

**e-Yantra Robotics Competition Plus**

**(eYRC+ Pilot)**

**<Please enter your team id here>**

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| **Team leader name** |  |
| **College** |  |
| **e-mail** |  |
| **Date** |  |

**Image Processing** (8)

Write down the answers to the following questions.

1. What is the resolution (size) of the test image assigned in the task?
2. What is the use of thresholding an image?

1. The resolution of the image is 747\*900 pixels

2. Thresholding is used when we want to use pixels in a particular range. Thresholding can be used to convert a grayscale image to binary thus making it easy to perform operations on it.

Explain the algorithm used to perform the task given in practice\_test folder.

<

Answer format: Bulleted form

1. Step 1

2. Step 2

3. Step 3 etc.

>

**Software used**  (7)

Write down the answers to the following questions.

1. Write a function in python to open a color image and convert the image into grayscale. You are required to write a function *color\_grayscale(filename,g)* which takes two arguments:
   1. filename: a color image (Test color image is in folder “Task1\_Practice/test\_images”. Pick first image to perform the experiment.)
   2. g: an integer

Output of program should be a grayscale image if g = 1 and a color image otherwise.

<Answer format:

Code for question 1, explanation of code in form of comments. Use the snippet given below to write the function. >

**def** color\_grayscale**(**filename**,**g**):**

if(g==1):

img = cv2.cvtColor(filename,cv2.COLOR\_BGR2GRAY)

else:

img=filename

**return(**img**)**