| ENGINEERING EVALUATION - SCOUT | MAX SCORE = 50 | |
|---|---|---|
| **School name and # AS IT APPEARS ON THE OFFICIAL LIST:** | | |
| **Judge's name:** | | |
| **1 0 = Yes (1) or No (0)** | | |
| ***4 3 2 1 0 = 4: Outstanding, 3: Exceptional, 2: Excellent, 1: Good, 0:Poor or missing*** | | **SCORE** |
| | | |
| **Teamwork/Presentation** | **15 pts max** | |
| Company was prepared for the presentation and Q&A session | 1 0 | |
| Presentation covered the design, building, troubleshooting, and testing process | 2 1 0 | |
| Presentation highlighted design innovations/creative ideas | 2 1 0 | |
| Presentation described how the company brainstormed ideas to solve the mission and evaluated those ideas against competing alternatives | 2 1 0 | |
| Company demonstrates an understanding of the ROV systems, including the science behind them, and operations | 2 1 0 | |
| Each member participated and understands the basics of the vehicle plus details about at least one system | 2 1 0 | |
| Company demonstrates an understanding of the role that ROVs play in the mission theme | 1 0 | |
| Company effectively describes how the ROV was built to accomplish mission | 2 1 0 | |
| Company describes a lesson learned, either technical or non-technical | 1 0 | |
| | | |
| **Overall Design and Workmanship** | **7 pts max** | |
| Vehicle was tested prior to the event and is ready for the water | 2 1 0 | |
| Company describes a troubleshooting technique(s) that demonstrates an understanding of the technical issues and presents a step-by-step process for addressing them | 2 1 0 | |
| Components easy to access for maintenance & troubleshooting | 1 0 | |
| Is robust; constructed for durability with attention to craftsmanship and marketability to potential customers | 2 1 0 | |
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| **Safety** | **4 pts max** | |
| Vehicle visually displays warning labels and safeguards | 1 0 | |
| Fuse(s) in place on the positive side | 1 0 | |
| Company describes safety precautions necessary while handling/operating the vehicle | 1 0 | |
| Vehicle built according to the competition safety requirements and has passed the safety inspection (inspection sheet presented to judges) | 1 0 | |
| | | |
| **Systems Design and Operation** | | |
| **Control and Electrical System** | **6 pts max** | |
| Control system is thought through and designed logically | 2 1 0 | |
| Components logically and neatly incorporated | 2 1 0 | |
| Company demonstrates an understanding of how the control/electrical system works | 2 1 0 | |
| | | |
| **Propulsion** | **4 pts max** | |
| Thrusters are securely attached | 1 0 | |
| Thrusters do no obstruct water flow | 1 0 | |
| Thrusters are waterproofed and protected | 2 1 0 | |
| | | |
| **Buoyancy and Ballast** | **4 pts max** | |
| Company describes how buoyancy/ballast system takes missions into account | 2 1 0 | |
| Company demonstrates application and knowledge of skills in selection and usage of particular buoyancy system | 2 1 0 | |
| | | |
| **Payload Tools** | **4 pts max** | |
| Payload tools are appropriate for accomplishing the mission | 1 0 | |
| Payload tools are unique in design and/or demonstrate creativity | 1 0 | |
| Company describes rationale for design and how those features contribute to accomplishing the mission | 2 1 0 | |

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| | | |
| **Tether** | **4 pts max** | |
| Tether is securely attached to and appropriately positioned on the ROV | 1 0 | |
| Strain relief present at the control box | 1 0 | |
| Tether is neatly bundled and protected and not a tripping hazard | 1 0 | |
| Company developed a tether management protocol | 1 0 | |
| | | |
| **Budget** | **2 pts max** | |
| Company describes a budget | 1 0 | |
| Companies acknowledges organizations and/or individuals who contributed funds, equipment, and/or technical/moral support | 1 0 | |
| | | |
| **ENGINGEERING EVALUATION SCORE:** | | |
| | | |
| **Discretionary Points** | **2 pts max** | |
| Bonus points for a job well done | 2 1 0 | |
| | | |
| **Deductions** | **-6 pts max** | |
| Company mentions that work was done by commercial companies and/or instructors or mentors and not able to provide a valid justification why | 0 -1 -3 | |
| Interference or coaching by mentors, parents, etc. during presentation | 0 -1 -3 | |
| (beyong helping with language barrier issues) | | |
| | | |
| **TOTAL ENGINGEERING EVALUATION SCORE:** | | |
| | | |

**Comments:**