

PROFESSIONAL HANDS ON TRAINING  
PROGRAMME ON

# 'REMOTE SENSING & GIS WITH APPLICATION OF ADVANCED STATISTICAL SOFTWARE'

22 May to 10 July'2023  
Duration: 2 Months

## Programme Guide

ORGANISED BY :



**School of Remote Sensing and GIS,  
Centre for Environmental Research  
Education and Development (CERED),  
Friends of Environment, India**

*In Association With :*



**Department of Geography  
Hiralal Bhakat College  
Nalhati, Birbhum**

Registration Link : <https://forms.gle/gBZz4eTk3G3wLCJh7>

# Topics of Discussion

## Remote Sensing (Arc & Q GIS)

1. Fundamentals of GIS, Data structure, overlay analysis, datum, projection, geo-referencing
2. Introduction to Arc GIS and Q GIS interface
3. Geo-referencing and mosaic
4. Gdb, feature class and shape file generation and digitization and attribute table
5. Data attachment and thematic mapping
6. Layout preparation
7. Landuse change map
8. AHP model and preparation of potential/vulnerable /susceptible zones
9. Extraction of data from raster



## Data analysis using SPSS & GNU PSPP:

1. Introduction to SPSS and GNU PSPP
2. Principle component analysis using SPSS and GNU PSPP
3. Factor mapping
4. Cluster analysis and dendrogram
5. Contour map and DEM preparation using Google Earth
6. Lineament density and buffer analysis



# About the Course

This Professional Hands-On Training Program on Remote Sensing with Advanced Statistical Software Platform is a comprehensive training program that provides participants with practical experience and knowledge of remote sensing and advanced statistical software platforms. The program is designed for professionals and students interested in pursuing a career in remote sensing and GIS. The training program will commence from 15th April 2023 and will continue till June 2023, with a duration of one month.

The training program is organised by the School of Remote Sensing and GIS, Centre for Environmental Research Education and Development (CERED), Friends of Environment, India, in association with Hiralal Bhakat College, Nalhati. The program will be conducted by experienced professionals and experts in the field of remote sensing and GIS. Participants will be provided with practical hands-on training and exposure to real-world projects, enabling them to gain valuable experience and skills.

The training program will cover a wide range of topics, including fundamentals of GIS, data structure, overlay analysis, datum, projection, geo-referencing, and advanced statistical software platforms such as SPSS, GNU PSPP.

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Participants will also learn about geo-referencing and mosaic techniques, Gdb, feature class and shapefile generation, digitization, and attribute tables, data attachment, and thematic mapping, layout preparation, and data extraction from raster. Additionally, participants will learn about topics such as land-use change maps, AHP model, preparation of potential/vulnerable/susceptible zones, and lineament density and buffer analysis. The training program will also cover data analysis using SPSS, GNU PSCP including principle component analysis, factor mapping, cluster analysis, and dendrogram.

Overall, this training program is an excellent opportunity for professionals and students to gain practical experience and knowledge in remote sensing and advanced statistical software platforms. The program will equip participants with valuable skills and knowledge required for a successful career in remote sensing and GIS.

## About the Institutions

### FRIENDS OF ENVIRONMENT:

The Environmental Science subject gives you a degree and encourages the wisdom to flourish an Eco-friendly attitude towards our society. We, the Hariharpur Friends of Environment (A Community of Environmental Science Degree Holders in West Bengal, India) leading our activities through Environmental Education Awareness camps, rallies, free health check-up camps, sanitary hygiene practices camps, tree plantation drives, waste monitoring, and handling practice camps, etc. We used to provide free environmental education among the needy students of various primary schools, high schools, colleges, and different sectors of our society. We started our journey in May 2017 and continue to devote ourselves to the betterment of our nature and society.



The Hariharpur Friends of Environment, Popularly known as Friends of Environment, is an Environmental Science degree holder non-profit making society registered under West Bengal Society Registration Act. 1961 (Regn. No. S0000799 of 2018-2019) and NITI Aayog (No. VO/NGO: WB/2019/0231807) dedicatedly doing work for the sustainability of the environment and betterment for the society through awareness camps in Universities, Colleges, schools, in both urban and rural areas throughout the West Bengal, India and some extent in other countries like Bangladesh.

#### *Objectives of Friends of Environment :*

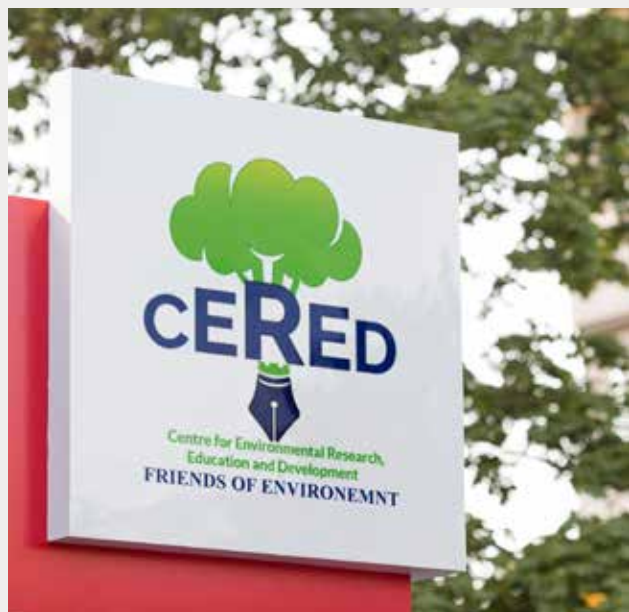
- Enhancing active participation of all sections of society in nature conservation and environmental protection through environmental education, awareness and capacity building.
- Promoting the active involvement of rural and traditional communities in the sustainable management and conservation of natural resources.

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- To arrange for extension lectures, debates, group discussions, workshops, seminars, conferences, educational tours, exhibitions etc.
- To impart training by making contracts or collaboration with Govt. other NGOs, consultant and institution.
- To provide education to Rural and Urban citizens for upliftment of their lives.

## About the Centre:



Centre for Environmental Research Education and Development (CERED) is a constituent body of the Hariharpur Friends of Environment organisation. CERED.

Promotes Fundamental advances in understanding and factual knowledge are needed to solve urgent environmental problems through Research, Education and Development.

The main objective of CERED is to create an environment for effective teaching-learning by encouraging the students and faculty to nurture their intellectual curiosity and scientific and research temperament. CERED expand the area of knowledge through collaboration with any Govt. and Non-Govt. Organisations, academic

institutions like schools, colleges, universities etc., different management institutes, non-government organisations, even industry or business/corporate houses in Indian and abroad, in such a manner as may be necessary for the promotion of the objectives of the Hariharpur Friends of Environment.

## About Hiralal Bhakat College:

Hiralal Bhakat College is located in the Rampurhat sub-division of the district of Birbhum in West Bengal. Situated in a backward area, it is a co-education college affiliated to the University of Burdwan. The College has 1.4 acres (5666 square meters) of land and is geographically located in a semi-urban rural area Situated by the Panagarh-Morgram Expressway, this college is well connected with the capital and other important places of West Bengal.

The College received recognition from the University Grants Commission (UGC) under 2(f) as Hiralal Bhakat College on 18th October 1993. It is without doubt that the goals and objectives of such a college located in a rural and backward area would always be society dependent and case specific. The college started and proceeds with the simple goal of making people conscious, of producing graduated out of first generation learners, of churning out responsible and conscientious citizens for the nation, and of constructing outputs who would be able to control their own destiny and livelihood with their own efforts. Hence, the objectives of the college are to provide the students



with education which does not cost much and with minimum facilities under one roof so as to enable them to prosper in their lives and be instrumental in the uplift in the real sense of the term. The same are made known to the students from time to time through the college prospectus as well as college magazines and through interactions with the faculty and staff of the college.

## About the Department:



The Department of Geography has started its journey from 2008 with a General Course of Undergraduate Programme. Later it was upgraded by an Honours Course from 2013. At present the Department includes three Assistant Professors, four SACTs and one Laboratory Attendant. The Department is facilitated by a well-equipped general laboratory and a RS & GIS laboratory with

proper internet connection. Following the University prescribed syllabus, student-computer ratio is routinely maintained in the RS & GIS laboratory. An annual Field Study is conducted by the Department and each student of Semester-V submits a Field Report to fulfil their Undergraduate Programme. Having a good student-teacher ratio, the Department always bears a rare personal relationship. Students can also follow a YouTube channel entitled 'World of Geography, Hiralal Bhakat College' to revisit some important classes. Teachers demonstrate practical classes in audio-visual mediums to grow a user-friendly attitude of students towards equipment. Recently an ICSSR funding Research Project was completed in this Department successfully.

## Advisory Committee members



### **Dr Nurul Islam**

Principal  
Hiralal Bhakat College, Nalhati, Birbhum.



### **Dr. Suddhasattwa Banerjee**

IQAC Coordinator,  
Hiralal Bhakat College, Nalhati, Birbhum

**Dr. Niladri Das**

Head of the Department,  
Department of Geography  
Hiralal Bhakat College, Nalhati, Birbhum

**Mr. Richik Ghosh Takur**

President  
Friends of Environment

**Mr. Apurba Koley**

Director (Academic), Centre for Environmental  
Research Education and Development (CERED),  
Friends of Environment

**Mr. Anudeb Ghosh**

Joint-Secretary, Friends of Environment  
Coordinator, School of Remote Sensing and GIS,  
CERED

## INTRODUCTION TO THE COURSE

### GENERAL INTRODUCTION

The School of Remote Sensing and GIS, Centre for Environmental Research Education and Development (CERED), Friends of Environment, India, in association with Hiralal Bhakat College, Nalhati, is offering a professional hands-on training program on remote sensing with advanced statistical software platform. The program is scheduled to start on 15th April 2023 and will last for two months. Candidates who have passed or are pursuing graduation or post-graduation from any recognized university are eligible to apply. The response language for the program will be English, including the examinations and other forms of assessment. The course will be conducted online through the Zoom platform, and the registration process will be available online through Google Forms, with the registration open from 15.03.2023 and the last date of registration being 14.04.2023. This program offers a great opportunity for aspiring professionals to gain practical knowledge and experience in the field of remote sensing with advanced statistical software platform.

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## **ELIGIBILITY CRITERIA**

Candidates should have passed / pursuing Graduation or Post Graduation from any recognised university.

## **RESPONSE LANGUAGE**

Candidates must write their examinations and other forms of assessment in English, as the response language. Assessed work in theory of knowledge and the extended essay must also be presented in English.

## **DURATION OF THE COURSE**

2 Months

## **REGISTRATION DETAILS**

Mode of Registration: Online through Google Forms

Registration Open: **24.03.2023**

Last Date of Registration: **30.04.2023**

## **MODES OF CLASSES**

Online Classes will be conducted through Zoom Platform

## **FEES STRUCTURE**

The fee structure for the Hands on training programme is as follows:

Students: ₹ 1200/-

Research Scholar: ₹ 1500/-

Faculty: ₹ 2000/-

## **PAYMENT INFORMATION**

For *Indian* Students:

Direct Payment Link: <https://cered.mojo.page/professional-hands-on-training-programme>

For *International* Students:

Account Name: HARIHARPUR FRIENDS OF ENVIRONMENT

Account No. 918010092469674

IFSC CODE: UTIB0000364, SWIFT CODE: AXISINBB213

Bank Name: Axis Bank Ltd, Branch: Arambagh (WB)


## **ASSIGNMENTS AND EXAMINATION**

Total 2 assignments will be given and all of them are compulsory. One Term end exam will be there at the end of all Classes.

## **ELIGIBILITY FOR THE EXAMINATIONS**

To be eligible to appear in the term-end examination in any Course, Candidates should have submitted the assignments for the respective Course and should have Minimum 75% attendance in classes.

## CONTACTS:

 +917501236648  
+916297255748

 coordinator.ccrsgis@gmail.com

*Registration Link :*

<https://forms.gle/gBZz4eTk3G3wLCJh7>

*Direct Payment Link:*

<https://cered.mojo.page/professional-hands-on-training-programme>



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<https://www.foe.org.in/>



**Hiralal Bhakat College  
Nalhati, Birbhum**

<https://www.hbcnht.in/>