



# Artificial Intelligence

## Assignment#05

### Instructions:

- Read the complete statement carefully before starting the implementation
- Any programming language can be opted to solve the problem.
- Partial submission will be accepted and evaluated, therefore, submit what is done by you without taking help from anyone
- **Do Not Copy! Anyone caught being indulged in the act of plagiarism would be awarded minus 100% marks in the assignment.**

### Problem statement:

Perform k-mean algorithm on the attached 2 images for value of  $k=2$ ,  $k=5$ ,  $k=10$ .

Step 1: Convert 3D into 2D image.

Step 2: Choose random  $k$  points.

Step 3: Calculate centroids using k-mean method.

Step 4: After calculating the stable centroid, replace all the points of concerned centroids with the centroid value.

Step 5: Convert image back to 3D.

### Report:

Write a report which must include the following about the assignment:

- Name
- Roll Number
- Assignment task summary
- Code File Summary and logic
- Images after applying k-mean value.