Evaluation Criteria for Judging

The criteria and questions below are used by the Grand Awards Judges of the Intel ISEF and is suggested as a guide for your category judging. Scientific Thought and Engineering Goals are separated into IIa. and IIb. to be used appropriately by category. There are also added questions for team projects.

I. Creative Ability (30)

1. Does the project show creative ability and originality in the questions asked?

- the approach to solving the problem?, the analysis of the data?, the interpretation of the data?
- the use of equipment?, the construction or design of new equipment?

2. Creative research should support an investigation and help answer a question in an original way.
3. A creative contribution promotes an efficient and reliable method for solving a problem. When evaluating projects, it is important to distinguish between gadgeteering and ingenuity.

II a. Scientific Thought (30)

For an engineering project, or some projects in categories such as computer science and mathematical sciences, the more appropriate questions are those found in IIb. Engineering Goals.
1. Is the problem stated clearly and unambiguously?
2. Was the problem sufficiently limited to allow plausible approach? Good scientists can identify important problems capable of solutions.
3. Was there a procedural plan for obtaining a solution?
4. Are the variables clearly recognized and defined?
5. If controls were necessary, did the student recognize their need and were they correctly used?
6. Are there adequate data to support the conclusions?
7. Does the finalist or team recognize the data's limitations?
8. Does the finalist/team understand the project's ties to related research?
9. Does the finalist/team have an idea of what further research is warranted?
10. Did the finalist/team cite scientific literature, or only popular literature (i.e., local newspapers, Reader's Digest).

II b. Engineering Goals (30)

1. Does the project have a clear objective?
2. Is the objective relevant to the potential user's needs?
3. Is the solution workable? acceptable to the potential user? economically feasible?
4. Could the solution be utilized successfully in design or construction of an end product?
5. Is the solution a significant improvement over previous alternatives?
6. Has the solution been tested for performance under the conditions of use?

III. Thoroughness (15)

1. Was the purpose carried out to completion within the scope of the original intent?
2. How completely was the problem covered?
3. Are the conclusions based on a single experiment or replication?
4. How complete are the project notes?
5. Is the finalist/team aware of other approaches or theories?
6. How much time did the finalist or team spend on the project?
7. Is the finalist/team familiar with scientific literature in the studied field?

IV. Skill (15)

1. Does the finalist/team have the required laboratory, computation, observational and design skills to obtain supporting data?
2. Where was the project performed? (i.e., home, school laboratory, university laboratory) Did the student or team receive assistance from parents, teachers, scientists or engineers?
3. Was the project completed under adult supervision, or did the student/team work largely alone?
1. 4. Where did the equipment come from? Was it built independently by the finalist or team? Was it obtained on loan?   Was it part of a laboratory where the finalist or team worked?

V. Clarity (10)

1. How clearly does the finalist discuss his/her project and explain the purpose, procedure, and conclusions? Watch out for memorized speeches that reflect little understanding of principles.
2. Does the written material reflect the finalist's or team's understanding of the research?
3. Are the important phases of the project presented in an orderly manner?
4. How clearly is the data presented?
5. How clearly are the results presented?
6. How well does the project display explain the project?
7. Was the presentation done in a forthright manner, without tricks or gadgets?
8. Did the finalist/team perform all the project work, or did someone help?