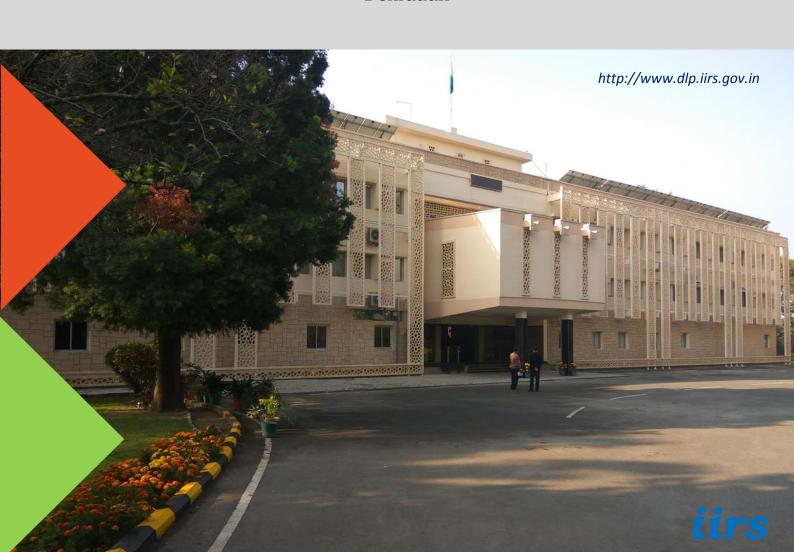Announcement Brochure

IIRS Outreach Programme

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

August 21 – December 01, 2017

Organised by

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

http://www.dlp.iirs.gov.in

About IIRS

Indian Institute of Remote Sensing (IIRS), a unit under Indian Space Research Organization (ISRO), Department of Space, Government of India is a premier Training and Educational Institute set-up for developing trained professionals in the field of Remote Sensing, Geoinformatics and GNSS Technology for Natural Resources, Environmental and Disaster Management. Formerly known as Indian Photo-interpretation Institute (IPI), founded in 1966, 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 and education programmes that are tuned to meet the requirements of various target user groups in the society, ranging from fresh graduates to policy makers including academia.

The training and education programmes at IIRS includes the short duration customized courses, PG Diploma, Master's Degree (M.Tech and M.Sc.) in various disciplines. IIRS also conducts distance learning programmes under IIRS Outreach Activity.

IIRS Outreach Programme

IIRS Outreach Programme focusses on strengthening the Academia and User Segments in Space Technology & Its Applications using Online Learning Platforms. IIRS distance learning program was initiated in 2007 with the participation of twelve universities in India. Till date, IIRS has successfully conducted 22 programs through live and interactive classrooms (also known as EDUSAT programme) and also launched five online courses under e-learning programme. Currently IIRS distance learning programme is being conducted through following modes:

1. *Live and Interactive classroom sessions (http:dlp.iirs.gov.in)*
2. *E-learning based online courses (http://elearning.iirs.gov.in)*

Live and Interactive classroom

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 manpower. The live and interactive mode of distance learning is enabled through Internet and A-view software platform developed by Amrita e-learning Lab in collaboration with Ministry of Human Resource Development (MHRD) Government of India. *The programs are available **through Internet without any cost** to the user. The live and interactive sessions will be conducted by experts from IISR-ISRO and other knowledge Institutions. IIRS has successfully conducted 22 such courses so far with participation of over **46590+ participants from 626+ academic institutions, government departments and industry**. The beneficiaries of the programme may include:*

❖ *Central/State/Private Universities & Academic Institutions;*
❖ *Central & State Government Organizations/Departments;*
❖ *Research Institutes;*
❖ *Geospatial Industry;*
❖ *NGOs.*

IIRS also conducts various theme oriented online courses and monthly webinars on recent topics on geospatial technologies and its applications. Users are encouraged to actively participate on these programs. For more detail please visit IIRS official website- *www.iirs.gov.in*

Course Announcement

IIRS announces four courses commencing from **August 21st, 2017**

- ❖ **Remote Sensing and Digital Image Analysis** (21/08/2017 to 15/9/2017): Basic Principles of Remote Sensing, Earth Observation Sensors and Platforms, Spectral Signature of different land cover features, Image interpretation, Thermal & Microwave Remote Sensing, Digital Image Processing: Basic Concepts of Rectification and Registration, Enhancement, Classification and accuracy assessment techniques.
- ❖ **Global Navigation Satellite System and Geographical Information System** (**25/09/2017 to 10/11/2017**): Introduction to GPS and GNSS, receivers, processing methods, errors and accuracy, GIS, databases, topology, spatial analysis and open source software.
- ❖ **RS and GIS Applications** (**13/11/2017 to 01/12/2017**): Agriculture and Soil, Forestry and Ecology, Geoscience and Geo-hazards, Marine and Atmospheric Sciences, Urban and Regional Studies and Water Resources.
- ❖ **Basics of Remote Sensing, GIS and GNSS** (**21/08/2017 to 01/12/2017**): Comprehensive course consisting of above three courses.

The participants can register for **individual course** of their choice or the **entire Programme**.

Target Participants

- ❖ Student of Undergraduate and Postgraduate courses (any year);
- ❖ Technical/ Scientific Staff of Central/ State Government Ministries/ Departments;
- ❖ Faculty / Researchers at university / Institutions.

Course Study Material

Course study materials such as lecture slides, video recorded lectures, open source software, data & handouts of demonstrations, etc., will be made available through IIRS **ftp** link (ftp://ftp.iirs.gov.in) Video lectures will also be uploaded on YouTube Channel (http://www.youtube.com/user/edusat2004).

Course Fee

There is **no course fee**.

Course Registration

Course updates and other details will be available on URL- **http://www.dlp.iirs.gov.in**

- ❖ To participate in the program, organizations/universities/departments/ Institutes have to identify a Coordinator at their end. The coordinator is required to register his/her Institute as nodal centre at: (http://elearning.iirs.gov.in/edusat_lms/cordinator_registration.php).
- ❖ All the participants have to register online through registration page (http://elearning.iirs.gov.in/edusat_lms/student_registration.php) by selecting his/her organization as nodal centre.
- ❖ The Coordinator is required to approve the participants from his/her institute for each course.

Course Funding & Technical Support

The programme is sponsored by Indian Space Research Organization, Department of Space, Government of India and is conducted with due technical support from Amrita Virtual & Interactive E-learning World (A-VIEW).

Programme Reception

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

Hardware Requirements:

- ❖ *High-end Computer/Laptop (Windows OS);*
- ❖ *Good quality web camera (optional);*
- ❖ *Headphone with Microphone (optional) and Speakers;*
- ❖ *Large Display Screen (Projector or TV).*

Software and Internet Requirements:
- ❖ *Desktop based:* **A-VIEW software** *(free to download from* **www.aview.in** *or IIRS ftp link:* **ftp://ftp.iirs.gov.in***)*
- ❖ *Online live access through* **http://live.iirs.gov.in** *with free registration.*

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.*

Note*: Participating Institutions have to bear total expenses for establishment of the classroom facility.*

Award of Certificate

Working Professionals*: Based on 70% attendance and submission of assignments.*
Students*: Based on 70% attendance and online examination.*

Feedback Mechanism

The participants and participating organizations are invited to attend annual IIRS User Interactive Meet (IUIM) at IIRS Dehradun. The participants can submit their feedback online through IIRS e-learning portal. Feedbacks are critically analyzed and implemented in next courses.

Outreach Programme Feedback Session during IIRS User Interaction Meet (IUIM)-2017

IIRS received two national awards for excellence in training for outreach and e-learning programme by Department of Personnel & Training (DoPT), Govt. of India in collaboration with United Nations Development Programme (UNDP).

Contact Details

IIRS Distance Learning Centre
Indian Institute of Remote Sensing, Indian Space Research Organization
Department of Space, Govt. of India, 4-Kalidas Road, Dehradun-248001
Email*:* dlp@iirs.gov.in*;* **Tel***: 0135-2524130/4354/4115;* **Mobile***: 9410924417, 7895309151*
Monday to Friday (9:30 AM to 05:00 PM)

THIRTY SIX IIRS Outreach Programme
On
Basic of RS, GIS & GNSS

Sl No.	Module Name	From	To
1	**Basic of RS, GIS & GNSS**	**04-09-2018**	**16-11-2018**

September, 2018

Module 1: Remote Sensing & Digital Image Analysis Module/ Course Coordinator: Mrs. Minakshi Kumar				
Date	Day	Time	Topic	Speaker
04 Sep 18	Tuesday	1600-1730 hrs	Course Inauguration and Introductory Lecture	
04 Sep 18	Tuesday	1530-1625 hrs	Basic Principles of Remote Sensing	Ms. Manu Mehta
05 Sep 18	Wednesday	1630-1730 hrs	Earth Observation Sensors and Platforms	Mr. Vinay Kumar
05 Sep 18	Wednesday	1530-1625 hrs	Thermal Remote Sensing	Dr. Yogesh Kant
06 Sep 18	Thursday	1630-1730 hrs	Spectral Signatures of Different Land cover Features and Visual Image interpretation	Dr. Hina Pande
06 Sep 18	Thursday	1530-1625 hrs	Digital Image Processing: Basic Concepts Rectification and Registration	Ms. Minakshi Kumar
07 Sep 18	Friday	1630-1730 hrs	Image Enhancement techniques	Dr. Poonam S. Tiwari
07 Sep 18	Friday		Image Classification Techniques and Accuracy Assessment	Dr. Poonam S. Tiwari
07 Sep 18		Offline (Morning Session)	RS and Image Interpretation Practical	By University Coordinator
08 Sep 18	Saturday			
09 Sep 18	Sunday			
10 Sep 18	Monday	1530-1625 hrs	Microwave Remote Sensing	Mr. Shashi Kumar
10 Sep 18	Monday	1630-1730 hrs	Demonstration: Image Processing	Ms. Minakshi Kumar
11 Sep 18	Tuesday	1600-1730 hrs	Indian Space Programme	Dr. Praksh Chauhan
12 Sep 18	Wednesday	1600-1730 hrs	Hyperspectral Remote Sensing	Mrs. Shefali Agarwal
14 Sep 18	Friday	Offline - as per computer lab availability Morning Session	Image Processing Hands-on and Practical Assignment	By University Coordinator
14 Sep 18	Friday	1530-1730 hrs	Panel Discussion/Query Session	Faculty
24 Sep 18	Monday	1000 -1600 hrs	36th Course Examination Module 1 on 24 Sep 2018 2018	Edusat Team

Note:

Module- 2 Global Navigation Satellite System and Geographical Information System Module/ Course Coordinator: Shri Ashutosh Bhardwaj & Shri Prasun Kumar Gupta				
17 Sep 18	Monday	1600-1730 hrs	Introduction to GPS and GNSS	Er. Ashutosh Bhardwaj
18 Sep 18	Tuesday	1600-1730 hrs	GPS receivers, processing methods, errors and accuracy	Er. Ashutosh Bhardwaj
19 Sep 18	Wednesday	1600-1730 hrs	Satellites based Augmentation systems & GPS Aided and GEO Augmented Navigation (GAGAN)	Er. Ashutosh Bhardwaj
20 Sep 18	Thursday	1600-1730 hrs	Break	
21 Sep 18	Friday		Muharram	
22 Sep 18	Saturday			
23 Sep 18	Sunday			
24Sep 18	Monday	1600-1730 hrs	GPS signal characteristics, Data formats (broadcast, precise ephemeris)	Shri S. Raghavendra
25 Sep 18	Tuesday	1600-1730 hrs	Indian Regional Navigation Satellite System (IRNSS)	Er. Ashutosh Bhardwaj & Shri Kamal Pandey
26 Sep 18	Wednesday		Break	
			DGPS demonstration (Pre-recorded followed by live query session)	Offline
27 Sep 18	Thursday	1600-1730 hrs	Advance GNSS processing	Shri Suresh Kannaujiya
28 Sep 18	Friday	1600-1730 hrs	Mobile Mapping	Dr. Harish Chandra Karnatak
	Saturday			
	Sunday			
Geographical Information System Module/ Course Coordinator: Shri Prasun Kumar Gupta				
01 Oct 18	Monday	1600-1730 hrs	Introduction to GIS	Dr. Sameer Saran
02 Oct 18	Tuesday	Gandhi Jayanthi		
03 Oct 18	Wednesday	1600-1730 hrs	Geographic Phenomena, Concepts and examples	Shri Prasun Kumar Gupta
04 Oct 18	Thursday	1600-1730 hrs	Data Inputting and Editing in GIS	Shri K. Shiva Reddy
05 Oct 18	Friday	1600-1730 hrs	GIS Data Models (Spatial and Non spatial)	Shri Ashutosh Kumar Jha
06 Oct 18		Saturday		
07 Oct 18		Sunday		
08 Oct 18	Monday	1600-1730 hrs	Map Projection Concepts & Use in RS & GIS	Dr. Ashutosh Srivastav
09 Oct 18	Tuesday	1600-1730 hrs	Spatial Analysis - Introductory Concepts and Overview	Shri Prabhhar Alok Verma
10 Oct 18	Wednesday	1600-1730 hrs	Spatial Analysis - Functionality and Tools	Shri Kapil Oberai
11 Oct 18	Thursday	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	Recorded Lecture
12 Oct 18	Friday	1600-1730 hrs	Demo of QGIS Software – Session 02: (Data Creation/Vector Generation) Digitization, Setting digitizing environment Adding attributes, Editing digitized layer Attribute Queries, Spatial Queries Linking spatial & non-spatial data	Recorded Lecture
13 Oct 18		Saturday		
14 Oct 18		Sunday		
15 Oct 18	Monday Tuesday	1530-1555hrs	Interactive Session of Demo of QGIS Software – Session 01 & Session 02	Shri Prasun Kumar Gupta
		1600-1730 hrs	Open Source Software Technology & Tools	Shri Prasun Kumar Gupta
16 Oct 18	Wednesday	1600-1730 hrs	Data Quality &Policies OGC, NSDI & GSDI initiatives. Discussion on Internet resources	Dr. Harish Karnatak
17 Oct 18	Thursday	1600-1730 hrs	Advanced Geospatial Modeling	Shri Ashutosh Kumar Jha
18 Oct 18	Friday	1600-1730 hrs	BREAK	
19 Oct 18	Monday		**Dussehra**	
20 Oct 18			**Saturday**	
21 Oct 18			**Sunday**	

22 Oct 18	Monday	1600-1730 hrs	Uncertainty in GIS and Error Propagation	Shri Hari Shankar
23 Oct 18	Tuesday	1600-1730 hrs	3D GIS, City Models and Applications	Dr. Sameer Saran
24 Oct 18	**Wednesday**	**1600-1730 hrs**	**BREAK**	
25 Oct 18	Thursday	1600-1730 hrs	Recent Trends in Geoinformatics	Dr. Sameer Saran
26 Oct 18	Friday	1600-1730 hrs	Panel Discussion of Module 2	All Faculty

Note: *RS & GIS Applications Module and Course schedule will be updated soon..*

36th Course Consist 03 Module

1- *Remote Sensing & Digital Image Analysis*
2- *Global Navigation Satellite System and Geographical Information System*
3- *RS & GIS Applications*

There will be 03 exam for Basic of RS, GIS & GNSS

And a single exam for Course no 37,38 and 39th course

Sl No	Exam Name	Exam Date
1-	Online Examination 36th Course on Module1 *Remote Sensing & Digital Image Analysis*	**24 Sept 2018**
2-	Online Examination 37th Course on *Remote Sensing & Digital Image Analysis*	**24 Sept 2018**
3-	Online Examination Module- 2 Global Navigation Satellite System and Geographical Information System	**Will be informed shortly**
4-	Online Examination of 38th Course on Global Navigation Satellite System and Geographical Information System	**Will be informed shortly**
5-	Online Examination Module- 3 Course on *RS & GIS Applications*	**Will be informed shortly**
6-	Online Examination of 39th Course on *RS & GIS Applications*	**Will be informed shortly**

Special Course on Remote Sensing, GIS and GNSS Technology

Duration- April 13, 2020 to April 25, 2020

Total Sessions- 23

Date	Day	Time	Topic	Speaker
13/04/2020	Monday	1100-1230 Hrs	Basic Principles of Remote Sensing	Dr. Manu Mehta
13/04/2020	Monday	1500-1630 Hrs	Earth Observation Sensors & Platforms	Mr. Vinay Kumar
14/04/2020	Tuesday	1100-1230 Hrs	Spectral Signatures Of Different Land Cover Features & Visual Image Interpretation	Dr. Hina Pande
14/04/2020	Tuesday	1500-1630 Hrs	Data Image Processing: Basic Concepts, Rectification & Registration	Mrs. Minakshi Kumar
15/04/2020	Wednesday	1100-1230 Hrs	Image Enhancement Techniques: Contrast, Filtering Transformations	Mrs. Minakshi Kumar
15/04/2020	Wednesday	1500-1630 Hrs	Image Classification Techniques: Unsupervised, Supervised & Separabilty Analysis	Dr. Poonam S Tiwari.
16/04/2020	Thursday	1100-1230 Hrs	Digital Change Detection & Accuracy Assessment	Dr. Poonam S Tiwari.
16/04/2020	Thursday	1500-1630 Hrs	Introduction To GPS & GNSS	Dr. Ashutosh Bhardwaj
17/04/2020	Friday	1100-1230 Hrs	GPS Receivers, Processing Methods, Errors & Accuracy	Dr. Ashutosh Bhardwaj
17/04/2020	Friday	1500-1630 Hrs	Satellite Based Augmentation Systems & GPS Aided & Geo Augmented Navigation (GAGAN)	Dr. Ashutosh Bhardwaj
18/04/2020	Saturday	1100-1230 Hrs	Indian Regional Navigation Satellite System (IRNSS)/NaviC	Er. Ashutosh Bhardwaj & Shri Kamal Pandey
20/04/2020	Monday	1500-1630 Hrs	Mobile GIS – An overview	Mr. Kamal Pandey
20/04/2020	Monday	1100-1230 Hrs	Introduction To GIS	Dr, Sameer Saran
21/04/2020	Tuesday	1100-1230 Hrs	Geographic Phenomena, Concepts & Examples	Shri Prasun Kumar Gupta
21/04/2020	Tuesday	1500-1630 Hrs	Data Inputting & Editing In GIS	Shri Shiva K. Reddy
22/04/2020	Wednesday	1100-1230 Hrs	GIS Data Models (Spatial & Non – Spatial)	Shri Ashutosh Kumar Jha
22/04/2020	Wednesday	1500-1630 Hrs	Map Projection Concepts & Use In GIS & RS	Dr. Ashutosh Shrivastav

Date	Day	Time	Topic	Speaker
23/04/2020	Thursday	1100-1230 Hrs	Spatial Analysis – Introductory Concepts & Overview	Shri Prabhakar Alok Verma
23/04/2020	Thursday	1500-1630 Hrs	Spatial Analysis – Functionality & Tools	Shri Kapil Oberai
24/04/2020	Friday	1100-1230 Hrs	Data Quality & Policies OGC, NSDI & GSDI Initiatives.	Dr. Harish Chandra Karnatak
24/04/2020	Friday	1500-1630 Hrs	Demonstration on QGIS- Basic GIS operations and Analysis	Mr. Prasun Kumar Gupta
25/04/2020	Saturday	1100-1230 Hrs	Concept of Online GIS – An Introduction to Geoweb Services	Dr. Harish Chandra Karnatak
25/04/2020	Saturday	1500-1630 Hrs	Geodata Processing using Python- An overview	Mr. Ravi Bhandari

Fifty IIRS Outreach Programme
On
Basic of RS, GIS & GNSS

Course Schedule

Sl No.	Course Name	Module Name	From	To
1.	Basic of RS, GIS & GNSS	-	19-08-2019	22-11-2019
2.	Remote Sensing & Digital Image Analysis	Module-1	19 Aug	09 Sep
3.	Global Navigation Satellite System	Module-2	12 Sep	24 Sep
4.	Geographical Information System Module	Module-3	25Sep	24 Oct
5.	RS & GIS Applications	Module-4	29 Oct	22 Nov

August, 2019

Module 1: Remote Sensing & Digital Image Analysis Module/ Course Coordinator: Mrs. Minakshi Kumar				
Date	Day	Time	Topic	Speaker
19 Aug 19	Monday	1530-1550 hrs	Course Inauguration	Dr. S.K.Srivastav
19 Aug 19	Monday	1600-1730 hrs	Basic Principles of Remote Sensing	Dr. Manu Mehta
20 Aug 19	Tuesday	1600-1730 hrs	Earth Observation Sensors and Platforms	Mr. Vinay Kumar
21 Aug 19	Wednesday	1600-1730 hrs	Thermal Remote Sensing	Dr. Yogesh Kant
22 Aug 19	Thursday	1600-1730 hrs	Spectral Signatures of Different Land cover Features and Visual Image interpretation	Dr. Hina Pande
23 Aug 19	Friday	1600-1730 hrs	Introduction to RS Data Products	Dr. Hina Pande
24 Aug 19	**-**	**Saturday**	**-**	
25 Aug 19	**-**	**Sunday**	**-**	
26 Aug 19	Monday	Offline	RS and Image Interpretation Practical	By University Coordinator
27 Aug 19	Tuesday	1600-1730 hrs	Digital Image Processing: Basic Concepts Rectification and Registration	Ms. Minakshi Kumar
28 Aug 19	Wednesday	1600-1730 hrs	Image Enhancement techniques- Contrast, Filtering Transformations	Ms. Minakshi Kumar
29 Aug 19	Thursday	1600-1730 hrs	Image Classification Techniques – Unsupervised, Supervised and Separabilty Analysis	Dr. Poonam S. Tiwari
30 Aug 19	Friday	1600-1730 hrs	Digital Change Detection and Accuracy Assessment	Dr. Poonam S. Tiwari
31 Aug 19		**Saturday**	-	
01 Sep 19		**Sunday**	-	
02 Sep 19		**Monday**	**Vinayaka Chaturthi**	
03 Sep 19	Tuesday	1600-1730 hrs	Hyperspectral Remote Sensing	Mr. Vinay Kumar
04 Sep 19	Wednesday	1630-1730 hrs	Image Processing hands on using ILWIS	Ms. Minakshi Kumar
05 Sep 19	Thursday	Offline - as per computer lab availability	Image Processing Hands-on and Practical Assignment	By University Coordinator
06 Sep 19	Friday		Digital Data Browsing	Dr. Poonam S . Tiwari
07 Sep 19	-	**Saturday**	-	
08 Sep 19	-	**Sunday**	-	
09 Sep 19	Wednesday	1630-1730 hrs	Microwave Remote Sensing	Dr. Shasi Kumar

Module- 2 Global Navigation Satellite System Module/ Course Coordinator: Shri Ashutosh Bhardwaj				
12 Sep 19	Thursday	1600-1730 hrs	Introduction to GPS and GNSS	Er. Ashutosh Bhardwaj
13 Sep 19	Friday	1600-1730 hrs	GPS receivers, processing methods, errors and accuracy	Er. Ashutosh Bhardwaj
14 Sep 19	-	-	**Saturday**	
15 Sep 19	-	-	**Sunday**	
16 Sep 19	Monday	1600-1730 hrs	Satellites based Augmentation systems & GPS Aided and GEO Augmented Navigation (GAGAN)	Er. Ashutosh Bhardwaj
17 Sep 19	Tuesday	1600-1730 hrs	GPS signal characteristics, Data formats (broadcast, precise ephemeris)	Shri S. Raghavendra
18 Sep 19	Wednesday	1600-1730 hrs	Indian Regional Navigation Satellite System (IRNSS)	Er. Ashutosh Bhardwaj & Shri Kamal Pandey
19 Sep 19	Thursday	1600-1730 hrs	DGPS demonstration (Pre-recorded followed by live query session)	Offline
20 Sep 19	Friday	1600-1730 hrs	Advance GNSS processing	Shri Suresh Kannaujiya
21 Sep 19	-	-	**Saturday**	
22 Sep 19	-	-	**Sunday**	
23 Sep 19	Monday	1600-1730 hrs	Mobile Mapping	Dr. Harish Chandra Karnatak
24 Sep 19	Tuesday	1600-1730 hrs	Demonstration on Mobile mapping applications	Sh. Kamal Pandey

Module- 3 Geographical Information System Module/ Course Coordinator: Shri Prasun Kumar Gupta				
25 Sep 19	Wednesday	1600-1730 hrs	Introduction to GIS	Dr. Sameer Saran
26 Sep 19	Thursday	1600-1730 hrs	Geographic Phenomena, Concepts and examples	Shri Prasun Kumar Gupta
27 Sep 19	Friday	1600-1730 hrs	Data Inputting and Editing in GIS	Shri K. Shiva Reddy
28 Sep 19		Saturday		
29 Sep 19		Sunday		
30 Sep 19	Monday	1600-1730 hrs	GIS Data Models (Spatial and Non spatial)	Shri Ashutosh Kumar Jha
01 Oct 19	Tuesday	1600-1730 hrs	Map Projection Concepts & Use in RS & GIS	Dr. Ashutosh Srivastav
02 Oct 19			Mahatma Gandhi	
03 Oct 19	Thursday	1600-1730 hrs	Spatial Analysis - Introductory Concepts and Overview	Shri Prabhhar Alok Verma
04 Oct 19	Friday	1600-1730 hrs	Spatial Analysis - Functionality and Tools	Shri Kapil Oberai
05 Oct 19	**Saturday**			
06 Oct 19	**Sunday**			
07 Oct 19	Monday		Dussehra (Maha Navmi)	
08 Oct 19	Tuesday		Dussehra (Vijay Dushmi)	
09 Oct 19	Wednesday		Festival Break	
10 Oct 19	Thursday		Festival Break	
11 Oct 19	Friday	1600-1730 hrs	Demo of QGIS Software – Session 01: Adding GIS Data, Attribute table & Identity toolChange symbology, Create map composers Manage plugins, CRS & EPSG Geo-referencing & Tie-points, RMSE & Rectification	Recorded Lecture
12 Oct 19	**Saturday**	-	-	-
13Oct 19	**Sunday**		-	-
14 Oct 19	Monday	1600-1730 hrs	Demo of QGIS Software – Session 02: (Data Creation/Vector Generation) Digitization, Setting digitizing environment Adding attributes, Editing digitized layer Attribute Queries, Spatial Queries Linking spatial & non-spatial data	Recorded Lecture
15 Oct 19	Tuesday	1600-1730 hrs	Extra Lecture – DEMO on QGIS 03	Shri Prasun Kumar Gupta
16 Oct 19	**Wednesday**	1530-1555hrs 1600-1730 hrs	Interactive Session of Demo of QGIS Software – Session 01 & Session 02 &03 Open Source Software Technology & Tools	Shri Prasun Kumar Gupta
17 Oct 19	Thursday	1600-1730 hrs	Data Quality &Policies OGC, NSDI & GSDI initiatives. Discussion on Internet resources	Dr. Harish Karnatak
18 Oct 19	Friday	1600-1730 hrs	Advanced Geospatial Modeling	Shri Ashutosh Kumar Jha
19 Oct 19	**Saturday**	-	-	-
20 Oct 19	**Sunday**	-	-	-

21 Oct 19	Monday	1600-1730 hrs	Uncertainty in GIS and Error Propagation	Shri Hari Shankar
22Oct 19	Tuesday	1600-1730 hrs	3D GIS, City Models and Applications	Dr. Sameer Saran
23 Oct 19	**Wednesday**	1600-1730 hrs	Recent Trends in Geoinformatics	Dr. Sameer Saran
24Oct 19	Thursday	1600-1730 hrs	Panel Discussion	All Faculty
25 Oct 19	Friday	-	**Dipwali Festival Break**	
26 Oct 19	**Saturday**	-	-	
27 Oct 19	**Sunday**	-	Deepavali	
28 Oct 19	Monday	1600-1730 hrs	Festival Break	

Module-4 RS & GIS Applications Module/ Course Coordinator: Dr. C M Bhatt				
Date	**Day**	**Time**	**Topic**	**Speaker**
29 Oct 19	Tuesday	1600-1730 hrs	Space Technology & its applications in governance	Dr. S. K Srivastav
30 Oct 19	Wednesday	1600-1730 hrs	Remote Sensing and GIS Applications in Soil Resource Assessment	Dr. Suresh Kumar
31 Oct 19	Thursday	1600-1730 hrs	Remote Sensing Applications in Agriculture- Crop Inventory & Yield Forecasting	Dr. N.R. Patel
01 Nov 19	Friday	1600-1730 hrs	RS & GIS Applications in Forestry and Ecology	Dr. Hitendra Padalia
02 Nov 19	**Saturday**	-	**Break**	
03Nov 19	**Sunday**	-	**Break**	
04 Nov 19	Monday	1600-1730 hrs	RS & GIS Applications to Water Resources Management	Dr. S.P Aggarwal
05 Nov 19	Tuesday	1600-1730 hrs	Geology and Geomorphology	Dr. R.S. Chatterjee
06 Nov 19	Wednesday	**1600-1730 hrs**	**Break**	
07 Nov 19	Thursday	1600-1730 hrs	Space-enabled Products & Services for Disaster Management :Indian Initiatives	Dr. P.K.C.Ray
08 Nov 19	Friday	1600-1730 hrs	RS & GIS Application in Urban & Regional Planning	Shri. Pramod Kumar
09 Nov 19		**Saturday**		
10 Nov 19		**Sunday**		
11 Nov 19	Monday	1600-1730 hrs	**Break**	
12 Nov 19			**Break**	
13 Nov 19	Tuesday	1600-1730 hrs	RS applications for Planetary Studies	Dr. Prakash Chauhan
14 Nov 19	Thursday	1530-1630 hrs	RS & GIS for Coastal Zone Management	Dr. D. Mitra
15 Nov 19	Thursday	1630 – 1730 hrs	Remote Sensing Application to Atmospheric & Marine Environment	Dr. A.K Mishra
16 Nov 19	**Saturday**	-		
17 Nov 19	**Sunday**	-		
18 Nov 19	Monday	1600-1730 hrs	Engineering Geology with emphasis on landslide studies	Dr. Shovan Chattoraj
19 Nov 19	Tuesday	1530-1630 hrs	Geospatial Technology for climate change studies	Dr. Arijit Roy
20 Nov 19	Wednesday	1630 – 1730 hrs	**Break**	
21 Nov 19	Thursday	1600-1730 hrs	Applications of Geo-web Services and mobile GIS in governance	Dr. Harish Karnatak
22 Nov 19	Friday	1530-1630 hrs	Panel Discussion Module-3	All speakers

50th Course on Basic of RS, GIS & GNSS Consist 04 Module

1- Remote Sensing & Digital Image Analysis
2- Global Navigation Satellite System
3- Geographical Information System
4- RS & GIS Applications

There will be 01 exam for Basic of RS, GIS & GNSS after completion of the course

And a single exam for each Course no 51th, 52th, 53th and 54th course

Sl. No	Exam Name	Exam Date
1-	Online Examination 51th Course or Module1 on Remote Sensing and Digital Image Analysis	Last week of the Month
2-	Online Examination 52th Course or Module 1 on Global Navigation Satellite System	Will be conducted first week and last week of the Month
3-	Online Examination of 53th Course or Module 3 on Geographical Information System	Will be conducted first week and last week of the Month
4-	Online Examination of 54th Course or Module 4 on *RS & GIS Applications*	Will be conducted first week and last week of the Month

Fifty IIRS Outreach Programme
On
Basic of RS, GIS & GNSS

Course Schedule

Sl No.	Course Name	Module Name	From	To
1.	Basic of RS, GIS & GNSS	-	19-08-2019	22-11-2019
2.	Remote Sensing & Digital Image Analysis	Module-1	19 Aug	09 Sep
3.	Global Navigation Satellite System	Module-2	12 Sep	24 Sep
4.	Geographical Information System Module	Module-3	25Sep	24 Oct
5.	RS & GIS Applications	Module-4	29 Oct	22 Nov

August, 2019

			Module 1: Remote Sensing & Digital Image Analysis Module/ Course Coordinator: Mrs. Minakshi Kumar	
Date	Day	Time	Topic	Speaker
19 Aug 19	Monday	1530-1550 hrs	Course Inauguration	Dr. S.K.Srivastav
19 Aug 19	Monday	1600-1730 hrs	Basic Principles of Remote Sensing	Dr. Manu Mehta
20 Aug 19	Tuesday	1600-1730 hrs	Earth Observation Sensors and Platforms	Mr. Vinay Kumar
21 Aug 19	Wednesday	1600-1730 hrs	Thermal Remote Sensing	Dr. Yogesh Kant
22 Aug 19	Thursday	1600-1730 hrs	Spectral Signatures of Different Land cover Features and Visual Image interpretation	Dr. Hina Pande
23 Aug 19	Friday	1600-1730 hrs	Introduction to RS Data Products	Dr. Hina Pande
24 Aug 19	**-**	**Saturday**	**-**	
25 Aug 19	**-**	**Sunday**	**-**	
26 Aug 19	Monday	Offline	RS and Image Interpretation Practical	By University Coordinator
27 Aug 19	Tuesday	1600-1730 hrs	Digital Image Processing: Basic Concepts Rectification and Registration	Ms. Minakshi Kumar
28 Aug 19	Wednesday	1600-1730 hrs	Image Enhancement techniques- Contrast, Filtering Transformations	Ms. Minakshi Kumar
29 Aug 19	Thursday	1600-1730 hrs	Image Classification Techniques – Unsupervised, Supervised and Separabilty Analysis	Dr. Poonam S. Tiwari
30 Aug 19	Friday	1600-1730 hrs	Digital Change Detection and Accuracy Assessment	Dr. Poonam S. Tiwari
31 Aug 19		**Saturday**	-	
01 Sep 19		**Sunday**	-	
02 Sep 19		**Monday**	**Vinayaka Chaturthi**	
03 Sep 19	Tuesday	1600-1730 hrs	Hyperspectral Remote Sensing	Mr. Vinay Kumar
04 Sep 19	Wednesday	1630-1730 hrs	Image Processing hands on using ILWIS	Ms. Minakshi Kumar
05 Sep 19	Thursday	Offline - as per computer lab availability	Image Processing Hands-on and Practical Assignment	By University Coordinator
06 Sep 19	Friday		Digital Data Browsing	Dr. Poonam S . Tiwari
07 Sep 19	-	**Saturday**	-	
08 Sep 19	-	**Sunday**	-	
09 Sep 19	Wednesday	1630-1730 hrs	Microwave Remote Sensing	Dr. Shasi Kumar

Module- 2 Global Navigation Satellite System Module/ Course Coordinator: Shri Ashutosh Bhardwaj				
12 Sep 19	Thursday	1600-1730 hrs	Introduction to GPS and GNSS	Er. Ashutosh Bhardwaj
13 Sep 19	Friday	1600-1730 hrs	GPS receivers, processing methods, errors and accuracy	Er. Ashutosh Bhardwaj
14 Sep 19	-	-	**Saturday**	
15 Sep 19	-	-	**Sunday**	
16 Sep 19	Monday	1600-1730 hrs	Satellites based Augmentation systems & GPS Aided and GEO Augmented Navigation (GAGAN)	Er. Ashutosh Bhardwaj
17 Sep 19	Tuesday	1600-1730 hrs	GPS signal characteristics, Data formats (broadcast, precise ephemeris)	Shri S. Raghavendra
18 Sep 19	Wednesday	1600-1730 hrs	Indian Regional Navigation Satellite System (IRNSS)	Er. Ashutosh Bhardwaj & Shri Kamal Pandey
19 Sep 19	Thursday	1600-1730 hrs	DGPS demonstration (Pre-recorded followed by live query session)	Offline
20 Sep 19	Friday	1600-1730 hrs	Advance GNSS processing	Shri Suresh Kannaujiya
21 Sep 19	-	-	**Saturday**	
22 Sep 19	-	-	**Sunday**	
23 Sep 19	Monday	1600-1730 hrs	Mobile Mapping	Dr. Harish Chandra Karnatak
24 Sep 19	Tuesday	1600-1730 hrs	Demonstration on Mobile mapping applications	Sh. Kamal Pandey

Module- 3 Geographical Information System Module/ Course Coordinator: Shri Prasun Kumar Gupta				
25 Sep 19	Wednesday	1600-1730 hrs	Introduction to GIS	Dr. Sameer Saran
26 Sep 19	Thursday	1600-1730 hrs	Geographic Phenomena, Concepts and examples	Shri Prasun Kumar Gupta
27 Sep 19	Friday	1600-1730 hrs	Data Inputting and Editing in GIS	Shri K. Shiva Reddy
28 Sep 19		Saturday		
29 Sep 19		Sunday		
30 Sep 19	Monday	1600-1730 hrs	GIS Data Models (Spatial and Non spatial)	Shri Ashutosh Kumar Jha
01 Oct 19	Tuesday	1600-1730 hrs	Map Projection Concepts & Use in RS & GIS	Dr. Ashutosh Srivastav
02 Oct 19			Mahatma Gandhi	
03 Oct 19	Thursday	1600-1730 hrs	Spatial Analysis - Introductory Concepts and Overview	Shri Prabhhar Alok Verma
04 Oct 19	Friday	1600-1730 hrs	Spatial Analysis - Functionality and Tools	Shri Kapil Oberai
05 Oct 19	**Saturday**			
06 Oct 19	**Sunday**			
07 Oct 19	Monday		Dussehra (Maha Navmi)	
08 Oct 19	Tuesday		Dussehra (Vijay Dushmi)	
09 Oct 19	Wednesday		Festival Break	
10 Oct 19	Thursday		Festival Break	
11 Oct 19	Friday	1600-1730 hrs	Demo of QGIS Software – Session 01: Adding GIS Data, Attribute table & Identity toolChange symbology, Create map composers Manage plugins, CRS & EPSG Geo-referencing & Tie-points, RMSE & Rectification	Recorded Lecture
12 Oct 19	**Saturday**	-	-	-
13Oct 19	**Sunday**		-	-
14 Oct 19	Monday	1600-1730 hrs	Demo of QGIS Software – Session 02: (Data Creation/Vector Generation) Digitization, Setting digitizing environment Adding attributes, Editing digitized layer Attribute Queries, Spatial Queries Linking spatial & non-spatial data	Recorded Lecture
15 Oct 19	Tuesday	1600-1730 hrs	Extra Lecture – DEMO on QGIS 03	Shri Prasun Kumar Gupta
16 Oct 19	**Wednesday**	1530-1555hrs 1600-1730 hrs	Interactive Session of Demo of QGIS Software – Session 01 & Session 02 &03 Open Source Software Technology & Tools	Shri Prasun Kumar Gupta
17 Oct 19	Thursday	1600-1730 hrs	Data Quality &Policies OGC, NSDI & GSDI initiatives. Discussion on Internet resources	Dr. Harish Karnatak
18 Oct 19	Friday	1600-1730 hrs	Advanced Geospatial Modeling	Shri Ashutosh Kumar Jha
19 Oct 19	**Saturday**	-	-	-
20 Oct 19	**Sunday**	-	-	-

21 Oct 19	Monday	1600-1730 hrs	Uncertainty in GIS and Error Propagation	Shri Hari Shankar
22Oct 19	Tuesday	1600-1730 hrs	3D GIS, City Models and Applications	Dr. Sameer Saran
23 Oct 19	**Wednesday**	1600-1730 hrs	Recent Trends in Geoinformatics	Dr. Sameer Saran
24Oct 19	Thursday	1600-1730 hrs	Panel Discussion	All Faculty
25 Oct 19	Friday	-	**Dipwali Festival Break**	
26 Oct 19	**Saturday**	-	-	
27 Oct 19	**Sunday**	-	Deepavali	
28 Oct 19	Monday	1600-1730 hrs	Festival Break	

Module-4 RS & GIS Applications Module/ Course Coordinator: Dr. C M Bhatt				
Date	**Day**	**Time**	**Topic**	**Speaker**
29 Oct 19	Tuesday	1600-1730 hrs	Space Technology & its applications in governance	Dr. S. K Srivastav
30 Oct 19	Wednesday	1600-1730 hrs	Remote Sensing and GIS Applications in Soil Resource Assessment	Dr. Suresh Kumar
31 Oct 19	Thursday	1600-1730 hrs	Remote Sensing Applications in Agriculture- Crop Inventory & Yield Forecasting	Dr. N.R. Patel
01 Nov 19	Friday	1600-1730 hrs	RS & GIS Applications in Forestry and Ecology	Dr. Hitendra Padalia
02 Nov 19	**Saturday**	-	**Break**	
03Nov 19	**Sunday**	-	**Break**	
04 Nov 19	Monday	1600-1730 hrs	RS & GIS Applications to Water Resources Management	Dr. S.P Aggarwal
05 Nov 19	Tuesday	1600-1730 hrs	Geology and Geomorphology	Dr. R.S. Chatterjee
06 Nov 19	Wednesday	**1600-1730 hrs**	**Break**	
07 Nov 19	Thursday	1600-1730 hrs	Space-enabled Products & Services for Disaster Management :Indian Initiatives	Dr. P.K.C.Ray
08 Nov 19	Friday	1600-1730 hrs	RS & GIS Application in Urban & Regional Planning	Shri. Pramod Kumar
09 Nov 19		**Saturday**		
10 Nov 19		**Sunday**		
11 Nov 19	Monday	1600-1730 hrs	**Break**	
12 Nov 19			**Break**	
13 Nov 19	Tuesday	1600-1730 hrs	RS applications for Planetary Studies	Dr. Prakash Chauhan
14 Nov 19	Thursday	1530-1630 hrs	RS & GIS for Coastal Zone Management	Dr. D. Mitra
15 Nov 19	Thursday	1630 – 1730 hrs	Remote Sensing Application to Atmospheric & Marine Environment	Dr. A.K Mishra
16 Nov 19	**Saturday**	-		
17 Nov 19	**Sunday**	-		
18 Nov 19	Monday	1600-1730 hrs	Engineering Geology with emphasis on landslide studies	Dr. Shovan Chattoraj
19 Nov 19	Tuesday	1530-1630 hrs	Geospatial Technology for climate change studies	Dr. Arijit Roy
20 Nov 19	Wednesday	1630 – 1730 hrs	**Break**	
21 Nov 19	Thursday	1600-1730 hrs	Applications of Geo-web Services and mobile GIS in governance	Dr. Harish Karnatak
22 Nov 19	Friday	1530-1630 hrs	Panel Discussion Module-3	All speakers

50th Course on Basic of RS, GIS & GNSS Consist 04 Module

1- Remote Sensing & Digital Image Analysis
2- Global Navigation Satellite System
3- Geographical Information System
4- RS & GIS Applications

There will be 01 exam for Basic of RS, GIS & GNSS after completion of the course

And a single exam for each Course no 51th, 52th, 53th and 54th course

Sl. No	Exam Name	Exam Date
1-	Online Examination 51th Course or Module1 on Remote Sensing and Digital Image Analysis	Last week of the Month
2-	Online Examination 52th Course or Module 1 on Global Navigation Satellite System	Will be conducted first week and last week of the Month
3-	Online Examination of 53th Course or Module 3 on Geographical Information System	Will be conducted first week and last week of the Month
4-	Online Examination of 54th Course or Module 4 on *RS & GIS Applications*	Will be conducted first week and last week of the Month