PA-46

DEPARTMENT OF PHYSICS
St. JOSEPH'S COLLEGE(Autonomous)
TIRUCHIRAPALLI – 620002

Nationally Accredited at A++ Grade (4th cycle) by NAAC & College with Potential for Excellence by UGC
DBT – STAR & DST – FIST Sponsored College
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REPORT	
Activity	VALIDICTION OF THE VALUE-ADDED COURSES
Date & Time	22-04-2022 Time: 12:30 pm (IST)
Topic(s)	COURSE-1: PHYSICS LABORATORY EQUIPMENTS AND TROUBLE SHOOTING (S-I:24 , S-II:24) COURSE-2: SOLAR ENERGY: PV SYSTEMS INSTALLATION & MAINTENANCE (S-I:38, S-II:20)
Platform/ venue	Offline mode Smart Classroom- Physics Department
Resource Person(s)	Felicitation & Certificate Distribution: ➢ Dr. A. ROSE VENIS IQAC - Dean St. Joseph's College (Autonomous), Trichy-620 002
Total no. of Participants	106
Key points / Outcome of the Programme	➢ Students acquired the knowledge on different types of physics laboratory instruments and its handling. ➢ Students were able to identified Problems in the circuits and diagnoses the procedure to troubleshoot the same ➢ Students were got knowledge on Disassembling and assembling. ➢ Students have gained knowledge on the basic of solar power utilization with photovoltaics. ➢ Students can perform AC and DC wiring for various applications ➢ Students can install solar power plants in domestic as well as industrial sector.

* Documents enclosed

HoD

HEAD, DEPT. OF PHYSICS
St. JOSEPH'S COLLEGE
(AUTONOMOUS)
TIRUCHIRAPPALLI - 2

A Report on the value-added course on

PHYSICS LABORATORY EQUIPMENTS TROUBLESHOOTING

Duration: 30 hours

Course Coordinator:

Dr. P. Christuraj,

Assistant Professor.

DEPARTMENT OF PHYSICS
St. JOSEPH'S COLLEGE (AUTONOMOUS)
TIRUCHIRAPPALLI– 620 002

Course Content:

Theory and Practical Sessions

- Basic ideas in electronic instruments
- Power supplies (ac & dc)
- Components and Functions
- Troubleshooting Procedure
- Disassembling and Assembling
- Observation and identification
- Problem Diagnosis
- Disassembling and assembling practice
- Troubleshooting the problems
- Servicing of lab equipments
- Knowledge over Circuit & ICs

Learning Objectives:

- To instill the art of experimentation in students
- To improve the experimental and analytical skills of students
- To develop conceptual learning for the better understanding of the subject
- To understand the various electronic components and their functions
- To calibrate the laboratory equipments
- To disassemble and assemble the lab equipments
- To get a knowledge over Circuits and ICs
- To diagnose and analyse the problem of lab equipments
- To enable the students to troubleshoot the lab equipments
- To get a knowledge over servicing the lab equipments
- To develop collaborative learning skills among students
- To enable the students to design and construct various electrical and electronic circuits

Learning Outcomes:

- Students develop conceptual understanding and scientific reasoning skills
- Students develop problem-solving abilities
- Students develop rigorous quantitative understanding of core physical theories
- Organised knowledge of the major branches of Physics and Electronics.
- Student develop familiarity with computational and laboratory techniques
- Students will be able to identify the basic tools equipment used to construct, troubleshoot and maintain standard electronic circuits and systems
- Students will be able to communicate effectively in oral, written and graphical forms

Practical Sessions Session-6:

Observation and identification Date: 16-03-2022

Duration: 3 hrs

During this session, students have observed the workings of various electronic instruments and identified the various electronic components.

Session-7: Problem Diagnosis

Date: 21-03-2022 **Duration: 3 hrs**

During this session, students have identified and diagnosed many problems in the working of electronic instruments.

Session-8: Disassembling and assembling techniques

Date: 23-03-2022 **Duration: 3 hrs**

During this session, students have disassembled and re-assembled various electronic instruments like 5V Battery, regulated power supply, CRO, Logic gate board, variable resistance, variable capacitance, rheostat etc.

Session-9: Troubleshooting the instruments

Date: 25-03-2022 **Duration: 3 hrs**

During this session,studentsts have identified the problems in faulty equipments and we troubleshooted them and rectified the problems

Session-10: Servicing of lab equipments

Date: 20-04-2022 **Duration: 3 hrs**

During this session, students serviced our age-old lab equipments, replaced the faulty components with new ones and refurbished the instruments.

Conclusion:

This value-added course proved very beneficial for improving the analytical and reasoning skills of the students through experimentation. Students developed familiarity in handling laboratory equipments and have comprehended the laboratory techniques. This course inspires us to do a guided research project. This course also encourage them to be self employed by servicing of lab equipments in schools and colleges.

VALUE-ADDED COURSE ON

PHYSICS LABORATORY EQUIPMENTS TROUBLESHOOTING

INAUGURATION




REGULAR PRACTICAL





VALIDICTION





A Report

On the Value-Added Course

PHYSICS LABORATORY EQUIPMENTS AND TROUBLESHOOTING

Course Coordinator

Dr. S. LOURDURAJ
Assistant Professor
Department of Physics

DEPARTMENT OF PHYSICS

ST. JOSEPH'S COLLEGE (AUTONOMOUS)

TIRUCHIRAPPALLI -2.

DEPARTMENT OF PHYSICS,

ST. JOSEPH'S COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI-2.

Report on Value Added Course " Physics Laboratory Equipments and Troubleshooting"

In the Academic year 2021-2022, Department of Physics offered Value Added Course on "Physics Laboratory Equipments and Troubleshooting" to our own Physics students from 3rd March 2022 onwards. In shift-I and shift-II around 60 students are attended the course during outside class hours. During the course the students were equipped with basic idea behind the physics laboratory instruments and troubleshooting procedures. And also they benefited the knowledge from theory and hands on training through the Practical sessions.

Physics Laboratory Equipments and Troubleshooting Value Added Course was inaugurated by Dr. A.N. Paul Angelo, Dean, School of Physical Sciences, St. Joseph's College (Autonomous), Thiruchirappalli-02 and also gave the inaugural address and Dr. N. Ravi, Head, Department of Physics, gave the presidential address and he briefed about this course, its importance and features. Dr. P. Christuraj, Assistant Professor, Department of Physics, welcomed the gathering and also highlights the dynamics of the course. Dr. S. Lourduraj, Assistant Professor & Coordinator, Department of Physics gave the vote of thanks and finally the program came to end at 01:15pm on 03-03-2022 in Physics Smart class room.

The course coordinators in both shift-I and Shift-II of our department actively took their class with theory and practical sessions. Through the practical sessions are gave the hands on training to the students. The students were actively participated and very much benefited from the course by doing the practical trouble shooting the laboratory equipments by own. Also the students were enriched with the theoretical knowledge.

The course was successfully ended with the valedictory function. The program started with the words of welcome by Dr. P. Christuraj and the Head Dr. N. Ravi, wished and congratulates the participants. The felicitation address gave by Dr. A Rose Venice, Dean IQAC, St. Joseph's College (Autonomous), Thiruchirappalli-02 and he distributed their certificates. Finally Dr. S. Lourduraj, Assistant Professor & Coordinator, Department of Physics gave the vote of thanks and then the program came to end.

VALUE ADDED COURSE ON PHYSICS LABORATORY EQUIPMENTS AND TROUBLESHOOTING

INAUGURAL PROGRAMME

VALEDICTORY FUNCTION

Certificate distribution in Valedictory function

Group Photo