

ABU Robocon 2022 Delhi, India FAQ4

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”]

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1. Terms and Conditions

FAQ #	Question	Answer
1.5-16	Can seeker R2 use pressurized air to deflect the path of the ball thrown by hitter R1 to defend ball on head seeker R2?	Not allowed
1.5-17	<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</p>	<p>(1) Eye safe laser can be used</p> <p>(2) It is part of Game management present in the game field which will be informed.</p> <p>(3) Violation is considered only when the required action</p>

	<p>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 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>is taken against the game rules. Please refer the rulebook carefully.</p> <p>(4) (A) Yes (B) We will weight for the team.</p> <p>(5) Please read the rulebook carefully</p>
1.13-2	<p>1. In Setting time can we store 3 soccer ball on R2 bot which will be given to R1 bot? 2. Can we use andruid device to controll any bot.</p>	<p>1) Not allowed, please read the rule book carefully-section - 2.1, 2) Allowed</p>
1.17-17	<p>1. What is the exact weight of all lagori discs? 2. There are many types of Polyurethane Foam but what is the exact material used in Lagori Discs? (Please differentiate that material).</p>	<p>1. Refer to FAQ - 1 and 2 2. Please refer to the rule book.</p>

1.20-6	Can we pile lagori with fewer disk in decreasing order? As if we can pile lagori discs in the following order as 4-3-2-1 or 3-2-1 or 5-4-3, with 10 points of each lagori piled?	See FAQ-1 (Ref. No. 2.1-6)
1.20-7	<p>(a) (1) During piling, if one team can score point only when the discs are completely on the square base? (2) During unpiling, if one team can score point only when the disc is completely off the square base. Will the team score any point if the disc partially touching the base? Besides, what if part of the broken Lagori disc is on another unbroken lagori (the broken disk on the floor touches another disk on the Lagori square base), does the broken Lagori disk count for points?</p> <p>(b) Rulebook (dated 7 Feb) mentioned the Lagori disc which has gone out of the Lagori Area including its space above, even partially, cannot be used again. While, FAQ1 1.20-1 (dated 9 Feb) said the referee will return the Lagori disc to the inside of the Lagori Area if the disc rolled out of Lagori Area due to Lagori Break. Please define which statement is correct.</p> <p>(c) Is penalty area counted as part of Lagori area?</p>	<p>(a) (1) Yes (2) Yes, but in that case disc(s) should touch the ground also.</p> <p>(b) Rule book answer is correct. Please Read the rule book carefully.</p> <p>(c) Please refer rule book</p>

2.Game

2.1 Game Procedure

FAQ #	Question	Answer
2.1-17	Can we use the RGB lights to decorate the our robot?	Refer FAQ– 1 and 2
2.1-18	How many total number of games did the robot need to play to reach the finals?	It will be announced before the game. Please keep visiting website.

2.2-19	<p>Rulebook 1.17 states that "the Lagori disc which has gone out of the Lagori Area including its space above, even partially, cannot be used again.</p> <p>1. " What happens if the Hitter Ball hits the Lagori that are not yet piled up, and the Lagori goes out of the Lagori Area?</p> <p>2. Is a team allowed to use Hitter Ball to intentionally hit the Lagori discs that are not yet piled to displace them to outside Lagori Area?</p> <p>3. Is there a conflict between Rulebook 1.17 and FAQ1.20-1?</p>	<p>1) If the hitter ball is through intentionally on lagori disc then the team will be disqualified, it will be violation if not retry will be given based on the decision of the referee.</p> <p>2) No, please read the rulebook 2.2.19.</p> <p>3) No, Please read the rulebook carefully.</p>
2.2-20	<p>1) If the lagori goes in the Ball Rack area then can the robot go in and pick the lagori?</p> <p>2.)If all the 3 balls are preloaded than what is the need of the Receiving Mechanism in the Seeker R1.(As per the Round 1 submission guidelines)</p>	<p>1) No, once the lagori is broken of lagori area cannot be used again. Refer to 1.17 section under games rule in rulebook.</p> <p>2) Receiving mechanism need not be used in seeker R1but in the next round when he is hitter R1, receiving mechanism is required, Please read the rulebook section 2.2.1 carefully.</p>
2.2-21	<p>(a)When the hitter ball is thrown then hits the robot's body and bounces so that it drops the lagori, is the hitter robot required to retry?</p> <p>(b) When seeker R1 manages to drop the Lagori perfectly with just one throw, can the remaining 2 preload balls be used to throw into the ball rack?</p> <p>(c) Before throwing the ball, does the robot have to rotate at the start zone first, as in the official video?</p>	<p>a) The game will be over.Please see the rulebook</p> <p>b) No, the preloaded balls cannot be used when seeker becomes hitter in second round. Please read the rulebook carefully</p> <p>c) It depends on the robot orientation and design, it is not compulsory. Please refer 2.1.10 of the rulebook.</p>
2.2-22	<p>What if R1 robot goes out of the R1SZ zone at any instantaneous point in time while shooting, but recovers itself. Will there be any consequences or penalties?</p>	<p>This is not allowed, referee will decide. Please see the rules 2.2.3 and 2.2.15 in case of violation.</p>

<p>2.2-23</p>	<p>(A) Technical Specification:</p> <ol style="list-style-type: none"> 1) When the Robot changes its role from Seeker R2 to Hitter R2, can the robot take off the pipe & plate on its head? If yes, should the action be done in setting time? 2) If the upper surface of the plate could be lower than 1200mm from the field surface? 3) If the robot could have unlimited extension after the game starts as the rulebook only mentioned each robot must be less than 1,000 mm in length and 1,000 mm in width at the game beginning. <p>(B) Game Material - Based on the latest FAQ 1.5-2, it mentioned the plate and pipe will now be provided during the ABU Robocon 2022.</p> <ol style="list-style-type: none"> 1) For local contest, shall the organiser produce the plate and pipe or ABU will dedicate one specific supplier so that we could purchase the item from the supplier for uniformity 2) Will ABU send one full set of plate & pipe to local representative beforehand? or will the item only be ready for collect on the contest day in India 3) Any official supplier for other game materials including game balls and Lagori? <p>(C) Hitter: Hitter 1 throwing at opponent Lagori disc</p> <ol style="list-style-type: none"> 1. According to rule book 2.2.17, Seeker team declares as winner if Hitter throws the balls to hit Lagori discs piled up on the base. Further to this, please advise if Seeker team declares as winner <ol style="list-style-type: none"> (1.1) irrespective of the number of Lagori discs being knocked off the stack? (1.2) if the piled Lagori is not in the original order (not aligned with fig 4)? 2. Further to the question above, please advise if Hitter is allowed to throw at the unpiled Lagori disc on ground. <ol style="list-style-type: none"> (2.1) If allowed, how to handle the disc fall out of the Lagori area. Who and where to place the disc if needs to return? (2.2) If not allowed, any penalty for the violation? Hitter 1 shooting at 	<p>(A)</p> <ol style="list-style-type: none"> (1) Not necessary (2). Refer to Section 1.5 of rulebook. (3). Refer the rulebook - Section 3. <p>(B)</p> <ol style="list-style-type: none"> 1) GC -Refer to the section 1.5 of the Rule Book. 2) GC -Refer to the section 1.5 of the Rule Book. 3) Contact Local supply <p>(C)</p> <ol style="list-style-type: none"> 1. The number of discs remains the same as mentioned in rule book and it must be arranged in the original order. 2. Hitter needs to hit the ball on head directly, refer section 2.1.14
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	<p>Seeker 2 BOH</p> <p>3. When Hitter 1's ball hit Seeker 2's body and not BOH (regardless of intention), is that Hitter 1 will have compulsory 15 second restart penalty and Seeker 2 can continues from it's existing spot?</p> <p>4. If the hitter knocked the Lagori disc off Seeker 2's hand, how should the fallen piece of Lagori disc be treated? (4.1) Replace the fallen disc manually by team member or referee? If this is the case, where to replace the fallen disc (e.g. Seeker 2 hand or ground inside the Lagori area)? (4.2) Seeker 2 has to pick up itself? (4.3) If the Lagori disc fell and landed outside Lagori area, is that the disc cannot be reused according to FAQ1 – 1.20-1?</p> <p>5. Can Seeker 2 use Lagori disc as a protection or shield to cover the BOH? (5.1) If yes, is the Lagori disc considered as part of Seeker 2? What happens when Hitter 1 hits the Lagori disc in Seeker 2's hand in this case? (5.2) If no, how and who to distinguish whether the act is intentionally for piling or for protection? (5.3) Seeker: 1. Any penalty if Seeker 1 hits and displaces the balls on the ball rack of the opponent's Team? (5.3.1) What will happen to the displaced ball on the ball rack? In case the ball can reuse, should referee replace the ball back on the same spot?</p>	<p>3. Refer to section 2.1.14 in rule book</p> <p>4. Please see in FAQ-1, 2 and 3</p> <p>5. (5.1) No (5.2) Referee will decide (5.3) It will be decided by the referee (5.3.1) The referee will place the ball back on same spot</p>
2.2-24	Is there any limit for the speed of the ball thrown by robot R1?	Please refer to rulebook 2.1.10 & 2.1.13.

2.2-25	Can we use 2 mechanism on R1?	Yes, Hitting and receiving mechanisms can be employed on R1 in the respective rounds.
2.2-26	The updated rulebook Point 2.1.13 mentions that the speed of the must be less than 30km/hr. Is this speed limitation only for Hitting Ball On Head or for ball passing from R2 to R1 as well?	The speed limit is applicable for Breaking Lagori (for Seeker R1) as well as displacement of BOH (Hitter R1).

3. Robots

FAQ #	Question	Answer
3-8	Rulebook 2.1.7 states that "Team members must stay outside of the field except when the team members push start buttons of the Robots and retry." but FAQ 3-2 in FAQ2 states that "Operators can enter their respective colour areas." while Rulebook 3.4.4 states that "The team members are not allowed to enter the Lagori Area and Ball Areas". May we confirm what areas can team members enter for retry, and which areas can team members enter at other times?	In case of retry decided by the referee the team member The team members are not allowed to enter lagori area however they can enter Red Area or Blue Area. (2) Please read the rule book

General Category:

FAQ #	Question	Answer
GC-3	Please advise around when will ABU announce if it's confirmed to reschedule the contest date (physical game) or turn into online game.	ABU physical game date is already announced in the ABU Robocon website, if there is any changes it will be updated in the website itself.
GC-4	I am representing the organizer team for Robocon Malaysia. We would like to buy 40 ball on head, 120 seeker balls and 240 hitter balls. Could we get help from the Robocon New Delhi Secretariat team on getting these balls? We will pay all the costs of the items, including the shipping cost to Malaysia. We try to deal with the source you provided from the amazon website, but they do not ship the items to Malaysia.	Seller number will be given to the organiser, please contact directly to the seller.

GC-5	The foam of required density of the competition is not available in the market or online. Please provide the details so that it we will procure the foam.	Please contact the seller directly through this number
GC-6	Is there an international shop that can be accessed to buy the appropriate balls and categories? I've checked the amazon link on FAQ1-1 (09 February 2022). but the store can't ship overseas.	Please contact the seller directly, Contact Wasan Exports Phone: 0181 265 0101 Fax: 0181 244 1982 E_mail: Address: Sports And Surgical Complex, D-90, Kapurthala - Jalandhar Rd, Basti Bawa Khel, Jalandhar, Punjab 144002, India
GC-7	For getting the camera input can we use tab in competition as a interface option between camera and raspberry Pi?	Yes, It is allowed as long as it does not violet any game rules.
GC-8	We have been working through different RobiticsProject.how can we register for ABURobocon event to participate (is it for international students too)?	Contact your National Organizer
GC-9	Where can I register for this competition? I am not with my school and want to go to this competition privately.	You cannot participate individually.
GC-10	Date- 22/03/22 Subject- Asking for tentative days for the guidelines of stage 2. Respected sir, This email is regarding the guidelines for Robocon Stage 2. It's been a long time since Robocon stage 1 had been completed. Although we haven't received the guidelines for stage 2, and because of that we are facing difficult in preparation of stage 2. It would be helpful if you let us know the tentative dates of the guidelines. Thanks, Regards Robotics club Shri Ramdeobaba College of Engineering and Management.	It will be updated ASAP.