/M. Pharm/ B.E. Chemical

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SIGNIFICANCE OF COURSE (5th HPLC BATCH- FEB 2024)

4. SIGNIFICANCE OF COURSE

Students who are pursuing their studies or have completed study and want to enter in pharmaceutical industry can join any of our courses as per his/her interest.

- 1. This course is ideal for those who are new to HPLC.
- 2. This course is ideal for those who have experience running HPLC methods and now want to learn how to develop new methods.
- 3. This course is ideal for those who have experience using HPLC and now want to develop their skills further
- 4. This course is ideal for those who have experience developing HPLC methods but want to increase their knowledge to deal with more challenging separations.

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COURSE OBJECTIVE (5th HPLC BATCH- FEB 2024)

5. COURSE OBJECTIVE:

- To learn the basic fundamentals and concepts of HPLC instrument.
- To apply the knowledge of HPLC to analyze drug in bulk and pharmaceutical dosage form.
- To develop a new HPLC method for the analysis of drug in bulk and pharmaceutical dosage form.
- To understand the fundamentals and concepts of Pharmaceutical Method Validation as per ICH guidelines.
- To develop skilled person as per the need of industrial requirement to smoothing the function as well as to save the training period of newly graduate enter to the industries.

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COURSE OUTCOME (5th HPLC BATCH- FEB 2024)

6. COURSE OUTCOME:

After successful completion of 4th batch of short-term course on HPLC every participant are eligible to get certificate and learn following skill.

- 1. Participant learn to Run HPLC Methods: Participant Learn how to set up and run HPLC analysis with full understanding of all the method parameters such as the column, the mobile phase, the instrumentation, and sample preparation, and how to interpret and quantify the results of the analysis.
- **2.** Participant has getting ability to Develop New HPLC Methods: Participant learn how to select appropriate method conditions and perform suitable investigative experiments to obtain a set of method parameters which enables the desired separation for mixtures of analytes.
- **3. Participant acquires the knowledge of Troubleshoot HPLC:** Participant learn how to find solutions for problems encountered when running HPLC analysis by diagnosing symptoms and implementing appropriate preventative measures.
- **4. Participant learns to Develop HPLC Methods for Challenging Separations:** Participant has learn to implement strategies to achieve satisfactory separation for 'complex' samples and use computer modelling to develop robust and fit for purpose HPLC methods.

CCE, GTU CERTIFIED SHORT TERM TRAINING PROGRAMS				
Practical Hands-on High-Performance Liquid Chromatography (HPLC)				
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RESOURCE PERSON PROFILE (5th HPLC BATCH- FEB 2024)				

7. Resource Person Profile

Name of Resource Person	Designation and Address
Dr. Haresh Patel	Sun Pharmaceutical Ltd., Vadodara
Mr. Sarojkumar Somabhai Katara	Industry Resource Person, Spino Biotech
Dr. Shailesh Lohar	Director, Smt. B.N.B. Swaminarayan Pharmacy College, Salvav
Dr. Vishnu Sutariya	Head of Shree Dhanvantary Pharmaceutical Analysis & Research Center, Kim
Dr. Dimal Shah	Professor, Indukaka Ipcowala COllege of Pharmacy, Charotar Vidya Mandal University, V V Nagar
Dr. Usmangani Chhalotiya	Associate Professor, Indukaka Ipcowala College of Pharmacy, Charotar Vidya Mandal University, V V Nagar
Dr. Kashyap Thummar	Assistant Professor, Graduate School of Pharmacy, GTU Gandhinagar
Mr. Ravi Patel	Assistant Professor, PG-Quality Assurance, Graduate School of Pharmacy (GSP), GTU, Gandhinagar
Dr. Ketan V. Shah	Principal, Shree Naranjibhai Lalbhai Patel College of Pharmacy, Umrakh
Dr. Ashok H. Akabari	Associate Professor, Shree Naranjibhai Lalbhai Patel College of Pharmacy, Umrakh
Dr. Jasmina Surati	Associate Professor, Shree Naranjibhai Lalbhai Patel College of Pharmacy, Umrakh
Mr. Sagar Patel	Associate Professor, Vidyadeep Institute of Pharmacy, Anita
Mrs. Divya Solanki	Assistant Professor Shree Naranjibhai Lalbhai Patel College of Pharmacy, Umrakh

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DATE AND SESSION-WISE COURSE CONTENT DELIVERED (5th HPLC BATCH- FEB 2024)

7. DATE AND SESSION-WISE COURSE CONTENT DELIVERED

Theory Class						
Date	Faculty Name (1)	Time Faculty Name (2) Tim				
30/09/2023	Inaugural Function	10.00 to 10.30	Dr Ashok H Akabari	10.30 to 12.00		
01/10/2023	Mr Sagar Patel	10.00 to 11.05	Mr Sagar Patel	11.05 to 12.05		
02/10/2023	Mr Sagar Patel	10.00 to 11.05	Mr Sagar Patel	11.05 to 12.05		
06/10/2023	Dr Jasmina Surati	02.00 to 03.02	Dr Jasmina Surati	03.05 to 04.05		
07/10/2023	02.00 to 04.05	• •	nar, Assistant Professor, Gra Gujarat Technological Univ			
08/10/2023	01.00 to 03.05	Ravi Patel, Assistant Professor, PG-Quality Assurance, Graduate School of Pharmacy (GSP).				
13/10/2023	10.00 to 01.00	Mr. Sarojkumar S Patel, Spino Biotech and Virtual lab Demostration (Industry Resource Person)				
14/10/2023	Dr Ashok H AKabari	01.00 to 02.05 Dr Ashok H AKabari 02.05 to 03.05				
15/10/2023	10.00 to 01.00	Dr Haresh Patel, Sun Pharmaceutical Ltd., Vadodara session on "Tips and Techniques for HPLC"				
20/10/2023	02.00 to 04.05	Development of LC methods: Points to ponder by Dr. Dimal Shah Professor, Indukaka Ipcowala COllege of Pharmacy, Charotar Vidya Mandal University, V V Nagar				
21/10/2023	Dr Jasmina Surati	10.00 to 11.00 Dr Jasmina Surati 11.05 to 12				
27/10/2023	Mrs Divya Solanki	02.00 to 03.00	Mrs Divya Solanki	03.05 to 04.05		
28/10/2023	Dr Ketan V Shah	01.00 to 02.03	Dr Ketan V Shah	02.05 to 03.05		

Date	Practical Class					
Date	Aim of Practical	Faculty Name	TIme			
07/02/24	Method development step for Paracetamol	Dr Ashok Akabari	9.30 am to 4.30 pm			
08/02/24	Validation of HPLC Method	Dr Ashok Akabari	9.30 am to 4.30 pm			
09/02/23	Method development step for					
	simultaneous analysis of two drug	analysis of two drug Dr Jasmina Surati				
	combination					
12/02/24	Method development step for					
	simultaneous analysis of two drug	Dr Jasmina Surati	9.30 am to 4.30 pm			
	combination					
13/02/24	Trouble Shooting for HPLC operation	Dr Vishnu Sutariya	9.30 am to 4.30 pm			
17/03/23	Robustness of HPLC Method development	Mrs Divya Solanki	9.30 am to 4.30 pm			
15/02/2024	External Examination evaluation		Dr Ashok Akabari			
1) 02 2024			Expert 2			

 $\label{lem:condition} \textbf{Practical Hands-on High-Performance Liquid Chromatography} \ (\textbf{HPLC})$

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LIST OF PARTICIPANTS (5th HPLC BATCH- FEB 2024)

9. LIST OF PARTICIPANTS

Enrollment Number	Name of Participant	Email	Mobile Number
CCE00374001	CHAUDHARI BHAVISHA NARENDRA	bhauchaudhari2105@gmail.com	8799582511
CCE00374002	PATEL CHARMI JAYESHBHAI	charmipatel2716@gmail.com	6353688217
CCE00374003	PATEL KHUSHI SANJAYKUMAR	khushispatel.30@gmail.com	9157225378
CCE00374004	PATEL KHUSHI SURENDRA	kp447330@gmail.com	8320045102
CCE00374005	PATEL PAYALKUMARI MUKESHBHAI	payalpatel6758@gmail.com	6356005965
CCE00374006	PATEL RUSHALI KANTILAL	rushalipatel9487@gmail.com	9081851844
CCE00374007	PATEL SNEHALIBEN ARVINDBHAI	snehapatel45974@gmail.com	8141318678
CCE00374008	PATEL VRUSHTI VINODBHAI	vrushti1997@gmail.com	8140560951
CCE00374009	PRAJAPATI DHARTI DHARMESHBHAI	dharti9879@gmail.com	9265793052
CCE00374010	PRAJAPATI DHVANI RAJESHBHAI	dhvani2223250@gmail.com	6353647673
CCE00374011	PRAJAPATI SIDDHI MUKESHBHAI	siddhiprajapati0306@gmil.com	9998328489
CCE00374012	PRIYA RAJKUMAR BHARTI	mahispriya286@gmail.com	8849935135
CCE00374013	SAIYED MUSKAAN ANVARALI	muskaansaiyed17@gmail.com	9327887366
CCE00374014	SOLANKI AVNI KISHORSINH	avnisolanki395@gmail.com	6355578702

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SESSION-WISE ATTENDANCE OF PARTICIPANTS (5th HPLC BATCH- FEB 2024)

10. Session-wise Attendance of Participants

Enrollment Number	Name of Participant	Theory Attendance (In Percentage)	Practical Attendance (In Percentage)
CCE00374001	CHAUDHARI BHAVISHA NARENDRA	100 %	100 %
CCE00374002	PATEL CHARMI JAYESHBHAI	100 %	100 %
CCE00374003	PATEL KHUSHI SANJAYKUMAR	100 %	100 %
CCE00374004	PATEL KHUSHI SURENDRA	100 %	100 %
CCE00374005	PATEL PAYALKUMARI MUKESHBHAI	100 %	100 %
CCE00374006	PATEL RUSHALI KANTILAL	100 %	100 %
CCE00374007	PATEL SNEHALIBEN ARVINDBHAI	100 %	100 %
CCE00374008	PATEL VRUSHTI VINODBHAI	100 %	100 %
CCE00374009	PRAJAPATI DHARTI DHARMESHBHAI	100 %	100 %
CCE00374010	PRAJAPATI DHVANI RAJESHBHAI	100 %	100 %
CCE00374011	PRAJAPATI SIDDHI MUKESHBHAI	100 %	100 %
CCE00374012	PRIYA RAJKUMAR BHARTI	100 %	100 %
CCE00374013	SAIYED MUSKAAN ANVARALI	100 %	100 %
CCE00374014	SOLANKI AVNI KISHORSINH	100 %	100 %

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EVALUATION METHODOLOGY (5th HPLC BATCH- FEB 2024)

11. Evaluation Methodology

- 1. Students have to perform practical on HPLC. (On the basis of practical performance marks is given)
- 2. Students have to develop validation protocol for the analysis of drug by HPLC as per ICH guidelines. (On the basis of practical performance for the development of validation protocol marks is given)
- 3. Presentation by the candidate
- 4. Mock Interview
- 5. After Result of candidates (marks/grades) of Exam and Certificate will be issue by GTU.

CCE, GTU CERTIFIED SHORT TERM TRAINING PROGRAMS Practical Hands-on High-Performance Liquid Chromatography (HPLC) Organized by Shree Naranjibhai Lalbhai Patel College of Pharmacy, Vidyabharti Trust, Umrakh, Bardoli. RESULT AFTER EVALUATION (5th HPLC BATCH- FEB 2024)

12. RESULT AFTER EVALUATION

	Gujarat Techr	nological University	y			
Centre for Continuing Education						
	Marks of Learners (Internal & External)					
Course Name: Practical Hands-on High- Performance Liquid Chromatography (Batch 5)		Exam Date: 15/02/24	Internal Examiner: Dr. Ashok HAkabari Shree N. L. Patel College of Pharmacy, Umrakh			
Course Code: CCE0037		Exam Centre: Shree N. L. PatelCollege of Pharmacy, Umrakh	External Examiner: Dr Shailesh luhar Director, Smt BNB Swaminarayan pharmacy college, Salvav			
Enrollment Number	Name of Learner	Obtained Internal	Obtained External Marks (out of 60)			
CCE00374001	CHAUDHARI BHAVISHA	36	52			
CCE00374002	PATEL CHARMI JAYESHBHAI	35	54			
CCE00374003	PATEL KHUSHI	34	53			
CCE00374004	PATEL KHUSHI SURENDRA	35	54			
CCE00374005	PATEL PAYALKUMARI	36	54			
CCE00374006	PATEL RUSHALI KANTILAL	33	52			
CCE00374007	PATEL SNEHALIBEN	36	55			
CCE00374008	PATEL VRUSHTI VINODBHAI	34	54			
CCE00374009	PRAJAPATI DHARTI	35	53			
CCE00374010	PRAJAPATI DHVANI	35	53			
CCE00374011	PRAJAPATI SIDDHI	35	53			
CCE00374012	PRIYA RAJKUMAR BHARTI	34	52			
CCE00374013	SAIYED MUSKAAN	34	53			
CCE00374014	SOLANKI AVNI KISHORSINH	34	52			
Signature:	Ashok Akabari	Signature:				
Name:	Dr. Ashok H Akabari	Name:	Dr. Shailesh Lohar			
Inte	ernal Examiner	Exte	rnal Examiner			

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FEEDBACK FROM PARTICIPANTS (5th HPLC BATCH- FEB 2024)

13. FEEDBACK FROM PARTICIPANTS

					How was	How was
	How was the				the lecture	the lecture
	lecture of Mr.		How was the	How was	of Mr. Ravi	of Dr Dimal
	Sarojkumar S		lecture of Mr	the lecture	Patel on	Shah on
	Patel on	How was the	Sagar Patel on	of Dr Ashok	Importance	Developmen
	Complete step	lecture of Dr	Validation	H Akabari	of Physico-	t of LC
	by step tutorial	Jasmina	parameter for	on HPLC	chemical	methods:
	of HPLC	Surati on	HPLC method	instrumentat	parameters?	Points to
Timestamp	software?	HPLC?	development?	ion?		ponder
16/02/2024						
15:15:25	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
16/02/2024						
15:16:17	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
16/02/2024						
15:16:20	Good	Good	Good	Excellent	Excellent	Excellent
16/02/2024						
15:16:05	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
16/02/2024						
15:17:35	Excellent	Excellent	Excellent	Good	Excellent	Excellent
16/02/2024						
15:17:36	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
16/02/2024						
15:17:42	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
16/02/2024						
15:17:50	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
16/02/2024						
15:17:52	Excellent	Good	Good	Excellent	Excellent	Good
16/02/2024						
15:18:23	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
16/02/2024						
15:18:52	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
16/02/2024						
15:19:22	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
16/02/2024						
15:22:14	Good	Excellent	Excellent	Excellent	Good	Excellent
16/02/2024						
15:28:47	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent

How was the lecture of Dr Ketan V Shah on HPLC method development?	How was the practical session of Dr Vishnu Sutariya on Basic Step for HPLC operation?	How was the lecture of Mrs Divya Solanki on HPLC method development?	How was the lecture of Dr Haresh Patel on Tips and Techniques for HPI C?	How was the overall experience of HPLC course?
Excellent	Good	Excellent	Excellent	Excellent
Excellent	Excellent	Excellent	Excellent	Excellent
Excellent	Excellent	Excellent	Excellent	Excellent
Excellent	Excellent	Excellent	Excellent	Excellent
Excellent	Excellent	Good	Good	Good
Excellent	Excellent	Excellent	Excellent	Excellent
Excellent	Excellent	Excellent	Excellent	Excellent
Excellent	Excellent	Excellent	Excellent	Excellent
Excellent	Excellent	Good	Good	Excellent
Excellent	Excellent	Excellent	Excellent	Excellent
Excellent	Excellent	Excellent	Excellent	Excellent
Excellent	Excellent	Excellent	Excellent	Excellent
Excellent	Excellent	Excellent	Excellent	Excellent
Excellent	Excellent	Excellent	Excellent	Excellent

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PHOTOGRAPHS OF COURSE (5th HPLC BATCH- FEB 2024)

14. Few Photographs of Course Content Delivery





