LAMPIRAN J

POLITEKNIK MALAYSIA

BORANGINVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT *INFORMATION*
Program *Program*	DTK5B
Jabatan *Department*	JKE
Semester/Tahun*Semester/Year*	SEMESTER 5
TajukProjek *Project Title*	PLC TRAINER
JenisProjek *Type of Project*	SOFWARE AND HARDWARE
KategoriKluster Penyelidikan *Category/ research Cluster*	Tanda "/"padayangberkenaan: *Please tick "/"where applicable:* ☐ Sainstulen(*Pure Science*) ☐ Sainsgunaan(*Applied Science*) ☐ Teknologidankejuruteraan(*Technology and Engineering*) ☐ Sainskesihatandanklinikal(*Clinical and Health Sciences*) ☐ Sainssosial(*Social Sciences*) ☐ Sasteradansasteraikhtisas(*Arts and Applied Arts*) ☐ Warisanalamdanbudaya(*Natural Sciences and National Heritage*) ☐ Teknologimaklumatdankomunikasi(*Information and Communication Technology*)
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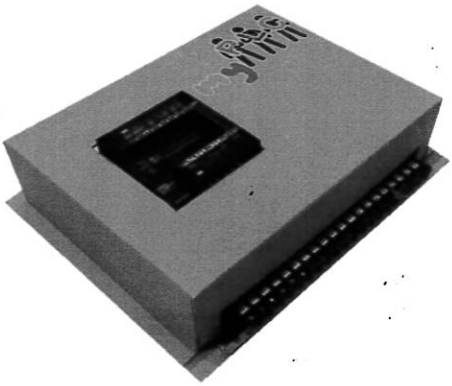
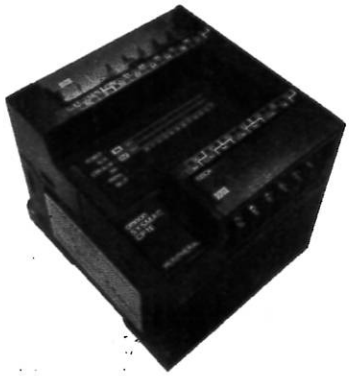
Penyelia *Supervisor*	Name: Pn Nor Maizatul Mona Bt Husin No. Identification card:
PenyeliaBersama*Co-Supervisor*	1. Name: No. Identification card:
Abstrak *Abstract*	In this project, a prototype of a Programmable Logic Controller (PLC) training for positioning and sorting was designed and developed. The prototype consists of two main parts that are: i) Plug and Learn PLC Controlle, and ii) Positioning and Sorting Training Kit. Plug and Learn PLC Controller was developed using the Siemen S7-200 CPU 226 as a controller and EM 253 was used as positioning wizard module. Positioning and Sorting Training Kit used standard automation components namely conveyor, sensor and others as input/output (I/O) to the prototype system. The learning activities were conducted using two approaches that is Teacher Centred

	Learning (TCL) approach and Student Centred Learning (SCL) approach. The effectiveness of the learning approach and the PLC Training Module was evaluated using rubric marking scheme and qualitative survey questionnaire. Based on this evaluation, two group taught in SCL approach managed to complete assigned tasks faster than the group taught using TCL approach. Group from the TCL approach completed the task in procedural stages (structured) compared to the groups from the SCL approach that completed the task in less structured (unstructured). However not all groups using SCL method scored high marks in evaluation criteria for project functionality, design skills and level of understanding. Finding also suggests that SCL approach does not guarantee better performance among passive student. With this PLC training module using SCL approach, the finding shows that the learning strategy can better prepare student to solve real industrial problem. However, it does not necessarily motivated passive student.
Keyword *Keyword* (max 5 word)	
ObjektifProjek*Project Objectives*	The main objectives of this project are:- 1. To design Programmable Logic Controllers training module for positioning and sorting as an input/output (I/O) 2. To develop a PLC training module towards Student Centred Learning (SCL)approach for teaching and learning of the:- i. Integration between controller (PLC) and its I/O (positioning and sorting). ii. Setup and configure the I/O iii. PLC Logic programming (software structure) 3. To evaluate effectiveness of the designed training module by comparison between Teacher Centred Learning approach and Student Centred Learning approach.
SkopProjek *Project scope*	The main aim of this study is to design and development of PLC training module for positioning and sorting. At this stage basic there is important to recognize the scope of study. The scope consists main section stated below: The scope of the study is:- a. student will not involve in hardware development but focusing on integration between controller and input/output and setup and construct a PLC logic programming using prototype develop in the study b. for student understanding in the knowledge, comparison between existing approach (Teacher Centred Learning) and Student Centred Learning approach based on achievement in technical knowledge (problem solving skill – quality and timing) and soft skill (team work and presentation skill) c. conduct a questionnaire survey to identify the effectiveness and deficiencies of the both approach and the developed prototype
IP No	
Dapatan *Finding*	

(*500 words max*)		
Cadanganuntukkerja-kerjaakandatang *Suggestion for future work* (*500words*)		
Gambarberkaitanprojek *Picture related to project* (700kb)	 *Figure 1*	 *Figure 2*
Rating/Level	Jabatan/Politeknik/Kebangsaan/Antarabangsa *Departments / Institutes / National / International*	

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