

AN AMALTHEA '25 EVENT

# WIRE TO WIN

NO RESISTOR, CAN DROP YOUR POTENTIAL

**OFFICIAL RULEBOOK**



**VENUE:** EE LAB

**DATE:** 9th November

**TIME:** 10 AM onwards

**FEEL FREE TO CONTACT:** Bahulaa (95739 78711)

# INTRODUCTION

Wire To Win is a unique event where we give you a problem statement, and your task will be to design & put together an electrical circuit. They are challenged in this competition to demonstrate their technical abilities, creativity and problem-solving skills while working together as a team. Participants can practice formulating circuits and translating theoretical blueprints into something that works in reality. By completing this experience, candidates will demonstrate their skills and receive practical exposure to the world of electrical engineering, which can be helpful in challenging times ahead.

## FORMAT

### 1. Simulation and Hardware

In Round 2 of "Wire to Win," participants will confront real-world problem statements across three difficulty levels. Each level will consist of three problems that must be solved sequentially. Completing a question at Level 1 will grant access to Level 2, allowing for a structured progression through the challenges.



To maximize their point accumulation, teams may remain at the same level and tackle multiple questions before advancing. Participants will address only one question at a time to ensure limited component usage.

Each question begins with a simulation phase, where teams virtually test their solutions. Only upon successful simulation will participants receive physical components to implement their designs in practice. This approach emphasizes theoretical understanding and reinforces practical application, preparing participants for real-world engineering challenges. **This round spans for a total of 6 hours with a short break in between.**

## NUMBER OF ROUNDS

1. Qualification Round: Depending on the response size
2. Simulation and Hardware Round.

## NUMBER OF MEMBERS IN A TEAM

Allowed team size is of 1–2 members.



# TARGET AUDIENCE

The target audience for "Wire to Win" includes engineering students, recent graduates, and technical enthusiasts interested in electrical engineering and circuit design.

It is not limited to just Electrical Engineering students.

# JUDGING CRITERIA

## 1. Qualification Round

Participants will be evaluated solely on their ability to identify and rectify the intentional errors and bugs in the provided electrical circuits. **Each correctly identified bug will earn points. Additional points will be awarded for discovering extra bugs** beyond those specified. A **binary marking system** will be employed, where participants will receive either full credit for correctly identifying a bug or no credit for missed errors.



## 2. Simulation and Hardware Round

**Correctness of Simulation:** Teams will receive marks for successfully simulating their solutions. A binary marking system will be employed—full credit for a successful simulation and no credit for a failed one. The team will have to repeat the simulation till they get a correct simulation to move to the hardware round.

**Time Management:** Each simulation will have a time cap. If a team exceeds this limit, the question will be canceled for the entire team, resulting in no marks for that question. No marks are allotted for solving a problem for less time.

**Minimization of Component Usage:** Teams will earn points for efficiently using components in their designs.

**Commitment to a Single Problem:** While teams may elect to solve multiple simulations concurrently, they must commit to a single problem during the hardware implementation phase.



**Negative Marks for Multiple Trials:** Engaging in multiple trials by the invigilator for the same question solved on hardware will incur negative marks. The team may elect to do a system test on their own without risking a negative marking. A question will be canceled for the team if the team crosses a specific threshold of trials.

**Sequential Problem Solving:** Successful completion of at least one question at each level is necessary for progression. Points will be assigned based on the number of questions correctly solved at each level. Teams may choose to solve multiple problems within the same level to accumulate points

## BASIS OF SELECTION

Selection for "Wire to Win" will be based on two key factors: the capacity of the electrical lab to accommodate participants and the teams' performance in the qualification round. Only those teams that meet the qualification cutoff will be invited to attend Amalthea's main event.



## LOGISTICAL REQUIREMENTS

To successfully conduct "Wire to Win," the following logistical requirements must be met:

- 1. Electrical Lab:** A dedicated space equipped for conducting circuit design and simulations.
- 2. Electrical Lab Components:** Necessary tools and materials, including circuit boards, wiring, and various electronic components for hands-on activities.
- 3. Lab Staff:** Personnel will supervise the event, ensuring smooth operations.
- 4. Faculty/Student Advisors:** Advisors oversee and audit the questions, ensuring accuracy and fairness in the evaluation process.

## PRIZE MONEY

# 5000/-

