

ELECTROGAMES* (Updated 4/24/23)

OBJECTIVES:

- To introduce ROCAME students to the wonders and excitement of the fields of electricity and electronics.
- To provide hands on experience in reading and understanding symbols, schematic diagrams and wiring circuits of various descriptions.
- To expose students to systematic note taking, drawing schematic diagrams, utilizing scientific and mathematical based problem solving and team work.

DESCRIPTION OF JAMBOREE: (GENERAL)

This event will test the team's knowledge of basic electrical and electronic principles. Each team member should prepare a notebook, but the official entry can be submitted as a single document (digital). A written test on basic electricity / electronics will be given to each student during the competition. Finally, the team will be given a schematic diagram for an electrical circuit. Judging for this circuit will be based on time of completion and successful operation.

NUMBER OF PARTICIPANTS: 2

APPROXIMATE TIME: 50 minutes

EVENTS COMPETITIONS:

NOTEBOOK: (Maximum Limit of 20 Pts.)

Each member of the team **must** keep a comprehensive notebook which will include definitions, symbols, and a schematic design of circuits built along with a description for each one. All notebooks must include dates, materials used, results, and time spent for each practice session. Students are encouraged to build as many circuits as possible and draw diagrams in their notebooks.

WRITTEN TEST: (Maximum of 40 Pts.)

Questions for the written test will be based upon information in the user's manual for the 75 in 1 kit (~ 20 CFCC sample questions available) and resources (YouTube videos and handouts on the Ohm's Law Equation and Color Code Table for Resistors). The test score for each team member will be added and then divided by 2 to obtain the team's final score. **[Note: If there is only one team member, the judge will use a score of "zero" for the second team member.]**

CIRCUIT BUILDING: (Maximum Limit of 40 Pts.)

It is necessary for students to have the circuit board from the ElectroGames kit. A circuit diagram, without terminal numbers, will be provided for students to create a wiring sequence (ex. 3-5, 6-108, etc.). **[Note: Numbers for the terminals must be provided by the students.]** Write the sequence for a complete or closed circuit; then connect wires to the terminals.

***COVID-19 restrictions were removed. Updated on 4/24/2023 by W. Flythe**