

INDUSTRIAL VISIT REPORT (Raman Research Institute)

Department of Electronics and Communication Engineering had arranged a half day industrial visit to Raman Research Institute on 23rd Aug 2019, 35 students of Final year and two faculties had taken part.

Raman research institute(RRI) was one of the best place to visit for the engineering students who have research as their passion. RRI does research on various fields like vlsi,radio astronomy,brain computer interface etc. RRI also offers wide variety of research for ph.D ,m.tech,B.E and also for the school students.

Different places where we visited on RRI are

First we went to the museum in RRI where we were explained about the string instruments like veena and guitar. We also came to know about the working of tabla as a string instrument which was actually researched by C.V.Raman himself. In addition to it we came to know about the practical applications of Raman effect for which C.V.Raman was awarded a Noble prize. We were also explained about the different crystals and their peculiar properties. Later we were taken on to a special room inside the museum where we saw the unique properties of different stones collected from different places which on exposure to the ultraviolet rays emitted different colours. On further investigation with the scientist who was in charge , explained us that each colour on the stones represented the minerals present on it. Some stones could glow for few seconds even when ultraviolet light was switched off.

After visiting museum we were taken into a research lab where the researches on theoretical physics are done. The scientists there explained about the current projects like polarimeter, brain computer interface etc. The main advantage for us is that they had a electronics engineering group (EEG) where the analog and digital design of the circuits were done. But in the theoretical physics they were mainly concerned on the analog design. Polarimeter project is a joint venture with the ISRO which will be attached to the payload of a satellite during launch in order to measure the intensity of the x-rays on the outer space without the human intervention. One of the important projects by RRI for the social service is Brain Computer Interface (BCI) where it is useful for the disabled person. BCI takes

inputs from the human brain by connecting sensors to the scalp of human brain and processing it to perform tasks like walking in different directions, drinking water and other physical movements with the help of robotic arms connected to the hands, interfaced with the onboard present in it.

At last we went to the Digital circuits and Radio astronomy lab where the scientist in charge of that lab, explained the major work of that lab that is to build powerful telescopes for space research. The team has built the powerful telescopes at ooty(500 m),gauribidanur(1300 m long) in India. The team has also built telescopes at Australia and a radio telescopes at mauritius . The lab is also involved in research in antennas and FPGA for receiving data from the space which are of some gigabytes in size. It is not possible to store this data in a computer or storage devices. So it is directly sent to the FPGA boards where the processing of the data is carried out.

On the whole RRI was a memorable experience for the students who had passion in research.

