

REPORT ON NAINITAL TRIP (23.12.2018 to 25.12.2018)

"From our home on Earth, we look out into the distances and strive to imagine the sort of world into which we were born. With increasing distance our knowledge fades until at the last dim horizon we search among ghostly errors for landmarks scarcely more substantial. The search will continue. The urge is older than history. It is not satisfied and it will not be suppressed."



20 students from classes V to XI along with two School teachers Ms Seema Nagpal and Mr Deepak Singh Rawat, visited Nainital between 23rd December and 25th December 2018. The trip started with adventurous activities viz. Zip line, Flying Fox where all the students participated enthusiastically. The aim was to provide opportunities to the students to be independent, and exercise self-discipline. Next day students visited Aryabhata Research Institute of Observational-Sciences(ARIES), a 50 year old

Observatory which is situated at quiet and picturesque hills with interesting walks through its forest providing great views of Himalayas. It provides national optical observing facilities to carry out research in the frontline areas of Astronomy and Astrophysics, and Atmospheric Sciences. ARIES presently hosts five optical telescopes of sizes 15cm, 38cm, 52cm, 56cm, and 104cm.

Students were amazed to see the functioning of Reflecting telescope having concave mirror of aperture 104 cm. The light is incident on a large concave paraboloid mirror, and reflected onto a smaller convex hyperboloid mirror. This reflected light is reflected again through a hole in the concave mirror to finally form the image. The parabolic shape of the mirror helps in gathering light. The eyepiece and the other instruments are located behind the telescope. These telescopes are equipped with modern instruments like cooled CCD camera, spectrophotometer, and filters etc.





They also learned the mechanism of opening of dome and focussing of telescope in the direction of far off object. The concept which students found most miraculous was the process of coating of primary mirror with Aluminium film using evaporation technique as Aluminium does not scatter light and is a better reflector of UV rays. Students acquired knowledge about methods of coating mirror in Vacuum i.e sputtering and evaporation. The optical observations carried out at ARIES are well recognised both nationally and internationally.

It revealed the fact that, the main research interests are in solar astronomy, stellar astronomy, star clusters, stellar variability and pulsation, photometric studies of nearby galaxies, black holes etc. ARIES selects students as research scholars via the JEST exam and also via the NET and GATE exams. The minimum qualification is an M.Sc. degree in Physics or a BE/BTech degree.



Equipping themselves with knowledge of astrophysics, students trekked to Hanuman Garhi temple and seek blessings of Hanuman Ji. On the way they learnt about the natural vegetation in Himalayan subtropical pine forests. The major trees are Oak, Buruns, Kaphal, shrubs, Herbs, Pine trees, mosses, Ferns etc. This was followed by visit to Eco Cave Garden ,located in Sukhatal or Mallital as it is commonly known, on the Kaladungi road.

The Eco cave garden is about one kilometre away from the Mall Road Nainital and comprises of six small caves with the forms of tiger, panther, porcupine and so on. The Tiger Cave is the easiest to get in and out. Then the Panther Cave where getting in and out gets harder. Students found flying fox to be adventurous. All the students enjoyed a lot going through the caves. This was followed by lunch, boating in Naini lake and shopping on Mall road, Dinner and Bon fire.

Finally, students returned with loads of knowledge and life time memories.



