ABU ROBOCON 2018 NINH BINH – VIETNAM

FAQ

CATEGORY OF QUESTIONS		
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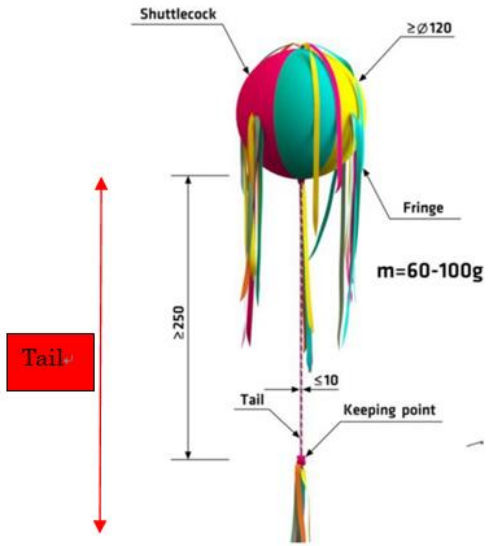
No	Item	Questions on Shuttlecock, Fringe, Tail	Answer
	【FAQ A1&A2】	Is it OK to put metals and magnets in the shuttlecock? Can we attach electronic circuit?	It is prohibited to put sharp objects, metals, materials that contain a lot of liquid, magnets and electronic circuit which can possibly control flying direction of the shuttlecock. As long as the weight and size regulations are met, basically you can put any materials other than the above mentioned items.
1	FAQ A.1	Can you specify which soft materials could be used to make the shuttlecock and tail?	Answered by FAQ A1 & 2.
		The construction of the shuttlecock, i.e. which material should be it made of. In the rule book it is given soft material, so will cotton balls work fine?	
		What materials that shuttlecock are made of? Is it mandatory to use fabric or any material that conform the size and weight requirements? Is the tail made of soft or hard material?	
		Which material has been filled inside the shuttlecock?	
		What are the components of the shuttlecock filling?	
		Please list down the materials which could be used to make the shuttlecock.	
2	FAQ A.2	Regarding the soft material for shuttlecock, fringe and tail, are we allowed to use material other than natural fibre or synthetic fibre?	
		Can any solid object for fringes?	
		Can articles like colourful bands, multi colour fringes, glitters, glowing LED's, colour stripes be used on shuttlecocks to decorate them to try to achieve the best shuttlecock award.	
		Can materials like ABS, paper Mache, PET (plastic), balsa be used to make shuttlecock and tail?	
		Can material for shuttlecock filling be a metal or magnetic?	
		Can we use rice to make the shuttlecock?	
		Can we add electronic circuitry in the shuttlecock?	
		Can we use adhesive glue to make the tail?	

No	Item	Questions on Shuttlecock, Fringe, Tail	Answer
3	FAQ A.3	Referring to fig 1.7, what would be the dimensions of the shuttlecocks if they are not spherical? For example their shapes are cuboids, pyramidal, etc. The maximum permissible weight of the shuttle cocks.	Refer to Appendix – Item 3. Shuttlecock
4	FAQ A.4	Can you specify the positions where the fringes should be attached?	Refer to Appendix – Item 3. Shuttlecock
5	FAQ A.5	Is it necessary to attach the fringes below the keeping point?	Not necessary For clear understanding, see below figure. It is unnecessary to attach several strings at the end of the tail.  *a) Measurement and Weight of Shuttlecock*
6	FAQ A.6	Can the normal shuttlecocks be of different colours or do they have to be same?	Refer to Rules book, Item 1 – Term and Definition.
7	FAQ A.7	Which material can be used for making keeping point?	Refer to Rules book, Item 1 – Term and Definition;

No	Item	Questions on Shuttlecock, Fringe, Tail	Answer
			Appendix – Item 3 Shuttlecock
8	FAQ A.8	Can we tie multiple knots (making circular shape) at distance more than 250mm from shuttlecock?	Allowed
		Can we have multiple knots on tail of the shuttlecock at the keeping point?	
9	FAQ A.9	What is minimum diameter of fringes(if considered as thread)	The Rules does not stipulate the diameter of fringes. Refer to 'Appendix Item 3. Shuttlecock'.
10	FAQ A.10	What should be the minimum and maximum diameter of keeping point?	The Rules does not stipulate the diameter of keeping point.
		Can you specify the dimension of knot?	
		Is there any limitation for the keeping point size?	

No	Item	Questions on Rack	Answer
【FAQ B1】		Where can we place the rack that was used for passing shuttlecocks?	The used rack must be kept by each robot or be placed in the loading zone. Or the team member can return it to the loading zone by asking for a retry. If the rack is dropped in the field, it will be a compulsory retry and the team member has to put it back to the loading zone.
1	FAQ B.1	If picked up once, can the empty rack/rack with shuttlecocks be left anywhere in the game field and can it be picked up again from where it was left?	Answered by FAQ B1.
2	FAQ B.2	Is the weight of the rack included in the robots' weight?	The weight of the rack(s) is included in the robot's weight. Total weight of 2 robots and rack(s) should not exceed 50kg. The maximum weight of each robot including battery, controller, cables and any other equipment must not exceed 25kg.
		Referring to rule 7.6.1, the weight of the rack is considered as a part of which robot (manual or automatic)?	Answered by FAQ B2.
3	FAQ B.3	Is the rack considered as an individual part or is it considered to be a part of the manual robot?	
【FAQ-B4】		Is it possible to attach motors and other power source to the Rack?	It is not allowed to attach special functions to the rack such as power source and deploying other

No	Item	Questions on Rack	Answer
			functions.
4	FAQ B.4	Is it allowed to use actuators and electronic circuits which will not be used to self-navigate the rack, to be mounted on the rack?	Answered by FAQ B4.
		Can we place any mechanical mechanism in rack, or electronics connection for loading single shuttle cock before loading in manual robot?	
		Are sensors and pneumatic setup allowed on rack?	
		Can we add mechanical assembly on rack?	
5	FAQ B.5	According to contest rules (1.Terms and Definitions) there is no limitation on the rack dimensions however referring to the fig.1.7 there is a maximum limit on the height of the rack. So which of these rules should be followed?	Refer to 'Appendix Item 3.3. Rack' There is no limit on the size of the rack but it should satisfy the conditions under Rulebook Item 7.5, 7.6, Appendix Item 3.3 and FAQ B2.

No	Item	Questions on game filed	Answer
1	FAQ C.1	The team has discovered some dimension problems in Figure 1.2.	Revised and uploaded to website Please refer to revised Figure 1.2.
		The dimension provided in the rule book doesn't match the given dimension. Is there any error or misunderstanding in viewing the dimension?	
2	FAQ C.2	Could you specify the automatic robot area (ARA) in the fig 1.1?	ARA is team game field (See Figure 1.6) All of your team's area is the ARA.
3	FAQ C.3	Is it allowed to place sensors outside the game field?	Not allowed
4	FAQ C.4	What are the exact type of colours and their specifications used in the game field?	Refer to Appendix - Item 2. Material for Game Field
		What are the colour codes of Arena?	

No	Item	Questions on game procedure	Answer
Questions on Loading Shuttlecock			
1	FAQ D1.1	Can manual robot enter into the loading zone (LZ) during loading the shuttlecock? Can it enter inside the LZ anytime?	Allowed
【FAQD1.2】		Can we arrange shuttlecocks in the rack before the setting time begins?	No, it's not allowed. Please set the shuttlecocks in the

			rack in the 1-min setting time.
3	FAQ D1.2	Could the shuttlecocks be arranged in the racks before the set-up time?	Answered by FAQ D1.2
4	FAQ D1.3	Can we load normal shuttle cock and golden shuttle cock at a time in one rack Or we need to go to pick for the golden shuttle cock after shooting the normal shuttle cock.	Answered by FAQ D2.
5	FAQ D1.4	In the rule book, point 3.4.2, it is stated that handling and receiving shuttlecock is considered successful when "None of the Manual Robot part makes any contact with Automatic Robot." but then stated underneath it that "During the process of handling and receiving shuttlecock, the Manual Robot is allowed to make contact with Automatic Robot." I would like to request further information about the differences between the "contact" term in the first and second statements above. Does it mean that during the process of handling and receiving shuttlecock, any physical contact between the two robots is not allowed, but only non-physical contact is allowed?	Answered by FAQ D2.3 and refer to FAQ D5.7.

No	**Item**	**Questions on game procedure**	**Answer**
Questions on Handling and Receiving Shuttlecock			
【FAQ D.2】		After successfully throwing shuttlecocks from TZ1 and TZ2, can either Manual Robot or Automatic Robot be able to hold Golden Shuttlecocks and Normal Shuttlecocks at the same time?	Yes. However automatic robot can hold only one Normal Shuttlecock. It is also allowed to arrange Normal Shuttlecock and Golden shuttlecocks together.
【FAQ D.2.1】		If a Manual Robot failed to pass over a shuttlecock to Automatic Robot and it falls to inside TZ, can Automatic Robot pick it up and throw it?	Automatic Robot cannot throw the shuttlecock which has not been successfully passed from the Manual Robot.
2	FAQ D2.2	With reference to 3.4.2, only during Handling and receiving, manual robot which is in contact with automatic robot, cannot transfer an electrical signal to control the automatic robot. Is this interpretation correct?	Answered by FAQ D5.7
3	FAQ D2.3	Can shuttlecock touch automatic robot during transfer? When MR handles shuttlecock to AR, is it possible if the shuttlecock can touch AR	Allowed. Refer to Rule 3.4.2.

No	Item	Questions on game procedure	Answer
Questions on Throwing Shuttlecock D3			
【FAQ -D3】 about Rule 3.4		It is written that Automatic Robot must hold the shuttlecock either by the shuttlecock, tail or fringe. On the other hand, when throwing the shuttlecock the robot has to hold the keeping point or further position from the shuttlecock. As long as the shuttlecock is thrown by the keeping point, can a part of Automatic Robot touch other part of the shuttlecock?	A part of Automatic Robot must indicate the sign when the 'throwing action' starts. The power to throw shuttlecock can only be given from the keeping point (or further position) grabbed by the automatic robot. Once the action to give power for throwing starts the automatic robot cannot touch other parts of the shuttlecock. Please keep the following throwing procedure: 1. Automatic robot grabs keeping point 2. Make sure that no other part of the shuttlecock is in contact with the automatic robot 3. To start the throwing action, automatic robot indicates visible sign such as flashing light. The display on the automatic robot must be visible for referee and audience. 4. Start the throwing action If the robot grabs only by the keeping point from the beginning, the team can omit No.2.
1	FAQ D3.1	Can the shuttlecock touch/rest but not hold on automatic robot while throwing?	Answered by FAQ D3
		Can we hit/push the shuttlecock to throw while holding the shuttlecock from the keeping point?	
		We aren't allowed to hold the Shuttlecock, but can we touch the Shuttlecock. For example, our robot will hold the tail of the Shuttlecock in the air and use an arm to hit at one side of Shuttlecock to throw it away, or lay it on the surface of one arm and use other arm which is holding the tail to pull the tail and throw it away.	
2	FAQ D3.2	Is it necessary to rotate shuttle cock before throwing? If so, then in what direction clockwise or anticlockwise?	The Rules does not stipulate the rotation of shuttle cock before throwing. Refer to Rules book – Item 3.4.3 and FAQ D3.
3	FAQ D3.3	For throwing the shuttlecock, can we use methods other than shown in video	It is Ok to throw shuttlecocks in any other ways

		of the theme? for example, using the slingshot technique	shown in the rule CG video clip and as long as the method satisfies the conditions of Rule 3.4.3 and FAQ D3.

No	Item	Questions on game procedure	Answer
Common Questions on Game procedure			
1	FAQ D5.1	Are both manual and automatic robots allowed to enter the space above the No contact area?	Yes, Please refer to Rule 3.4.2, 3.4.3 and FAQ D3.
2	FAQ D5.2	Can both the robots enter into each other's start zone after the game begins?	Allowed
【FAQ D5.3】		Is it allowed for the Manual Robot to enter the space above TZ1 and TZ2?	Yes.
3	FAQ D5.3.1	Is it allowed for the robots to touch the wall?	Allowed
		Can the manual robot enter into the air space above TZ1 and TZ2?	Answered by FAQ D5.3
		Can the robot touch the Fence? Can certain parts of the robot exceed the Fence area?	Allowed, the above space of robot is allowed to exceed the fence area
4	FAQ D5.4	About shuttlecock. What is the definition of "hold"? Is it including touch?	Refer to Rules book, Item 3.4.2; 3.4.3 and FAQ D3
5	FAQ D5.5	AR is allowed to use different sensors for self controlling, So I want to ask question for below cases: Case 1: if AR is equipped with optical sensor and MR uses LED light Case 2: AR is equipped with magnetic sensor and MR has engine for moving that exists surrounding magnetic Above mentioned cases are allowed or not ?	Answered by FAQ D5.7
6	FAQ D5.6	Can automatic robot sense the manual operator?	Allowed only at the start of the game and restart the robots after the retry is granted. It is not allowed in other time.
		Can the automatic robot sense the mechanical movements of manual robot?	Answered by FAQ D5.7
【FAQ D5.7】 about rulebook 7.4		It is written that communication such as radio, infrared, laser, ultrasonic wave, etc. between the Manual Robot and the Automatic Robot is prohibited, but can it be possible to install mechanisms other than these?	It is prohibited to have 'automatic robot control function' on the manual robot. However the automatic robot can use 'movement of manual robot' or 'colour of shuttlecocks' for judgement.
7	FAQ D5.7	Referring to rule 7.4, which standard wireless communication protocols are not allowed?	Answered by FAQ D5.7
		Is LASER light sensing allowed between automatic and manual robot?	

No	Item	Questions on game procedure	Answer
8	FAQ D5.8	Can you differentiate between signalling and communication?	
9	FAQ D.5.9	Referring to rule 3.8.2, for the retry of automatic robot, is a retry also necessary for the manual robot?	When the retry is granted, both manual and automatic robot must restart from each start zone.

No	Item	Questions on Robot	Answer
1	FAQ E.1	Can air be refilled in the robots during a retry?	Not Allowed
2	FAQ E.2	The total weight of 2 robots (manual and automatic robot) is maximum 50 kg or 25 kg?	Answered by FAQ B.2

No	Item	Questions on Score	Answer
1	FAQ F.1	Referring to rule 2.10, will "Rong bay" be considered if the shuttlecock bounces off the field and then lands inside the golden cup?	Rong bay won't be achieved even if the shuttlecock bounces off the field and then lands inside the golden cup.
2	FAQ F.2	Referring to rule 2.10, is the "Rong Bay" achieved if the shuttlecock falls in golden cup (GC) but a part of the tail or the keeping point is hanging outside golden cup (GC)?	"Rong bay" winner. Rong bay is achieved even if the other part of shuttlecock is hanging outside of GC or in contact with the field.
3	FAQ F.3	When the AR receives a rack from MR does it count a point for each shuttlecock or a point for the rack?	The number of shuttlecocks successfully passed on will earn points. The number of rack is irrelevant to the score.
4	FAQ F.4	Are there points for upon successful passing of Golden Shuttlecock for Manual robot to autonomous? If points, are there then how many points will be allotted if whole rack of Golden shuttlecock is passed (5 golden shuttlecocks together)?	When successfully handling and receiving one (1) Golden Shuttlecock, the team scores one (1) point. If successfully handling and receiving rack including 5 Golden Shuttlecock, the team would get 5 points. Refer to Rules book Item 3.5 Score
5	FAQ F.5	Will the points be allotted if shuttlecock is hanging with ring?	If the shuttlecock is successfully thrown through the ring, the team will earn score. Refer to Rules book Item 3.5 Score