



**Central University of Himachal Pradesh**

(ESTABLISHED UNDER CENTRAL UNIVERSITIES ACT 2009)

Dharamshala, Himachal Pradesh-176215



# **NAAC Criterion-I**

## **Key Indicator – 1.3.4**

**2) Completion certificate from the organization where research project was completed**

## **1.3.4 Evidences**



**Central University of Himachal Pradesh, Dharamshala,  
Kangra**



**Central University of Himachal Pradesh**

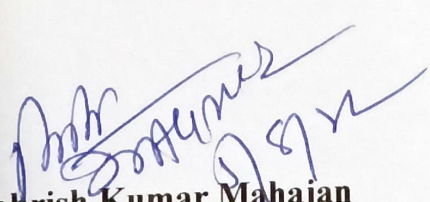
(Established under Central Universities Act 2009)

Dharamshala, Distt. Kangra, Himachal Pradesh- 176215

## **SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES**

### **CERTIFICATE**

On the basis of declaration submitted by **Anjali**, student of **M.Sc. (Environmental Sciences)**, I hereby certify that the dissertation entitled “**Site Characterization of Chandigarh using Geophysical Techniques**” which is submitted to Department of Environmental Sciences, School of Earth and Environmental Sciences, Central University of Himachal Pradesh, Dharamshala, Himachal Pradesh, in partial fulfilment of requirement for the award of the degree of **M.Sc. (Environmental Sciences)**, is a contribution with existing knowledge and faithful record of work carried out by him under my guidance and supervision. To the best of my knowledge this work has not been submitted in part or full for any Degree or Diploma to this University or elsewhere.

  
**Professor Ambrish Kumar Mahajan**

Dean & Head, Department of Environmental Sciences

School of Earth and Environmental Sciences

Central University of Himachal Pradesh



**CENTRAL UNIVERSITY OF  
HIMACHAL PRADESH  
TEMPORARY ACADEMIC BLOCK –  
SHAHPUR, DISTT. - KANGRA,  
HIMACHAL PRADESH - 176206, INDIA**

**Dr. Dilbag Singh Rana**  
(Assistant Professor)  
Department of Environmental Sciences

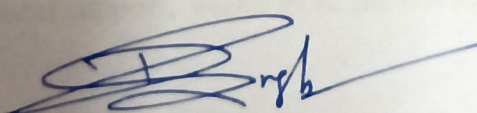
**Mobile: +91-7018042007**  
**Email: dilbagrana@hpcu.ac.in**

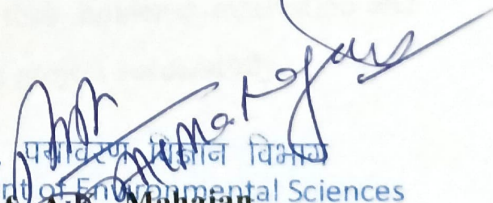
**CERTIFICATE**

This is to certify that the work embodied in this dissertation entitled “Recent trends in carbon sequestration methods: A review” submitted for the award of the degree of **Masters of Science** to the Central University of Himachal Pradesh, Temporary Academic Block - Shahpur, Distt. - Kangra, Himachal Pradesh - 176206, India was carried out by **Ms. Anjana Choudhary (CUHP20ENV03)** under my guidance and supervision. This work is original and has not been submitted for any other degree or diploma of any other university or institute. The assistance and help received during the course of the investigation have been duly acknowledged.

Place: **Shahpur**  
Date: **04/08/2022**

**Anjana**  
**Anjana Choudhary**  
(CUHP20ENV03)

  
**Dr. Dilbag Singh Rana**  
(Research Supervisor)

  
विभागाध्यक्ष, पर्यावरण विज्ञान विभाग  
Head, Department of Environmental Sciences  
**Prof. A.K. Mahajan**  
(Head, Department of Environmental Sciences)  
Central University of Himachal Pradesh  
अस्थायी शैक्षणिक खण्ड/Temporary Academic Block  
शाहपुर, कांगड़ा (हि.प्र.)/Shahpur, Kangra (H.P.)-176206



हिमाचल प्रदेश केंद्रीय विश्वविद्यालय  
(शाहपुर परिसर, डाक घर शाहपुर, जिला काँगड़ा - १७६२०६)  
Central University of Himachal Pradesh



Shahpur Campus, P.O. – Shahpur, District – Kangra, Himachal Pradesh-176206

## SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES

### Certificate

It is to certified that I, **Anuj Kaushal**, Msc. Environmental Science (Semester-IV) Department of Environmental Science, Central University of Himachal Pradesh during the **session 2020-2022** has completed his dissertation work (**ENV 575**) entitled *“Landslide Monitoring using Piezometers and Inclinator: A case study of Soldha Landslide, Kangra, Himachal Pradesh”* under the supervision of **Dr. Anurag Linda**, Department of Environmental Sciences, Central University of Himachal Pradesh. I declare to the best of my knowledge that no part of my Dissertation was earlier submitted for the award of research degree of any University.

*Anuj Kaushal*  
03/08/2022

**Anuj Kaushal**  
(CUHP20ENV04)  
(Candidate)

*Anurag Linda*  
5<sup>th</sup> Aug 2022

**Dr. Anurag Linda**  
(Project Supervisor)

*Prof. A.K. Mahajan*  
**Prof. A.K. Mahajan**  
(Dean)

# Central University of Himachal Pradesh

Dharamshala- 176215

Central University of Himachal Pradesh (Established under Central Universities Act 2009) Dharamshala, Distt. Kangra, Himachal Pradesh- 176215 SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES

## Certificate

It is to certified that **Mr. Arwaz khan**, MSc. Environmental Science (SemesterIV) Department of Environmental Science, Central University of Himachal Pradesh during the session 2020-2022 has completed her dissertation work (ENV 575) entitled "Evaluation of satellite dataset products over Upper Indus basin in North West Himalayan region" under my supervision. I declare to the best of my knowledge that no part of this Dissertation was earlier submitted for the award of research degree of any University.

Arwaz khan

Arwaz khan

(CUHP20ENV05)

(Candidate)

Dr. Ankit Tandon

Project supervisor

अधिष्ठाता, पृथ्वी विज्ञान और पर्यावरण विज्ञान स्कूल  
Dean, School of Earth and Environmental Sciences  
हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय  
Central University of Himachal Pradesh  
अस्थायी अध्यक्ष  
शाहवा

Dr. Ankit Mahajan  
(Dean)



**Central University of Himachal Pradesh**

(Established under Central Universities Act 2009)

Dharamshala, Distt. Kangra, Himachal Pradesh- 176215

**SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES**

**CERTIFICATE**

On the basis of declaration submitted by **Ashish Singh**, student of **M.Sc. (Environmental Sciences)**, I hereby certify that the dissertation entitled “**HYBRID COMBINATION OF IBUPROFEN AND CANNABINOIDS**” which is submitted to Department of Environmental Sciences, School of Earth and Environmental Sciences, Central University of Himachal Pradesh, Dharamshala, Himachal Pradesh, in partial fulfilment of requirement for the award of the degree of **M.Sc. (Environmental Sciences)**, is a contribution with existing knowledge and faithful record of work carried out by him under my guidance and supervision. To the best of my knowledge this work has not been submitted in part or full for any Degree or Diploma to this University or elsewhere.

विभागाध्यक्ष, पर्यावरण विज्ञान विभाग  
Head, Department of Environmental Sciences  
हिमाचल प्रदेश केंद्रीय विश्वविद्यालय  
Central University of Himachal Pradesh  
अस्थायी शैक्षणिक ब्लॉक / Temporary Academic Block  
शाहपुर, कांगड़ा (हि.प्र.) / Shahpur, Kangra (H.P.)-176206  
**Prof. Deepak Pant**  
(supervisor)

**Professor A.K.Mahajan**

Dean & Head, Department of Environmental science  
School of Earth and Environmental Sciences  
Central University of Himachal Pradesh



**CENTRAL UNIVERSITY OF  
HIMACHAL PRADESH**  
ACADEMIC BLOCK SHAHPUR, DISTT. –  
KANGRA, HIMACHAL PRADESH – 176206,  
INDIA

**Prof. Deepak Pant**  
Department of  
Environmental Sciences

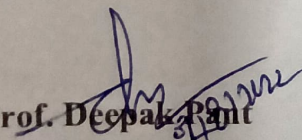
Mobile: +919816639032  
Email: dpant2003@yahoo.com

**CERTIFICATE**

This is to certify that the work embodied in this thesis entitled “**An effort towards re-fabrication of waste lithium ion (Li ion) mobile phone batteries**” submitted for the award of degree of **Masters of Science** to Central University of Himachal Pradesh, Academic Block – Shahpur, Distt. – Kangra, Himachal Pradesh – 176206, India was carried out by **Ms. Barkha Devi (CUHP20ENV07)** under my guidance and supervision. This work is original and has not been submitted for any other degree or diploma of any other university or institute. The assistance and help received during the course of investigation has been duly acknowledged.

Place: *CUHP Shahpur*  
Date: *04.10.8.2022*

  
**Barkha Devi**  
(CUHP20ENV07)

  
**Prof. Deepak Pant**  
(Research Supervisor)  
(Head, Department of Environmental science)

  
अधिष्ठाता, पृथ्वी विज्ञान एवं पर्यावरण विज्ञान स्कूल  
Dean, School of Earth & Environmental Sciences  
हिमाचल प्रदेश केंद्रीय विश्वविद्यालय  
**Prof. A.K. Mahajan**  
(Dean)

अधिष्ठाता, पृथ्वी विज्ञान एवं पर्यावरण विज्ञान स्कूल  
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Central University of Himachal Pradesh  
अस्थायी  
शाहपुर, कांगड़ा जिला, हिमाचल प्रदेश - 176206



हिमाचल प्रदेश केंद्रीय विश्वविद्यालय  
Central University of Himachal Pradesh  
(Established under Central Universities Act 2009)  
Dharamshala, Distt. Kangra, Himachal Pradesh- 176215

## SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES

### Certificate

It is to certified that **Mr. Devansh Gupta**, M.Sc. Environmental Science (Semester-IV) Department of Environmental Science, Central University of Himachal Pradesh during the session 2020-2022, has completed his dissertation work (ENV 575) entitled “**Recent scenario of Solid waste management strategies and Environmental Legislation in India: An Overview**” under my supervision. I declare to the best of my knowledge that no part of this Dissertation was earlier submitted for the award of research degree of any University.

**DEVANSH GUPTA**  
(CUHP20ENV08)  
(Candidate)

**Dr. Dilbag Singh Rana**  
(Project supervisor)

**Prof. A.K. Mahajan**  
अधिष्ठाता, पृथ्वी विज्ञान एवं पर्यावरण विज्ञान स्कूल  
Dean, School of Earth and Environmental Sciences  
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Central University of Himachal Pradesh  
अस्थायी शैक्षणिक ब्लॉक/Temporary Academic Block  
शाहपुर, कांगड़ा (हि.प्र.)/Shahpur, Kangra (H.P.)-176206





**CENTRAL UNIVERSITY OF  
HIMACHAL PRADESH  
TEMPORARY ACADEMIC BLOCK –  
SHAHPUR, DISTT. - KANGRA,  
HIMACHAL PRADESH - 176206, INDIA**

**Dr. Ankit Tandon**  
(Assistant Professor)  
Department of Environmental Sciences

Mobile: +91-9816444530

**CERTIFICATE**

This is to certify that the work embodied in this dissertation entitled “**Detection and Quantification of Organophosphate Pesticides in dust samples over Kangra valley in Himachal Pradesh**” submitted for the award of the degree of **Masters of Science** to the Central University of Himachal Pradesh, Temporary Academic Block - Shahpur, Distt. - Kangra, Himachal Pradesh - 176206, India was carried out by **Miss Jyoti Bala (CUHP20ENV10)** under my guidance and supervision. This work is original and has not been submitted for any other degree or diploma of any other university or institute. The assistance and help received during the course of the investigation have been duly acknowledged.

Place: *Shahpur*  
Date: *03/08/2022*

*Jyoti Bala.*

**JYOTI BALA**  
(CUHP20ENV10)

*Ankit Tandon*  
*03/08/2022*  
**Dr. Ankit Tandon**  
(Research Supervisor)

*Prof. A. K. Mahajan*  
विभागाध्यक्ष, पर्यावरण विभाग  
Head, Department of Environmental Sciences  
(Head, Department of Environmental Sciences)  
Central University of Himachal Pradesh  
अस्थायी शैक्षणिक खण्ड/Temporary Academic Block  
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हिमाचल प्रदेश केंद्रीय विश्वविद्यालय  
Central University of Himachal Pradesh  
(Established under Central Universities Act 2009)  
Dharamshala, Distt. Kangra, Himachal Pradesh- 176215

**SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES**

**Certificate**

It is certified that **Ms. Jyoti Thakur** M.Sc. Environmental Science (Semester - IV) Department of Environmental Science, Central University of Himachal Pradesh during the session 2020-2022 has completed his dissertation work (ENV 575a) entitled “**Performance evaluation of different rainfall products with ground-based observations by Indian Meteorological Department over vulnerable Beas and Sutlej River Basins**” under my supervision. I declare to the best of my knowledge that no part of this Dissertation was earlier submitted for the award of research degree of any University.

*Jyoti*

**Jyoti Thakur**  
(CUHP20ENV11)  
(Candidate)

*Ankit Tandon*  
3rd August 2022

**Dr. Ankit Tandon**  
(Project Supervisor)

*Prof. A.K. Mahajan*

**Prof. A.K. Mahajan**  
Head, Department of Environmental Sciences  
हिमाचल प्रदेश केंद्रीय विश्वविद्यालय  
Central University of Himachal Pradesh  
Department of Earth and Environmental Sciences  
शाहपुर, कांगड़ा (हि.प्र.)/Shahpur, Kangra (H.P.)-176206



# हिमाचल प्रदेश केंद्रीय विश्वविद्यालय

(2009 केन्द्रीय विश्वविद्यालयों अधिनियम के तहत स्थापित)

धर्मशाला, जिला काँगड़ा-176,215

**Central University of Himachal Pradesh**

(Established under Central Universities Act 2009)

Dharamshala, District Kangra, Himachal Pradesh-176215

## SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES

### Certificate

It is to certified that I, **Kajal Thakur**, Msc. Environmental Sciences (Semester-IV) Department of Environmental Sciences, Central University of Himachal Pradesh during the session 2020-2022 has completed her dissertation work (ENV 575a) entitled “*Suitability of groundwater flow model in water resource management in Kangra region, Himachal Pradesh*” under the supervision of **Dr. Anurag Linda**, Department of Environmental Sciences, Central University of Himachal Pradesh. I declare to the best of my knowledge that no part of my Dissertation was earlier submitted for the award of research degree of any University.

*Kajal Thakur*  
03/08/2022

**KAJAL THAKUR**  
(CUHP20ENV12)  
(Candidate)

*Anurag Linda*  
3rd Aug 2022

**DR. ANURAG LINDA**  
(Project Supervisor)

*Prof. A.K. Mahajan*

**PROF. A.K. MAHAJAN**  
(Dean, School of Earth & Environmental Sciences  
(Dean, Department of Environmental Sciences)  
Central University of Himachal Pradesh  
अस्थायी शैक्षणिक ब्लॉक - 176206  
शाहपूर, कांगड़ा जिला, हिमाचल प्रदेश-176206



**CENTRAL UNIVERSITY OF  
HIMACHAL PRADESH**  
**TEMPORARY ACADEMIC BLOCK –**  
**SHAHPUR, DISTT. - KANGRA,**  
**HIMACHAL PRADESH - 176206, INDIA**

**Dr. Dilbag Singh Rana**  
**(Assistant Professor)**  
**Department of Environmental Sciences**

**Mobile: +91-7018042007**  
**Email: dilbagrana@hpcu.ac.in**

**CERTIFICATE**

This is to certify that the work embodied in this dissertation entitled “**Review on atmospheric ammonia: it’s sources, spatial variations and effects on environment**” submitted for the award of the degree of **Masters of Science** to the Central University of Himachal Pradesh, Temporary Academic Block - Shahpur, Distt. - Kangra, Himachal Pradesh - 176206, India was carried out by **Ms. Kanchan (CUHP20ENV13)** under my guidance and supervision. This work is original and has not been submitted for any other degree or diploma of any other university or institute. The assistance and help received during the course of the investigation have been duly acknowledged.

**Place:** *Shahpur*  
**Date:** *4. / Aug. 2022*

**Kanchan**  
**(CUHP20ENV13)**

*Kanchan*

*[Signature]*

**Dr. Dilbag Singh Rana**  
**(Research Supervisor)**

*[Signature]*  
विभागाध्यक्ष, पर्यावरण विज्ञान विभाग  
Head, Department of Environmental Sciences  
हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय  
Central University of Himachal Pradesh  
**(Head, Department of Environmental Sciences)**  
अस्थायी शैक्षणिक खण्ड/Temporary Academic Block  
शाहपुर, कांगड़ा (हि.प्र.)/Shahpur, Kangra (H.P.)-176206



## हिमाचल प्रदेश केंद्रीय विश्वविद्यालय

### Central University of Himachal Pradesh

(Established under Central Universities Act 2009)

Dharamshala, Distt. Kangra, Himachal Pradesh- 176215

#### SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES

#### CERTIFICATE

It is certified that **Miss. Kapila Devi** (Roll No.CUHP20ENV14) student of M.Sc. Department of Environmental Sciences, Central University of Himachal Pradesh completed her project work entitled **“EVALUATION OF DIFFERENT SATELLITE DATASETS FOR RAINFALL OVER RAVI AND CHENAB RIVER BASINS IN NORTH-WESTERN HIMALAYAN REGION”** under my supervision. Her work is authentic and is not published anywhere.

*Kapila*

**Kapila Devi**

**(CUHP20ENV14)**

**(Candidate)**

*Dr. Ankit Tandon*

**(Project supervisor)**

*Prof. A.K. Mahajan*  
अधिष्ठाता, पृथ्वी विज्ञान विद्यालय  
Dean, School of Earth & Environmental Sciences  
हिमाचल प्रदेश केंद्रीय विश्वविद्यालय  
Central University of Himachal Pradesh  
अस्थायी शैक्षणिक ब्लॉक / Temporary Academic Block  
शाहपुरा, जिला कांगड़ा, हिमाचल प्रदेश - 176215



**CENTRAL UNIVERSITY OF  
HIMACHAL PRADESH  
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**Dr. Dilbag Singh Rana**  
(Assistant Professor)  
Department of Environmental Sciences

Mobile: +91-7018042007  
Email: dilbagrana@hpcu.ac.in

**CERTIFICATE**

This is to certify that the work embodied in this dissertation entitled “**Synthesis and Characterization of Sulfur Functionalized Reduced Graphene Oxide from the Waste Husk of *Cocos nucifera***” submitted for the award of the degree of **Masters of Science** to the Central University of Himachal Pradesh, Temporary Academic Block - Shahpur, Distt. - Kangra, Himachal Pradesh - 176206, India was carried out by **Ms. Neha (CUHP20ENV16)** under my guidance and supervision. This work is original and has not been submitted for any other degree or diploma of any other university or institute. The assistance and help received during the course of the investigation have been duly acknowledged.

Place: *TAB, Shahpur*  
Date: *4/8.1.2022*

*Neha*  
Neha  
(CUHP20ENV16)

*[Signature]*  
04/08/2022  
Dr. Dilbag Singh Rana  
(Research Supervisor)

*[Signature]*  
हिमाचल प्रदेश, पर्यावरण विभाग  
Head, Department of Environmental Sciences  
(Head, Department of Environmental Sciences)  
Central University of Himachal Pradesh  
अस्थायी शैक्षणिक खण्ड/Temporary Academic Block  
शाहपुर, कांगड़ा (हि.प्र.)/Shahpur, Kangra (H.P.)-176206



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Central University of Himachal Pradesh  
(Established under Central Universities Act 2009)  
Dharamshala, Distt. Kangra, Himachal Pradesh- 176215

## SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES

### Certificate

It is to certified that **Mr. Nitesh Kumar**, M.Sc. Environmental Science (Semester -IV) Department of Environmental Science, Central University of Himachal Pradesh during the session 2020-2022 has completed his dissertation work (ENV 575a) entitled “**A Review of Different Ancient and Modern Methods for Spring Rejuvenation: A Case Study of Salol Region of Kangra District**” under my supervision. I declare to the best of my knowledge that no part of this Dissertation was earlier submitted for the award of research degree of any University.

*Nitesh Kumar*  
03/08/2022  
**Nitesh Kumar**  
(CUHP20ENV17)  
(Candidate)

*Anurag Linda*  
3rd Aug 2022  
**Dr. Anurag Linda**  
(Project Supervisor)

*Prof. A.K. Mahajan*  
**Prof. A.K. Mahajan**  
Dean, School of Earth & Environmental Sciences  
(Department of Environmental Sciences)  
Central University of Himachal Pradesh  
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शाहपुर, कांगड़ा (हि.प्र.) - 176207



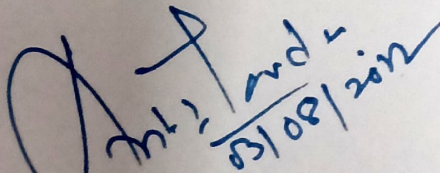
# Central University of Himachal Pradesh

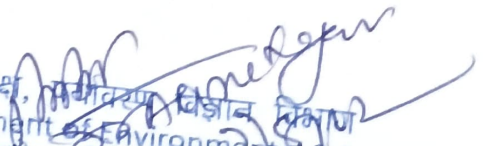
(Established under Central Universities Act 2009)  
Temporary Academic Block-Shahpur,  
Distt. Kangra, Himachal Pradesh- 176206

## SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES

### CERTIFICATE

On the basis of declaration submitted by **Prachi**, student of **M.Sc. (Environmental Sciences)**, I hereby certify that the dissertation entitled “**A Preliminary Investigation of Long -Term Variability in Surface Ozone, its Precursor and Meteorological Parameters over Punjab region, India**” which is submitted to Department of Environmental Sciences, School of Earth and Environmental Sciences, Central University of Himachal Pradesh, Dharamshala, Himachal Pradesh, in partial fulfilment of requirement for the award of the degree of **M.Sc. (Environmental Sciences)**, is a contribution with existing knowledge and faithful record of work carried out by him under my guidance and supervision. To the best of my knowledge this work has not been submitted in part or full for any Degree or Diploma to this University or elsewhere.

  
**Dr. Ankit Tandon**  
(Research supervisor)

  
विभागध्यक्ष, पर्यावरण विज्ञान विभाग  
Head, Department of Environmental Sciences  
हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय  
Professor Ambrish Kumar Mahajan  
Central University of Himachal Pradesh  
(Head, Department of Environmental Sciences)  
शाहपुर, कांगड़ा (हि.प्र.)/Temporary Academic Block  
Shahpur, Kangra (H.P.)-176206





**CENTRAL UNIVERSITY OF  
HIMACHAL PRADESH  
TEMPORARY ACADEMIC BLOCK –  
SHAHPUR, DISTT. - KANGRA,  
HIMACHAL PRADESH - 176206, INDIA**

**Dr. Ankit Tandon**  
(Assistant Professor)  
Department of Environmental Sciences

Mobile: +91-9816444530

**CERTIFICATE**

This is to certify that the work embodied in this dissertation entitled “A meta -analysis based study on PM<sub>10</sub> associated water-soluble ionic species over India” submitted for the award of the degree of **Masters of Science** to the Central University of Himachal Pradesh, Temporary Academic Block - Shahpur, Distt. - Kangra, Himachal Pradesh - 176206, India was carried out by **Miss Pushpa Nishad (CUHP20ENV20)** under my guidance and supervision. This work is original and has not been submitted for any other degree or diploma of any other university or institute. The assistance and help received during the course of the investigation have been duly acknowledged.

Place: *Shahpur*  
Date: *03/08/2022*

*Pushpa*  
**Pushpa Nishad**  
(CUHP20ENV20)

*Ankit Tandon*  
*03/08/2022*  
**Dr. Ankit Tandon**  
(Research Supervisor)

*Prof. A.K. Mahajan*  
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(Head, Department of Environmental Sciences)  
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शाहपुर, कांगड़ा (हि.प्र.)/Shahpur, Kangra (H.P.)-176206



# Central University of Himachal Pradesh

(Established under Central Universities Act 2009)

Dharamshala, Distt. Kangra, Himachal Pradesh- 176215

## SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES

### CERTIFICATE

On the basis of declaration submitted by **Rupali Sharma**, student of **M.Sc. (Environmental Sciences)**, I hereby certify that the dissertation entitled “**A meta-analysis-based study on concentration(s), source(s), and toxicity potential of particulate bound PAHs over India**” which is submitted to Department of Environmental Sciences, School of Earth and Environmental Sciences, Central University of Himachal Pradesh, Dharamshala, Himachal Pradesh, in partial fulfilment of requirement for the award of the degree of **M.Sc. (Environmental Sciences)**, is a contribution with existing knowledge and faithful record of work carried out by him under my guidance and supervision. To the best of my knowledge this work has not been submitted in part or full for any Degree or Diploma to this University or elsewhere.

Place: *Shahpur*

Date: *3/08/2022*

*Rupali Sharma*

**Rupali Sharma**

**(CUHP20ENV21)**

*Ankit Tandon*  
*03/08/2022*  
**Dr. Ankit Tandon**  
**(Research Supervisor)**

*Prof. A.K. Mahajan*  
विभागाध्यक्ष, पर्यावरण विज्ञान विभाग  
Head, Department of Environmental Sciences  
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**Prof. A.K. Mahajan**  
**(Dean & Head, Department of Environmental Science)**  
शहीपुर, कांगड़ा (हि.प्र.)/Shahpur, Kangra (H.P.)-176206

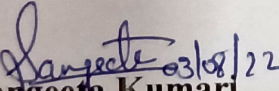


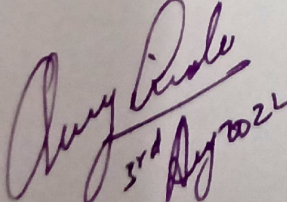
हिमाचल प्रदेश केंद्रीय विश्वविद्यालय  
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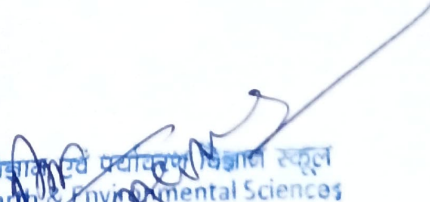
**SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES**

**Certificate**

It is to certified that **Ms. Sangeeta Kumari**, M.Sc. Environmental Science (Semester -IV) Department of Environmental Science, Central University of Himachal Pradesh during the session 2020-2022 has completed his dissertation work (ENV 575) entitled “**Assessment of physical parameters of spring water of Salol region, District Kangra**” under my supervision. I declare to the best of my knowledge that no part of this Dissertation was earlier submitted for the award of research degree of any University.

  
**Sangeeta Kumari**  
(CUHP20ENV22)  
(Candidate)

  
**Dr. Anurag Linda**  
(Project supervisor)

  
अधिष्ठाता, पृथ्वी विज्ञान एवं पर्यावरण विज्ञान स्कूल  
Dean, School of Earth & Environmental Sciences  
हिमाचल प्रदेश केंद्रीय विश्वविद्यालय  
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**Prof. A.K. Mahajan**  
(Dean)



**CENTRAL UNIVERSITY OF  
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ACADEMIC BLOCK – SHAHPUR,  
DISTT. – KANGRA,  
HIMACHAL PRADESH – 176206, INDIA

**Dr. Deepak Pant**  
Department of Earth and  
Environmental Sciences

**CERTIFICATE**

This is to certify that the work embodied in this thesis entitled “**Interaction of stinging Nettle with its allopathic counterpart for Prostate, Diuretic and Anti-inflammatory activity**)” submitted for the award of the degree of Masters of Science to the Central University of Himachal Pradesh, Academic Block – Shahpur, Distt. – Kangra, Himachal Pradesh – 176206, India was carried out by Mrs. **Shabnam (CUHP20ENV23)** under my guidance and supervision. This work is original and has not been submitted for any other degree or diploma of any other university or institute. The assistance and help received during the course of the investigation have been duly acknowledged.

Place: *TAB, Shahpur*  
Date: *3.1.8.2022*

*Shabnam*  
Shabnam  
(CUHP20ENV23)

*Dr. Deepak Pant*  
Dr. Deepak Pant  
(Project Supervisor)

*Prof. A.K. Mahajan*  
विभागाध्यक्ष, पर्यावरण विज्ञान विभाग  
Head, Department of Environmental Sciences  
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Central University of Himachal Pradesh  
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**SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCE**

**CERTIFICATE**

It is certified that **Sheikh Hesnin Hedayet** (Roll No. CUHP20ENV24) student of M.Sc. Department of Environmental Sciences, Central University of Himachal Pradesh completed her project work entitled “**HYBRID COMBINATION OF TERPENES FROM CANNABIS WITH ANTDEPRASSANT DRUGS (ALPRAZOLAM AND ESCITALOPRAM)**” under my supervision. Her work is authentic and is not published anywhere.

*Hesnina Hedayet*  
**SHEIKH HESNIN HEDAYET**  
**(CUHP19ENV29)**  
(Candidate)

*Dr. Deepak Pant*  
**Dr. Deepak Pant**  
(Project Supervisor)

*Dr. A.K. Mahajan*  
अधिष्ठाता, पृथ्वी विज्ञान एवं पर्यावरण विज्ञान स्कूल  
Dean, School of Earth & Environmental Sciences  
हिमाचल प्रदेश केंद्रीय विश्वविद्यालय  
Central University of Himachal Pradesh  
(Dean)  
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**SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES**

**Certificate**

It is to certified that Shivani, M.Sc. Environmental Science (Semester -IV) Department of Environmental Science, Central University of Himachal Pradesh during the session 2020-2022 has completed his dissertation work (ENV 575) entitled “**Estimation of Snow Cover Distribution in Ghaj water shed using Sentinel 2A Satellite Data**” under my supervision. I declare to the best of my knowledge that no part of this Dissertation was earlier submitted for the award of research degree of any University.

*Shivani*  
03/08/22  
**SHIVANI**  
**(CUHP20ENV25)**  
(Candidate)

*Anurag Linda*  
5th Aug 2022  
**Dr. Anurag Linda**  
(Project supervisor)

*Prof. A.K. Mahajan*  
**Prof. A.K. Mahajan**  
(Dean)  
अधिष्ठाता, पृथ्वी विज्ञान एवं पर्यावरण विज्ञान विभाग  
Dean, School of Earth & Environmental Sciences  
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Central University of Himachal Pradesh  
अस्थायी  
शाहवाला, कांगड़ा जिला, हिमाचल प्रदेश - 176215



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KANGRA, HIMACHAL PRADESH - 176206,  
INDIA

**Dr. Dilbag Singh Rana**  
(Assistant Professor)  
Department of Environmental Sciences

Mobile: +91-7018042007  
Email: dilbagrana@bpcu.ac.in

**CERTIFICATE**

This is to certify that the work embodied in this dissertation entitled "**Recent trends in plastic waste management: A review**" submitted for the award of the degree of **Masters of Science** to the Central University of Himachal Pradesh, Academic Block - Shahpur, Distt. - Kangra, Himachal Pradesh - 176206, India was carried out by **Ms. Shiwangi Rathour (CUHP20ENV26)** under my guidance and supervision. This work is original and has not been submitted for any other degree or diploma of any other university or institute. The assistance and help received during the course of the investigation have been duly acknowledged.

Place:

Date: 10/04/2022.

**Dr. Dilbag Singh Rana**  
(Research Supervisor)

**Shiwangi Rathour**  
Shiwangi Rathour  
(CUHP20ENV26)

**Prof. A.K. Mahajan**  
(Head, Department of Environmental Sciences)  
विभागाध्यक्ष, पर्यावरण विज्ञान विभाग  
Head, Department of Environmental Sciences  
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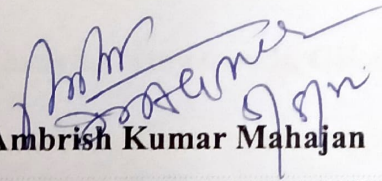
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## SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES

### CERTIFICATE

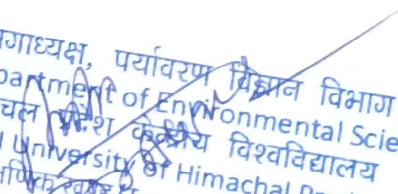
On the basis of declaration submitted by **Shubham Diwakar**, student of **M.Sc. (Environmental Sciences)**, I hereby certify that the dissertation entitled “**Site Characterization of Chandigarh using Geophysical Techniques**” which is submitted to Department of Environmental Sciences, School of Earth and Environmental Sciences, Central University of Himachal Pradesh, Dharamshala, Himachal Pradesh, in partial fulfilment of requirement for the award of the degree of **M.Sc. (Environmental Sciences)**, is a contribution with existing knowledge and faithful record of work carried out by him under my guidance and supervision. To the best of my knowledge this work has not been submitted in part or full for any Degree or Diploma to this University or elsewhere.

  
**Professor Ambrish Kumar Mahajan**

Dean & Head, Department of Environmental Sciences

School of Earth and Environmental Sciences

Central University of Himachal Pradesh

  
विभागाध्यक्ष, पर्यावरण विज्ञान विभाग  
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## Central University of Himachal Pradesh

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Dharamshala, Distt. Kangra, Himachal Pradesh- 176215

### SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES

#### CERTIFICATE

On the basis of declaration submitted by **SHYNA MANHAS**, student of **M.Sc. (Environmental Sciences)**, I hereby certify that the dissertation entitled “**Site Characterization of CUHP New Campus – Jadrangal using ambient noise measurement and MSOR**” which is submitted to Department of Environmental Sciences, School of Earth and Environmental Sciences, Central University of Himachal Pradesh, Dharamshala, Himachal Pradesh, in partial fulfillment of requirement for the award of the degree of **M.Sc. (Environmental Sciences)**, is a contribution with existing knowledge and faithful record of work carried out by her under my guidance and supervision. To the best of my knowledge this work has not been submitted in part or full for any Degree or Diploma to this University or elsewhere.

**Shyna Manhas**

(CUHP20ENV28)

**Prof. Ambrish Kumar Mahajan**

Professor & Head, Department of Environmental Sciences

School of Earth and Environmental Sciences

Central University of Himachal Pradesh

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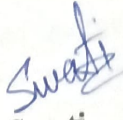
**Dr. Dilbag Singh Rana**  
Assistant Professor  
Department of Environmental Sciences

Mobile: +91-7018042007

Email: [dilbagrana@hpcu.ac.in](mailto:dilbagrana@hpcu.ac.in)

**CERTIFICATE**

This is to certify that the work embodied in this thesis entitled "**Assessment of Ground Water Quality in Sudher Village near Municipal Waste Disposal Site at Dharamshala, (Himachal Pradesh)**" submitted for the award of degree of Masters of Science to Central University of Himachal Pradesh, Academic Block - Shahpur, Distt. - Kangra, Himachal Pradesh - 176206, India was carried out by **Ms. Swati (CUHP20ENV29)** under my guidance and supervision. This work is original and has not been submitted for any other degree or diploma of any other university or institute. The assistance and help received during the course of investigation has been duly acknowledged.

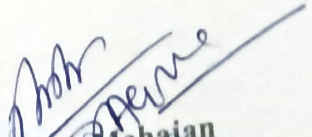
  
Swati  
(CUHP20ENV29)

Place:

Date: 08. / 08. / 2022



**Dr. Dilbag Singh Rana**  
(Project Supervisor)

  
विभागाध्यक्ष, पर्यावरण विज्ञान विभाग  
Head, Department of Environmental Sciences  
(Dean & Head)  
हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय  
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Department of Earth and Environmental Sciences  
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**SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES**

**CERTIFICATE**

It is certified that, **Miss. Swati Sharma** (Roll No. CUHP20ENV30) student of M.Sc. Department of Environmental Sciences, Central University of Himachal Pradesh completed his project work entitled “**Site characterisation of Chandigarh using Geological Techniques**” under my supervision. Her work is authentic and is not published anywhere.

**Prof. Ambrish Kumar Mahajan**

**(professor & dean of department)**



Central University of Himachal Pradesh  
(Established under Central Universities Act 2009)

Dharamshala, Distt. Kangra, Himachal Pradesh- 176215

**SCHOOL OF EARTH AND ENVIRONMENTAL SCIENCES**

**CERTIFICATE**

On the basis of declaration submitted by **Tanisha kumari**, student of **M.Sc. (Environmental Sciences)**, I hereby certify that the dissertation entitled “**Site Characterization Of CUHP New campus – Jadrangal Using Ambient Noise Measurement and MSOR**” which is submitted to Department of Environmental Sciences, School of Earth and Environmental Sciences, Central University of Himachal Pradesh, Dharamshala, Himachal Pradesh, in partial fulfilment of requirement for the award of the degree of **M.Sc. (Environmental Sciences)**, is a contribution with existing knowledge and faithful record of work carried out by him under my guidance and supervision. To the best of my knowledge this work has not been submitted in part or full for any Degree or Diploma to this University or elsewhere.

*Tanisha kumari*

**Tanisha kumari**

*Prof. Ambrish Kumar Mahajan*

**Prof. Ambrish Kumar Mahajan**

Professor & Head, Department of Environmental Sciences

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