

# **Laser- and Fibre Optics Project Report**

**Conducted by: Dept of Physics, Dhruba Chand Halder College**

**Academic session: 2023-2024**

**Project Coordinator: Dr. Puspita Ray**

## **➤ Key features of this project:**

There has always been a demand for increased capacity of transmission of information in *telecommunication*. The invention of laser in 1960 have revolutionized the area of telecommunication and networking. special characteristics of laser light such as directionality, high power, tight focusing and spectral purity make it a suitable carrier wave capable of carrying enormously large amount of information. The heart of a lightwave communication system is optical fiber. The fiber acts as transmission channel which carries the light beam loaded with information. Optical fibers have largely replaced copper wire communications in core networks because of its advantages over electrical transmission. Because of the unique properties of laser beam, it finds important applications in many diverse areas. This project is for 5<sup>th</sup> semester physics honours students and it aimed to make them understand the importance of laser and its application in various directions such as fiber optics and holography.

## **Projects done by the students:**

- Develop the knowledge on different types of lasers: He-Ne Laser and semi-conducting laser
- Principle of Holography and its application
- Fiber optics and its application
- Understand the construction and characteristics of optical fiber

The students were focused and participative during the course and they have done the projects and submitted the project reports to the teachers on time.

**List of students participating the Arduino project:**

| <b>Name of the Students</b> | <b>Semester</b> |
|-----------------------------|-----------------|
| Disha Sardar                | V               |
| Piu Mondal                  | V               |
| Sibani Gharami              | V               |
| Ratna Halder                | V               |
| Ananya Das                  | V               |
| Pritam Kayal                | V               |
| Avishek Halder              | V               |
| Soumitra Sardar             | V               |
| Sahin Gazi                  | V               |
| Naim Laskar                 | V               |