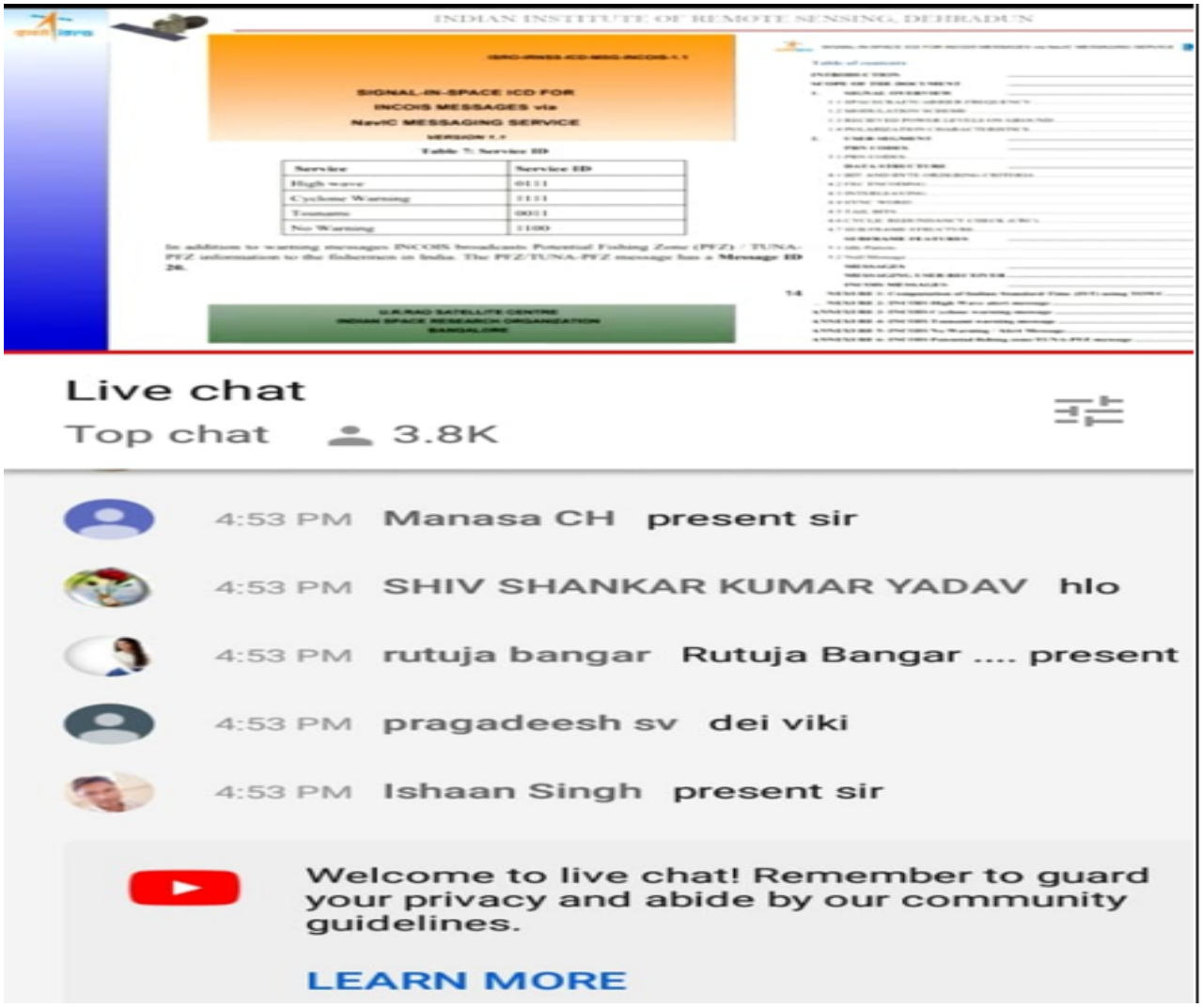
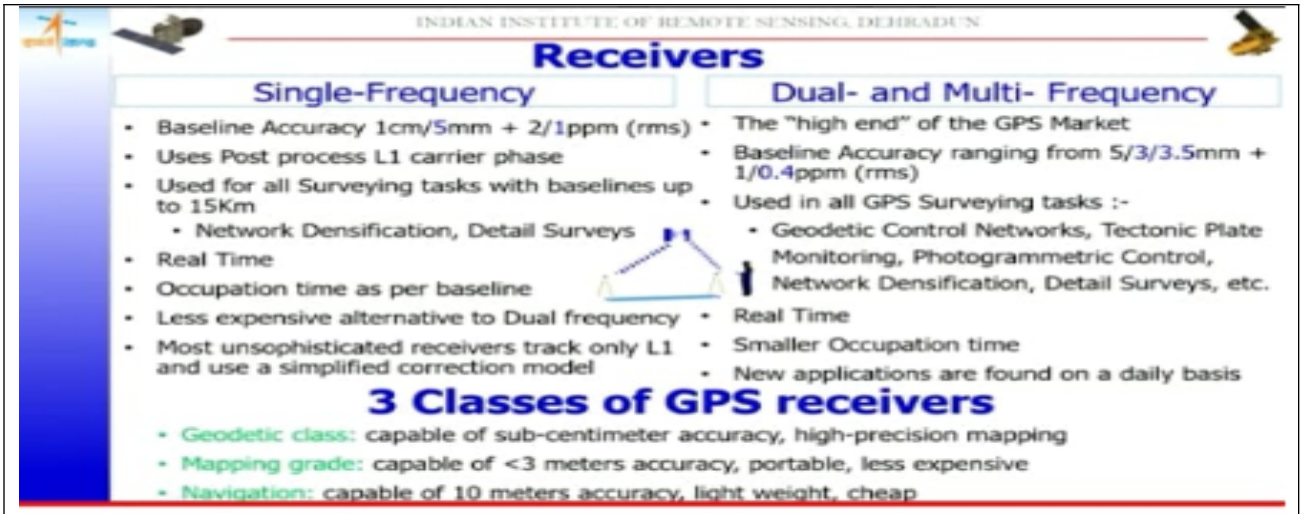
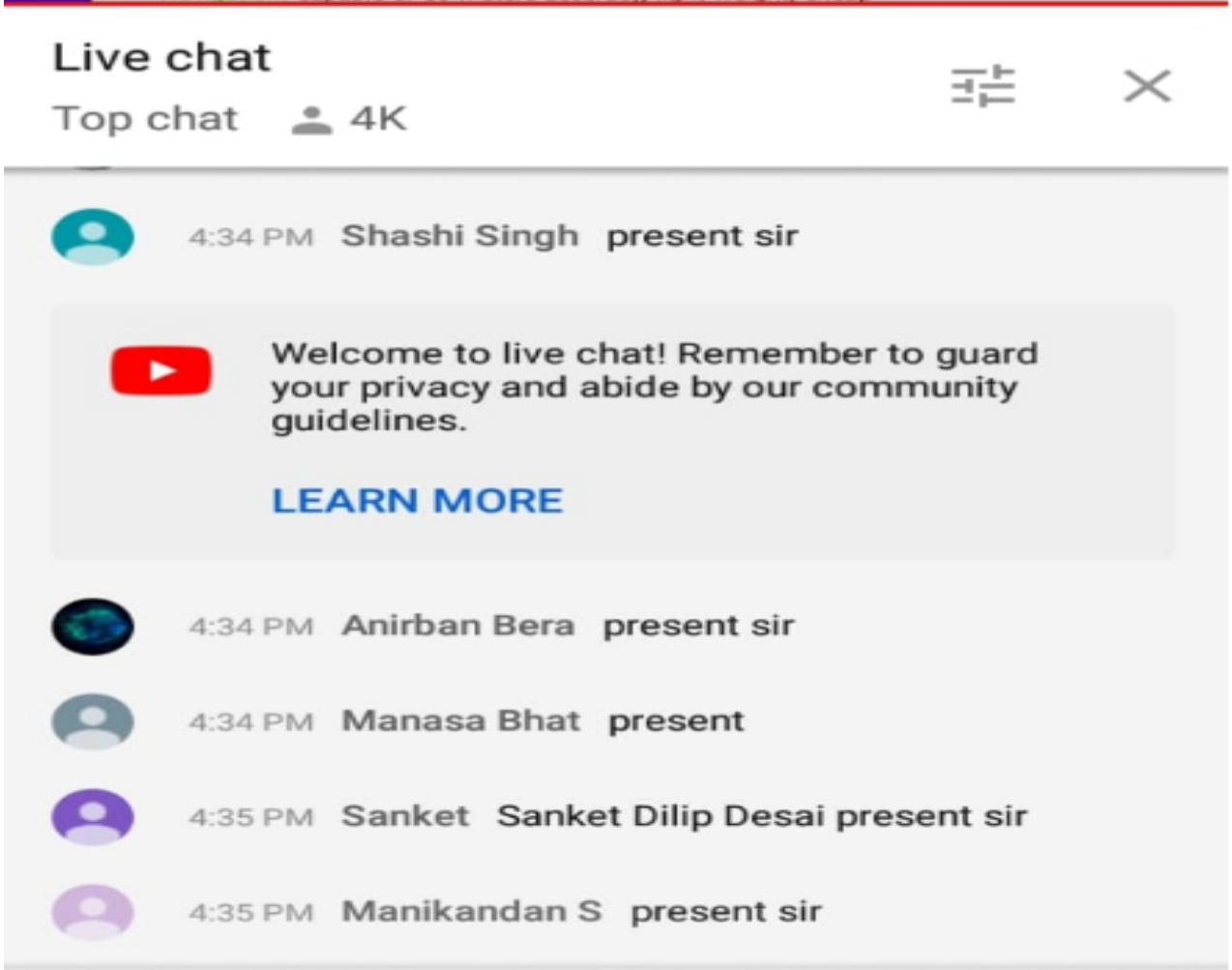
DAILY ASSESSMENT FORMAT

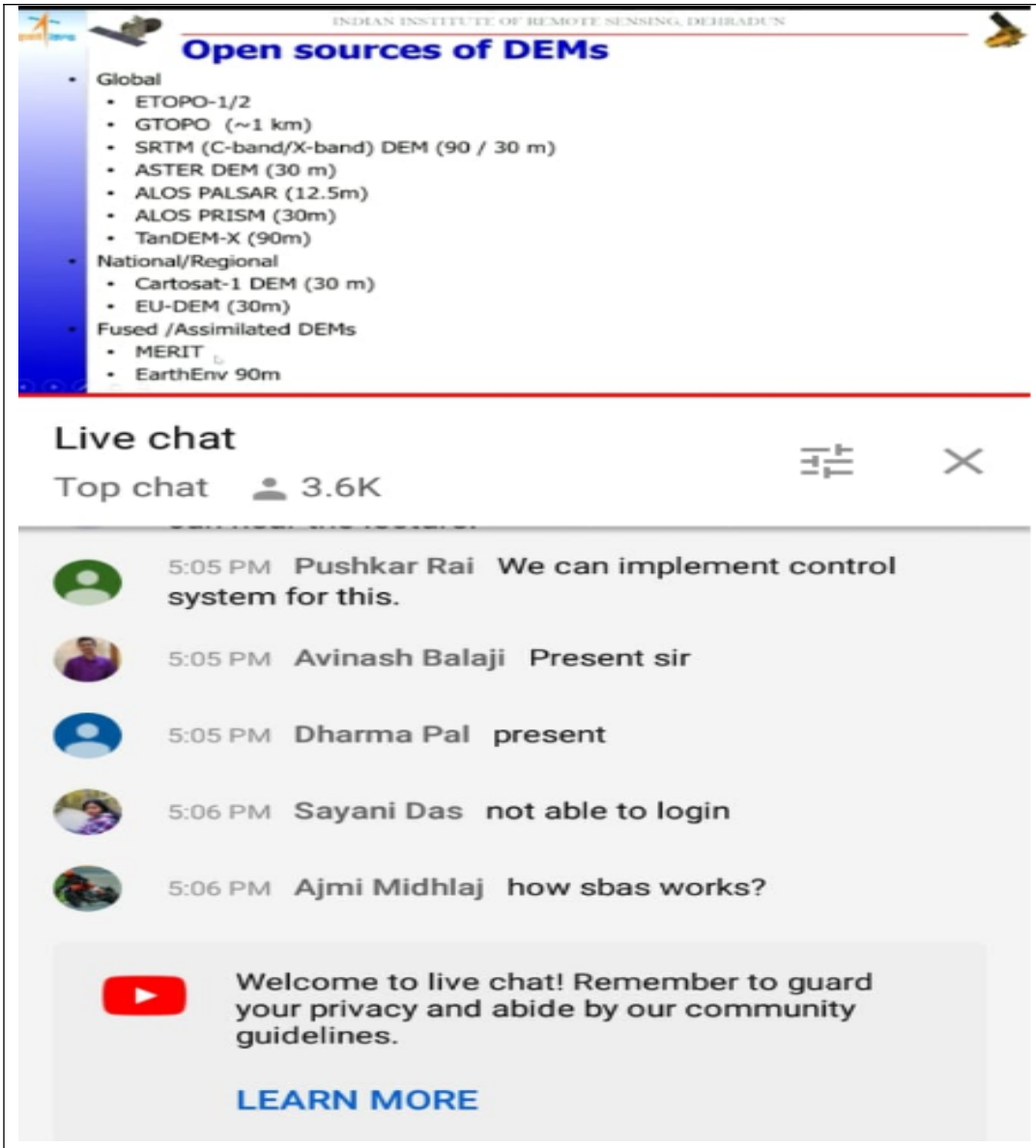
Date:	02-07-2020	Name:	POOJA K S
Course:	IIRS OUTREACH PROGRAMME	USN:	4AL17EC070
Topic:	Introduction to Global Positioning System	Semester & Section:	6th SEM 'B' section
Github Repository:	pooja-shivanna		

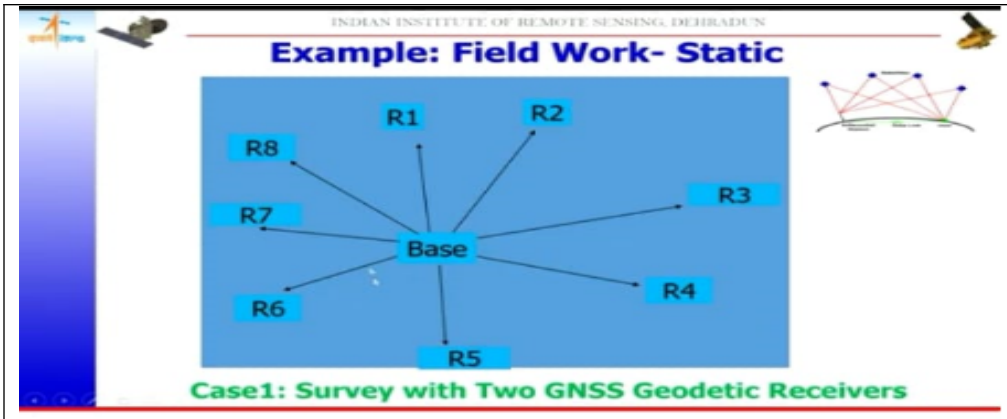
FORENOON SESSION DETAILS











Live chat

Top chat 3.9K

4:42 PM Sagarika Bhattacharjee Present sir

4:42 PM Bhanu Prakash present sir

4:42 PM karanam ramya present sir

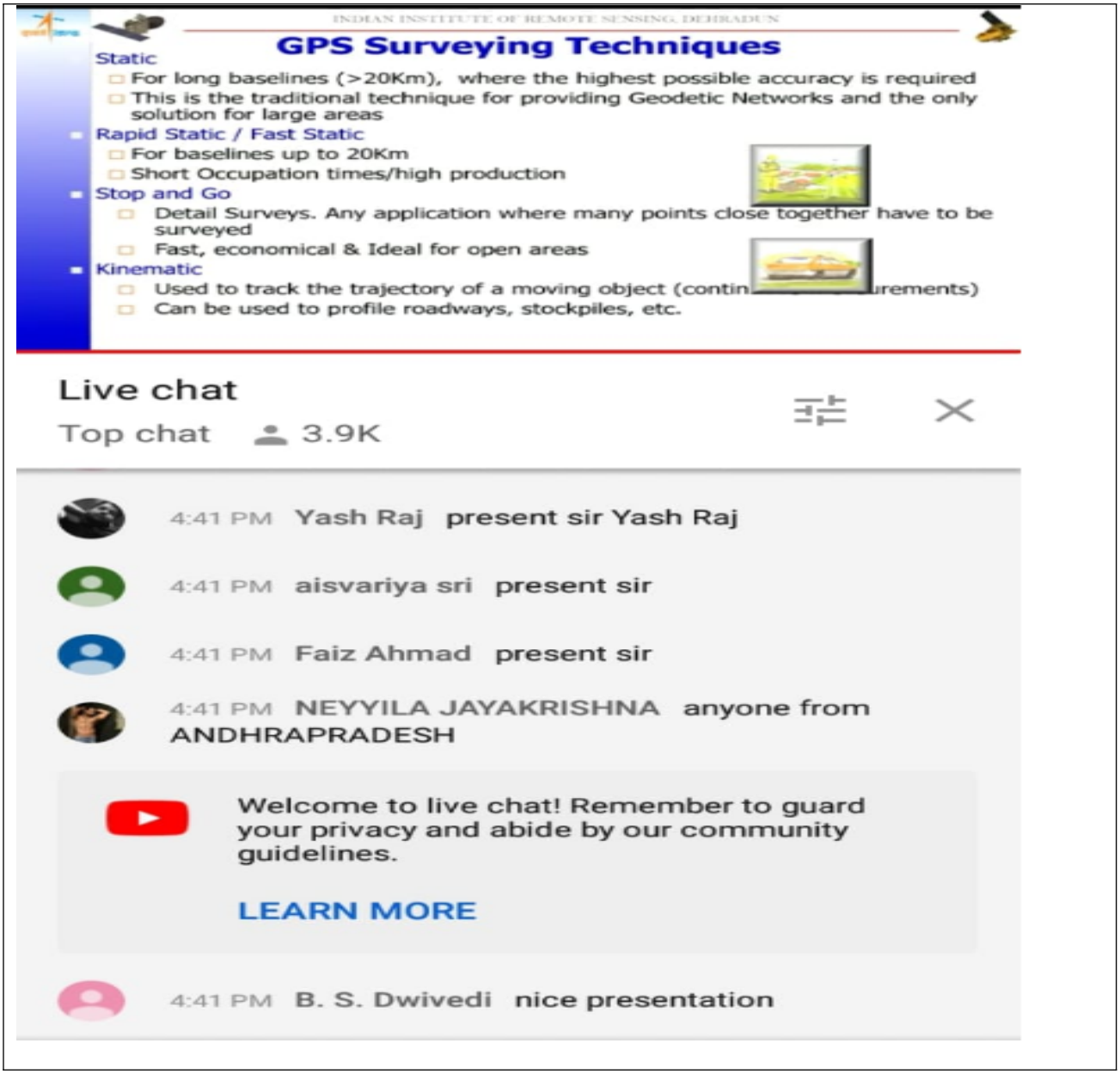
4:42 PM Balu Deesari 0 attendance for all ?? right b

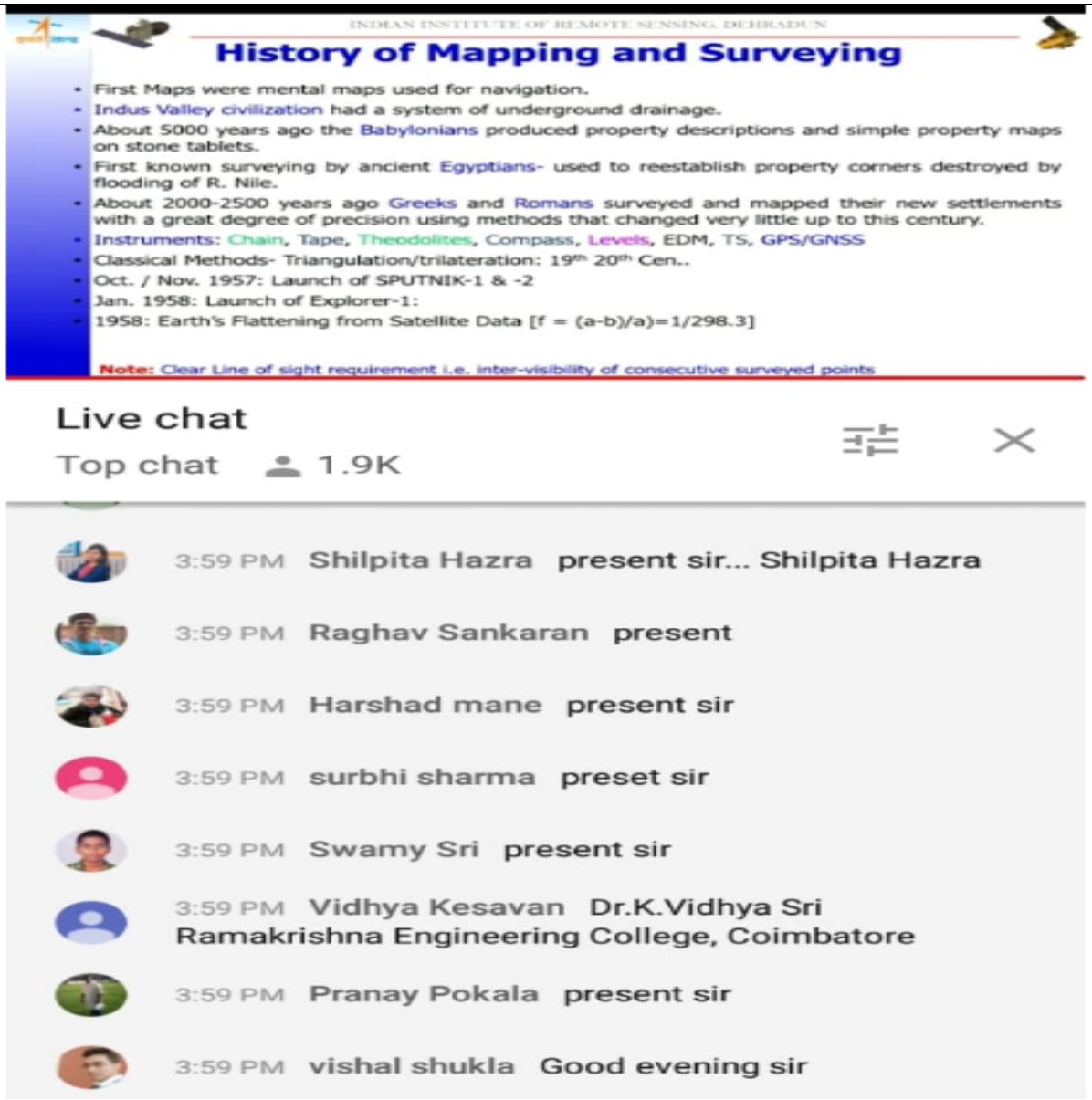
4:42 PM Anshuman Jha @anandu askok the what is the purpose of watching this live session

4:43 PM Bimlendu Shahi in case of GPS surveying, Are we able to perform(lat, long) and also altitude also ?

4:43 PM Nikita kaple present sss

4:43 PM Bilov Biswas present please





The **Global Positioning System** :

The **Global Positioning System** (GPS) is a satellite-based navigation **system** made up of a network of 24 satellites placed into orbit by the U.S. Department of Defense. **GPS** was originally intended for military applications, but in the 1980's, the government made the **system** available for civilian use.

GPS Stands for "**Global Positioning System**." **GPS** is a satellite navigation **system** used to determine the ground **position** of an object. ... The satellites are evenly spread out so that

four satellites are accessible via direct line-of-sight from anywhere on the globe.

Global Positioning System PDF :

Global Positioning System (**GPS**) is part of satellites orbiting round the universe. It sends the details of their **position** in space back to earth. ... It is available to any user with a **GPS** receiver. It has its usefulness in military, weather conditions, vehicle location, farms, mapping and many other areas.

What is GPS and how it works?

The Global Positioning System (**GPS**) is a network of about 30 satellites orbiting the Earth at an altitude of 20,000 km. ... These signals, travelling at the speed of light, are intercepted by your **GPS** receiver, which calculates how far away each satellite is based on how long it took for the messages to arrive.

The 3 components of GPS :

The **Global Positioning System** (**GPS**) is a U.S.-owned utility that provides users with positioning, navigation, and timing (PNT) services. This system consists of **three** segments: the space segment, the control segment, and the user segment

The Global Positioning System (GPS), originally NAVSTAR GPS, is a satellite-based radio navigation system owned by the United States government and operated by the United States Space Force. It is one of the global navigation satellite systems (GNSS) that provides geolocation and time information to a GPS receiver anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites. Obstacles such as mountains and buildings block the relatively weak GPS signals.

The GPS does not require the user to transmit any data, and it operates independently of any telephonic or internet reception, though these technologies can enhance the usefulness of the GPS positioning information. The GPS provides critical positioning

capabilities to military, civil, and commercial users around the world. The United States government created the system, maintains it, and makes it freely accessible to anyone with a GPS receiver.

The GPS project was started by the U.S. Department of Defence in 1973, with the first prototype spacecraft launched in 1978 and the full constellation of 24 satellites operational in 1993. Originally limited to use by the United States military, civilian use was allowed from the 1980s following an executive order from President Ronald Reagan. Advances in technology and new demands on the existing system have now led to efforts to modernize the GPS and implement the next generation of GPS Block IIIA satellites and Next Generation Operational Control System (OCX). Announcements from Vice President Al Gore and the White House in 1998 initiated these changes. In 2000, the U.S. Congress authorized the modernization effort, GPS III. During the 1990s, GPS quality was degraded by the United States government in a program called "Selective Availability"; this was discontinued in May 2000 by a law signed by President Bill Clinton.

The GPS service is provided by the United States government, which can selectively deny access to the system, as happened to the Indian military in 1999 during the Kargil War, or degrade the service at any time. As a result, several countries have developed or are in the process of setting up other global or regional satellite navigation systems. The Russian Global Navigation Satellite System (GLONASS) was developed contemporaneously with GPS, but suffered from incomplete coverage of the globe until the mid-2000s. GLONASS can be added to GPS devices, making more satellites available and enabling positions to be fixed more quickly and accurately, to within two meters (6.6 ft). China's BeiDou Navigation Satellite System began global services in 2018, and finished its full deployment in 2020. There are also the European Union Galileo positioning system, and India's NavIC. Japan's Quasi-Zenith Satellite System (QZSS) is a GNSS satellite-based augmentation system to enhance GNSS's accuracy in Asia-Oceania, with satellite navigation independent of GPS scheduled for 2023.

When selective availability was lifted in 2000, GPS had about a five-meter (16 ft.) accuracy. The latest stage of accuracy enhancement uses the L5 band and is now fully deployed. GPS receivers released in 2018 that use the L5 band can have much higher accuracy, pinpointing to within 30 centimetres or 11.8 inches

The Global Positioning System (GPS) is a satellite-based navigation system made up of a network of 24 satellites placed into orbit by the U.S. Department of Defense. GPS was originally intended for military applications, but in the 1980's, the government made the system available for civilian use. GPS works in any weather conditions, anywhere in the world, 24 hours a day, 365 days a year. The 24 satellites that make up the GPS space segment are orbiting the earth about 12,000 miles above us. These satellites are travelling at speeds of roughly 7,000 miles an hour. GPS satellites are powered by solar energy. They have backup batteries onboard to keep them running in the event of a solar eclipse, when there's no solar power. Small rocket boosters on each satellite keep them

flying in the correct path. Each satellite weighs about 2,000 pounds and is built to last about ten years.

How Does GPS Work?

GPS satellites circle the earth twice a day in a very precise orbit and transmit signal information to earth. GPS receivers take this information and use triangulation to calculate the user's exact location. Essentially, the GPS receiver compares the time a signal was transmitted by a satellite with the time it was received. The time difference tells the GPS receiver how far away the satellite is. Now, with distance measurements from a few more satellites, the receiver can determine the user's position and display it on the user's electronic map. A GPS receiver must be locked on to the signal of at least three satellites to calculate a 2D position (latitude and longitude) and track movement. With four more satellites in view, the receiver can determine the user's 3D position (latitude, longitude and altitude). Once the user's position has been determined, the GPS unit can calculate other information, such as speed, bearing, track, trip distance, distance to destination, sunrise and sunset time and more.

What is WASS?

Wide Area Augmentation System (WAAS) is a system of satellites and ground stations that provide GPS signal corrections, giving you even better position accuracy. How much better? Try an average of up to five times better. A WAAS-capable receiver can give you a position accuracy of better than three meters, 95 percent of the time. As long as your GPS system is WAAS enabled you do not need any additional equipment or pay any service fees.

WEBINAR ON CAREER OPPORTUNITIES AND INDUSTRY READINESS DURING DIFFICULT TIMES HOSTED BY MANIKANTA NAMBURI ON THURSDAY , 02 JULY 2020