PVKN GOVT. COLLEGE (A)

CHITTOOR

DEPARTMENT OF PHYSCS & ELECTRONICS

BEST PRACTICES

"Effective Implementation of Research Projects in the Department of Physics & Electronics"

ACADEMIC YEAR
2023-24

BEST PRACTICE - 1

1. Title of the practice:

Effective Implementation of Research Projects in the Department of Physics & Electronics

2. Objectives of the practice:

- ✓ To implement research projects, that allows students to showcase their intellectual abilities at their best.
- ✓ To enhance students understandings of physical concepts through practical applications.
- ✓ To establish an organized framework for planning and implementation of research.
- ✓ To foster collaboration and communication skills.

3. The context:

Implementation of research projects at the undergraduate level plays a transformative role in shaping student's academic, professional and personal development. Engaging in research fosters critical thinking, problem solving, creativity and learning that are very useful for students future career, both in personal growth and academic success.

4. The Practice:

Research is a fundamental aspect of higher education, contributing significantly to the advancement of knowledge, innovation and societal progress. Department of Physics & Electronics played a crucial role in implementing research projects for Blended B.Sc., students by leading various initiatives that furthered the progress of scientific understanding. This involved in guiding research efforts in key areas like various experimental characterization techniques and also fostering a supportive environment for innovation and discovery. The department's role extended to managing collaborations with reputed institutions like IISER, Tirupati.

5. Evidence of Success:

Department of Physics and Electronics successfully implemented the research project for Blended B.Sc., students.

- ✓ Deposition of semiconductor materials in the form of thin films became prominent due to its applications in various fields such as solar cells, electronic components, antireflecting coatings, optical fibers and sensors etc.
- ✓ Blended B.Sc., students have been successfully deposited SnS thin films capped by PVA using Chemical Bath Deposition technique (CBD) and the properties of the films at different precursor ratio was studied.
- ✓ Optical characterization for the deposited films was provided by IISER, Tirupati.
- ✓ The optical analysis concludes that the deposited films might be suitable as an absorber layers for solar cell development.

● **Outcome**: By the end of the project, students have a solid foundation in thin film deposition techniques, material characterization and skills needed to continue research or pursue careers in related fields.

6. Problems encountered and resources required:

Financial resources are necessary for characterization of the deposited films.


GPS Map Camera
Chittoor, Andhra Pradesh, India
53VW+XWH, Greamspet, Chittoor, Andhra Pradesh 517002, India
Lat 13.195656°
Long 79.09776°
02/03/24 04:00 PM GMT +05:30
Google