

**e-Yantra Robotics Competition - 2018**

**Theme and Implementation Analysis – Pollinator Bee**

**<Team ID>**

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| --- | --- |
| **Team leader name** |  |
| **College** |  |
| **Email** |  |
| **Date** |  |

**Scope and Preparing the Arena**

**Q1 a. State the scope of the theme assigned to you. (5)**

< Teams should briefly explain in their own words, the theme assigned. What in your opinion is the purpose of such an application? You may use figures / diagrams to support your answer.

Answer format: Text - limit: 100 words>

1. **Attach the Final Arena Images. (10)**

< Prepare the arena according to the steps given in the *Arena* section in Rulebook. Please follow the arena configuration shown in figure 6 of the rulebook.

Place the Plants and the Beehive in their respective locations as per the rulebook and take 3 photos of the completed arena from different angles such that the entire arena is clearly visible in the photos.

The three image files should be uploaded along with this document.>

**Testing your knowledge (theme analysis and rulebook-related)**

**Q2. How will you ensure that while tuning the PID value, Drone will not crash? (5)**

< Explain the method (“juggad”) and/or code you will used to tune the PID without crashing.

Attach the picture of same.>

**Q3. How will you detect the LEDs lighting up using image processing? You may use your pseudo code to explain your approach. (5)**

< Explain the algorithm to detect the LEDs lighting up. Will it check the LEDs’ status after/during a certain event or continuously? >

**Q5. Let us consider a scenario: (5)**

**The Pollinator Bee has reached a desired waypoint, but the LEDs at the waypoint have not lit up.**

**What will happen according to your algorithm (Consider the theme rules specified in the rulebook)?**

< Explain in detail how your algorithms will tackle this case. >

**Q6. What will be your strategy to earn maximum points in a run? (5)**

< Explain various cases you can think of and their possible outcomes. Read and understand the Judging and Scoring Parameters. >

**Algorithm Analysis**

**Q5. Draw a flowchart illustrating the algorithm you propose to use for theme implementation. (10)**

< The flowchart should elaborate on every possible function that you will be using for completing all the tasks in the assigned theme.

Follow the standard pictorial representation used to draw the flowchart. >

**Challenges**

**Q15. What are the major challenges that you can anticipate in addressing this theme and how do you propose to tackle them? (5)**

< Answer format: Bullet points

1. Challenge 1

2. Challenge 2

3. Challenge 3, etc. >