

18th Outreach Certificate Course on “Basics of Remote Sensing, Geographical Information System and Global Navigation Satellite System” sponsored by NNRMS and organized by IIRS/ ISRO Dept. of Space, Govt. of India, Dehradun
22/08/2016 to 18/11/2016

RAJA SHRIPATRAO BHAGAWANTRAO MAHAVIDYALAYA, AUNDH, SATARA

Indian Institute of Remote Sensing, ISRO, Dehradun
Department of Space, Government of India
SUMMARY REPORT OF PROGRAM



Date: 11/04/2016

To,
The Principal,
R.S.B. Mahavidyalaya, Aundh
Tal. Khatav, Dist. Satara

I am submitting summary report of Outreach Programme. Please accept it.

1. **Name of Programme:** Basics of Remote Sensing, GIS and GNSS
2. **Duration:** 22/08/2016 to 18/11/2016 **Total Days:** 90
3. **Number of enrolled students:** 5
4. **Name of Coordinator:** Dr. Telore Namdev Vasant
5. **Name of Resource Persons:**
i) Dr. A. Senthil Kumar ii) Dr. Yogesh Kant
iii) Dr. Poonam Sethi Tiwari iv) Dr. Hina Pande v) Dr. N.V. Telore
6. **Objectives of the Programme:**
 - i. To know basic concepts of remote sensing techniques.
 - ii. To know basics of GIS.
 - iii. To study applications of GNSS in diverse fields.
7. **Outcome of the Programme:**
 - i. Participants become aware of basic concepts of remote sensing techniques.
 - ii. Participants become aware of GIS techniques.
 - iii. Participants become aware of applications of GNSS in diverse fields.

Centre Coordinator

(Dr. Namdev V. Telore)
Dr. Namdev V. Telore
Co-ordinator

IIRS Outreach Programme, Dehradun
Centre: R.S.B. Mahavidyalaya, Aundh, Dist. Satara

Principal

PRINCIPAL
Raja Shripatrao Bhagwantrao
Mahavidyalaya, Aundh (Satara)



Eighteenth IIRS Outreach Programme
on
**Basics of "Remote Sensing, Geographical Information System and Global
Navigation Satellite System"**
August 22 – November 18, 2016

Raja Shripatrao Bhagwantrao Mahavidyalaya, Aundh, Satara
Registered Participants

1	2016180005334	Jagannath Barkade	barkadejd@gmail.com
2	2016180001553	Vikram Giri	Vikramgiri777@gmail.com
3	2016180001555	Tushar Suryavanshi	suryavanshit15@gmail.com
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8	2016180002136	Salim Mulla	salimmulla303@gmail.com
9	2016180001573	Pooja Devakar	pujadevkarb@gmail.com
10	2016180001574	Sonali Humbe	humbesonali104@gmail.com
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12	2016180001862	Jagannath Nanavare	nanavarej@gmail.com
13	2016180001297	Rahul Bhosale	rahulbhosale4614@gmail.com
14	2016180001300	Madhuri Jadhav	jadhavmadhuri678@gmail.com
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17	2016180001415	Nilam Jadhav	jadhavnilam0803@gmail.com
18	2016180002572	Rajesh Kharatmol	rajeshkharatmol@gmail.com
19	2016180005282	Deepak Karpe	deepakkarpe4993@gmail.com

Dr. Namdev V. Telore
Co-ordinator
IIRS Outreach Programme Dehradun
Location: R.S.B. Mahavidyalaya, Aundh, Dist. Satara

PRINCIPAL
Raja Shripatrao Bhagwantrao
Mahavidyalaya, Aundh (Satara),

IIRS Outreach Programme

The IIRS Outreach Programme, which started in 2007 with 13 universities/institutions, has now grown substantially. Currently, 410 universities/institutions spread across India covering 29 States and 2 union territories are networked with IIRS. The beneficiaries of the programme include:

- Central/State/Private Universities & Academic Institutions
- Central & State Government Organizations/Departments
- Research Institutes
- Group/Small Industries
- NGOs

Feedback Mechanism

IIRS has conducted seven workshops in 2007, 2009, 2010, 2011, 2014, 2015 and 2016 to take feedback from participating institutions to improve the quality of future courses.



Participants at outreach workshop - Outreach workshop during IIRS Outreach Week (8-9th Dec)

Awards

Received National Awards for excellence in training for IIRS Outreach Programme and e-learning Programme during 1st National Symposium on Excellence in Training conducted on April 11-12, 2015 in New Delhi, by Department of Personnel & Training (DoPT), Govt. of India, in collaboration with United Nations Development Programme (UNDP).



About IIRS

Indian Institute of Remote Sensing (IIRS) under Indian Space Research Organisation (ISRO), Department of Space, Govt. of India, premier Training and Educational Institute set up in 1986, has trained professionals in the field of Remote Sensing, Geoinformatics and GIS Technology for Natural Resources, Environmental and Disaster Management, formerly known as Indian Photo-interpretation Institute (PII), founded in 1986, the Institute boasts to be the first of its kind in entire South-East Asia. While nurturing its primary endeavor to build capacity among the user community by training mid-career professionals, the Institute has enhanced its capability and evolved many training & education programmes that are tuned to meet the requirements of various target groups, ranging from fresh graduates to policy makers including academia.

IIRS outreach program is popular across India. So far, 17 programmes have been created/benefiting 30,000 participants.

IIRS also conducts e-learning Programme (<http://elearning.iirs.gov.in>) on Remote Sensing and Geoinformation Science.

Contact:

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Dr. Poonam S Tiwari

Programme Coordinator
IIRS Outreach Programme
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Mr. Janardan Vishwakarma

Senior Technical Assistant
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Mr. Mahadevawamy M

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Indian Institute of Remote Sensing

Indian Space Research Organisation
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PRINCIPAL

Raja Shrigatras Shivagandrab
Mahavidyalaya, Aundi (Satara)

18th IIRS Outreach Programme



Basics of Remote Sensing,
Geographical Information System &
Global Navigation Satellite System

August 22 – November 18, 2016

Sponsored by
National Natural Resources Management System
(NNRMS)



Organised by

Indian Institute of Remote Sensing
Indian Space Research Organisation
Department of Space, Govt. of India
Dehradun

www.iirs.gov.in

About the Course

The use of Remote Sensing, Geographical Information System, Global Navigation Satellite System and associated geospatial technologies is increasing rapidly, creating an urgent demand for trained personnel. IIRS utilizes the Web-based facility of INSAT-4CR, an ISRO Satellite and Internet, for conducting Distance Learning Programme to primarily complement the educational programmes of the Indian Universities. The target group includes students at undergraduate/graduate level and faculty/researchers at different universities/institutions. Under its Outreach Programme, IIRS has established its own Teaching and studio and updating facility in the campus under national beam coverage of ISRO satellites, connecting numerous classrooms and users. Internet bandwidth is also used as an alternative option. IIRS has successfully conducted 17 such courses so far with participation of over 30,000 students from 410 institutions. This programme can be received live using A-VIEW e-learning tool developed by Amrita University in internet environment with login permission. Course participation has increased with the option of A-VIEW software as it has also enabled participation of many who do not have the SIT facility.

Curriculum

The course includes the following:

- Remote Sensing and Digital Image Analysis
- Global Navigation Satellite System
- Geospatial Information System
- GIS and GIS Applications

The topics include:

- Basic Principles of Remote Sensing, Earth Observation Satellites and Platforms, Spectral Signature of different land cover features, Image Interpretation
- Theoretical & Practical Remote Sensing
- Digital Image Processing: Basic Concepts of Acquisition and Registration, Enhancement, Classification and accuracy assessment techniques

- Introduction to GPS and GNSS, receiver, processing methods, errors and accuracy
- GIS, data bases, topology, spatial analysis and computer software's
- GIS & GIS Application: Agriculture and Soil Fertility and Ecology, Geoinformatics and Geo-hazards, Marine and Atmospheric Sciences, Urban and Regional Studies and Water Resources

Course study materials like lecture ppt, lecture video, lecture notes, open source software, practical data & hardware of practical nature etc. will be made available through IIRS. No site and lecture videos are uploaded in Youtube Channel <http://www.iirs.gov.in/education/2000>

Target Participants

- Students of undergraduate course/ Postgraduate course (any year)
- Technical/ Scientific Staff of Central/ State Government Ministries/Departments
- Faculty / researchers at university / institutions are also eligible to participate in this course

Applications of participants have to be duly sponsored by their university/institution/College/Mission/Department and forwarded through coordination from respective centres. Institutions on high speed National Knowledge Network (NKN) can also participate using A-VIEW software.

Course Registration

Online registration is open through URL: <http://iirs.gov.in/Educate-News/>, the online registration is mandatory. No hard copy application will be accepted. There is no charge fee.

Award of Certificate

Based on 70% attendance and must secure minimum 60% marks in all qualifying online examinations.

Sponsors & Technical Support

The programme is sponsored by National Natural Resources Management System - Standing Committee on Training and Education (SC-T), Indian Space Research Organisation, Department of Space, Government of India and is conducted with due technical help from Satellite Communications & Navigation Programme (SCNP), ISRO; Development and Educational Communication Unit (DECU), ISRO and A-VIEW, Amrita University, National Mission on Education through Information and Communication Technology

Programme Receptions

ISN/ BMEICT Institutions/ other institutions / Universities may participate in IIRS Outreach Programme by using any one of the following setups:

Option-I: A-VIEW Internet based viewing

Hardware Requirements

- High end Computer/Laptop (Windows OS)
- Good quality web camera
- Headphone with microphone
- Speakers
- Large Display Screen (Projector or TV)

Software and Internet Requirements

- Desktop based A-VIEW software (free to download from: www.a-view.in or IIRS Pg 108: <http://iirs.gov.in>)
- Web based: <http://iirs.a-view.in>
- National Knowledge Network or any other high speed internet facility (preferably without firewall, bandwidth (1 Mbps minimum)
- Network requirements Port 80 and RTMP (port 1935) protocol should be unblocked from users' computer

Option-II: (Web Browser Based)

- URL: <http://iirs.012.020.01> (Required Flash player and IE at user end)
- User registration and activation through email
- Participate through live live web-casting

Each University/Institute/College have to bear their expenses for establishment of classroom/facility

PRINCIPAL

Raja Shrigatras Shivagandrab
Mahavidyalaya, Aundi (Satara)

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सत्यमेव जयते

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Department of Space

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डॉ. ए. सेंथिल कुमार
Dr. A. Senthil Kumar
निदेशक/ Director



सं.: आई.आई.आर.एस. / एडुसैट/ 2016/ 18

No.: IIRS/ EDUSAT/ 2016/ 18

दिनांक: 27 जून, 2016/ Date: 27 June, 2016

विषय: 22 अगस्त 2016 से "सुदूर संवेदन, भौगोलिक सूचना प्रणाली तथा वैश्विक नेविगेशन उपग्रह प्रणाली" पर प्रारम्भ होने वाले 18^{वां} आई.आई.आर.एस. आउटरीच कार्यक्रम की घोषणा के संबंध में।


Subj: Announcement of Eighteenth IIRS Outreach Program on "Basics of Remote Sensing, GIS & GNSS" commencing from August 22, 2016.

महोदय/ महोदय, /Dear Sir/ Madam,

भारतीय अंतरिक्ष अनुसंधान संगठन (इसरो) ने अपने सशक्त/ व्यावसायिक भू-प्रेक्षण (EO) कार्यक्रम के अंतर्गत पिछले 40 वर्षों के दौरान कई उपग्रह प्रमोचित किए हैं। भारतीय सुदूर संवेदन (आईआरएस) उपग्रह शृंखला, राष्ट्रीय प्राकृतिक संसाधन प्रबंधन प्रणाली (एनएनआरएमएस) के अंतर्गत प्राकृतिक संसाधनों की मॉनिटरिंग तथा उनके प्रबंधन और आपदा प्रबंधन सहयोग हेतु अन्तरिक्ष आधारित जानकारी उपलब्ध करवाती है। भारतीय सुदूर संवेदन संस्थान (भा.सु.सं.सं.) भूस्थानिक प्रौद्योगिकी के उपयोगार्थे शिक्षण, प्रशिक्षण तथा क्षमता संवर्धन को समर्पित इसरो का एक महत्वपूर्ण संस्थान है। इस संस्थान द्वारा अब तक 17 उपग्रह/ इंटरनेट आधारित आउटरीच पाठ्यक्रम संचालित किए जा चुके हैं। इन पाठ्यक्रमों से लगभग 390 भारतीय विश्वविद्यालयों/ संस्थानों के करीब 30,500 से अधिक प्रतिभागी लाभान्वित हुए हैं। इसी कार्यक्रम को आगे बढ़ाते हुए हम सहर्ष 18^{वां} आई.आई.आर.एस. आउटरीच कार्यक्रम को प्रारंभ करने की घोषणा करते हैं। 22 अगस्त, 2016 से प्रारम्भ होने वाला यह कार्यक्रम "सुदूर संवेदन, भौगोलिक सूचना प्रणाली तथा वैश्विक नेविगेशन उपग्रह प्रणाली" पर आधारित है। यह कार्यक्रम सुदूर संवेदन, भौगोलिक सूचना प्रणाली तथा वैश्विक नेविगेशन उपग्रह प्रणाली संबंधी प्रौद्योगिकियों के ज्ञान को और समृद्ध करेगा।

The Indian Space Research Organisation (ISRO) has a vibrant Earth Observation (EO) programme with many satellite missions launched during past 40 years. The Indian Remote Sensing Satellite (IRS) series of satellites provide space based information for monitoring and management of natural resources and Disaster Management Support under the aegis of National Natural Resource Management System (NNRMS). The Indian Institute of Remote Sensing (IIRS) is a premier Institute of ISRO which is engaged in training, education and capacity building on use of geospatial technology for natural resources monitoring and disaster management since last five decades. The institute has so far conducted 17 Satellite/ Internet based Outreach Programmes, benefitting more than 30,500 participants from around 390 Indian universities/institutions/user departments/user ministries in India. We have now the pleasure of announcing the eighteenth IIRS Outreach Programme on "Basics of Remote Sensing, GIS & GNSS" commencing from August 22, 2016 to further enhance the knowledge of Remote Sensing, GIS & GNSS.

Contd...2

भारतीय अंतरिक्ष अनुसंधान संगठन इसरो  Indian Space Research Organisation

प्रति सप्ताह 4/5 व्याख्यानो वाला यह 12 सप्ताह का ऑनलाइन पाठ्यक्रम, ऑनलाइन सुदूर संवेदन, भौगोलिक सूचना प्रणाली तथा वैश्विक नेविगेशन उपग्रह प्रणाली के प्रभावी उपयोग को जानने-समझने का विशिष्ट अवसर प्रदान करेगा, जिसके अंतर्गत सहभागी को स्वस्थान पर ही प्रतिदिन मात्र 1½ घंटा अध्ययन करना होगा। इस नि:शुल्क पाठ्यक्रम में <http://aview.in/> पर उपलब्ध एव्यू सॉफ्टवेयर के द्वारा तथा इंटरनेट का उपयोग करते हुए भाग लिया जा सकता है। पंजीकृत सहभागियों के उक्त ऑनलाइन कार्यक्रम से जोड़ने हेतु भारतीय सुदूर संवेदन संस्थान (इसरो) प्रत्येक पत्र/ प्रयोक्ता आईडी/ पासवर्ड उपलब्ध कराएगा। पाठ्यक्रम के समापनोपरान्त भारतीय सुदूर संवेदन संस्थान (इसरो) सफल प्रतिभागियों को प्रमाण पत्र भी प्रदान करेगा।

This online course of 12-weeks duration with 4/5 lectures per week is a unique opportunity to learn the basics of RS, GIS & GNSS and their applications by devoting one-and-half-hour each day at the place of stay of the participant. The course can be attended free of cost through internet using A-VIEW Software which is freely available in <http://aview.in/> for download. IIRS/ISRO will provide credentials to receive this programme online. The successful participants will be awarded certificate from IIRS/ISRO.

उक्त पाठ्यक्रम की घोषणा सम्बन्धी विवरणिका अवलोकनायें तथा आपके विश्वविद्यालय/ संस्थान/ कॉलेज/ संगठन में प्रचार-प्रसार हेतु संलग्न है। इस पाठ्यक्रम में सभी यूजी/ पीजी छात्र/ कार्यरत समस्त पेशेवर तथा शैक्षणिक समुदाय के शिक्षक/ शोधकर्ता भाग ले सकते हैं। कार्यक्रम में भाग लेने के इच्छुक प्रतिभागी संस्थान की वेबसाइट <http://www.iirs.gov.in/EDUSAT-News> के द्वारा पंजीकरण कर सकते हैं।

A copy of the syllabus of this course is enclosed herewith for your kind perusal and also for wider circulation in your University/ Institute/ College/ Organisation. This course is open for all the UG/PG students/ working professionals/ researchers in various University/ Institution/ Organisation. Interested participants can register online through IIRS website: <http://www.iirs.gov.in/EDUSAT-News>

उक्त प्रसंग में और जानकारी हेतु आप डॉ. पूनम एस. तिवारी, कार्यक्रम समन्वयता, आई-आई-आर.एस. आउटरीच कार्यक्रम [दूरभाष: 0135-2524115 (कार्यालय), मो: +91 9410924417, ईमेल: poonam@iirs.gov.in], डॉ. हरीश कर्नाटक, प्रमुख, जियोवेब सेवाएँ, सूचना प्रौद्योगिकी एवं दूरस्थ अधिगम विभाग [दूरभाष: 0135-2524332 (कार्यालय), मो: +91 9456565523, ईमेल: harish@iirs.gov.in], एडुसेट स्टुडियो निबंधन कक्ष [श्री महादेवस्वामी एम. (मो: +91 9897142192) एवं श्री जनार्दन विश्वकर्मा (मो: +91 7895309151); दूरभाष: 0135-2524130, ईमेल: edusat@iirs.gov.in] से संपर्क कर सकते हैं।

In case if you need any further information about the programme, please feel free to contact: Dr. Poonam S. Tiwari, Programme Coordinator IIRS Outreach Programme [Ph. 0135-2524115, M: +91 9410924417 or email- poonam@iirs.gov.in] or Dr. Harish Karnatak, Head, Geoweb Services, IT & Distance Learning Department [Ph.: 0135-2524332(off.); +91 9456565523 email: harish@iirs.gov.in], EDUSAT Studio Control Room [Shri Mahadevaswamy M. (+91 9897142192) and Shri Janardan Vishwakarma (M: +91 7895309151) :Ph.: 0135-2524130, email: edusat@iirs.gov.in].

शुभकामनाओं सहित /With regards and best wishes.

भवदीय/ Yours sincerely,

आ. सेंथिल कुमार

(ए. सेंथिल कुमार/A. Senthil Kumar)

संलग्नक: पाठ्यक्रम अनुसूची/Encl: Course Schedule



Dr. Namdev V. Telore

Co-ordinator

IIRS Outreach Programme, Dehradun

Location: R.S. Bhabha Institute, Aundh (Satara)



PRINCIPAL

Raja Shripatras Bhagwantrao
Mahavidyalaya, Aundh (Satara)



Eighteenth IIRS Outreach Programme
on
Basics of "Remote Sensing, Geographical Information System and Global Navigation Satellite System"
August 22 – November 18, 2016

Tentative Schedule

Module	Name of the Module	Duration	
		From	To
1	Remote Sensing and Digital Image Analysis	22-08-2016	14-09-2016
2	Global Navigation Satellite System	15-09-2016	26-09-2016
3	Geographical Information System	27-09-2016	30-10-2016
4	RS & GIS Applications	31-10-2016	18-11-2016

Technical Support from
A-VIEW, Amrita University, Coimbatore

Under the aegis of
National Natural Resources Management System (NNRMS)

July, 2016


Dr. Namdev V. Telore
Co-ordinator
IIRS Outreach Programme, Dehradun
Centre: R.S.B. Mahavidyalaya, Aundh, Dist. Sitapur

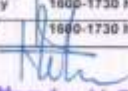

PRINCIPAL
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Mahavidyalaya, Aundh (Satara)

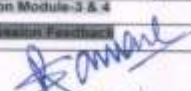
Module 1: Remote Sensing & Digital Image Analysis Module Coordinator: Ms. Minakshi Kumar				
Date	Day	Time	Topic	Speaker
22 Aug 16	Monday	1600-1730 hrs	Course Inauguration and Introductory Lecture	Dr. A. Senthil Kumar
23 Aug 16	Tuesday	1600-1730 hrs	Basic Principles of Remote Sensing	Mrs. Minakshi Kumar
24 Aug 16	Wednesday	1600-1730 hrs	Earth Observation Sensors and Platforms	Mr. Vinay Kumar
25 Aug 16	Thursday		Janmashtami	
26 Aug 16	Friday	1600-1730 hrs	Thermal Remote Sensing	Dr. Yogesh Kant
27 Aug 16	Saturday			
28 Aug 16	Sunday			
29 Aug 16	Monday	1600-1730 hrs	Spectral Signatures of Different Land cover Features and Visual Image interpretation	Dr. Hina Pande
30 Aug 16	Tuesday	Offline (Morning Session)	RS and Image Interpretation Practical	By University Coordinator
		1600-1730 hrs	Digital Image Processing: Basic Concepts Rectification and Registration	Mrs. Minakshi Kumar
31 Aug 16	Wednesday	BREAK		
01 Sep 16	Thursday	1600-1730 hrs	Digital Image Processing: Basic Concepts Rectification and Registration	Mrs. Minakshi Kumar
02 Sep 16	Friday	1600-1730 hrs	Image Enhancement techniques	Dr. Poonam S. Tiwari
03 Sep 16	Saturday			
04 Sep 16	Sunday			
05 Sep 16	Monday	GANESH CHATURTHI		
06 Sep 16	Tuesday	BREAK		
07 Sep 16	Wednesday	1600-1730 hrs	Image Classification Techniques and Accuracy Assessment	Dr. Poonam S. Tiwari
08 Sep 16	Thursday	1600-1730 hrs	Hyperspectral Remote Sensing	Mrs. Shefali Agarwal
09 Sep 16	Friday	Offline - as per computer lab availability	Image Processing Hands-on and Practical Assignment	By University Coordinator
		Morning Session 1600-1730 hrs	Demonstration: Image Processing	Mrs. Minakshi Kumar
10 Sep 16	Saturday			
11 Sep 16	Sunday			
12 Sep 16	Monday	ID-UL-JUHA(BAKRID)		
13 Sep 16	Tuesday	Offline - as per computer lab availability	Practical Assignment submission by Participants to respective coordinators and evaluation to be done by respective coordinators	
		1600-1730 hrs	Panel Discussion (Mrs. Shefali Agarwal, Mrs. Minakshi Kumar, Dr. Yogesh Kant, Dr. Poonam S. Tiwari, Dr. Hina Pande, Ms. Manu Mehta, Mr. Vinay Kumar, Mr. Shashi Kumar)	
14 Sep 16	Wednesday	ONAM/BREAK		
Module 2: Global Navigation Satellite System Module Coordinator: Shri. Prasad Kumar Gupta				
15 Sep 16	Thursday	1600-1730 hrs	Introduction to GPS and GNSS	Er. Ashutosh Bhardwaj
16 Sep 16	Friday	1600-1730 hrs	GPS receivers, processing methods, errors and accuracy	Er. Ashutosh Bhardwaj
17 Sep 16	Saturday			
18 Sep 16	Sunday			
19 Sep 16	Monday	1600-1730 hrs	Satellites based Augmentation systems & GPS Aided and GEO Augmented Navigation (GAGAN)	Er. Ashutosh Bhardwaj
20 Sep 16	Tuesday	1600-1730 hrs	GPS signal characteristics, Data formats (broadcast, precise ephemeris)	S. Raghavendra
21 Sep 16	Wednesday	BREAK		
22 Sep 16	Thursday	1600-1730 hrs	Indian Regional Navigation Satellite System (IRNSS)	Er. Ashutosh Bhardwaj & Shri Kamal Pandey
23 Sep 16	Friday	1600-1730 hrs	DGPS demonstration (Pre-recorded followed by live query session)	S. Raghavendra
24 Sep 16	Saturday			
25 Sep 16	Sunday			
26 Sep 16	Monday	1600-1730 hrs	Mobile Mapping	Dr. Harish Chandra Karnatak
Module 3: Geographical Information System Module Coordinator: Shri. Prasad Kumar Gupta				
Date	Day	Time	Topic	Speaker
27 Sep 16	Tuesday	1600-1730 hrs	Introduction to GIS	Dr. Sameer Saran
28 Sep 16	Wednesday	1600-1730 hrs	Geographic Phenomena, Concepts and examples	Dr. Sameer Saran
29 Sep 16	Thursday	BREAK		
30 Sep 16	Friday	Exam Module-1 & 2		



01 Oct 16	Saturday			
02 Oct 16	Sunday	Mahatma Gandhi Jayant		
03 Oct 16	Monday	1600-1730 hrs	Data Inputting and Editing in GIS	Shri Shiva Reddy
04 Oct 16	Tuesday	1600-1730 hrs	GIS Data Models (Spatial and Non spatial)	Shri Ashutosm Jha
05 Oct 16	Wednesday	Break		
06 Oct 16	Thursday	1600-1730 hrs	Map Projection Concepts & Use in RS & GIS	Shri Ashutosm Jha
07 Oct 16	Friday	1600-1730 hrs	Spatial Analysis- Introductory Concepts and Overview	Shri Kapil Oberai
08 Oct 16	Saturday			
09 Oct 16	Sunday			
10 Oct 16	Monday	1600-1730 hrs	Spatial Analysis- Functionality and Tools	Shri Kapil Oberai
11 Oct 16	Tuesday	DUSSHERA		
12 Oct 16	Wednesday	MUHARRAM		
13 Oct 16	Thursday	1600-1730 hrs	Spatial Data Management using RDBMS-Demo on PostGRE SQL+ Post GIS	Shri Kapil Oberai
14 Oct 16	Friday	1600-1730 hrs	3D GIS and Applications including Trvnm	Shri Shiva Reddy
15 Oct 16	Saturday			
16 Oct 16	Sunday			
17 Oct 16	Monday	1600-1730 hrs	Open Source S/w Technology & Tools	Shri P K Gupta
18 Oct 16	Tuesday	1600-1730 hrs	Data Quality & Policies OGC, NSDI & GSDI initiatives. Discussion on internet resources	Dr. Harish Kamatak
19 Oct 16	Wednesday	1600-1730 hrs	Demo of QGIS Software – Session 01: • Adding GIS Data ,Attribute table & identity tool • Change symbology, Create map composers • Manage plugins, CRS & EPSG • Geo-referencing & Tie-points ,RMSE & Rectification	Shri P K Gupta
20 Oct 16	Thursday	1600-1730 hrs	Demo of QGIS Software – Session 02: (Data Creation/Vector Generation) • Digitization ,Setting digitizing environment • Adding attributes to layer, Editing digitized layer • Attribute Queries, Spatial Queries Linking spatial & non-spatial data	Shri P K Gupta
21 Oct 16	Friday	1600-1730 hrs	Geo-Web Services and Mobile Mapping: Technical Concepts	Dr. Harish Kamatak
22 Oct 16	Saturday			
23 Oct 16	Sunday			
24 Oct 16	Monday	1600-1730 hrs	Geoweb Services and Geo Portal Applications	Dr. Harish Kamatak
25 Oct 16	Tuesday	1600-1730 hrs	Uncertainty in GIS and Error Propagation	Shri Hari Shankar
26 Oct 16	Wednesday	BREAK		
27 Oct 16	Thursday	1600-1730 hrs	Customization in GIS	Shri Kamal Pandey
28 Oct 16	Friday	1600-1730 hrs		
29 Oct 16	Saturday			
30 Oct 16	Sunday			
Module 4 RS & GIS Applications Module Coordinator: Dr. Anil Ray				
Date	Day	Time	Topic	Speaker
31 Oct 16	Monday	1600-1730 hrs	EO Applications for Natural Resources and Disaster Management	Dr. S. K. Srivastav
01 Nov 16	Tuesday	1600-1730 hrs	Remote Sensing and GIS Applications in Soil Resource Assessment	Dr. Suresh Kumar
02 Nov 16	Wednesday	BREAK		
03 Nov 16	Thursday	1600-1730 hrs	Remote Sensing Applications in Agriculture- Crop Inventory & Yield Forecasting	Dr. N.R. Patel
04 Nov 16	Friday	1600-1730 hrs	RS & GIS Applications in Forestry and Ecology	Dr. Sarvam Singh
05 Nov 16	Saturday			
06 Nov 16	Sunday			
07 Nov 16	Monday	1600-1730 hrs	Engineering Geology with emphasis on landslide studies	Dr. P. K. C. Ray
08 Nov 16	Tuesday	1600-1730 hrs	Geology and Geomorphology	
09 Nov 16	Wednesday	1600-1730 hrs	Space-enabled Products & Services for Disaster Management Indian initiatives	Dr. S. K. Srivastav
10 Nov 16	Thursday	1600-1730 hrs	RS & GIS Applications to Water Resources Management	Dr. S. P. Aggarwal
11 Nov 16	Friday	1600-1730 hrs	RS & GIS for Coastal Zone Management	Dr. D. Mitra
12 Nov 16	Saturday			
13 Nov 16	Sunday			
14 Nov 16	Monday	Guru Nanak's Birthday		
15 Nov 16	Tuesday	1600-1730 hrs	Remote Sensing Application to Atmospheric & Marine Environment	Dr. A. K. Mishra
16 Nov 16	Wednesday	1600-1730 hrs	RS & GIS Application in Urban & Regional Planning	Dr. Pramod Kumar
17 Nov 16	Thursday	1600-1730 hrs	Examination Module-3 & 4	
18 Nov 16	Friday	1600-1730 hrs	Final Discussion/Feedback	




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