



# Panipat Institute of Engineering and Technology

Approved by A.I.C.T.E. & Affiliated to Kurukshetra University, Kurukshetra  
70, MILESTONE, G. T. ROAD, SAMALKHA, PANIPAT-132103, HARYANA  
Phone no-0180-2569700 Fax-0180-2569800, E-mail – info@piet.co.in, Web – www.piet.co.in

## Department of Pharmacy

Ref. No. : PIET/Pharma/ICT/2022/001

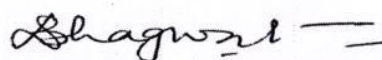
Dated: 05-01-2022

### NOTICE

#### “HPTLC FOR QUALITY CONTROL OF HERBALS ”

Department of Pharmacy will organize an educational and practical based online workshop entitled “**HPTLC FOR QUALITY CONTROL OF HERBALS**” (Live Demo) on 06<sup>th</sup>-01-2022 at 11:00 AM onwards in Department of Pharmacy, PIET in collaboration with the ACHROM ENTERPRISES (I) PVT. LTD. **Dr. Manjusha Phanse** will be the **Keynote Speaker** who will give the briefly explain the instrumentation and techniques on HPTLC.

Sr. No.	Name	Designation	Contact No.
1.	Dr. Shiva Tushir	Organizing Secretary, Assistant Professor, DOP, PIET	9671878036



**Dr. Deepak P. Bhagwat**

**Principal**

**Department of Pharmacy**

**CC:**

1. All HODs
2. Notice Board



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## POSTER OF THE WORKSHOP



**PANIPAT INSTITUTE OF ENGINEERING & TECHNOLOGY**  
Approved by AICTE, New Delhi & Affiliated to Kurukshetra University, Kurukshetra



**INSTITUTION'S INNOVATION COUNCIL**  
(Established in 1983)



**ANCHROM**  
HPTLC specialists since 1978

### DEPARTMENT OF PHARMACY, PIET

In collaboration with **ANCHROM ENTERPRISES(I) PVT.LTD**  
Organize virtual workshop

### HPTLC FOR QUALITY CONTROL OF HERBALS (LIVE DEMO)

**SPEAKER:**  
Dr. Manjusha Phanse, Project Leader, ANCHROM

**CONVENOR:**  
Dr. Deepak, P. Bhagwat, Principal

**ORGANIZING SECRETARY:**  
Dr. Shiva, Assistant Professor

 **6<sup>th</sup> January 2022**  **11 AM**

Participants will receive  
E-Certificates  
**Contact detail-09671878036**

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## Report of Online Workshop on:

### “HPTLC FOR QUALITY CONTROL OF HERBALS”

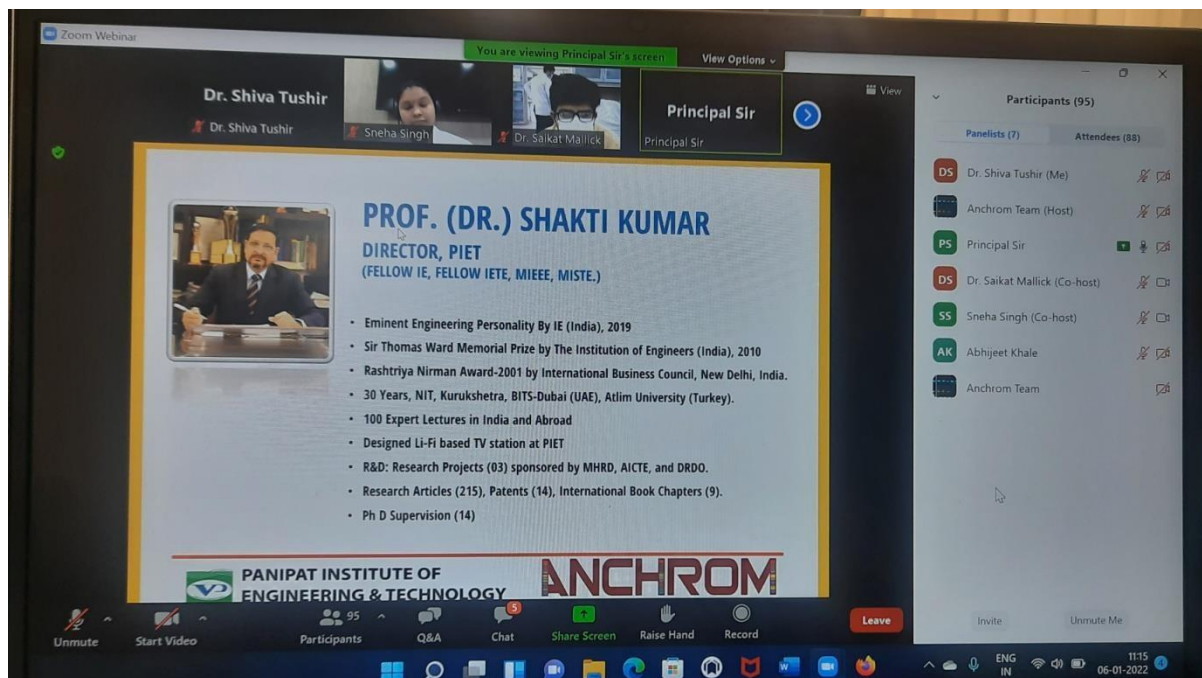
Event Details	
<b>Title of the Event</b>	HPTLC for Quality Control of Herbals
<b>Date of the Event</b>	06 <sup>th</sup> .01.2022
<b>Timings</b>	11:00 AM onwards
<b>Venue</b>	Department of Pharmacy
<b>No. of Participants Attended</b>	88 Students + 5 Faculties
<b>Mode</b>	Online
<b>Resource Persons</b>	Dr. Manjusha Phanse, Project leader , ANCHROM Contact No. 9833830898 Dr. Saikat, Assistant Manager, ANCHROM Contact No. 9833830898
<b>Organizing Secretary</b>	Dr. Shiva, Assistant Professor
<b>Convener</b>	Dr. Deepak P. Bhagwat, Principal, DOP

Department of Pharmacy at Panipat Institute of Engineering and Technology, Samalkha, Haryana organized an Educational and Practical based online Workshop entitled "**HPTLC FOR QUALITY CONTROL OF HERBALS**"(**Live Demo**) in collaboration with **ANCHROM ENTERPRISES (I) PVT. LTD.** on 06<sup>th</sup> January, 2022 at 11:00 AM onwards. This online workshop aimed to provide knowledge on applications and hands-on-training on technique of HPTLC.

Dr. Shiva, Assistant Professor, from the Department of Pharmacy at PIET was the Organising Secretary of the event has delivered a welcome address of the Esteemed Speaker

**Dr. Manjusha Phanse**, working as the Project leader in the Anchrom acknowledged students about why HPTLC is the best choice for analysis of herbal samples or formulations which is prepared from herbal ingredients. She has also acknowledged the students with the development time for the reduced cost based time analysis and another dimensions of HPTLC. She focused on the HPTLC Fingerprinting studies for the identification of herbal formulation with reference material and confounded material, identification, quantification and validation studies of phlyomakers. With her team support **Dr. Saikat, Assistant Manager**, started the live demonstration of instrumentation and technique who shared his tremendous knowledge and practical based experience on HPTLC. The live workshop was

fruitful for the students to learn more about the herbal as well as the other drug molecule identification and analytical parameters after that the session was concluded with the vote of thanks by the Dr. Deepak P. Bhagwat, Principal, Pharmacy in the kind presence of Prof. (Dr.) Shakti kumar, Director, PIET.



**Pic. 1. Welcome Address of Prof. (Dr.) Shakti Kumar**

## Components of method development

- Establish aim of analysis
- Literature survey
- Obtain standards and samples
- Sample preparation
- Analysis conditions standardization
- Adopting USP protocol
- Validation
- Documentation, authorisation



**Pic.2. Dr. Saikat talks about the Components of HPTLC**

# The Process

## Stationary phase options

Stationary Phases	Type of sample
Silica gel	All class of compounds. Used >95% time
Aluminium Oxide	Basic compounds (alkaloids, amines, etc.), steroids, terpenes, aromatic and aliphatic hydrocarbons
Amino phase	Sugars, carboxylic acids, sulfonic acids, phenols, purines, pyrimidines, nucleotides
Cyano phase	All classes of compounds, PHB esters
Diol Phases	All classes of compounds, steroids, hormones
RP C-2, C-8, C-18 phases	Polar substances, separation according to lipophilic properties and chain length, steroids, tetracyclins, phthalates, barbiturates, nucleo bases, aminophenols
Polyamide	Phenols, flavonoids, nitro compounds
Silica gel impregnated with silver nitrate	Poly cyclic aromatic hydrocarbons (PAHs), number of diol groups (boric acid), number of isolated double bonds

Pic.3. Live Demo Highlights of the software used and the sample testings in HPTLC

The screenshot displays the 'Track Assignment' window in the HPTLC software. It features a table with columns for Tr. Vial ID, Description, Vol. (µl), Position, Type, and SST. The table lists various compounds and their corresponding vial IDs and positions. A 'Plate Layout' section is visible on the left, showing a grid of wells. The software interface includes a top menu bar and a right-side panel with a video feed of the presenter.

Tr. Vial ID	Description	Vol. (µl)	Position	Type	SST
1 R1	Rutin	5.0	5.0 E1	Reference	<input checked="" type="checkbox"/>
+ R2	Hyperoside	5.0	5.0 E2	Reference	<input checked="" type="checkbox"/>
+ R3	Caffeic acid	5.0	5.0 E3	Reference	<input checked="" type="checkbox"/>
2 R11	Equisetum arvense	5.0	5.0 E4	Sample	<input type="checkbox"/>
3 R12	Equisetum telmateia	5.0	5.0 E5	Sample	<input type="checkbox"/>
4 S11	Equisetum arvense	5.0	5.0 E6	Sample	<input type="checkbox"/>
5 S12	Equisetum palustre	5.0	5.0 E7	Sample	<input type="checkbox"/>
6 S13	Equisetum arvense + Equisetum palustre	5.0	5.0 E8	Sample	<input type="checkbox"/>
7 R1	Rutin	5.0	5.0 E1	Reference	<input checked="" type="checkbox"/>
+ R2	Hyperoside	5.0	5.0 E2	Reference	<input checked="" type="checkbox"/>
+ R3	Caffeic acid	5.0	5.0 E3	Reference	<input checked="" type="checkbox"/>
8 S18	Equisetum arvense + Equisetum palustre	5.0	5.0 E9	Sample	<input type="checkbox"/>
9 S4	Equisetum palustre HRS	5.0	5.0 E10	Reference	<input type="checkbox"/>
10 S15	Equisetum telmateia	5.0	5.0 E11	Sample	<input type="checkbox"/>
11 S16	Equisetum hyemale	5.0	5.0 C11	Sample	<input type="checkbox"/>
12 S17	Equisetum ramosissimum	5.0	5.0 D11	Sample	<input type="checkbox"/>
13 S19	Equisetum arvense + Equisetum telmateia	5.0	5.0 B11	Sample	<input type="checkbox"/>
14 R1	Rutin	5.0	5.0 E1	Reference	<input checked="" type="checkbox"/>
+ R2	Hyperoside	5.0	5.0 E2	Reference	<input checked="" type="checkbox"/>
+ R3	Caffeic acid	5.0	5.0 E3	Reference	<input type="checkbox"/>
15					<input type="checkbox"/>

Pic.4. Live Demo Highlights of the software used and the sample testings in HPTLC

The screenshot shows the 'Data' view of the HPTLC software. It displays a developed TLC plate with handwritten text 'S12, S13, Caffeoyl' at the top. Two spots are marked with arrows and labeled with their Rf values: Rf: 0.2 and Rf: 0.21. The software interface includes a top menu bar, a left-side panel with 'Data Type' and 'Overview' sections, and a right-side panel with a video feed of the presenter.

Pic.5. Live Demo Highlights of the software used and the sample testing in HPTLC



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Date: 06-01-2022

## LIST OF ATTENDEES/ PARTICIPANTS HPTLC

SR. NO.	ROLL.NO.	STUDENT NAME
1	PIET-BPH-2001	AAYUSHI DARA
2	PIET-BPH-2002	ABHISHEK CHAUHAN
3	PIET-BPH-2003	ADITI
4	PIET-BPH-2005	AMAN
5	PIET-BPH-2006	ANJANI
6	PIET-BPH-2010	ASHISH KUMAR
7	PIET-BPH-2011	AYUSH
8	PIET-BPH-2012	BHOPENDER
9	PIET-BPH-2013	CHANDAN PRAKASH
10	PIET-BPH-2014	CHIRAG GOYAL
11	PIET-BPH-2015	DEEAPANSHU MUNJAL
12	PIET-BPH-2016	DEEPANSHI
13	PIET-BPH-2017	GOURAV JANGRA
14	PIET-BPH-2018	GOURAV ROHILLA
15	PIET-BPH-2019	GUNJAN
16	PIET-BPH-2020	HARJAP SINGH
17	PIET-BPH-2021	HARSH
18	PIET-BPH-2023	ISHAN KUMAR
19	PIET-BPH-2024	ISHAN VASHISHT
20	PIET-BPH-2025	KRISH MALHOTRA
21	PIET-BPH-2026	KUNAL
22	PIET-BPH-2027	LAKSHAY
23	PIET-BPH-2028	MANIK MAKANI
24	PIET-BPH-2029	MOHIT
25	PIET-BPH-2031	NISHA GAHLYAN
26	PIET-BPH-2032	NITIN
27	PIET-BPH-2033	PAARTH
28	PIET-BPH-2034	PRAGATI KUMARI
29	PIET-BPH-2038	PRINCE
30	PIET-BPH-2039	PUSHKAR KAPOOR
31	PIET-BPH-2040	RAHUL
32	PIET-BPH-2042	RAMAN JUNEJA
33	PIET-BPH-2043	RISHIKA
34	PIET-BPH-2045	RITIK KUMAR
35	PIET-BPH-2046	ROHIT
36	PIET-BPH-2047	SAGAR
37	PIET-BPH-2049	SAKSHAM
38	PIET-BPH-2050	SHAVEZ
39	PIET-BPH-2051	SHRUTI DAHIYA
40	PIET-BPH-2053	SHUBHAM NALWA
41	PIET-BPH-2054	SIMRAN
42	PIET-BPH-2055	SOURAV

*Shiv*  
06/01/2022

43	PIET-BPH-2056	SUDHANSHU CHAUHAN
44	PIET-BPH-2057	SURAJ
45	PIET-BPH-2058	TANISH
46	PIET-BPH-2059	TANNU GARG
47	PIET-BPH-2060	TUSHAR KHURANA
<del>48</del>	PIET-BPH-2061	VIKAS KUMAR
49	PIET-BPH-2062	VINAY KUMAR
50	PIET-BPH-2063	VINIT
51	PIET-BPH-2064	YASH KASHYAP
52	PIET-BPH-2065	YOGESH
53	PIET-BPH-2066	YUVRAJ
54	PIET-BPHL-2170	ANUPAMA CHOUDHARY
55	PIET-BPHL-2171	LAVANYA BATRA
56	PIET-BPHL-2172	SHIVAM MISHRA
57	PIET-BPHL-2173	SHUBHAM SINGLA
58	PIET-BPHL-2175	VIKAS
59	PIET-BPH-2158	SWEETY
60	PIET-BPH-2140	PRAGATI KUSHWA
61	PIET-BPH-2141	RAGHAV BANSAL
62	PIET-BPH-2142	RAHUL
63	PIET-BPH-2143	RAVI SHARMA
64	PIET-BPH-2144	RITIKA
65	PIET-BPH-2146	RONIT TANWAR
<del>66</del>	PIET-BPH-2147	SAHIL
67	PIET-BPH-2148	SAHIL
68	PIET-BPH-2149	SANIYA
69	PIET-BPH-2150	SHIVAM
70	PIET-BPH-2151	SHIVAM SAINI
71	PIET-BPH-2153	SHUBHAM
72	PIET-BPH-2154	SIMRAN
73	PIET-BPH-2159	TAMANNA
74	PIET-BPH-2160	TUN DEVI
75	PIET-BPH-2161	TUSHAR
76	PIET-BPH-2162	VIKESH
77	PIET-BPH-2165	AKSHIT SHARMA
78	PIET-BPH-2166	AASHISH
79	PIET-BPH-2167	RAGHAV
80	PIET-BPH-2169	ANMOL
81	PIET-BPH-2170	SARITA SINGH
82	PIET-BPH-2171	KOMAL
83	PIET-BPH-2173	RADHIKA
84	PIET-BPH-2174	SIDHARTH DESWAL
85	PIET-BPH-2112	AYUSH SAINI
86	PIET-BPH-2114	DIKSHA
87	PIET-BPH-2115	DIKSHANT
88	PIET-BPH-2116	GOURAV KUMAR

Shivya.  
06/01/22.