

# ADVERTISEMENT

for

## Admission in Three (3) Months Certificate Course in Digital Image Processing



Jointly organised by



**National Atlas and Thematic Mapping Organisation (NATMO), Govt. of India**  
&  
**South Asian Institute for Advanced Research and Development (SAIARD)**

at

**National Atlas and Thematic Mapping Organisation (NATMO), Salt Lake, C.G.O. Complex, Kolkata**

Course Details		
Course Duration	3 Months	
Total Course Hours	108 Hrs.	
Session	July to September	
Software	Erdas Imagine & TNT Mips	
Course Fees	<b>For General Candidates</b>	<b>For Sponsored Candidates</b>
	10000/-	15000/-
Intake Capacity (per batch)	45	
Class Timing	<b>Monday, Tuesday &amp; Wednesday</b>	
	(2:00 p.m.– 5:00 p.m.)	
Eligibility	B.A./B.Sc./M.A./M.Sc. /B.Tech. /M.Tech./ B.E. / A.M.I.E./B.C.A. / M.C.A. Students/ Faculties in any University/College/Research Institution/Govt. Officials/Corporates. Candidates having knowledge in basic Computer Operating System will get an extra preference.	
Examination	Yes	
Full Marks of Examination	50	
Certificate	Certificate will be provided jointly by SAIARD & NATMO	

## Format and Timeline of Application

Sl. No.	Content	Deadline
1	Last Date of Submission of Application Form along with the Latest Original Mark Sheet Or Certificate, One Recent Passport Size Photo, Aadhar Card in the given Email Id i.e. <a href="mailto:saiardcbp8@gmail.com">saiardcbp8@gmail.com</a>	15 <sup>th</sup> June, 2019
2	List of the Short Listed Candidates will be Uploaded on the Websites	17 <sup>th</sup> June, 2019
3	Last Date of Submission of Fees in the Given Bank Account	20 <sup>th</sup> June, 2019
4	Last Date of Submission of Hardcopy of Application Form & Transaction slip at <b>NATMO, C.G.O. Complex (7<sup>th</sup> Floor), Salt Lake, Kolkata</b> office between <b>12:00 - 4:00 p.m.</b>	24 <sup>th</sup> June, 2019

### Bank Details

Name of the Bank	State Bank of India
Branch	Baghajatin Station Road Branch
Branch Code	016629
Beneficiary A/C Name	South Asian Institute for Advanced Research and Development
Account Type	Current Account
A/C No	38377901244
IFSC Code	SBIN0016629
MICR	700002450

\*\*\* Once registered, candidates have to complete this course till end and at least 80% attendance is compulsory to get the certificate. Leaving without completing the course will consider disqualification of his/her candidature and he/she couldn't claim any refund or certificate against his/her decision.

# Admission Form

## Three (3) Months Certificate Course on **Digital Image Processing**

- Name:
- Latest Qualification:
- Designation:
- Affiliating Institution:
- Postal Address:
- State / Province:
- Country:
- Sponsored/General:
- Contact No.:
- Email:
- Aadhar No.:
- Bank Name :
- Amount:
- Transaction No. :
- Date:

Paste a recent  
Stamp size  
photographs here

\_\_\_\_\_  
Signature of the Candidate with Date

**For Details**

**Mobile:** 6289169916/9883629435/9027648321/9831090094

**Email:** [saiardkolkata@gmail.com](mailto:saiardkolkata@gmail.com); [dir.natmo@nic.in](mailto:dir.natmo@nic.in)

## Course Contents

SL No	Topic
1	Introduction to Remote Sensing and Image Interpretation
2	Concept on Remote Sensing: Definition, data (in situ / remote sensing), remote sensing process
3	Remote Sensing platforms and sensor characteristics: Platforms, passive/active, orbits, swath, nadir, sensor resolutions, image referencing system, orbital calendar
4	Photographic imaging: Camera, filter, film, vantage point
5	Visual interpretation of photographic images: Interpretation elements, interpretation of optical images, interpretation keys, mapping geographic features, practical
6	Digital optical imaging: Digital image, sensor, detector, image acquisition, PAN, multispectral, hyperspectral, digital camera
7	Concepts on co-ordinate system: Map, scale, coordinate systems, sphere/spheroid, datum, projection, projection parameters
8	DIP (pre-processing and enhancement): Georeferencing, RMS error, transformation and resampling, contrast enhancement
9	Visual interpretation of digital images: Image profile (choosing appropriate band/s), contrast enhancement
10	Pre-processing (using ERDAS Imagine):
11	Georeferencing (image to image, image to ground, image to map)
12	Mosaicking, AOI tools, sub setting (spatial and spectral)
13	DIP (enhancement and transformation): Spatial frequency, filtering (convolution, statistical, crisp), image addition, image subtraction, image multiplication, index
14	Image filtering and transformation (using <b>ERDAS Imagine</b> ): Convolution, crisp, change detection, index (iron oxide, clay, NDVI)
15	Image transformation (using ERDAS Imagine): Colour space transformation, TCT, FFT, fusion
16	Microwave remote sensing: Passive and active microwave remote sensing, radar imaging, frequency, polarization, viewing geometry, spatial resolution, speckle, surface geometry, surface roughness, dielectric properties, interpretation of radar image
17	DIP (Classification): Information class, spectral class, supervised vs. unsupervised, decision rules for unsupervised classification
18	Image classification using ERDAS imagine: Unsupervised classification
19	DIP (Classification): Decision rules for supervised classification, accuracy assessment, post-classification filtering
20	Image classification using ERDAS Imagine:
21	Supervised classification, accuracy assessment
22	Unsupervised classification of NDVI image, post-classification vectorisation
23	Layer stack, supervised classification using optical bands in addition to PC images and indexed image, post-classification filtering
24	Classification of change image, pseudo color image preparation
25	Presentation and publication using ERDAS Imagine: Map composition, import/export
26	Digital Photogrammetry: Image acquisition, geometric distortion, orientation and triangulation, digital stereo model, parallax, DEM generation, ortho-rectification, 3D feature