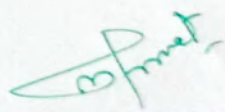


1.2.2 Number of Add on /Certificate programs offered during the year

1.2.3 Number of students enrolled in Certificate/ Add-on programs as against the total number of students during the year

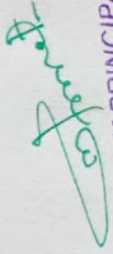
Year -1

| Name of Add on /Certificate programs offered | Course Code (if any) | Year of offering | No. of times offered during the same year | Duration of course | Number of students enrolled in the year | Number of Students completing the course in the year |
|---|-----------------------------|-------------------------|--|---------------------------|--|---|
| Structural Identification of Small Organic Compounds using spectroscopic method | NO | 2023 | 1 | 15 days | 50 | 50 |
| Quality control assessment dosage forms | NO | 2023 | 1 | 15 days | 50 | 50 |


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Number of Add on /Certificate programs offered during the year
1.2.2.1: How many Add on /Certificate programs are added during the year.
Data requirement for year:

| Year | |
|--------|---|
| 2023 | |
| Number | 2 |


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V.P.O Kathog, Tehsil Jawalamukhi, Distt. Kangra, H.P. (176031)

Ref. No.


Date: 01/02/2023

Circular

This is to inform all the students of LIPH that the Institute is organising Fifteen days add on certificate course on the **‘Structural identification of small organic compounds using spectroscopic methods.’** starting from 08/02/2023. The eminent speakers for the course are:

- I. Dr. Amardeep Ankalji
- II. Mr. Ankit Kumar
- III. Ms. Arti Rana
- IV. Ms. Ankita

The student will receive certificate on completion of course. The interested students should submit their names to class coordinator before 05/02/2023. For further detail about the course contact to Dr. Pravin kumar (H.O.D Dept. of Pharmaceuticals), LIPH.


Principal

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Ref. No.


Date:.....

Add on Certificate Course

Title of Course: Structural identification of small organic compounds using spectroscopic methods.

Syllabus

- ❖ Introduction to spectroscopic methods – Nuclear magnetic resonance spectroscopy (NMR), spin $\frac{1}{2}$ nuclei, ^1H and ^{13}C -NMR spectroscopy, FT-NMR method. Chemical shifts, spin spin coupling, spin-spin splitting pattern recognition for structure elucidation, coupling constants.
- ❖ ^1H NMR spectroscopy, Second order effects in NMR spectrum, AB and AA'BB', ABC spin systems. Solving simple structure elucidation problems with ^1H and ^{13}C NMR spectroscopy
- ❖ Stereochemistry determination using NMR techniques. Study of dynamic processes by NMR spectroscopy – examples from organic and organometallic chemistry
- ❖ Mass Spectrometry – various ionization methods – EI, CI, ESI and MALDI methods, fragmentation patterns of simple organic molecules, Use of HRMS.
- ❖ Mass spectrometry – fragmentation patterns of simple organic molecules (continued), solving structure elucidation problems using mass spectrometry.
- ❖ Infra-red spectroscopy – basic concepts, experimental methods, functional group analysis and identification using IR spectroscopy, structural effects on vibrational frequency
- ❖ UV-Vis spectroscopy, electronic transitions in organic molecules, selection rules, application of Beer Lambert law, qualitative and quantitative analysis by UV-Vis spectroscopy.
- ❖ Solving structure elucidation problems using multiple spectroscopic data (NMR, MS, IR and UV-Vis).


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Ref. No.

Date: 27/02/2023

Report on Add on Certificate Course

Program/Activity Name: Structural identification of small organic compounds using spectroscopic methods.

Program/Activity Type: Add on Certificate Course

Duration of the activity: 15 Days (30 hours)

Number of student Participants: 50

Mode of activity Performed: offline

Date: 08-02-2023 to 24-02-2023

Mentor's:

- I. Dr. Amardeep Ankalji (H.O.D, Dept. of Pharmaceutical Chemistry, LIPh)
- II. Mr. Ankit Kumar (Assistant Professor, Dept. of Pharmaceutics, LIPh)
- III. Ms. Arti Rana (Assistant Professor, Dept. of Pharmaceutics, LIPh)
- IV. Ms. Ankita (Assistant Professor, Dept. of Pharmaceutics, LIPh)

The institute has various Add-On Certificate Courses which have been started with the aim of enhancing and enriching the students learning experience in the College and to bring about a more holistic approach to learning as well as to cultivate and develop the necessary skills for various vocations and careers.

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Ref. No.

Date: 01/02/2023


Circular

This is to inform all the students of LIPH that the Institute is organising Fifteen days add on certificate course on the '**Quality control assessment of dosage forms.**' starting from 08/02/2023. The eminent speakers for the course are:

- I. Dr. Pravin Kumar
- II. Dr. Shammy Jindal
- III. Mr. Tarun Kumar
- IV. Mr. Dev Raj

The student will receive certificate on completion of course. The interested students should submit their names to class coordinator before 05/02/2023.

For further detail about the course contact to Dr. Pravin Kumar (H.O.D Dept. of Pharmaceutics), LIPH.


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Ref. No.

Date:.....

Add on Certificate Course

Title of Course: Quality control assessment of dosage forms.

Syllabus

- ❖ Qualification and Validation.
- ❖ Quality Assurance and Quality Control- Possible Problems and Fixes.
- ❖ Types of Quality Testing (models, types, procedures, etc.)
- ❖ Quality Testing Tools and Techniques.
- ❖ Quality Certifications, Govt. Regulations, ICH Guidelines, and ISO 9000
- ❖ Setting up Quality Control Checks, Inspections, and Audits
- ❖ Documentation, Good Documentation Practices, SOPs, Protocols, etc.
- ❖ Addressing Internal and External Quality Issues ,Complying with Govt. regulations
- ❖ Computer System Validation (CSV).
- ❖ Laboratory demonstration of QAQC practical's and Instrument Handling.

so front
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Ref. No.

Date: 27/02/2023

Report on Add on Certificate Course

Program/Activity Name: Quality control assessment of dosage forms.

Program/Activity Type: Add on Certificate Course

Duration of the activity: 15 Days (30 hours)

Number of student Participants: 50

Mode of activity Performed: offline

Date: 08-02-2023 to 24-02-2023

Mentor's:

- I. Dr. Pravin Kumar (Associate Professor, Dept. of Pharmaceutics, LIPh)
- II. Dr. Shamy Jindal (Associate Professor, Dept. of Pharmaceutics, LIPh)
- III. Mr. Tarun Kumar (Assistant Professor, Dept. of Pharmaceutics, LIPh)
- IV. Mr. Dev Raj (Assistant Professor, Dept. of Pharmaceutics, LIPh)

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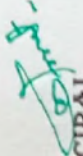
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Ref. No.

Date: 27/02/2023

DETAILS OF SUMMARY REPORTS OF ADD ON CERTIFICATE COURSES

| Sr. No. | Course Name | Academic Year | Date | Class/Sem |
|---------|---|---------------|-----------------------|---|
| 1. | Structural identification of small organic compounds using spectroscopic methods. | 2022-2023 | 08/02/2023-24/02/2023 | M. Pharm 8 th sem. |
| 2. | Quality control assessment of dosage forms | 2022-2023 | 08/02/2023-24/02/2023 | 4 th sem 6 th sem. |


PRINCIPAL

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