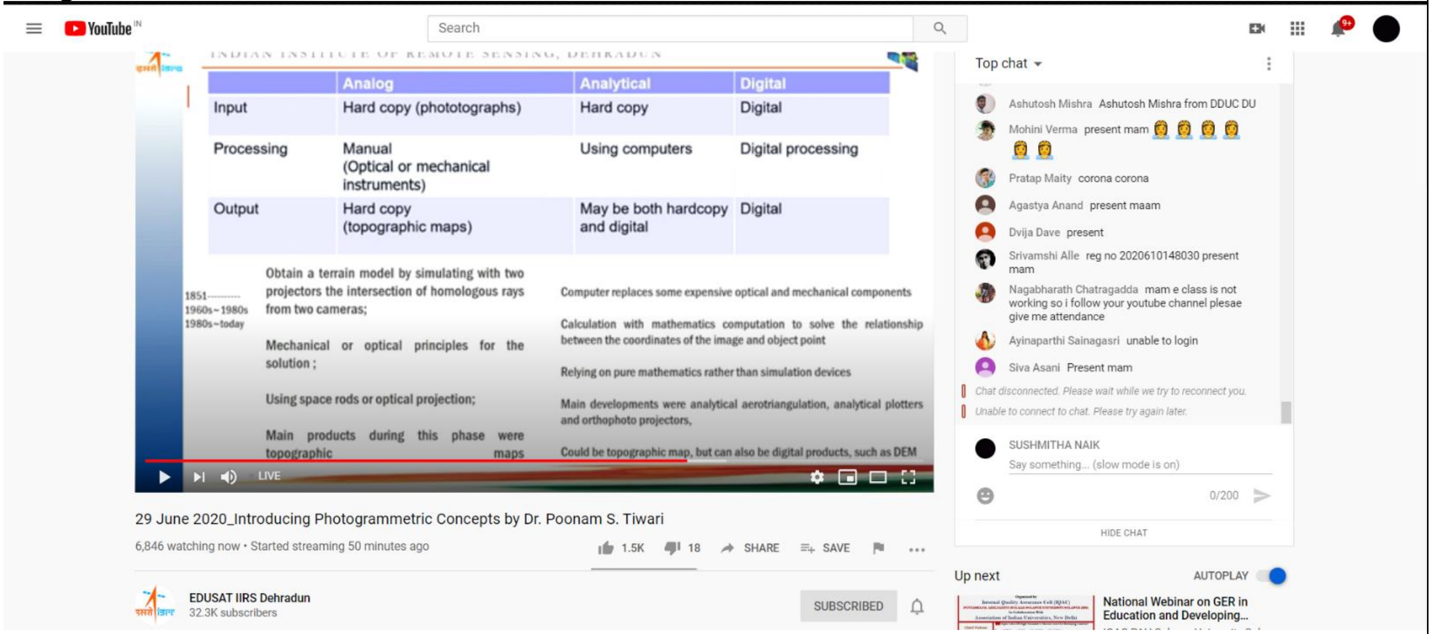
DAILY ASSESSMENT FORMAT

Date:	**29th June 2020**	**Name:**	**Sushmitha R Naik**
Course:	**Satellite Photometery And Its Courses**	**USN:**	**4AL17EC090**
Topic:	**Introduction to Photometric Courses**	**Semester & Section:**	**6th sem & B sec**
Github Repository:	**Sushmitha_naik**		

FORENOON SESSION DETAILS

Image of session



Report:

- The fundamental principle used by photogrammetry is triangulation. By taking photographs from atleast two different locations, so-called “lines of sight” can be developed from each camera to points on the object.
- One can do this exercise by observing the same object by closing one eye and thenthe another one.Photogrammetry is the science and technology of obtaining reliable information about physical objects and the environment through the process of recording, measuring and interpreting photographic images and patterns of electromagnetic radiant imagery and other phenomena.
- Photogrammetry appeared in the middle of the 19th century, almost simultaneously with the appearance of photography itself. The use of photographs to create topographic maps was first proposed by the French surveyor Dominique F.Arago in about 1840.
- The term photogrammetry was coined by the Prussian architect Albrecht Meydenbauer, which appeared his 1867 article "Die Photometrographie."There are many variants of photogrammetry. One example is the extraction of three-dimensional measurements from two-dimensional data (i.e. images).
- for example, the distance between two points that lie on a plane parallel to the photographic image plane can be determined by measuring their distance on the image, if the scale of the image is known. Another is the extraction of accurate color ranges and values representing such quantities as albedo,
- specular reflection, metallicity, or ambient occlusion from photographs of materials for the purposes of physically based rendering.

- **Close-range photogrammetry refers to the collection of photography from a lesser distance than traditional aerial (or orbital) photogrammetry. Photogrammetric analysis may be applied to one photograph, or may use high-speed photography and remote sensing to detect, measure and record complex 2D and 3D motion fields by feeding measurements and imagery analysis into computational models in an attempt to successively estimate, with increasing accuracy, the actual, 3D relative motions.From its beginning with the stereoplotters used to plot contour lines on topographic maps.**
- **It now has a very wide range of uses such as sonar, radar, and lidar Methods Edit A data model of photogrammetry Photogrammetry uses methods from many disciplines, including optics and projective geometry.**
- **Digital image capturing and photogrammetric processing includes several well defined stages, which allow the generation of 2D or 3D digital models of the object as an end product. The data model on the right shows what type of information can go into and come out of photogrammetric methods.**
- **The 3D coordinates define the locations of object points in the 3D space. The image coordinates define the locations of the object points' images on the film or an electronic imaging device. The exterior orientation[6] of a camera defines its location in space and its view direction. The inner orientation defines the geometric parameters of the imaging process.**
- **This is primarily the focal length of the lens, but can also include the description of lens distortions.**
- **Photogrammetric data with a dense range data in which scanners complement each other. Photogrammetry is more accurate in the x and y direction while range data are generally more accurate in the z direction[citation needed].**
- **This range data can be supplied by techniques like LiDAR, laser scanners (using time of flight, triangulation or interferometry), white-light digitizers and any other technique that scans an area and returns x, y, z coordinates for multiple discrete points (commonly called "point clouds").**
- **Photos can clearly define the edges of buildings when the point cloud footprint can not. It is beneficial to incorporate the advantages of both systems and integrate the to create a better product.**
- **A 3D visualization can be created by georeferencing the aerial photos and LiDAR data in the same reference frame, orthorectifying the aerial photos, and then draping the orthorectified images on top of the LiDAR grid. It is also possible to create digital terrain models and thus 3D visualisations using pairs (or multiples) of aerial photographs or satellite (e.g. SPOT satellite imagery).**
- **Techniques such as adaptive least squares stereo matching are then used to produce a dense array of correspondences which are transformed through a camera model to produce a dense array of x, y, z data which can be used to produce digital terrain model and orthoimage products.**