LAMPIRAN J

POLITEKNIK MALAYSIA

BORANG INVENTORI PROJEK PELAJAR

PERKARA	MAKLUMAT *INFORMATION*
Program *Program*	DET
Jabatan *Department*	KEJURUTERAAN ELEKTRIK
Semester/ Tahun *Semester/ Year*	LIMA
Tajuk Projek *Project Title*	SIMULINK CONTROLLER DESIGN FOR ARDUINO TARGET ON DC MOTOR CONTROL
Jenis Projek *Type of Project*	INOVASI
Kategori Kluster Penyelidikan *Category/ research Cluster*	TEKNOLOGI DAN KEJURUTERAAN
Ahli Kumpulan *Group member*	1. FAJAR NUR SURIA BT MOHAMAD TARMIZI 980312085346 2. MUHAMAD RAIMIE BIN AZRUL ISYAM 991203045197 3. 4. 5.
Penyelia *Supervisor*	DR. FIZATUL AINI BINTI PATAKOR 780720105186
Penyelia Bersama *Co-Supervisor*	
Abstrak *Abstract*	The design and implementation of SIMULINK CONTROLLER DESIGN FOR ARDUINO TARGET ON DC MOTOR CONTROL for direct current (DC) motor. This controller has been selected due to the ability of the block diagrams that can be built in the Matrix Laboratory (MATLAB) Simulink. The MATLAB Simulink block will be used as an interface between the design controller that will be downloaded to the Arduino. The gating signal generation of the Arduino microcontroller will be observed. This microcontroller is selected due to low cost and easy market availability. DC motor is a machine that widely used due to excellence speed control for acceleration and deceleration. SIMULINK CONTROLLER DESIGN FOR ARDUINO TARGET ON DC MOTOR

	CONTROL is employed to control the output voltage of three phase controlled rectifier to run a DC motor. The modelling, control and simulation of this research has been implemented by using MATLAB Simulink Software version 2017. The Pulse Width Modulation (PWM) signals which generated from MATLAB Simulink model will be burnt into Arduino microcontroller. The Arduino microcontroller board is an interfacing between MATLAB Simulink model and actual hardware. The PWM signals from Arduino will step up by using a gate driver and will be sent to power metal oxide semiconductor field effect transistor (MOSFET) gates for triggering rectifier. The output which produced from this controlled rectifier is in DC form. Simulation analysis of SIMULINK CONTROLLER DESIGN FOR ARDUINO TARGET ON DC MOTOR CONTROL for the open loop and closed loop were successfully conducted. The results show that the error of voltage for closed loop is lower compared to the open loop. Furthermore, hardware has been set up to verify the MATLAB Simulink model.
Keyword *Keyword* (max 5 word)	SIMULINK CONTROLLER DESIGN
Objektif Projek *Project Objectives*	The main objective of this project is to simulink controller design on DC motor control. More specifically the principle objective of this research are: 1.To design simulation on DC motor control in SIMULINK environment. 2.To control the speed of DC motor interfaced with SIMULINK using an Arduino board. 3.Analysis the experimental result using the actual motor in hardware implementation.
Skop Projek *Project scope*	This scope is focused in Simulink motor control of : 1) Controlling a 24 VDC motor in forward and reverse condition 2)The input is using Simulink and connected with Arduino as a hardware interfacing medium

IP No		
Dapatan *Finding* (*500 words max*)	THE MOTOR CAN BE CONTROLLED WITH FORWARD AND REVERSE IN REALTIME WITH SIMULINK ENVIROMENT	
Cadangan untuk kerja-kerja akan datang *Suggestion for future work* (*500words*)	ADD ON SPEED CONTROLLER TO THR SYSTEM	
Gambar berkaitan projek *Picture related to project* (700kb)		
Rating/Level	JABATAN	

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Borang ini perlu diisi oleh pelajar dan dihantar kepada penyelia/ penyelaras projek dalam bentuk hardcopy dan softcopy (borang LAMPIRAN J) dan gambar hasil projek dalam format jpeg/bitmap) bersama laporan akhir dan hasil projek.