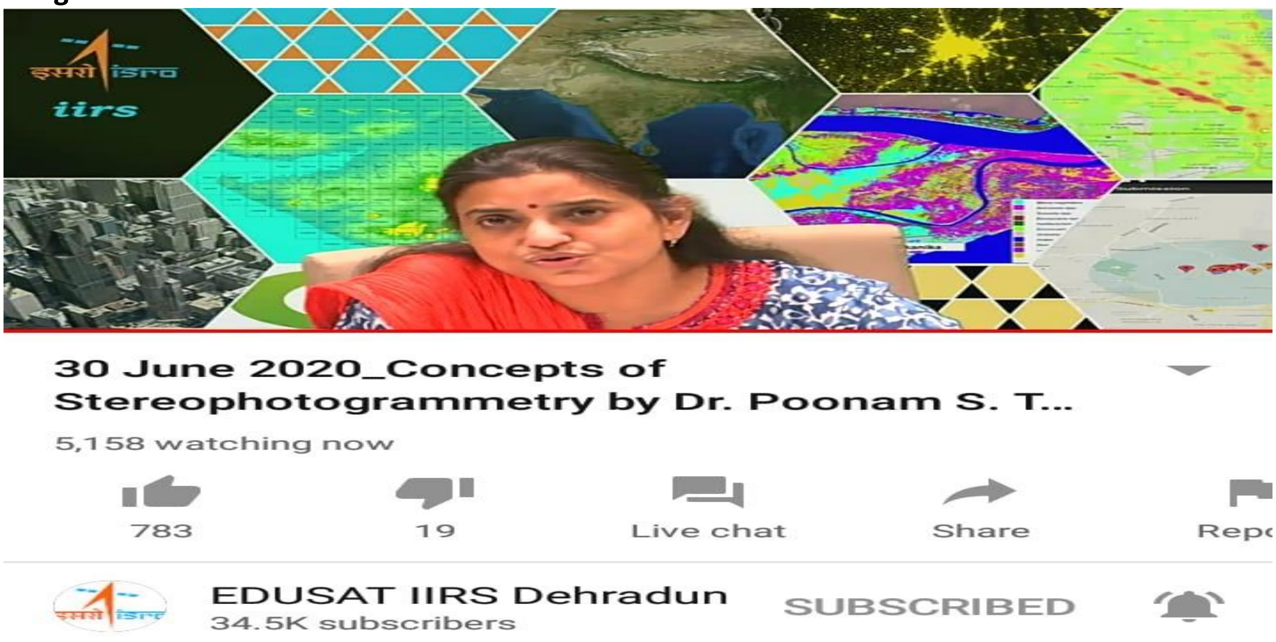
DAILY ASSESSMENT FORMAT

Date:	**30/June/2020**	**Name:**	**nishanth**
Course:	**IIRS**	**USN:**	**4al17ec063**
Topic:	**Stereophotogrammetry**	**Semester & Section:**	**6th b**
GitHub Repository:	**nishanthvr**		

FORENOON SESSION DETAILS
Image of session 
. **Stereo photogrammetry** is concerned with obtaining precise three dimensional (X, Y, Z) coordinates of common discrete points appearing on a stereoscopic pair of images. The use of hard-copy photographs has remained the dominant force in applications of close-range photogrammetry; substantial technical advances have been, and are still being made in the provision of other imaging techniques which are being used in stereo photogrammetry. The basic geometry of central projection applies to most of the important imaging sensors, such as the traditional camera, the solid-state video camera and the X-ray. In all these cases the image of a three-dimensional spatial object is 'captured' on a two-dimensional sensor - a film in the case of photography or an X-ray and the matrix of light-sensitive diodes in a solid-state video camera. It is therefore not possible to recreate the third dimension by back projection of the image. If two pictures of the same scene are captured using two sensors with their perspective centres apart then, by knowing certain orientation parameters of the separate sensors, and by measuring two-dimensional coordinates of common image points in the two planes, it is possible to derive space (X, Y, Z) coordinates of the common space point using the theory of photogrammetry. This is shown schematically in Figure 2.1. The most generally used method of evaluating an X-ray image, for example, is to make measurements on a single-plane X-ray photograph. Such an evaluation has many shortcomings; it cannot provide an accurate measure of the

relative location of discrete image points and, most important, it cannot reveal the true three-dimensional nature of the space structure. This has led to the development of stereo X-ray photogrammetry. Provided that certain fundamental photogrammetric rules of stereoscopy are followed, this can provide a three-dimensional view of the object being studied or a precise derivation of (X, Y, Z) coordinates of discrete common image points appearing on the stereoscopic pair of Xray photographs. If a visual stereoscopic view is not required and only coordinates are needed, then the configuration of the pair of imaging Xray foci is very much less restrictive. The mathematical theory of stereo photogrammetry is complex and its full details are beyond the scope of this chapter. Most problems of deriving three-dimensional coordinates from a stereoscopic pair of images can be solved by using the mathematics of projective transformations