

ABU Robocon 2022 Delhi, India FAQ 5

Please read the rule book carefully before sending any questions. Please cooperate with us for smooth operation in a limited time.

[The FAQ# is in continuation to those appeared in FAQ2. For example, 1-3 appeared in FAQ1 for “Rulebook Ref No. 1”. In this FAQ2, the number starts with 1-4. Similarly, 1.5-6 is after 1.5-5 of FAQ1 referring to “Rulebook Ref No. 1.5”]

Rulebook Ref No.	Table of content
1	Terms and Conditions
1.5	Ball on Head (BOH)
1.13	Seeker Balls
1.17	Lagori
1.20	Lagori Pile
2	Game
2.1	Game procedure
2.2	Tasks of Robots
3	Robots
7	Teams
GC	General Categories

1. Terms and Conditions

FAQ #	Question	Answer
1.5-18	<p>(1) I would like to ask a question about the usage of class 2 lasers related to the rule 6.7 "If the laser is used, it must be of class 2 or less." According to the Omron's website (https://www.ia.omron.com/product/cautions/common/laser_safety/index.html), class 2 lasers are defined as lasers that are normally safe for momentary exposure due to the protection afforded eyes by aversion reactions, such as blinking, but that can be dangerous if someone deliberately looks into the beam. In Robocon games, it is common that operators pilot their robots gazing at the opponent robot. So it is possible that the operator of Seeker R2 stares at class 2 laser from Hitter R1 if Hitter R1 has its laser in higher space in its body in order to aim at BOH of Seeker R2. Therefore, the game can be safer by adding the following rules. A: Class 2 laser must be set horizontally or downward. (Limit of elevation angle) B: Class 2 laser must not be set higher than the fence (Limit of height) Is there any plan of regulating the usage of class 2 lasers as above?</p> <p>(2) Rule 1.12 says that "the robot must not stay for more than 10 seconds" in the penalty zone. We want to know how 10 seconds are measured. Namely, A: if the robot leaves PZ once, are the time counts reset? B: Who measures 10 seconds? C: What device will be used in order to measure 10 seconds?</p> <p>(3) The word "intentionally" is used several times in this rulebook ("Hitter Balls must not hit the Lagori discs intentionally" in 2.2.19, and "The team intentionally damages or tries to damage ..." in 5.2). These are little bit vague words, and we would like to know more detailed situations or examples which will be regarded as violations. We interpreted that Hitter R1 must aim at BOH when Hitter R1 is shooting the Hitter Ball, and if not, Hitter will get a penalty. Is</p>	<p>(1) For online games, this situation will not arise. (2) For online games, this situation will not arise. (3) For online games, this situation will not arise. (4) It is not included (5) A and B are allowed C and D are not allowed</p>

	<p>that correct?</p> <p>(4) I would like to know more detailed information about the pipe and plate (PP) in figure 3, mentioned in rule 1.5 ①, as follows. A: PP is one of the objects, and there would be an error margin of less than 5% in size. Is my understanding correct? If not, how much error would there be? B: PP is one of the objects, and the weight of PP will be ignored when our machine's weights are measured. Is my understanding correct?</p> <p>(5) Rule 2.2.4 and 2.2.16 says Hitter Ball or Seeker Ball can be thrown "only one at a time". Could you make the meaning of "at a time" clear? For example, are the following four actions (A~D) regarded as throwing two or more balls "at a time"? A: The robot throws another ball before the previous one touches the field. B: The robot throws another ball before the previous one touches the field or objects. C: The robot throws two balls at almost the same time from one ball launcher with one muzzle. D: The robot throws two balls at almost the same time from different ball launchers.</p> <p>(6) We would like to check if the answer can be ready by this week as our local contestants would like to start building their robots.</p>	
1.20-8	<p>1) According to rule 1.17, what will be the shape of the Sunmica pasted on bottom surface of Lagori Disc (500mm Diameter), and with what material will the Sunmica be pasted to this Lagori Disc? 2) According to rule 2.1.10 & 2.1.13, at what point of instant (at time of throwing or at time of impact to Lagori Disc for SEEKER R1 / at time of throwing or at time of hitting BOH for HITTER R1) the velocity should be less than 30km/h? 3) What will be color of Lighting system on the game field?</p>	<p>In all cases the speed must be less than 30km/hr. No colourful light</p>
1.20-9	<p>Since we find the item for LAGORI in the local market, we have shaped the LAGORI in the same diameter as in the rulebook. However, we want to know the weight of original LAGORI to compare the weight of my LAGORI?</p>	<p>Weight is calculated based on the density of 14 kg/m³</p>

1.20.10	In lagori piling time if a lagori get in any penalty zone can R2 pick that lagori or not.	Not required in online game rules
1.20.11	Assume the Seeker just break the bottom Lagori (500mm dia.) and it falls off the square base while the remaining 4 discs fall perpendicularly and remain on the square base. What is the resulting action during piling time? Should the Referee help remove the remaining discs and let the team to pile the 500mm dia. disc?	This is not expected to happen when the maximum speed of the balls is 30 km/hr.
1.20.12	In FAQ3-1.20-4, it mentioned Seeker R2 is not allowed to pile external to square base and stack. It seems to contradict with FAQ1-2.2-7, which mentioned Robot 2 can pile up all 5 Lagori inside the robot as long as it follows all the Rules. Can you confirm "Inside the robot" is not equal to "external to square base"? Please also specify the conditions by piling external to square base? Is it ok to pile all the 5 discs external to the square base and inside the robot, without any discs touching the ground (The robot will then put the whole Lagori tower on the square base)?	External piling even on the ground is acceptable.
1.20.13	Consider a Situation: If the Seeker R2 stacks the Lagori disk 2 (Dia 275mm) on the top of Lagori Disk 3 (350mm) in the Lagori Area and then piles the stack of Lagori disk 3 and lagori disk 2 on the lagori disk 4 (Dia 425mm), which is already piled on the square base, is this allowed?	Allowed
1.20.14	<ol style="list-style-type: none"> 1.Can Seeker R2's parts or projection be in the penalty zone if lagori falls in the PZ? If yes then for how much time? 2. If Lagori falls out of the Lagori area in the opponent's area; can Seeker R2 enter in the opponent's area to pick them? 3. What is the air pressure to be filled in the Size 1 Soccer ball? (6 PSI (gauge), about 0.48 Bar (gauge)) 4. While Lagori piling, can the lagori of size 200mm diameter be raised to a height of 1200 mm or above, keeping all other parts of the robot within the height limit of 1250 mm? 5. In the appendix of Game field and Object Figures, the Lagori colors are specified as Red and Blue, but in the figures, the top surface is white in color. 	<ol style="list-style-type: none"> 1. No penalty zone in online game rule. 2. Not relevant in online game rule 3. Yes 4. All other parts of robot should be below BOH plate. 5. Only curved surface of lagori should be painted with red and blue colour. 6. No penalty zone in online game rule. 7. R2 8. No such point in online game rule. 9. Not applicable for online rule. 10. Sequence should be as per given rule book.

	<p>Are the Lagoris made of Red and Blue foam completely or are they covered with some paint or vinyl sheet? Are the top and bottom surfaces of Lagori white colored foam or are they coated with white paint or white sheet?</p> <p>6. Can Seeker R1's part extend in the Lagori area outside PZ?</p> <p>7. Which bots can move after Lagori break finishes?</p> <p>8. Rule 2.1.18, it is mentioned that Hitter R2 must displace the ball on head directly using the hitter ball. But in rule 2.2.23, it is mentioned that hitter R2 cannot throw hitter balls at the ball on head. Request for elaboration.</p> <p>9. Rule 2.1.14, in the 15s where hitter is forced to retry, does hitter R2 also need to retry?</p> <p>10. If the lagori is broken, such that the lagori 2 stays on top of lagori 3 and lagori 2 is not in contact with the game surface, how would the points be given?</p> <p>11. In continuation to FAQ 10, if the points are not given for breaking Lagori 2, do we need to pile Lagori 2 or can we pile Lagori 1 directly on top of Lagori 3?</p> <p>12. Rule 1.20 says that lagori must be piled in order, but rule 2.3.2 says that each lagori disc piled up will give 10 points. Does rule 2.3.2 mandate the piling in sequence?</p> <p>13. If the top disc is not oriented top to bottom instead oriented on the sides...Is it considered as Lagori Pile?</p> <p>14. Is it necessary to pile 5th lagori with the surface having sunmica at the bottom side on the platform?</p> <p>15. Can R1 move from its SZ one lagori is broken? Can R2 go straight through R1SZ to enter lagori area?</p>	<p>11 Lagori piling should be as per figure.4 given in online rule book.</p> <p>12. Lagori piling should be as per figure.4 given in online rule book</p> <p>13. No.</p> <p>14. It can be either side (any side is okay).</p> <p>15. Yes.</p>
1.20.15	<p>1. While piling lagoris, if lagori is on robot (Seeker R2) will it be considered as a part of the robot or not? If yes, is that specific lagori allowed to extend above 1250mm?</p>	<p>Yes, disc is allowed</p>
1.20.16	<p>1.20 - 4 mentions can seeker R2 pile external to the square base and stack? It is answered as NOT ALLOWED.</p> <p>What does this mean exactly?</p> <p>Can we stack the lagori discs in groups and pile the groups</p>	<p>Final score will be given if piling is done on lagori base in given order Fig. 4. Other things can be done smartly.</p> <p>Yes</p> <p>No need</p>

	For eg. If I pile 4 and 5 and keep it near to the base. Then pile 2 and 3 and keep it too near the base. Then stack 4-5 on the base and then stack 2-3 above 4 in proper order. Will this work? Do we have compulsory need to stack one by one?	
1.20.17	Based on the faq 1.20-3, A). Can Seeker R2 pile multiple Lagori discs on the square base at once? B). Can Seeker R2 temporarily store multiple Lagori discs inside the robot? C). Can Seeker R2 manipulate the carried Lagori discs to be a tower form in the robot or Largori Area?	Yes Yes Yes

2.Game

2.1 Game Procedure

FAQ #	Question	Answer
2.1.19	Considering the guidelines of Stage 2 ,In 1st paragraph, it is mentioned to follow Online Game rules. But what about the game field? Do we need to construct the game field according to online rule book or according to offline rule book?	Yes. Please follow online rulebook.
2.1.20	FAQ1 2.1-2 when round 1 is finished, the team total Point is 15 or 45?	Depends on the play.
2.2-27	1. If the image processing is done on laptop and it is connected through wires, is it compulsory to mount it on robot? [Ambiguity between FAQs GC-2 and 3-3], Will the weight of this laptop be considered in total weight evaluation of robot? 2. Can we have a screen or tablet connected wired or wirelessly on the robot or externally as a controller?	1 Yes, it is included. 2. Wired or wireless is allowed.

3. Robots

FAQ #	Question	Answer
3-9	Can the robot extend above beyond the fence?	Yes. If robot extends beyond field it is okay.
3-10	<p>1) We have two robots which are manual or automatic. There is i wanted to clarify. Is it ok if two of our robots will be manual. Or there must be on manual and on automatic?</p> <p>2) Can we take 2 or more cylinders and collect. Or we need to collect just for 1 cylinder?</p> <p>3) What will be if our rival will bring down our cylinders when we are collecting? Is it ok?</p>	<p>1) Ok</p> <p>2) Yes, you can.</p> <p>3) Not applicable for online rule.</p>
3-11	Can i use AT9S remote controller It is have cc2533 chip Cc2543 is based ieee802.15.4	Yes, if it is as per online game rule

General Category:

FAQ #	Question	Answer
GC-11	Would like to know the SPONSORSHIP options	Not Possible
GC-12	The rulebook 1.10 mentions that the robot cannot touch the top and outside of the fence. But can the vertical projection of the robot's part be on the top of the fence without crossing the outside of the fence?	No

GC-13	Can we use lessor light to spot object of other things	Ok
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