EEE60204

ROBOTICS, DYNAMICS AND CONTROL

Lab Report 2 (20 %)

DATE: 7 March 2025

MODULE COORDINATOR: Dr Steven Eu Kok Seng

NAME	ID	SIGNATURE

Instructions:	
1. *Answer all questions given.*	
2. *Your submitted copy (Microsoft Word document) should include this cover page and all your answer sheets with detailed calculations.*	
3. *Your report should not be more than 20 pages with font style of Times New Roman, font size of 12, and 1.5-spacing.*	
4. *The assignment submission deadline is* __*7 MARCH 2025, 5 PM*__*.*	
5. *Marks of 5% per day will be deducted from the total mark obtained for late submissions*	
6. *This assignment contributes 10% to the final*	

Return of student marked assessment tasks. Please check (√) the necessary column.

√	Electronically to the individual student via the University learning management system
	Collect during class, only by the student
	Collection from the school or a staff member upon presentation of their student ID card
	Collection from module coordinator, lecturer or tutor by prior arrangement

* For online assessment such as forum, quiz, test, survey and etc., return of students marked assessment tasks are published in TIMES.

Deliverables:

1) Group Report
2) Contributions table
3) **Video presentation** (Robot pick and place task)
4) Source code in a zip file

Name	Student ID	Work done	Contribution percentage	Signature

Report Outline:

Section A: Dobot Mechanism

- Provide an overview of the Dobot robotic arm, detailing its mechanical design, including degrees of freedom (DOF), motor specifications, intended applications, joint types, and work envelope. Include relevant drawings and calculations.

Section B: Running the Dobot with ROS

- Installation and setup process
  Explanation of ROS commands used to operate the Dobot

Section C: Task Design

- Develop an endless pick-and-place task (Loop) for the Dobot
  Use a minimum of 2 objects and a maximum of 4 objects
  Include step-by-step diagrams illustrating the task execution

Section D: Results and Analysis

- Evaluate robot performance in terms of success rate, speed, and accuracy
  Justify any task failures and their possible causes

Section E: Conclusion