



## INTERNATIONAL ROBOTHON 2019 – GENERAL RULES AND REGULATIONS

### LEGO EV3 CHALLENGE

#### 1.0 TERMS & CONDITIONS

- 1.1 The competition is only open to participants from schools under Eduspec Holdings Berhad and Partners.
- 1.2 No refund will be made after payment is approved. However, participants are allowed to appoint their replacements.
- 1.3 The organiser has the right to cancel the competition category if the participation is less than 10 teams. Participating teams will be refunded with the full amount.
- 1.4 A team comprises of minimum 2 and maximum 3 participants.
- 1.5 The registration fee is non-negotiable as stated in each year's registration form. Refer to each region representative for more information.
- 1.6 Upon registering, Teams acknowledged on all terms and conditions that reflect the respective competitions or events.
- 1.7 The organiser reserves the rights to revoke any privileges or entries prior to the competition.
- 1.8 The Organiser has the rights to record the event, reproduce, modify and publish the materials.

#### 2.0 GENERAL GUIDELINE

- 2.1 Judging panel has the ultimate authority during the competition. Their rulings are final. They will not review any pictures or videos recorded replays from the Round.
- 2.2 Replays are at the discretion of the Organiser and Judging panel, and will only be issued in the most extreme circumstances.
- 2.3 It will be understood that all Teams understand and agree with every regulation and competition rule. Thus, a Team may disqualify immediately if he/she refused to follow the rules and regulation without any due cause.
- 2.4 Organiser will not provide personal practice areas at the competition.
- 2.5 Throughout the competition, participants are expected to uphold the highest level of integrity, exhibit positive fair play, and execute good sportsmanship towards fellow contenders.
- 2.6 All participants are required to wear school uniforms/attire and covered shoes at all times during the competition. Sleeveless shirts and slippers are not allowed in the competition area.

- 2.7 The setup and care of any personal equipment are the participant's sole responsibility. ANY SOFTWARE OR HARDWARE ISSUES, not limited to the events of equipment malfunction or shortage, will not be handled by the Organiser.
- 2.8 Organiser and crew reserve the rights to check the participants' bags or belongings before entering and leaving the competition area.
- 2.9 The Organiser has the rights to remove any visitor/non-participant that disturbs the competition at all times.
- 2.10 Participants must take care of their own belongings (including equipment and bags) at all times. The Organiser is not responsible for any theft, loss, damage or injury that is caused by the participants' negligence.
- 2.11 Participants are not allowed to have personal electronic devices (tablet, mobile phone, radio, MP3 player, etc.) in the competition area.

### **3.0 COMPETITION VIOLATION**

- 3.1 All team members, which includes all students and adults associated with a team, are expected to conduct themselves in a respectful and positive manner while participating in the Challenge. The judging panel has the rights to disqualify Teams for the following misconducts based on Rule 2.5. Unsporting conducts include, but are not limited to:
  - 3.1.1 Using profanity, taunting or acting in a threatening manner.
  - 3.1.2 Causing damage to the Field Track, Field Model and Robots of other Teams.
  - 3.1.3 Interfering or sabotaging other participants.
  - 3.1.4 Arguing with, acting belligerently towards, or harassing competition officials, participants or spectators.
  - 3.1.5 Obstructing the judges when the Round is in progress.
  - 3.1.6 Failure to follow the instructions of a competition official.
  - 3.1.7 Cheating, wagering, collusion, and bribery.
  - 3.1.8 Playing computer games.
  - 3.1.9 Discussions with spectator/visitors/non-participants.
- 3.2 During a Round, Teams must not have any contact with the Field Track and all the field models, except when legally interacting with their Robots as per Rule 3.3.
- 3.3 If a Robot goes completely out-of-bounds (outside the Field Track), get stuck, tips over, or otherwise requires assistance, the participants may retrieve the Robot and In the process they must:
  - 3.3.1 Move or handle the Robot with the current robot attachment to the starting terminal of that Run.
  - 3.3.2 Any unsuccessful mission attempt within a round, the respective field model cannot be handled for resetting. Any field model resetting condition must refer to rule 3.4
  - 3.3.3 Before the next Run, Refer Rule 6.7.
  - 3.3.4 Any collectible Field Models in possession of the Robot while being handled must be removed from the robot and taken out of play for the remainder of the Round.
  - 3.3.5 This rule stated is intended so team can fix damaged Robots or help get their Robots "out of trouble".

- 3.4 If one of the mission attempts is unsuccessful, the participants may Reset all field models to their original configuration. In the process they must:
  - 3.4.1 Inform the Referee to signal for reset.
  - 3.4.2 Move or handle the Robot with the current robot attachment to the starting terminal of that Round.
  - 3.4.3 Reset all field models, including those removed as per rule 3.3.3, to their original configuration.
- 3.5 Teams are not allowed to use any sort of communication devices during the challenge.
- 3.6 Any part of the Robot, not limited to robot parts or attachment, which fell on the field track; teams are allowed to:
  - 3.6.1 Ignore the fallen part and continue the Round, or
  - 3.6.2 Reset the Robot as per Rule 3.3 or all the field models as per Rule 3.4.

#### 4.0 **COMPETITION ROLES**

Judge Panel – The Judge Panel have the ultimate authority during the event, including all the Rounds and is the final judicial authority and participants are expected to follow his or her interpretations. The Judge Committee’s responsibilities include:

- 4.1 Adjudicate disputes, interpret rules, and make other official decisions.
- 4.2 Ensuring that all necessary steps are taken to deal with the competition or policy rule violations that he or she notices or are brought to his or her attention.
- 4.3 Issuing the final ruling in all appeals, potentially overturning the ruling of referee.
- 4.4 Decide on a re-Match and form of a re-Match.

Referee – The Referee are on-field officials closely watching the competition to ensure that competition rules are followed. The Referee’s responsibilities include:

- 4.5 Arbitrate for competition violation during the rounds.
- 4.6 Arbitrate disputes and validate Round scores.
- 4.7 Record official scores using designated scoring tool, tablet, or paper sheet.
- 4.8 Interpret and enforce the rules of the game and scores.
- 4.9 Escalate the issue to the judge panel for immediate action.

Participant / Teams – Participants/ Teams are responsible for:

- 4.10 Behaving in a respectful manner towards competition officials, other participants, and spectators while refraining from unsporting conducts at all times.
- 4.11 Maintaining a clear and legal game state.

Spectator – Any person physically present, not limited to mentor, parent, guardian, at a competition and not in any category above is a Spectator.

- 4.12 Spectators are responsible for remaining silent during the competition.
- 4.13 No one is allowed to enter the competition area to give instructions or guidance to the participants.
- 4.14 Spectators are permitted to record Matches provided that they do so unobtrusively.

## 5.0 EQUIPMENT

### Hardware

- 5.1 Everything that is used to create a Robot for the competition must be made entirely of manufactured elements in original factory condition.
- 5.2 Teams should prepare their laptops, software, batteries, download cables, back up parts, electrical current converters, etc. The Organiser is not responsible for the events of a malfunction or parts shortage.
- 5.3 For safety concerns, Teams are not allowed to bring any extension wire.
- 5.4 Teams are allowed to bring the following stationery: pen, pencil, eraser, ruler and calculator. The purpose of the stationary is only for the preparation of the competitions.
- 5.5 Refer to each competition category for more detailed hardware related limitations.

### Software

- 5.6 The robot must be programmed using the allocated programming software (any release). No other software is allowed. Patches, add-ons, and new versions of the allowable software from the manufacturers are allowed.
- 5.7 Refer to each competition category for more detailed programming software related limitations.

### Field Track & Field Models

The Organiser will provide the Field Track and Field Models. Teams may approach the referees for any irregularities found before the competition Rounds. Keep in mind that the Organiser makes every effort to ensure that all Field Tracks are correct and identical, but Teams should always expect some variability, such as:

- 5.8 Variety in lighting conditions.
- 5.9 Texture/bumps under the field track.
- 5.10 Judging panel and crew that will walk around the entire competition.

Participants are not allowed to:

- 5.11 Bring duplicate field models to the field track.
- 5.12 Remove the field models.

## 6.0 ROBOT

### Robot Construction

- 6.1 Refer to each competition category for more detailed robot construction related limitations.
- 6.2 No more than 1 robot in any category.
- 6.3 The only allowable source of electrical power is the EV3 Rechargeable Battery or 6AA Batteries.
- 6.4 The robot base is defined by any surface of the robot touching the surface of the field track.
- 6.5 The following types of mechanisms and components are NOT allowed:
  - 6.5.1 Those that could potentially damage playing Field Models.
  - 6.5.2 Those that could potentially damage other Robots.

6.5.3 Those that pose an unnecessary risk of entanglement.

6.5.4 Any element that is not part of the original EV3 Core & Expansion set, that is used to fasten components of the Robot, not limited to only stickers, paint, tape, screws, glue, oil, zip-ties, etc. are not allowed.

#### At the Terminal

6.6 The terminal is the marked area on the Field Track where the Robot should be placed at the beginning of each Round.

6.7 Each Robot must be in Inspected Starting Configuration as stated in Rule 7.10 in the Terminal before any Run from the Terminal during a Round.

6.8 At the beginning of each Round, the Robot must be placed on the Terminal with the Robot pointing at any direction that is strategic to the Team's first run.

6.9 Once a robot has completely left the Terminal after the first run, any further run from the Terminal is to be used for:

6.9.1 Rule 3.3.

6.9.2 Team members can manually reposition their robot pointing at any strategic direction in the terminal for the next run when the robot base touches the surface of the terminal.

6.10 All Collectible Field Models are not allowed to be in the Terminal unless the Robot is just passing through the Terminal. Any Collectible Field Model will be removed from the Field Track.

6.11 Teams' Robot is only allowed to collect the Collectible Field Models after the Robot base has completely left the Terminal.

6.12 Teams are only allowed to replace the inspected Robot replacement attachment when the Robot is within the Terminal. The detached robot attachment has to be put on the designated area prepared by the organiser.

## 7.0 COMPETITION PHASE

The competition is divided into three (3) phases: Practice, Quarantine, and Competition.

### Practice

7.1 Teams can only start to build, program and practice with their robots after the briefing of the challenge.

7.2 Teams must build their robot in the designated building area.

7.3 When the Practice time is over, neither modification (for example, downloading programs) of robot, nor request for time-out is allowed. In the case of a robot breaking down accidentally, the team may be given maintenance time by the judges but the team is not allowed to add any parts, nor download any program.

7.4 Teams are allowed to measure their robot at the designated area.

- 7.5 Teams must queue at the field track with their robots in hand. No laptops should be brought to the competition table.

#### Quarantine

- 7.6 All robots and robot attachment must be inspected at the designated area from the organiser during Quarantine phase.
- 7.7 A Team must pass Quarantine before being allowed to compete. Noncompliance with the rule may result in disqualification at an event.
- 7.8 Robots must be placed at the designated area provided by the organiser when not competing during the Rounds.
- 7.9 During the Round, Robot may expand beyond the robot construction starting constraints.
- 7.10 The starting configuration of the Robot at the beginning of a Round must be the same as a Robot configuration inspected for compliance, and within the maximum allowed size. A team may NOT have its Robot inspected in one configuration and then place it at the start of a Round in an uninspected configuration.

#### Competition

- 7.11 Teams must bring their EV3 Robot ready to compete to the Field Track with them, and the Robot must be placed on the Terminal. Teams have to bring the replacement robot attachment and placed by the designated area provided by the organiser.

#### Competition Status

##### 7.12 RESET

Teams are responsible for calling out the “RESET” status. A reset will return all field models to their original conditions, including all the attempted missions. Teams may choose as many times as they wish and the timer will not be stopped. Teams must attempt at least one robot runs before calling for “RESET”.

##### 7.13 STOP

Teams are responsible for calling out the “STOP” status to inform the judges to end the competition round. The judges are responsible for calling out the “STOP” status when the two-minute duration has ended.

## 8.0 **SCORING**

Scores will be calculated immediately after the Rounds ends and when all elements on the Field Track come to rest.

- 8.1 When the Round ends, PLEASE STOP/SWITCH OFF THE ROBOT AND DO NOT TOUCH ANYTHING! The Referee needs time to record the conditions of the field track on a score sheet.

- 8.2 If there is a disagreement with the scoring, only Team leader, not an adult, may share their question or concerns with the Referee.
- 8.3 The Team Leader must sign on the score sheet at the conclusion Round, the score is considered final and no protests can be lodged.
  - 8.3.1 If the Team Leader does not sign the score sheet, judging panel will make decision based on rule 2.1.
  - 8.3.2 Once the Field Track is cleared for the next Team, the Team can no longer dispute the Round score.

## 9.0 **TIEBREAKER**

Refer to each category's tiebreaker criteria to determine how a team ranks during a draw situation.

## 10.0 **RULES CHANGE**

The rules and regulations are not limited to the above and may subject to further updates or changes by the Organiser. This includes changes due to software updates or releases, event Organiser decisions and all other changes deemed necessary to run a successful competition. Teams are responsible to check the rules on a regular basis and prior to the event to ensure that they are in complete compliance. Teams must understand that the rules listed are guidelines to ensure a fair and competitive play and are subject to interpretation by the Organiser based on the spirit of the game.