Lab Final Instructions

1. This is a final examination, so you CAN ONLY use previous lab reports and nothing else.
2. Using internet is not allowed, therefore you are required to "**Turn off**" your WIFI and your internet connection status should be visible in your task bar throughout the open lab.

3. **Do not turn on flight mode,** rather, turn off your WIFI.
4. Internet use is strictly prohibited during the Lab Final. Any student found accessing the internet will receive a failing grade.
5. Using generative AI tools (e.g., ChatGPT, Gemini, Copilot) is strictly prohibited. Any student found using these services **during or after the examination** will receive a failing grade and face strict disciplinary action.
6. Your task bar should be visible all the time during lab exam, and there shouldn't be any applications pinned on task bar, rather it should only reflect your running applications all the time.

7. You are allowed to run the following applications only.
    a. PyCharm/Any Python IDE
    b. File Explorer
    c. PDF Viewer
8. Running web-based WhatsApp is not allowed.
9. This is an examination, so no technical questions will be addressed. If any information appears to be missing, make reasonable assumptions and proceed with the solution.
10. Marking will take place at the end of the lab, so you do not have to submit anything.

Lab Final

Digital Image Processing

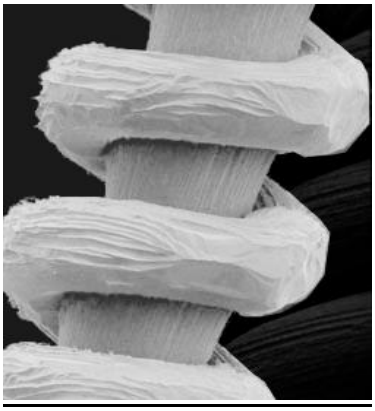
(CLO4 -> PLO5)

15 May 2025 **Time Allowed: 60 Mins**

Note: Students should score 50% in OBE specific questions to ensure their accumulated scores towards respective PLOs are above 50%

Q1: We have SEM (scanning electron microscope) image of tungsten filament wrapped around a support. The filament in the center of the image and its support are quite clear and easy to study. There is another filament structure on the right, dark side of the image but it is almost imperceptible.

Your objective is to enhance the hidden features or dark areas while leaving the light area as unchanged as possible because it does not require enhancement.



Q 2: An RGB image is given in ***Fig 1***, you are supposed to mark the center of all the red circles with a black dot. Also display the count of red circles.

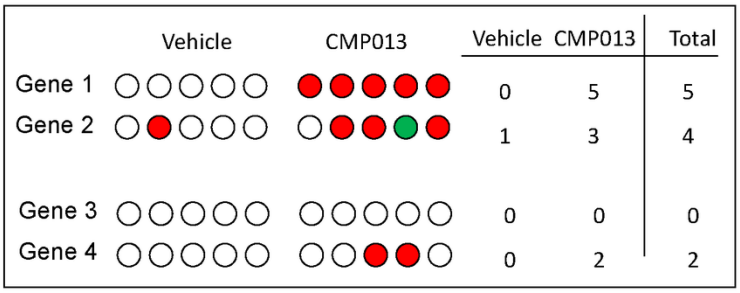


Fig 1