Report on Industrial Visit

Academic Year 2017-18   **Sem-II**

1. Event Title: - Industrial Visit at "Giant Metrewave Radio Telescope, Narayangaon, Tal-Junner"

2. Event Date: - 28th February 2018

3. Event Conduction Duration: - 10:00 AM to 02:00 PM

4. Class: - TE (E&TC)

5. Event Venue: - Giant Metrewave Radio Telescope, Narayangaon, Tal-Junner, Dist-Pune.

6. Name of Event Coordinator: - Prof. Prof. Prafulla P. Chaudhari & Prof. Priyanka V. Ahire.

7. Event Objective & Outcome: -

Objective of this visit is to provide information of Giant Metrewave Radio Telescope (GMRT) station situated at Narayangaon, Tal-Junner, Dist-Pune to the students. GMRT is one of the most challenging experimental programmes in basic sciences undertaken by Indian scientists and engineers. Students should get aware of this station. They should know the working of this station.

On 28th February GMRT celebrates science day and they organize project exhibition. So our students came across different project and get inspired to design and develop different projects.

Students also observed that the RF waves are captured by steerable gigantic parabolic dishes of 45m diameter at GMRT, these RF waves are then processed for filtering and finally scientists at GMRT try to find out new stars in the space. At GMRT the instrument has state-of-the-art electronics systems developed indigenously and consisting of the following main sub units.

- Antenna feeds at six different frequency bands between 50 MHz and 1500 MHz, having good polarization characteristics as well as simultaneous multiband operation.
- Low-noise amplifiers, local oscillator synthesizers, mixers, IF amplifiers.
- Optical fibres linking the entire array with the CEB. These are used both for the telemetry signals and local oscillator phase reference communication between the CEB and each antenna base.
- A digital 2,30,000-channel FX-type correlator providing upto 128 spectral channels and covering a maximum bandwidth of 32 MHz