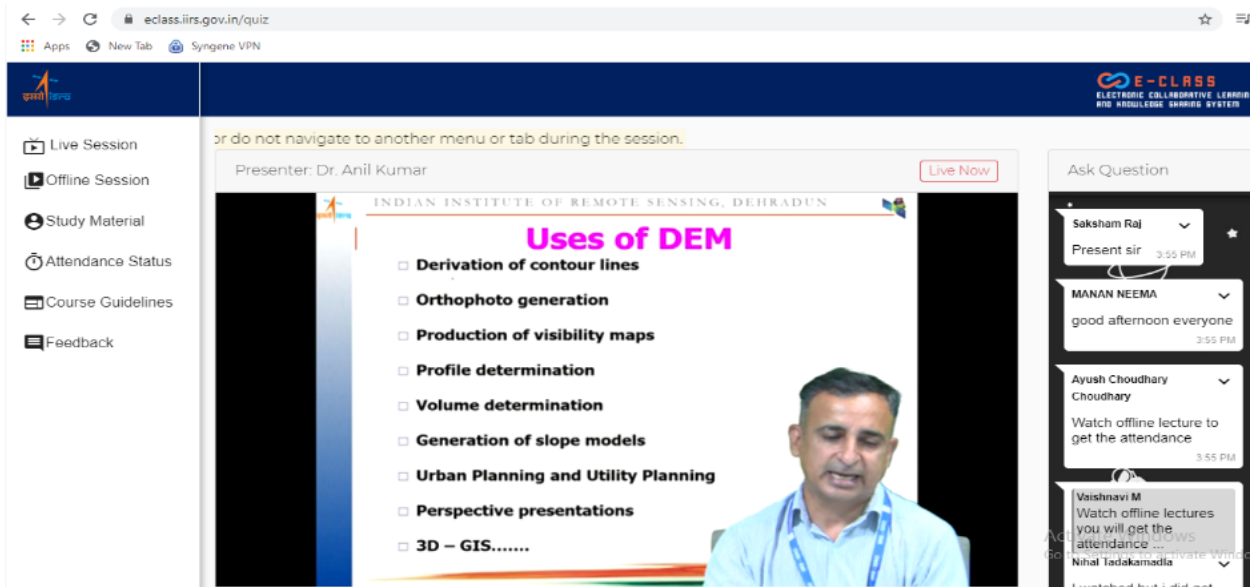


# DAILY ASSESSMENT FORMAT

Date:	03-07-2020	Name:	POOJA K S
Course:	IIRS Outreach Programme	USN:	4AL17EC070
Topic:	Satellite Photogrammetry and its Applications	Semester & Section:	6th SEM & 'B' SEC
Github Repository:	pooja-shivanna		

## FORENOON SESSION DETAILS

### Image of session



Dear participant, to mark your attendance properly, please do not frequently refresh this page or do not frequently refresh this page

Presenter: Dr. Anil Kumar Live Now

## DEM Precision

Ask Question

Saksham Raj  
Present sir 3:55 PM

MANAN NEEMA  
good afternoon everyone 3:55 PM

Ayush Choudhary Choudhary  
Watch offline lecture to get the attendance 3:55 PM

Vaishnavi M  
Watch offline lectures you will get the attendance ... 3:55 PM

Nihal Tadakamadadi  
I watched but i did not

Dear participant, to mark your attendance properly, please do not frequently refresh this page or do not frequently refresh this page

Presenter: Dr. Anil Kumar Live Now

## Automatic DTM Point Collection

### Least Squares Correlation:

When least squares correlation fits a search window to the reference window, both radiometric (pixel gray values) and geometric (location, size, and shape of the search window) transformations are calculated.

Where:

- $c_r, r_r$  = the pixel coordinate in the reference window
- $c_s, r_s$  = the pixel coordinate in the search window
- $g_r(c_r, r_r)$  = the gray value of pixel  $(c_r, r_r)$
- $g_s(c_s, r_s)$  = the gray value of pixel  $(c_s, r_s)$
- $a_0, a_1, a_2$  = linear gray value transformation parameters
- $b_0, b_1, b_2$  = affine geometric transformation parameters

Based on this assumption, the error equation for each pixel is derived, as shown in the following equation:

$$v = (a_1 + a_2 c_1 + a_3 r_1) g_c + (b_1 + b_2 c_1 + b_3 r_1) g_r - b_1 - b_2 g_s(c_s, r_s) + \Delta g$$

with  $\Delta g = g_s(c_s, r_s) - g_r(c_r, r_r)$

where  $g_r$  and  $g_s$  are the gradients of  $g_s(c_s, r_s)$ .

Ask Question

please watch class in offline in e-class portal and attendance will be updated 3:55 PM

JYOTHI K G  
Good evening sir 3:55 PM

KARAN JADAV  
Present 3:55 PM

Archanaa P  
Sir today is the last session of this course 3:55 PM

afroz basha shaik  
I have attended all sessions but not sir





Hemalatha Dand  
HALITEC035  
6 Sem, A Sec

papergrid

Date: / /

## SIRS Outreach programme

### Satellite Photogrammetry & its applications

Days: 03/07/2020 - Friday

Dr. Anil Kumar

#### Uses of DEM

- Derivation of contour lines
- Orthorectification
- Prediction of visibility

#### Automatic DSM Point Collection

##### Image Matching Techniques

- > Area - based matching
- > Feature based matching
- > Relation based matching

#### Automatic DSM Point Collection

##### Least square correlation

##### Feature based matching

- Feature based matching determines the correspondence between two image patches

#### Ortho rectification

#### Planimetrically correct Orthorectified



## > Advantages of use of Digital Orthophotos

### Input of generating an Orthophoto

The input data required for the orthophoto generation using aerial photographs (Aerial photography):

- > Photo length
- > Photo width
- > Fiducial marks coordinates
- > Ground

### • Least square correlation:

When least square correlation is used, each window is the reference window, both coordinates (first image values) & generated (second, size & shape of the search window) transformation are calculated.

- Product which can be readily interpreted like a photograph.
- Product in which data distortions, angles & areas can be measured & mapped in digital format.

