Department of Electronics & Communication

Report on Industrial Visit to
ISTRAC
(ISRO TELEMETRY TRACKING AND COMMAND NETWORK)
January 31st, 2018

The department of Electronics and Communication Engineering, BBDNIIT has organised an Industrial Visit to ISTRAC (ISRO Telemetry Tracking and Command Network), Lucknow, on 31st January, 2018 for second and third year students.

For students pursuing professional education, knowledge gained within the confines of four walls of a classroom does not suffice for holistic development. To bridge this gap between theoretical knowledge and practical application, our department organized this visit to one of the most prestigious organizations of our country under the mentorship of respected Dr. V.K Singh, Director (Engg) and Prof. Sanjay Kumar Sharma.

The students were guided by Shri B.C Tripathi and Dr. D.K. Mishra at ISTRAC. Initially, they were taken to a conference room where they were elaborately told about the role of ISTRAC and the various projects undertaken by ISRO.

ISTRAC is basically involved in tracking, commanding, housekeeping data acquisition as well as health analysis and control, orbit and altitude determination and network co-ordination support to all low Earth orbit satellite missions of ISRO throughout their mission life.

The students were educated about various stages involved in launching of the satellites into space such as design and development of satellite, launching of satellites into various orbits and monitoring the health of satellite after launch. They were also informed about satellite based Navigation services that ISRO has established to meet Civil Aviation requirements through GPS

Aided Geo Augmented Navigation (GAGAN) and to meet the user requirements of the positioning, navigation through Indian Regional Navigation Satellite System (IRNSS).

The students then visited various blocks of ISTRAC such as IRIMS, IRNWT-2 where clock accuracy is maintained using hydrogen masers. Also, they visited Computer Administration Room which consisted of computers with storage capacity of 1080 terabytes, IRDCN SATCOM where data from 15 stations across India is networked, IRNSS Analysis room, Drive Unit.

Thus, industrial visit gave students a platform to visualize theoretical knowledge and how various satellite communication operations are performed. It exposed the students to in-depth functioning of satellite communication which was enriching for all.