Task1.1 Resources:

1. Color Image Processing tutorial: https://opencv-python-tutroals.readthedocs.io/en/latest/py_tutorials/py_imgproc/py_colorspaces/py_colorspaces.html#converting-colorspaces
2. Shape detection: Note that shapes are called contours in image processing jargon https://opencv-python-tutroals.readthedocs.io/en/latest/py_tutorials/py_imgproc/py_contours/py_table_of_contents_contours/py_table_of_contents_contours.html#table-of-content-contours
3. Basics of Geometry related to circles – area, circumference, arcs, radius, diameter, etc.

Task1.2 Resources:

1. Color Image Processing tutorial: https://opencv-python-tutroals.readthedocs.io/en/latest/py_tutorials/py_imgproc/py_colorspaces/py_colorspaces.html#converting-colorspaces
2. Segmentation: (here read mainly the concept of Segmentation) https://opencv-python-tutroals.readthedocs.io/en/latest/py_tutorials/py_imgproc/py_watershed/py_watershed.html#watershed

Task1.3 Resources:

1. Color Image Processing tutorial: https://opencv-python-tutroals.readthedocs.io/en/latest/py_tutorials/py_imgproc/py_colorspaces/py_colorspaces.html#converting-colorspaces
2. Aruco Markers: https://docs.opencv.org/4.1.1/d5/dae/tutorial_aruco_detection.html
3. Deburring: https://docs.opencv.org/4.1.1/de/d3c/tutorial_out_of_focus_deblur_filter.html
4. Motion Deblurring: https://docs.opencv.org/4.1.1/d1/dfd/tutorial_motion_deblur_filter.html
5. Contrast Enhancement: https://docs.opencv.org/4.1.1/d3/dc1/tutorial_basic_linear_transform.html

Note1: There is ability to choose version of OpenCV at the top of the page in a dropdown list.

Note2: There is ability to view example “Python” codes of OpenCV where codes are enlisted by selecting the programming language.

These are just references. You have to come up with your solution!!!