JRF-P-2020-033 - Sumo Robotic Kits & Training

Questions & Answers

Regarding the mentioned quotation file and the list of items there are some notes and suggestions that might improve the described required competition and training, in addition to some questions to help making sure items are provided correctly.

1. Notes

Some of these notes have suggestions below, please consider checking them.
a) For item number 1, the **Metal Robot Chaises Kit** already includes the following parts as a whole kit:
- Metallic chassis.
- 4 Wheels.
- 4 DC motors.
- Required assembly parts (metal links and screws). Well noted

This implies that some other requested parts will be extra with no clear main use.

b) For items 6 and 11 (**Adafruit Motor Shield v2** and **Arduino Uno Sensors Shield**), the Arduino UNO R3 does not support attaching two shields at a time, therefore the Arduino Uno Sensors Shield might be useless knowing that the Motor Driver is essential for the Sumo Robot.
We will choose item no.# 11

Another suggestion is listed below for the motor driver to suit the required robot design.
c) For item 7 (**Battery Holder**), the mentioned batteries type can't operate a Robot with such a size.
Noted. We recommend lithium polymer batteries (2000 mah2 2500 mah) (LI-PO)

Other suggestions are listed below to suit the required robot design.
d) For item 9 (**Caster Wheel**), the required robot is a four-wheel drive car and it doesn't need a wheel support, unless it is used for other purposes.
Noted, we will delete item no.#: 9 accordingly.

2. Questions/required details

a) For item 2 (**Geared DC Motors**), electrical specifications and size are needed.
(Geared DC Motors) HP20 12V 1500 Rpm 12:1 High Power DC Motor / 12V - 65mm (Overall Length), 20mm diameter.

b) For item 12 (**Jumper Wires**), please specify the type (Male-Female | Male-Male | Female Female).
We need all types of jumper wires (Male-Female | Male-Male | Female Female).

c) For item 16 (**Assembly Kit**), sizes and quantity are needed for the screws and nuts.
believe we need 270 Assembly Kit item number (16), one for each robot, yet the actual size of the screws & nuts depends on the size of the Metal Robot Chassis Kit they are going to provide.

d) What is the background and the experience level of the mentioned trainers/coaches? (This will help us prepare the training material and the focus points to suit their level).

you can consider our trainers as beginners in the field of SUMO Robotics.

3. Suggestions

Please consider checking these suggestions for hopefully a better outcome and an easier process for the competitors and the teams.

a) It might be better to use a **400 Tie Points Bread Board** instead of the Sensor Shield to give competitors the chance to connect the sensors as they want and creatively add other components if needed.

We do agree! Added to the list accordingly.

b) Two types of jumper wires are needed to make sure competitors easily connect any kind of component. (quantity may vary).

- 20cm Male TO Female 40Pin Jumper Wires.
- 20cm Male TO Male 40Pin Jumper Wires.

c) A much easier to use motor driver is the **L298N Dual H-Bridge Module**, it is simpler and smaller, and it can run the four motors of the robot.

Agree! And we don't mind.

d) It is recommended to use **7.4v-11.1v Lithium-ion** batteries for such a competition, they are more powerful and rechargeable which means durability and efficiency during the competition.

Please check the suggested battery by us and/or recommend the most convenient.