RoboCupJunior OnStage <u>Technical Interview</u> Score Sheet

Team Name:……………………………………………… **Country**:…………………………..……

Category: ☐ Primary ☐ Secondary **Judge Name:**……………………………..………..……..

Teams must bring copies of their programs and details of mechanical and electrical hardware to the interview; otherwise, these categories cannot be assessed.

Category	Examples of how high marks may be achieved are:	Mark
Programming	● Using an age appropriate programming language ● Able to explain how the program works and interactions between the hardware and software ● Creating innovative programming solutions ● Developing libraries ● Explain decisions made and any limitations of the software	⎯ 5
Mechanical Hardware	● Implementing reliable mechanical systems ● Complex/innovative mechanical systems ● Able to explain how the mechanical systems work ● Mechanisms that have been developed for very high precision, or for mechanically 'difficult' situations ● Appropriate actuators have been used, and there is an understanding of why they have been chosen.	⎯ 5
Electronic Hardware	● Electronics have been developed/home built (as age appropriate) ● An understanding of how the electronics works ● Innovative use of sensors/integration of sensors ● Innovative use of technologies to aid performance (e.g., cameras, speed controllers/motor controllers, GPS, different micro-controllers etc.) ● Explain decisions made and any limitations of the electronics	⎯ 5
Robotic Communication & Interaction	● Use of effective robotic communication ● An understanding of how the communication is occurring ● Development of communication architectures ● Sensors used to achieve robot-robot interaction, for example robots following robots ● Sensors used to achieve robot-human interaction	⎯ 6
Deductions (at discretion of judges – up to 15 marks each)	● Judges should satisfy themselves that this is the work of the students ● Originality of robot software and hardware (<u>no reuse from previous competitions</u>) ● Team members are able to discuss their technical involvement with the robot	
Total Score		**/20**

Award Recommendations: Personal Notes:

RoboCupJunior OnStage <u>Open Technical Demonstration</u> Score Sheet

Team Name:………………………………………………… **Country**:…………………………...………

Category: ☐ Primary ☐ Secondary **Judge Name:**…………..……………...………...……..

The goals of the Open Technical Demonstration are to:
● Demonstrate the capabilities of the robot(s
● Explain the robot system and key capabilities
● Demonstrate fully working robot systems which work as described
● Focus on the key, innovative and original capabilities of the robot(s) developed
● Effectively communicates the technical capabilities of the robot to the audience with high quality demonstrations

Examples of areas on which the demonstration and explanation could cover includes:
● Demonstration and explanation of a working mechanism which is complex, effective, overcomes a
   particular challenge or addresses reliability and stability
● Demonstration of successful robot-robot or robot-human interactions
   (e.g. through sensors or communication protocols)
● Successful implementation of a software algorithm
● A specific sub-system which is original and innovative
● Any interesting drive mechanisms and how these are controlled
● Choice of sensors and what the sensors are used to detect or interact with and explanation of algorithms
   used for sensing
● Any signal progressing of sensor data which is used (e.g. analogue/digital/frequency domain)
● Explanation of software architecture developed
● Integration of entire system (eg.: software, electronics, mechanics)
● Any communication mechanisms used to ensure efficient and reliable communication between robots
● The biggest challenges/problem which have been overcome, e.g. sourcing enough power, reliability, interactivity
● Any feedback loops used (e.g. using sensor feedback)

Category	Mark
Demonstration of robots' technical capabilities which are fully-working	/ 15
Explanation of robots' capabilities	/ 10
Clarity and quality of the demonstration	/ 5
Complexity of project idea and innovation of robot(s)	/ 10
Total Score	**/40**

Award Recommendations: Personal Notes: