Important Points to follow

Theme Implementation

1. The solution for your given theme should be generic.
2. Teams must practice on all possible configurations (including the corner cases, if any) to ensure maximum possibility in final selection.
3. Ensure that no wires are clumsily hanging around the robot, as it might result in the possible failure of whole system. Use perforated boards wherever necessary.
   An example of good design and bad design are given in Figure 1 and Figure 2 respectively.

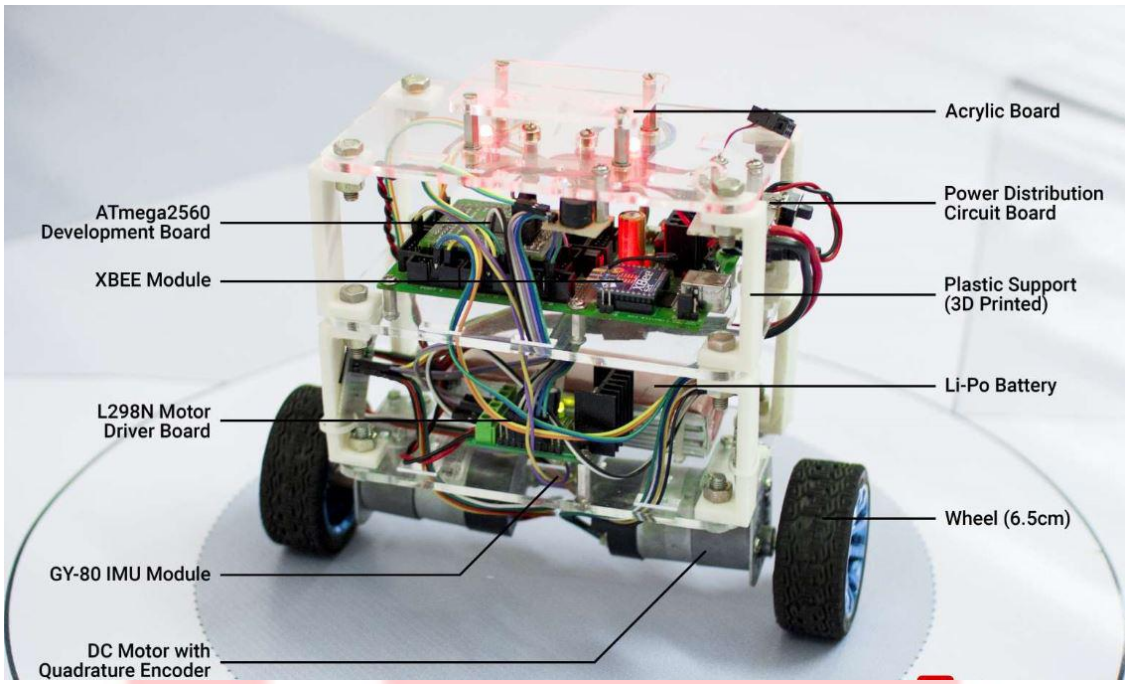

Figure 1: Good Design and assembly of components

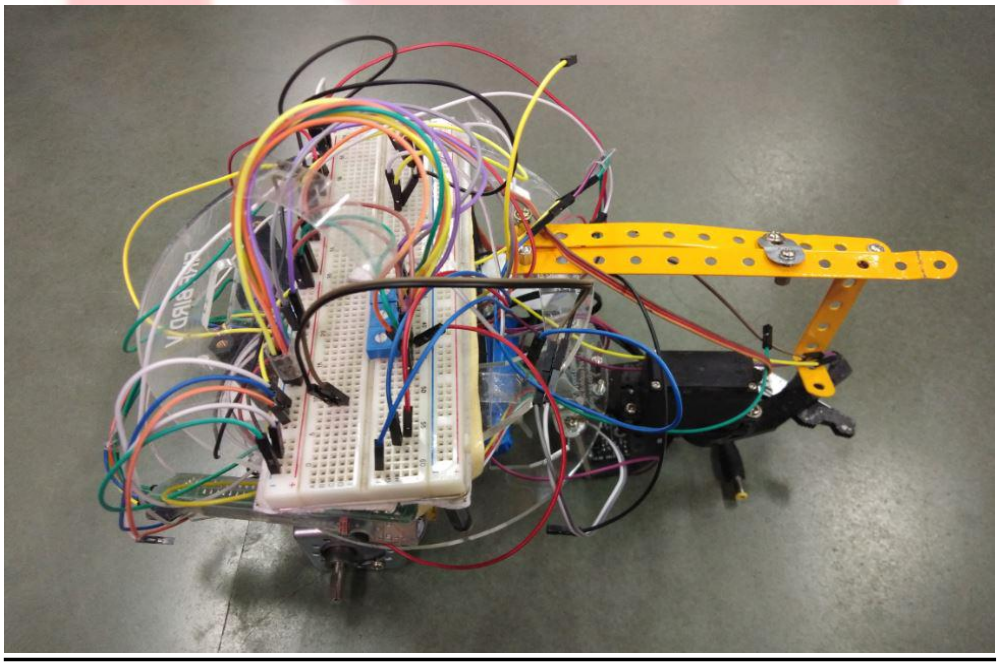

Figure 2: Bad design (wires hanging out clumsily)

Arm mechanism/Striker Mechanism

During the previous versions of the competition we have often encountered many teams that have an amazing algorithm but they fail in the finals. This is owing to the fact that these teams ignore one of the most important part of the implementation i.e. arm mechanism.
Follow the following points to ensure that your implementation does not fail:

1. Arm should preferably be created using durable materials rather than "jugaads". Self-designed 3D-printed, laser-cut parts are allowed but usage of lego kits, off-the shelf arms are discouraged.
2. Design your arm mechanisms in such a way that they are easily de-assembled. This will prove very handy for repairing as well as transportation purposes when qualified for finals at IIT Bombay.
3. Try to be as creative as you want keeping in mind the above points as well as adhering to the rules.

Code Structure

A good code always goes a long way not only for us, the evaluators but for the teams too while referring in the future for debugging purposes. Follow the following links to write beautiful code:

1. Python: Python Coding Guide
2. Embedded C: Standards for Embedded C have already been provided in the "Coding Standard" tab of the e-Yantra portal.
3. **These standards should be followed as code carries good weightage for the finals selection.**

Packaging and Handling

In the previous versions of eYRC,many a times teams have simply slipped from the top spot solely due to improper handling during the travels. Make sure this does NOT happen to your team and hamper your chances of winning.

1. Use bubble wrap while packing your hardware, arm mechanism etc. during your travels. Refer to Figure 3a and Figure 3b.

Figure 3a: A battery (an example)

Figure 3b: Bubble Wrapped

2. Stuff the packing box with loads of newspaper, rugs etc. to ensure the robot withstands tear and wear, if any. Refer Figure 3c.

Figure 3c: Packaged with newspapers

Camera calibration

Camera calibration is very important for themes which involve camera or webcam. You will be provided only **4-5 hrs** to calibrate your camera in the finals venue. So you should be prepared with a generic code or algorithm to calibrate your camera for a given environment in a short time span.