



**JAYAWANT SHIKSHAN PRASARAK MANDAL'S
BHIVARABAI SAWANT INSTITUTE OF TECHNOLOGY
AND RESEARCH, Wagholi Pune**

(Approved by AICTE, NEW Delhi, Govt. of Maha. &
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Department of Electronics and Telecommunication

(NBA & NAAC Accredited)



Academic Year 2023-24 Semester -II

Report on Industrial Visit at

GMRT (Giant Metrewave Radio Telescope), Narayangaon Pune

Name of Event	Industrial Visit at GMRT, Narayangaon Pune
Organized Under	JSPM's BSIOTR, Department of Electronics and Telecommunication Engineering
Date of Event	29th February 2024
Location of Event	GMRT Project, P.B. No. 6, Narayangaon, Tal -Junnar, Dist - Pune, State - Maharashtra, INDIA
Number of Persons Attending	67 (Girls: 32, Boys: 35)
Sponsoring Organization(s)	ETSA
Program Co-Coordinator Name	Prof. Sneha D. Dhere
ETSA Coordinator	Prof. Meenakshi Annamalai
Faculty co-ordinators	Prof. Poonam Gawade, Prof. Manoj Sonune, Prof. Nilesh Mohota

Industrial visit Objectives	Corresponding outcomes COs /POs mapping
To know basic Electronics and related projects in the project exhibition.	PO 1, CO5
To know practical fundamentals, implementation, functionality, and mechanism of antennas	PO 1, CO5, CO 6, CO7, CO9, CO 10
the students need as also to get the knowledge of the Radio Telescope, different components involved, hardware software co-design, etc	CO4, CO8, CO 10

Report Consists of activities conducted at GMRT :

1. Overview of GMRT Observatory:

- ✓ Visit to Science Project exhibition
- ✓ Visit to Astronomy project exhibition
- ✓ Interaction with the scientists from TIFR Mumbai

2. Organisation Profile:

The Industrial visit was carried out at GMRT on 29th February, 2024 for the Second Year Electronics and Telecommunication Engineering Students. Prof. Sneha Dhare, Prof. Poonam Gawde, Prof. Manoj Sonawane and Prof. Nilesh Mohota along with 67 students visited GMRT observatory Pune.

3. Overview of Visit:

JSPM's Bhivarabai Sawant Institute of Technology and Research, Wagholi (E&TC Dept) had organized an Industrial Visit on 29th February 2024 to GMRT Khodad. The site for GMRT, about 10 km east of Narayangaon town on the Pune-Nasik highway, was selected after an extensive search in many parts of India, considering criteria such as low man-made radio noise, availability of good communication, vicinity of industrial, educational and other infrastructure and, a geographical latitude sufficiently north of the geomagnetic equator in order to have a reasonably quiet ionosphere and yet be able to observe a good part of the southern sky as well.

4. Brief Information about the Visit:

We started travelling from the college campus at 8:30 am by our college bus on 29th February 2024 along with our staff coordinators. We reached to the GMRT observatory at 11 am. After reaching their students were guided about the main attractions about the GMRT (The Giant Metrewave Radio Telescope Observatory) i.e an antenna. It was great to know that GMRT consists of 30 fully steerable gigantic parabolic dishes of 45m diameter each spread over distances of up to 25 km. The GMRT is the largest radio telescope in the whole world and hence has great appeal in astrophysics research. Astronomers from all over the world regularly use this telescope to observe many different astronomical objects such as galaxies, pulsars, supernovae, and sun and solar winds. After introduction all students were shown the big antenna and were told about how it works and were guided about its various functionalities.

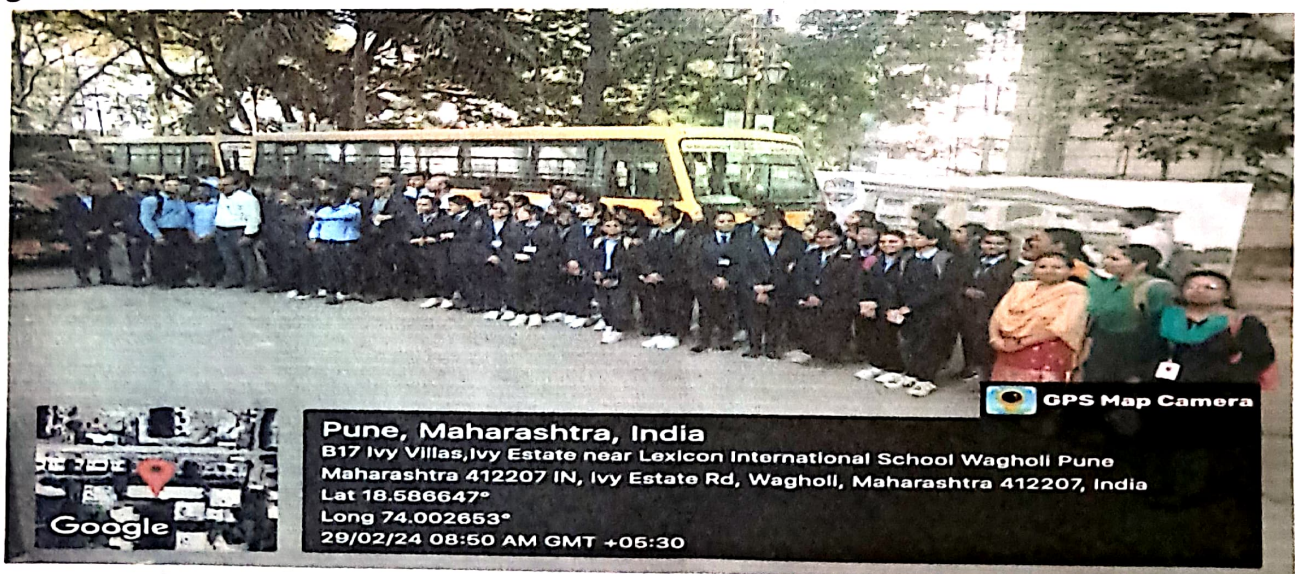


Photo1: Begin journey from the JSPM's College main gate



Photo 2 & 3: Bus Departure from the campus to GMRT

SE E&TC Engineering students visited various stalls in the science day exhibition. They also actively participated in various quizzes and 3D events for the observatory. The project ideas were - People counter model using ARDUINO, Rocks & Fossil samples, Dengue biological cycle model, Lazer removal of weeds, Automatic car, Hygienic automated toilet using ARDUINO, water purification model, Air hydro plantation, RADAR model using ARDUINO, ROVER fuel management using ARDUINO, Automatic irrigation system, pulse health model, telescope model, garden waste management for biodiesel making, temperature and moisture monitoring system of plants using embedded systems



Photo 4: Staff coordinators and students reached to GMRT observatory

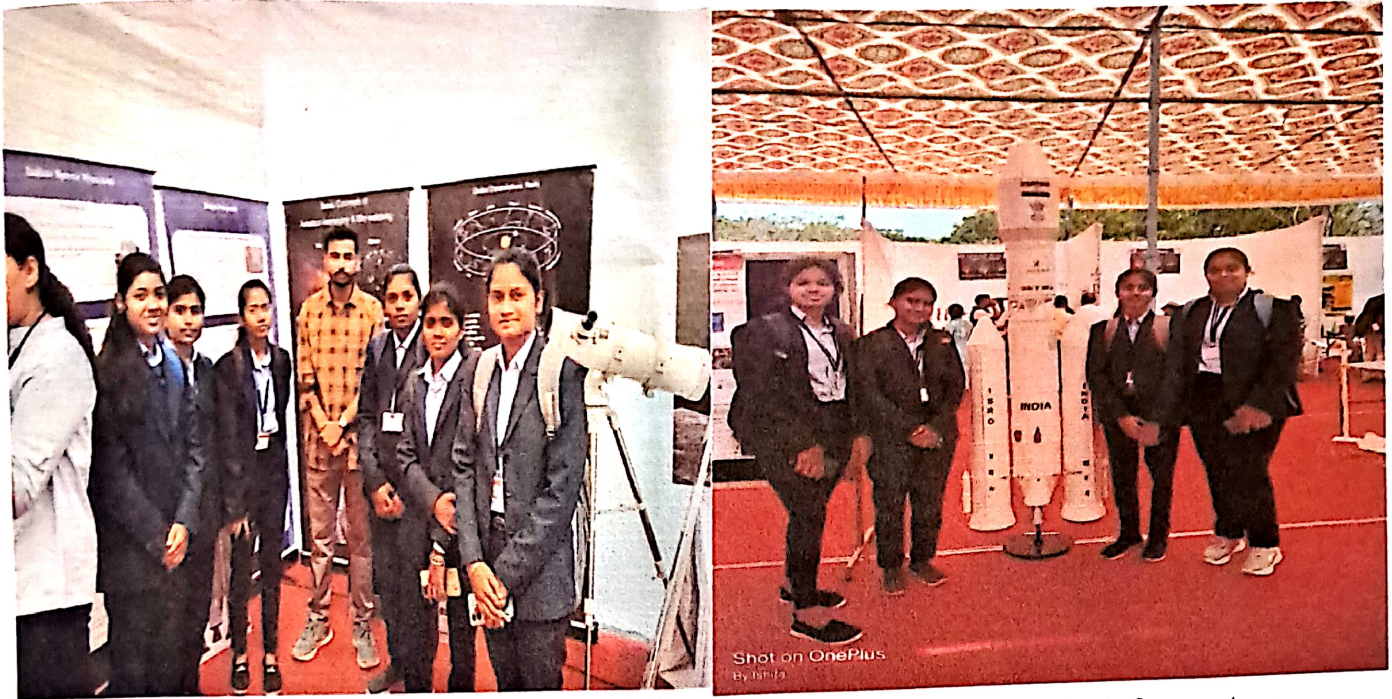


Photo 5 & 6: students observing the astronomy project stalls at GMRT observatory

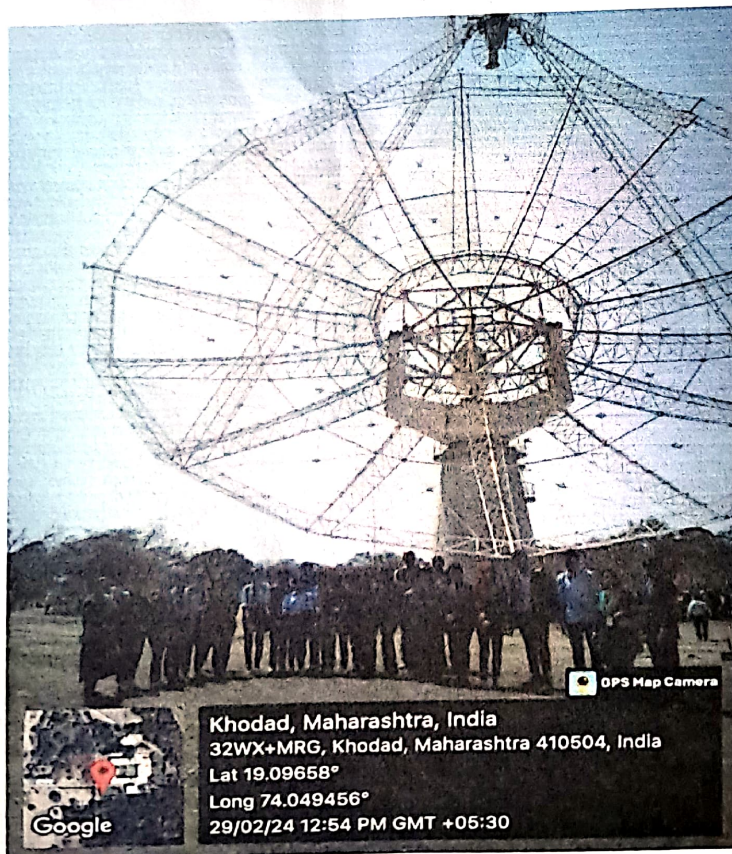


Photo 7: Staff coordinators and students at the GMRT (The Giant Metrewave Radio Telescope Observatory)

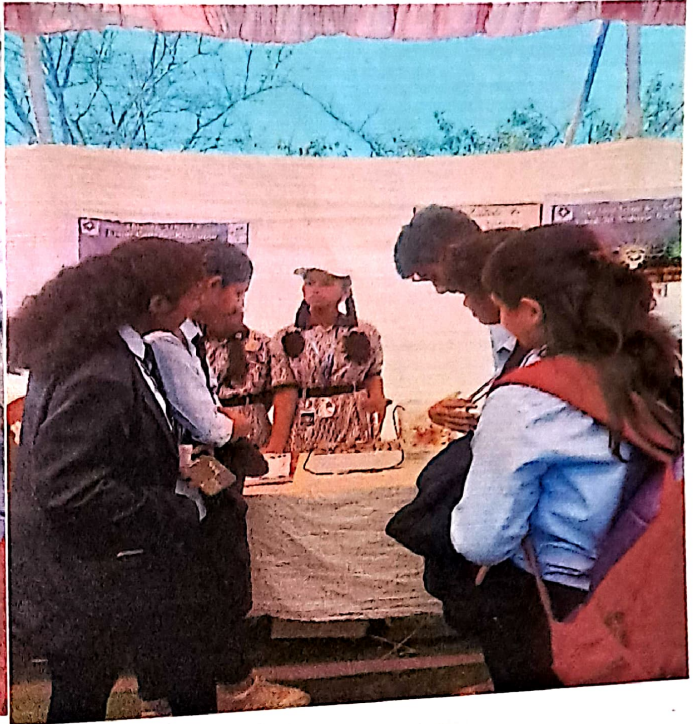


Photo 8 & 9: students observing the project exhibition at GMRT



Photo 10: students quiz participation achievement at GMRT



Photo 11 & 12: students observing the project on design Thinking & power management

5. Summary of the Visit:

Students have attended the project exhibition held at GMRT and gained the knowledge about the microcontroller-based projects including 8051, ARDUINO, PIC, Raspberry Pi, ARM etc and recent trends such as charging station, E-Vehicles, Solar operated equipment, automated robots, 3D visualization tools, advanced telescopes. Students were able to elaborate structure, operation & applications of GMRT (The Giant Metrewave Radio Telescope Observatory) and can relate the technology with their daily life problems. They got the opportunity to interact with the concerned authorities and gain more knowledge. It was a great learning experience for one and all.

Event In-charge
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ETSA Co-Ordinator
Prof. Meenakshi Annamalai

HOD
Dr. Y. S. Angal

Principal
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