Task 2 :

1. Total effective working hours to finish the task including and excluding Quality Check -
   - Total number of images: 100,000
   - Number of classes: 3
   - Bounding Box: 10 seconds
   - Polygon: 15 seconds
   - Keypoint: 5 seconds

Quality Check benchmarks (seconds):

- Bounding Box: 5 seconds
- Polygon: 7 seconds
- Keypoint: 3 seconds

Effective working hours per day per annotator: 6 hours

First, let's calculate the time required to annotate each image including and excluding Quality Check:

Including Quality Check:

- Bounding Box: 10 + 5 = 15 seconds
- Polygon: 15 + 7 = 22 seconds
- Keypoint: 5 + 3 = 8 seconds

Excluding Quality Check:

- Bounding Box: 10 seconds
- Polygon: 15 seconds
- Keypoint: 5 seconds

Now, let's calculate the time required to annotate all images for each class:

Including Quality Check:

- Bounding Box: 100,000 * 15 seconds = 1,500,000 seconds

- Polygon: 100,000 * 22 seconds = 2,200,000 seconds
- Keypoint: 100,000 * 8 seconds = 800,000 seconds

Excluding Quality Check:

- Bounding Box: 100,000 * 10 seconds = 1,000,000 seconds
- Polygon: 100,000 * 15 seconds = 1,500,000 seconds
- Keypoint: 100,000 * 5 seconds = 500,000 seconds

Now –

Including Quality Check:

Total hours = (1,500,000 + 2,200,000 + 800,000) / (6 hours/day) = 666.67 days

Excluding Quality Check:

Total hours = (1,000,000 + 1,500,000 + 500,000) / (6 hours/day) = 500 days

2. Estimated date to deliver the project to the client if you have got extra 5 annotators from HR (excluding off-days):

   Estimated delivery date: 02 February 2024 + 9 days ≈ 11 February 2024.

3. Identify the estimated date to deliver the project to the client -
   Start date: 02 February 2024.
   Estimated delivery date: 02 February 2024 + 20 days ≈ 22 February 2024.

So, with the additional 5 annotators, the estimated delivery date for the project to the client would be around 22 February 2024, excluding off-days.