



A TECHNICAL REPORT ON PEDAGOGY IMPLEMENTED

Course Projects -PBL

APPLIED PHYSICS & ENGINEERING PHYSICS

2020-2021/I SEM, BRANCH: ECE &MEC

DATE OF EXECUTION: ECE

AY: 2020-2021

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INTRODUCTION ON PEDAGOGY:

In project-based learning, students use actual issues and situations to gain knowledge and acquire useful skills. Project-based learning can enhance the learning of a variety of abilities, including those that are in high demand. Students can learn about real-life situations and how to handle similar problems in the future after college by applying their knowledge in practical ways. The problem can be lessened by project-based learning, which also gives students the freedom to choose their own approach to problem-solving and explanatory writing.

Teachers may have the opportunity to evaluate the progress and performance of their students by developing or implementing projects during the semester. The ability to work independently or as part of a team is one example of a working approach that may now be monitored by educators.

Reference: <https://www.riipen.com/blog/the-benefits-of-a-project-based-curriculum-in-the-classroom>

IMPLEMENTATION:

1. Project Based Learning Method

For I MID – Student should able to present the brief report on identified course project - **10 Marks**

A Report consists of

- i) Problem Statement (Abstract) -2 Marks
- ii) Introduction (Literature Survey) - 2 Marks
- iii) Methodology (Describe the components) – 2 Marks
- iv) Results – 2 Marks
- v) Conclusion – 2 Marks

For II MID- Student should able to present the working prototype of above project and get the certificate by participating in competitions- **10 Marks**

- i) Working Prototype Preparation and Demonstration – 5 Marks
- ii) Participation certificate from any competitions/workshops etc. – 5 Marks

PROOFS:

S.NO	Course Projects
1	BJT

2	Claps Switch
3	Dielectrics and their applications
4	Door Alarm with Buzzer
5	Earthquake Detector
6	Gas Leakage Detection
7	Laser Diode
8	LED- Based Emergency light
9	Low cost emergency light
10	Metal Detector Circuit
11	Night vision reading glass
12	Photoelectric effect and their applications
13	PIN Diode based fire sensor
14	Rain water detector
15	Remote Controlled solar powered multi purpose pesticide sprayer automated robot
16	Smart Sanitizer
17	Solar Cell
18	Solar Energy converts to Electric energy
19	Solar water pump
20	Street light controller
21	Testing the remote by using IR detector
22	Water level Indicator
23	Water Overflow Indicator
24	White LED based Emergency lamp and turning indicator



Student Project Expo

OUTCOME:

Students are able to learn the course concepts with hands on experience.

Text books:

1. Applied Physics, Dr. M. N. Avadhanulu, Dr. P.G. Kshirsagar - S. Chand, 2017 (revised edition)

ICT USAGE:

Laptop, Projectors, proto types and A/V devices

CONTENTS BEYOND THE SYLLABUS:

Pre-requisites of Physics and Electronics concepts

RUBRICS:

Rubrics for Student Presentations					
Category	Excellent	Good	Average	Poor	Score
	(5points)	(4points)	(3points)	(2 points)	
#Presentation Slides	If each individual among team members involve in preparation of slides	If any one of students got miss the coordination in preparation of slides	If any two students got miss the coordination in preparation of slides	Some of the Students miss the coordination in preparation of slides	5
# Command on subject projection	If the team members are very strong on subject	If the team members are strong on subject	If the team members are weak in subject	If the team members are poor on subject	5
# team work/collaboration	Excellent team work	Good team work	Average team work	Poor team work	5

TIME TAKEN TO COMPLETE THE ACTIVITY:

1 hr per week

SUGGESTIONS GIVEN TO SLOW LEARNER:

Identified slow learners are pair with the fast learner and encouraged to participate in cooperative learning along with his peer.

CHALLENGES:

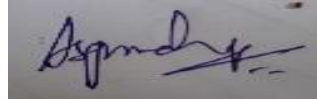
1. Time management for each presentation
2. Slides preparation (copy paste)
3. Student communication abrupt

NO. OF STUDENTS PARTICIPATED: 64

STUDENT FEEDBACK:

1. **Actively involvement**
2. **Confident in content delivery**
3. **Peer learning**

4. Rated Excellent

A rectangular box containing a handwritten signature in blue ink. The signature is cursive and appears to read 'Aspandya'.

Submitted by

HOD

Principal

Umamaheswara Singh