Brown Bag II Competition Rules

IEEE R2 SAC 2020

Contents

1. Introduction

1.1. Competition Title: Brown Bag II Competition

1.2. Competition Description

The Brown Bag II competition is a circuits-lab design competition that tasks participants with completing a series of challenges to earn points. Teams will use provided electrical components and documentation to complete the set of challenges. Specific to this version of the Brown Bag Competition, teams will be required to program and use Arduino development boards to complete some of the challenges.

During the event, proctors and judges will be available to answer questions and provide limited assistance. The competition is timed, with an initial grace period. Once the grace period ends, teams will begin to lose a predetermined number of points per every 10 minutes. This competition requires students to blend their technical knowledge with an element of strategy, in order to maximize points.

1.3. Topics Covered

This competition incorporates ideas from digital logic, circuit analysis, and embedded development. It is designed to include both hardware and software topics, and will include questions asking students to write programs in addition to building circuits. C programming knowledge is required for this competition. A full list of general topics that the challenges will require as prior knowledge will be provided March first of 2020. This list will cover all topics for the competition, as well as some others. Students are encouraged to practice on their own with Arduino equipment.

2. Participant Eligibility

2.1. IEEE Membership

All participants shall be registered IEEE student members attending the university they identified when registering for the SAC.

2.2. Team Composition

Teams shall consist of one to four participants. There is a limit of one graduate student per team.

2.3. Number of Teams

There is no limit to the number of teams that one university may register for this competition.

2.4. Registration Restrictions

It is prohibited for participants to partake in both the Brown Bag I and Brown Bag II competitions.

3. Materials

3.1. Provided Items

All materials and tools necessary to complete provided challenges will be provided by the host university.

3.2. Recommended Items

It is recommended that participants bring the following items, which shall not be provided by the host university:

- Calculator with no internet connection.
- Pencils, paper, etc.

3.3. Prohibited Items

Participants are prohibited from using the following items during the competition:

- Documents not provided by the host university.
- Textbooks.
- Internet-capable devices to include cell phones, laptops, tablets, etc.

4. Scoring

4.1. Scoring Method

Teams will be awarded points for accurately completing a provided challenge. Each challenge will have a maximum number of points, related to the difficulty of the challenge. Teams may earn partial credit for partial completion of a challenge, as defined in the rubric. Teams will be provided the point values of each challenge, but not with the grading rubric. After the initial time limit passes, teams will lose a certain number of points every 10 minutes, until they submit their answers, or the competition ends.

4.2. Ties

If a tie occurs between multiple teams, then placement will be determined by order of final submission. This means that whichever team submits their answers first would win.

4.3. Judge's Discretion

Judges and proctors may at any point determine that a participant's actions violates the rules in this document. A note will be made, and the judges will determine how it influences the participant's final score. Serious violations will result in disqualification and/or removal from the competition space.

5.   <u>**Safety Notice**</u>

It is important to use best practices when interacting with lab equipment, and when utilizing circuits components. The safety of the participants, proctors, and equipment is our highest priority, and any unsafe practices will result in one warning, followed by immediate disqualification. Judges hold the right to immediately disqualify you if your action deems it necessary. If you are unsure whether something you plan to do is safe, please consult a proctor or judge.