2023-24 Competitive Events Guidelines

Exploring Computer Science

Exploring Computer Science provides competitors with the opportunity to demonstrate knowledge around introductory competencies in computer science. This competitive event consists of an objective test. It aims to inspire members to learn about computers and computational systems.

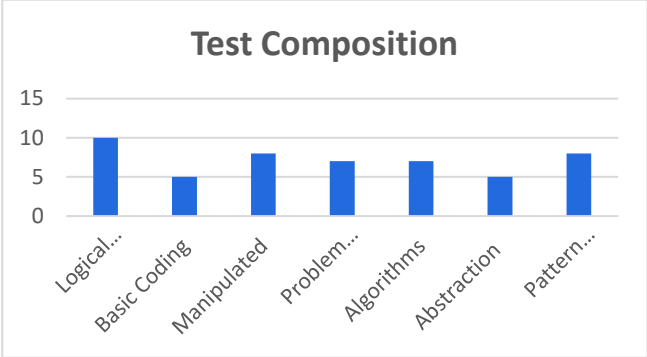
Event Overview

Division: Middle School
Event Type: Individual
Event Category: Objective Test, 50-multiple choice questions (breakdown of question by competencies below)
Objective Test Time: *30 minutes*
NACE Connections: Career & Self-Development

Equipment Competitor Must Provide: Pencil
Equipment FBLA Provides: One piece of scratch paper per competitor

Competencies

- Logical Reasoning
- Basic Coding
- Manipulating and Analyzing Data with Digital Tools
- Problem Solving
- Algorithms and Programs
- Abstraction and Decomposition
- Pattern Recognition



State

Testing will happen prior to the state conference. Check the Call to Conference for any other specific competitive events information and deadlines.

National

Policy and Procedures Manual

- Competitors should be familiar with the Competitive Events Policy & Procedures Manual, found on the Competitive Events page on www.fbla.org.

Eligibility

- FBLA membership dues are paid by 11:59 pm Eastern Time on March 1 of the current program year.
- Members may compete in an event at the National Leadership Conference (NLC) more than once if they have not previously placed in the top 10 of that event at the NLC. If a member places in the top 10 of an event at the NLC, they are no longer eligible to compete in that event.

- Members must be registered for the NLC and pay the national conference registration fee in order to participate in competitive events.
- Members must stay in an official FBLA hotel to be eligible to compete.
- Each state may submit four entries per event.
- Each member can only compete in one individual/team event and one chapter event (Annual Chapter Activities Presentation or Community Service Presentation).
- If competitors are late for an objective test, they will be allowed to compete until such time that results are finalized, or the accommodation would impact the fairness and integrity of the event. Competitive event schedules cannot be changed. Competitive events start in the morning before the Opening Session of the NLC.

Recognition

- The number of competitors will determine the number of winners. The maximum number of winners for each competitive event is 10.

Event Administration

- This event is an objective test administered online at the NLC.
- No reference or study materials may be brought to the testing site.
- No calculators may be brought into the testing site; online calculators will be provided through the testing software.

Tie Breaker

- Ties are broken by comparing the correct number of answers to 10 pre-determined questions on the test. If a tie remains, answers to 20 pre-determined questions on the test will be reviewed to determine the winner. If a tie remains, the competitor who completed the test in a shorter amount of time will place higher.

Americans with Disabilities Act (ADA)

- FBLA meets the criteria specified in the Americans with Disabilities Act for all competitors with accommodations submitted through the conference registration system by the registration deadline.

Penalty Points

- Competitors may be disqualified if they violate the Competitive Event Guidelines or the Honor Code.
- Five points are deducted if competitors do not follow the Dress Code or are late to the testing site.

Electronic Devices

- All electronic devices such as cell phones and smart watches must be turned off before competition begins.

Study Guide: Competencies and Tasks

A. Logical Reasoning
   1. Be able to follow a set of statements to a logical conclusion using deductive reasoning.
   2. Be able to follow a set of statements to a logical conclusion using inductive reasoning.
   3. Recognize what types of data a website should ask of its users and what it shouldn't for the sake of user privacy.

B. Basic Coding
   1. Understand and use loops.
   2. Understand and use conditionals.
   3. Understand and use functions.
   4. Understand proper variable and function naming.
   5. Recognize strings, Booleans, and arrays/list.
   6. Recognize programming/markup languages used in web design.

C. Manipulating and Analyzing Data with Digital Tools
   1. Basic binary/hexadecimal conversion.
   2. Understand and implement an arithmetic mean.
   3. Understand and implement an arithmetic median.
   4. Understand and implement an arithmetic mode.
   5. Understand and implement an arithmetic range.
   6. Understand the purpose of a standard deviation.

D. Problem Solving
   1. Understand how computers make decisions.
   2. Explain how computers take input and give output.

E. Algorithms and Programs
   1. Explain how a computer might search through data.
   2. Be able to recognize a computer program.
   3. Recognize the best algorithm for a simple problem (i.e. single loop vs nested loop).
   4. Understand when a nested loop is needed.
   5. Associate loops with underlying conditionals.
   6. Understand how data is stored in a computer and accessed by programs.

F. Abstraction and Decomposition
   1. Understand the importance of abstraction and decomposition and be able to define both.
   2. Recognize if a process is too specific or broad and can therefore be split or combined.
   3. Be able to perform decomposition on real world problems into a series of steps and processes.
   4. Be able to abstract an idea.

G. Pattern Recognition
   1. Be able to deduce the missing element in a patterned series.
   2. Recognize patterns in computer code.
   3. Be able to correctly sequence a set of objects.
   4. Be able to recognize and continue patterns.