

## **Q&A2\_Online**

For questions received by June 15, 2021.

**New questions and answers from June 16, 2026 to Aug. 15, 2021 are shown in the red letters.**

Note that the Q&A is only intended to explain the game rulebook, and it is not the basis for the judgement in the game. The only basis for the game is the rulebook.

Please send your questions after carefully reading the Rulebook and express your meaning as clearly as possible. Thank you in advance for your cooperation.

If you can't find the answers for the question you submitted in ASK page of ABU Robocon official website, these questions may fall into following two situations:

1. The answer to the question can be found directly from the rulebook.
2. They duplicate with other question.

### **1 Terms and Definitions**

### **2 Game Procedure and Competition Tasks**

#### **2.1 Game Facilities and Score Objects**

Q2.1-1) What is the arrow made of ? carbon fiber tube solid or carbon fiber tube hollow

A: The Arrow Body is made of hollow carbon fiber tube.

#### **2.2 Before the Game Starts**

#### **2.3 At the start of the game and during the game**

Q2.2-1) Is it possible to use auxiliary equipment etc. when setting an arrow on the Arrow Racks in Rulebook 2.3c?

A: It is allowed to use no powered auxiliary tools for arranging Arrows on the Arrow Rack, providing that those tools should not damage the Arrows, and they must be removed from the game field immediately after setting arrows.

#### **2.4 Tasks of Robots**

Q2.4-1) In Rulebook 2.4.1 2.4.2, can TR and AR shoot arrows at the same time?

A: Yes, they can.

Q2.4-2) In Rulebook 2.4.2, can AR pick up an arrow from Arrow Racks?

A: It is allowed providing that the five (5) Arrows preloaded on TR and/or DR are used up.

Q2.4-3) Can AR receive arrows from TR directly?

A: No, it is not allowed.

Q2.4-4) The 5 arrows preload on the TR robot only. When the AR robot starts, can it immediately pick up the arrow on the arrow rack while TR throws the arrow?

A: No. AR must wait for TR to throw out the 5 preloaded arrows before taking the arrows from the arrow rack.

Q2.4-5) When 5 arrows are preloaded on both robots, if one robot has thrown all the arrows it is carrying, can that robot immediately take the arrows on the arrow rack? Does the robot have to wait until the arrows on both robots have all been thrown?

A: Yes, the robot must wait for both robots to throw out all the five preloaded arrows and then take the arrows from the rack.

Q2.4-6) Can AR retrieve arrows from arrow racks after arrows from previous arrow racks have been picked up by TR but not yet used?

A: Yes, it is allowed, providing that the arrow rack is not empty.

Q2.4-7) Can TR throw arrow at the same scoring spot but different pot before?

A: Yes, it is allowed. The Rule 2.4.1 in the ABU Robocon 2021 Online Rulebook does not restrict for it. Please pay attention to the differences between two rulebooks for real and online contests.

Q2.4-8) In rule 2.4.1b, "it can only throw one (1) Arrow each time. Before the Arrow enters into a Pot or lands somewhere, it can't throw out next Arrow". 1) At what point is a thrown arrow considered to have entered the pot? For example, when a part of the arrow enters the pot, is it allowed to throw the next arrow? 2) At what point is a thrown arrow considered to land somewhere? For example, when an arrow hits the field and is rebounding and floating, is it allowed to throw the next arrow?

A: 1) Only after the arrow enters into a pot and does not move, it can be considered as entering into the pot, because it may also rebound out from the pot. 2) Only after the arrow lands on somewhere and does not move, it can be considered as landing on somewhere, because it may also rebound and enter into a pot.

## **2.5 Retry**

## **2.6 Scoring**

Q2.6-1) In rule 2.6.3, "If an Arrow contacts with both Pots and/or Arrows in these Pots, it can score, but it is not the Arrow in a Pot and it is not considered as an Arrow in a "twinning", shown in Fig. 5.". If two or more Arrows contact with both Pots and/or the Arrows in these Pots, are they considered as Arrows in a "twinning"?

A: As stated in Rule 2.6.3, if there is one arrow in each pot of a scoring spot, it can be considered as a "twinning". The arrows you mentioned, whether they are single or more, are not in the red or blue pot, thus are not considered as "twinning". But they meet the scoring criteria and can score.

## **2.7 End of the game**

## **3 Deciding the winner**

## **4 Robot**

Q4-1) 4.6 c) states that the team member operating the AR should be outside the game field and there is no such restriction for the team member operating the TR. And 2.4.2 e) states that when AR is in the throwing area then it can be treated as another TR. So when TR is already present in the throwing area and the AR enters the throwing area to throw the arrows can the team member operating the AR enter into the game field?

A: When you read the rulebook, you must pay attention to the context. The first sentence of Rule 4.6 c) is intended to state that AR can only be operated wirelessly, although it mentions that the operator is outside the game field, but not important. The second sentence is intended to show that the TR can be operated both wirelessly or through cable, and the position of the operator is equally unimportant. Since the first sentence has stated the position of the operator, there is no need to repeat in the second sentence. Read the last sentence of 4.6 c), Both wireless or cable operation, the team members are not allowed to enter the game field, also 2.3 b), All team members must be outside the game field except during start of operation or retry. Is it very clear about the position of the team members in the game?

Q4-2) According to rule 4.6, "At the game beginning, TR and DR must all be less than 1000mm in width and 1000mm in length". Is it allowed that though robots are less than 1000mm in width and 1000mm in length, they exceed the limitation because robots hold arrows at the game beginning?

In short, is it allowed for arrows preloaded to protrude from the 1000mm\*1000mm restricted zone?

A: It is allowed, because the arrows held by the robot are not the parts of the robot.

## **5 Violations**

## **6 Disqualifications**

## **7 Teams**

## **8 Others**

Q8-1) Appendix3 in the Online Game Rules says, some field facilities and scoring objects, such as the Pot Table, Arrow Rack and Arrow, can be ordered on ABU ROBOCON 2021 website. We wondered,

1. When will you start to sale the objects of ABU ROBOCON 2021?
2. Pot is not mentioned in the examples, will you sell Pot?

A: Due to the high logistics cost, we have decided not to sell ABU ROBOCON 2021 items except arrows. We suggest that you make them yourself to avoid high logistics expenses.