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No. IIRS/NNRMS/2020

Dated: May 22, 2020

Sub: Announcement of Online Certificate Course on "Remote Sensing & GIS Technology and Applications" during June 13, 2020 - July 01, 2020 for the faculty members of the universities and their affiliated colleges and government officials.

Sir / Madam,

India Institute of Remote Sensing (IIRS) under Indian Space Research Organisation (ISRO), Department of Space (DoS), Govt. of India is a premier Training and Educational Institute set up for training professionals in the field of Remote Sensing, Geoinformatics and Global Positioning System Technology for Natural Resource Management.

The Institute conducts ISRO-National Natural Resources Management System (NNRMS) sponsored Certificate course of 8 weeks duration every year for the faculty members of Universities & their affiliated Colleges and Scientists/ Engineers/ Officers working in Govt. organisations. However, due to lockdown towards prevention of COVID-19, the same could not be organised this year.

In view of the current situation due to COVID-19 and based on feedback of participants who had applied for the above course, IIRS Management has decided to organise a **short Online course** on "**Remote Sensing & GIS Technology and Applications**" using IIRS E-CLASS platform (<https://eclass.iirs.gov.in>). The course will commence from **June 13, 2020** and will continue upto **July 01, 2020**. The course flyer is enclosed with this letter for details.

The **last date for online registration** (<https://www.iirs.gov.in/EDUSAT-News>) by the eligible participants for attending the course is **June 08, 2020**.

We request you to nominate faculty member(s) and officials and circulate this letter with course flyer among your colleagues for wider outreach of this technology.

(Prakash Chauhan) 22/5/2020
Director, IIRS

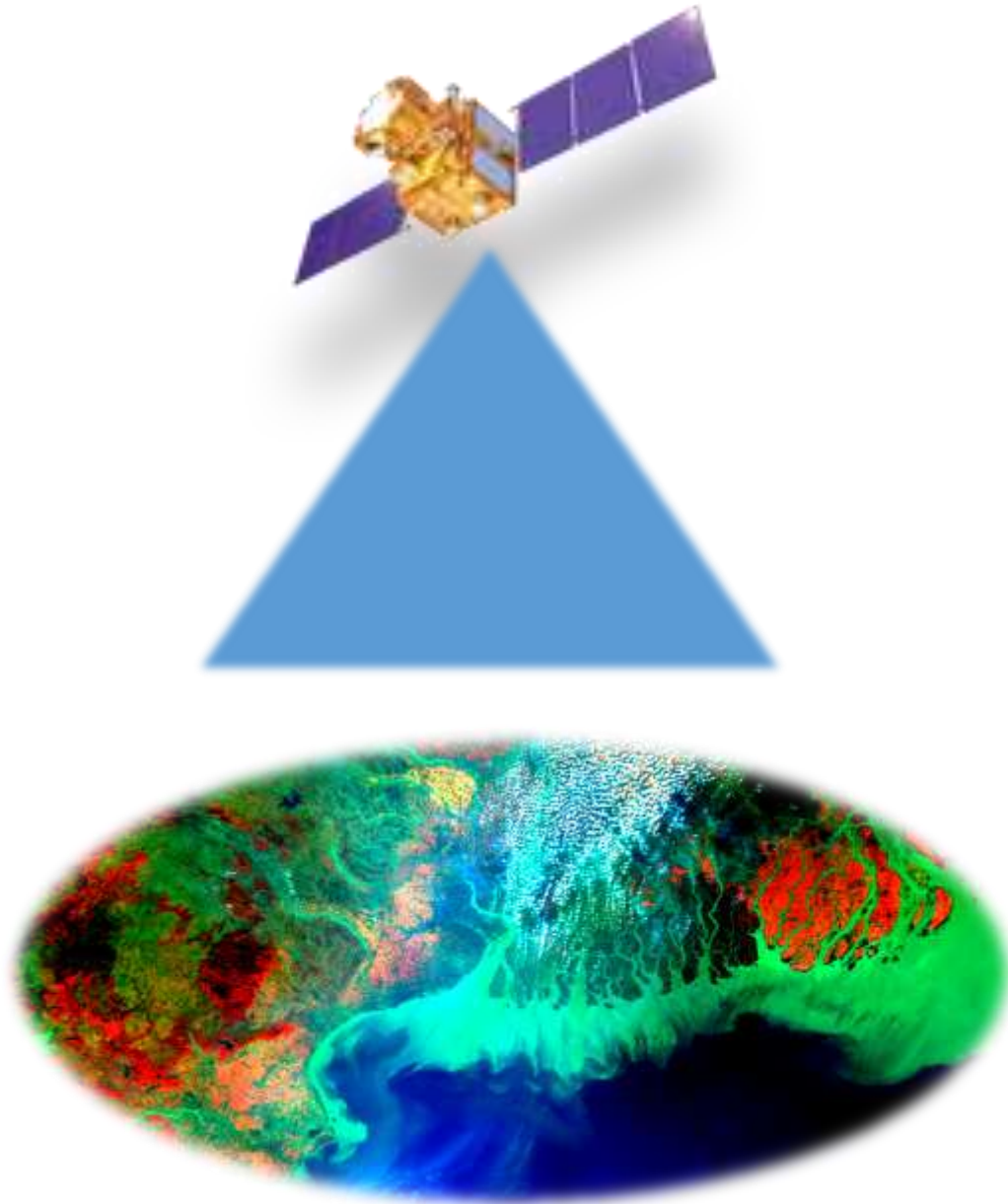
Online Certificate Course
on
“Remote Sensing & GIS Technology and Applications”
for
University Teachers & Government Officials
June 13 - July 01, 2020

Total Sessions- 32

Date	Day	Time	Topic	Speaker
13/06/2020	Saturday	10:45-11:15 Hrs	Inauguration	
13/06/2020	Saturday	11:30-12:45 Hrs	Basic Principles of Remote Sensing	Dr. Manu Mehta
15/06/2020	Monday	10:00-11:15 Hrs	Earth Observation Sensors & Platforms	Mr. Vinay Kumar
15/06/2020	Monday	11:30-12:45 Hrs	Spectral Signatures Of Different Land Cover Features & Visual Image Interpretation	Dr. Hina Pande
16/06/2020	Tuesday	10:00-11:15 Hrs	Data Image Processing: Basic Concepts, Rectification & Registration	Mrs. Minakshi Kumar
16/06/2020	Tuesday	11:30-12:45 Hrs	Image Enhancement Techniques: Contrast, Filtering Transformations	Mrs. Minakshi Kumar
17/06/2020	Wednesday	10:00-11:15 Hrs	Image Classification Techniques: Unsupervised, Supervised & Separability Analysis	Dr. Poonam S Tiwari.
17/06/2020	Wednesday	11:30-12:45 Hrs	Digital Change Detection & Accuracy Assessment	Dr. Poonam S Tiwari.
18/06/2020	Thursday	10:00-11:15 Hrs	Introduction To GPS & GNSS	Dr. Ashutosh Bhardwaj
18/06/2020	Thursday	11:30-12:45 Hrs	GPS Receivers, Processing Methods, Errors & Accuracy	Dr. Ashutosh Bhardwaj
19/06/2020	Friday	10:00-11:15 Hrs	Satellite Based Augmentation Systems & GPS Aided & Geo Augmented Navigation (GAGAN)	Dr. Ashutosh Bhardwaj
19/06/2020	Friday	11:30-12:45 Hrs	Indian Regional Navigation Satellite System (IRNSS)/NavIC	Dr. Ashutosh Bhardwaj & Shri Kamal Pandey
20/06/2020	Saturday	10:00-11:15 Hrs	Introduction To GIS	Dr. Sameer Saran
20/06/2020	Saturday	11:30-12:45 Hrs	Geographic Phenomena, Concepts & Examples	Shri Prasun Kumar Gupta

Date	Day	Time	Topic	Speaker
22/06/2020	Monday	10:00-11:15 Hrs	Data Inputting & Editing In GIS	Shri Shiva K. Reddy
22/06/2020	Monday	11:30-12:45 Hrs	GIS Data Models (Spatial & Non-Spatial)	Shri Ashutosh Kumar Jha
23/06/2020	Tuesday	10:00-11:15 Hrs	Map Projection Concepts & Use In GIS & RS	Dr. Ashutosh Shrivastava
23/06/2020	Tuesday	11:30-12:45 Hrs	Spatial Analysis – Introductory Concepts & Overview	Shri Prabhakar Alok Verma
24/06/2020	Wednesday	10:00-11:15 Hrs	Spatial Analysis – Functionality & Tools	Shri Kapil Oberai
24/06/2020	Wednesday	11:30-12:45 Hrs	Data Quality & Policies OGC, NSDI & GSDI Initiatives.	Dr. Harish Chandra Karnatak
25/06/2020	Thursday	10:00-11:15 Hrs	Demonstration on QGIS- Basic GIS operations and Analysis	Mr. Prasun Kumar Gupta
25/06/2020	Thursday	11:30-12:45 Hrs	Concept of Online GIS – An Introduction to Geoweb Services	Dr. Harish Chandra Karnatak
26/06/2020	Friday	10:00-11:15 Hrs	Mobile GIS – An overview	Dr. Kamal Pandey
26/06/2020	Friday	11:30-12:45 Hrs	Geodata Processing using Python- An overview	Mr. Ravi Bhandari
27/06/2020	Saturday	10:00-11:15 Hrs	RS and GIS Applications in Agriculture & Soils	Dr Suresh Kumar
27/06/2020	Saturday	11:30-12:45 Hrs	RS and GIS Applications in Forest Resources & Ecosystem Analysis	Dr. Hitendra Padalia
29/06/2020	Monday	10:00-11:15 Hrs	RS and GIS Applications in Geosciences	Dr. R.S. Chatterjee
29/06/2020	Monday	11:30-12:45 Hrs	RS GIS applications in Natural Hazards and Disaster Risk Management	Dr. Arijit Roy
30/06/2020	Tuesday	10:00-11:15 Hrs	RS & GIS Applications in Coastal & Ocean Sciences	Dr. D. Mitra
30/06/2020	Tuesday	11:30-12:45 Hrs	RS and GIS Applications in Urban & Regional Studies	Mr. Pramod Kumar
01/07/2020	Wednesday	10:00-11:15 Hrs	RS and GIS Applications in Water Resources	Dr. S.P. Aggarawal
01/07/2020	Wednesday	12:00-13:00 Hrs	Online Examination	

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Indian Institute of Remote Sensing
Indian Space Research Organisation
Department of Space, Government of India
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www.iirs.gov.in

INTRODUCTION

Geospatial Technologies including Remote Sensing (RS), Geographic Information System (GIS) and Global Navigation Satellite System (GNSS), individually as well as jointly, have revolutionized the generation of reliable and updated spatial information about the natural resources, natural and built environment and processes that are vital to informed decision making. Recognizing the need and importance of natural resources management using space technology, the Government of India had set-up the National Natural Resources Management System (NNRMS) in 1983, with Department of Space (DOS) as the nodal department. Capacity Building of human resource at different levels, from decision makers to working professionals, academia and the people at grass root level, is recognised as a critical element for effective use of the wealth of information generated by the Geospatial technologies.

With the advancements in sensor technology, availability of Earth Observation data from newer and advanced systems, processing methods and other allied geospatial and computing technologies, the capacity building requirement is growing day by day. Keeping this requirement in view, the NNRMS supports capacity building activities in the country so that the benefits of the space technology reach the society at large.

Indian Institute of Remote Sensing (IIRS) conducts NNRMS-ISRO sponsored training programme primarily for the faculty members of the university (including affiliated colleges) since 1994. This year, due to the COVID-19 pandemic the classroom-based course could not be organised. In view of this, IIRS is organising a Short Online Certificate Course using the IIRS E-CLASS platform (<https://eclass.iirs.gov.in>).

ABOUT THE COURSE

The prime objective of this course is to train the faculty members in universities and their affiliated colleges in RS & GIS technology and their applications, so that they can further train the students. Besides that, the course would also help government officials develop an understanding of the subject and utilise the knowledge in their field of interest.

The course would cover concepts and overview of Remote Sensing, Image Processing, GPS/GNSS, GIS technologies and their Applications in various domains (viz. Agriculture & Soils, Coastal & Ocean Sciences, Forest Resources & Ecosystem Analysis, Geosciences, Urban & Regional Studies, Water Resources and Natural Hazards and Disaster Risk Management).

COURSE DURATION AND STRUCTURE

The course duration is from 13 June, 2020 to 01 July, 2020. There will be two sessions of one hour followed by an interactive session. The sessions shall be conducted from 10.00 hrs to 13.00 hrs from Monday to Saturday during the course period. The detailed schedule of the programme is available on IIRS Website (<https://www.iirs.gov.in/EDUSAT-News>).

TARGET PARTICIPANTS & ELIGIBILITY

- Faculty members (teachers) of UGC/AICTE approved universities and their affiliated colleges.
- Faculty members/Scientists/Engineers/ Officers and scientific/technical staff working in the Central/ State Govt. organisations/ institutions.

The participants are required to submit a proof of their employment (ID card issued by the employer or a letter certifying the employment of the applicant) at the time of online registration.

COURSE REGISTRATION

Course updates and other details are available at: <https://www.iirs.gov.in/EDUSAT-News> . All the participants have to register online through registration page available on the above web page.

During the registration, the participant has to select his/her Institute/office name as a nodal center from the list available in registration page. If the name of his/her Institute is not available in the list, then the participant can register by selecting Indian Institute of Remote Sensing as Nodal Centre.

The **last date to apply** for the course is **June 08, 2020 (17:30 hrs)**.

Award of Certificate

Online examination will be conducted online for all course participants attending the course. Fulfilment of criteria of qualifying marks in the exam as well as a minimum attendance are mandatory for the award of the course certificate.

Program Reception

Programme can be received through Internet connectivity of 2Mbps or better using IIRS E-CLASS platform. Following hardware and software set-up is required at user end:

Hardware Requirements at User End:

- Computer/Laptop (Windows OS)
- Good quality web camera
- Headphone with Microphone
- Speaker

Software and Internet Requirements:

Online live lectures through: <https://eclass.iirs.gov.in/login> or <https://elearning.iirs.gov.in/>

Connectivity & Other configurations:

NKN or any other high speed internet facility (preferably without firewall, with minimum of 2 Mbps bandwidth)

Network requirements:

Port 80 and RTMP (port 1935) protocol should be unblocked from user's computer and Firewall.

Contact Details:

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Course Coordinator, NNRMS & Scientist/Engineer "SF"
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Course Director, NNRMS &
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ABOUT IIRS

Indian Institute of Remote Sensing (IIRS) is a premier institute with a primary aim to build capacity in Remote Sensing and Geoinformatics technologies and their applications through training & education, research and outreach programmes. IIRS is a Centre of Indian Space Research Organisation (ISRO), Department of Space, Government of India. Formerly known as Indian Photo-Interpretation Institute (IPI), founded in 1966, the Institute is the first of its kind in Remote Sensing in entire South-East Asia. While nurturing its primary endeavour to build capacity among the user community by training mid-career professionals since its inception in 1966, the Institute has enhanced its programmes to meet the requirements of various stake-holders, ranging from fresh graduates to policy makers including academia, industry, different government departments and NGOs.

IIRS is one of the most sought-after institutes for conducting specially designed courses for the officers from the Ministries of the Government of India and State Governments for effective use of Earth Observation (EO) data from satellites for the benefit of society. Ministry of External Affairs, Government of India has recognised IIRS to conduct international training courses for the participants from ITEC (Indian Technical & Economic Cooperation) Member countries in Asia, Africa, Latin America, Central and Eastern Europe, and several Pacific and Caribbean nations.

IIRS also hosts the headquarters of the Centre for Space Science & Technology Education in the Asia and Pacific (CSSTEAP), affiliated to the United Nations, and conducts its training and education courses in RS & GIS.

