Fakulti Teknologi Kejuruteraan Elektrik dan Elektronik (FTKEE)
Senarai Penawaran Tajuk PSM 1 Sem 2 Sesi 2020/2021
BEEI

BIL	NAMA PENYELIA	PROGRAM	TAJUK	SYNOPSIS	CATEGORY	TITLE CODE
1	ADAM BIN SAMSUDIN	BEEI	Development of Automatic Coffee Temperature with Voice recognition by using transformer and rechargeable battery	Objective of projects: 1.) Coffee temperature controller machine that can controlled by voice recognition and smart phone app. 2.) Using Transformer for appropriate amount of voltage supply for the machine. 3.) To reduce the electric consumption, use rechargeable battery. (Heat loss from the coffee machine will be absorb and transfer to battery)	PRACTICE ORIENTED	BEEI_T01
2	ADAM BIN SAMSUDIN	BEEI	Development of Smart Bed with temperature heat detector and automatic coordinated fan	Most of Malaysian living in a budget house, they cant afford AC to cool down themselves and used to waste alot of electrical energy. People don't used electrical appliances efficiently especially fan(ceiling fan) wether they awake or asleep and atmost night. So, this project will design a bed that absorb human body heat using certain device that control by microcontroller(exp Arduino) and connected to ceiling fan. The bed will analyse and and detect wether the body temp is high or low. If its high the fan will turn on and vise versa.	PRACTICE ORIENTED	BEEI_T02
3	ADAM BIN SAMSUDIN	BEEI	THE DEVELOPMENT OF IOT SMART POWER METER	The purpose of developing this meter is to encourage the consumer on how to efficiently safe their energy consumption. Increasing and wasting of energy consumption has given the negative effect on the earth. 1. To design hardware prototype with at mega based microcontroller with the ability to measure load current usage with RM•conversion unit according to TNB Tariff. 2. To design & develop IOT based android application for smart meter monitoring 3. To develop microcontroller program with the function as shown below: a) Sensor value to ampere conversion b) Calculate power usage and kilo watt per hour usage. c) Calculate electricity bill according to TNB tariff d) Information display through LCD. e) All information posting to cloud server	PRACTICE ORIENTED	BEEI_T03
4	ADAM BIN SAMSUDIN	BEEI	DEVELOPMENT OF CONGESTION MANAGEMENT FOR A DEREGULATED POWER SYSTEM USING FUZZY LOGIC	PROBLEM STATEMENT When the power system becomes deregulated, the open access environment will cause transmission congestion. The management of this problem is a new challenge to transmission operators. The open access environment is where the consumers and retailers are free to decide for their own generation supplier according to their favour price and services provided. Deregulated system caused the major problem of transmission congestion. For the better quality of service to the end user, Congestion Management is important to solve this problem. In these competitive markets, many methods are used to solve this problem. For this paper, the load flow of the transmission line will be used to model Fuzzy Logic in controlling transmission congestion. The model will be tested on 24-bus Reliability Test System – 1996 (RTS96). OBJECTIVES I. To understand the principles and concepts of Deregulated Power System II. To analyse possible approaches to manage congestion in a deregulated power system III. To monitor usage of modelling Fuzzy Logic Approach for Congestion Management	INDUSTRY BASED	BEEI_T04
5	ADLAN BIN ALI	BEEI	Assessment on the Impact of Distributed Generation Penetration to Distribution Grid's Overcurrent Protection Systems Performance	INCREASING LEVEL OF RENEWABLE POWER GENERATION FOR ON GRID SYSTEM HAS INTRODUCED NEW CHALLENGES FROM THE PROTECTION SYSTEM'S PERSPECTIVES IN TERMS OF RELIABILITY, SENSITIVITY AND OPERABILITY. THIS PROJECT IS INTENDED TO ASSESS THE IMPACT OF CONNECTION OF DISTRIBUTED GENERATION TO THE DISTRIBUTION GRID OVERCURRENT PROTECTION SYSTEM USING POTENTIAL SIMULATION SOFTWARE. THE OBJECTIVES OF THE PROJECT ARE: 1. TO DESIGN THE THEORETICAL MODELLING OF A DISTRIBUTION LEVEL OVERCURRENT PROTECTION SYSTEMS WITHOUT DG AND WITH DG. 2. TO DESIGN THE SIMULATION MODELLING OF A DISTRIBUTION LEVEL OVERCURRENT PROTECTION SYSTEMS WITHOUT DG AND WITH DG. 3. TO ASSESS THE IMPACT OF DG ON THE OVERCURRENT PROTECTION SYSTEMS AT DIFFERENT LEVEL OF DG	INDUSTRY BASED	BEEI_T05
6	ADLAN BIN ALI	BEEI	Assessment on Overcurrent Protection Systems Reliability within AC Railway Electrification	INCREASING INTRODUCTION OF ELECTRIC TRAIN APPLICATION USING AC ELECTRIFICATION SYSTEM HAS INTRODUCED NEW CHALLENGES FROM THE PROTECTION SYSTEM'S PERSPECTIVES IN TERMS OF RELIABILITY, SENSITIVITY AND OPERABILITY. THIS PROJECT IS INTENDED TO ASSESS THE IMPACT OF VARIOUS FAULT EVENTS TO THE AC ELECTRIFICATION OVERCURRENT PROTECTION SYSTEM USING POTENTIAL SIMULATION SOFTWARE. THE OBJECTIVES OF THE PROJECT ARE: 1. TO DESIGN THE THEORETICAL MODELLING OF AN AC ELECTRIFICATION OVERCURRENT PROTECTION SYSTEMS WITHOUT FAULT AND WITH FAULT. 2. TO DESIGN THE SIMULATION MODELLING OF AN AC ELECTRIFICATION OVERCURRENT PROTECTION SYSTEMS WITHOUT FAULT AND WITH FAULT. 3. TO ASSESS THE IMPACT OF FAULT ON THE AC ELECTRIFICATION OVERCURRENT PROTECTION SYSTEMS AT DIFFERENT LEVEL OF FAULT	INDUSTRY BASED	BEEI_T06

7	ADLAN BIN ALI	BEEI	Assessment on Overcurrent Protection Systems Reliability within DC Railway Electrification	INCREASING INTRODUCTION OF ELECTRIC TRAIN APPLICATION USING DC ELECTRIFICATION SYSTEM HAS INTRODUCED NEW CHALLENGES FROM THE PROTECTION SYSTEM'S PERSPECTIVES IN TERMS OF RELIABILITY, SENSITIVITY AND OPERABILITY. THIS PROJECT IS INTENDED TO ASSESS THE IMPACT OF VARIOUS FAULT EVENTS TO THE DC ELECTRIFICATION OVERCURRENT PROTECTION SYSTEM USING POTENTIAL SIMULATION SOFTWARE. THE OBJECTIVES OF THE PROJECT ARE: 1. TO DESIGN THE THEORETICAL MODELLING OF AN DC ELECTRIFICATION OVERCURRENT PROTECTION SYSTEMS WITHOUT FAULT AND WITH FAULT. 2. TO DESIGN THE SIMULATION MODELLING OF AN DC ELECTRIFICATION OVERCURRENT PROTECTION SYSTEMS WITHOUT FAULT AND WITH FAULT. 3. TO ASSESS THE IMPACT OF FAULT ON THE DC ELECTRIFICATION OVERCURRENT PROTECTION SYSTEMS AT DIFFERENT LEVEL OF FAULT	INDUSTRY BASED	BEEI_T07
8	ADLAN BIN ALI	BEEI	Assessment on Onboard Adaptive Protection Systems within AC Train Operation	DYNAMIC FAULT EVENTS ON AC TRAIN ROLLING STOCK HAS INTRODUCED NEW CHALLENGES FROM THE PROTECTION SYSTEM'S PERSPECTIVES IN TERMS OF RELIABILITY, SENSITIVITY AND OPERABILITY. THIS PROJECT IS INTENDED TO ASSESS THE IMPACT OF VARIOUS FAULT EVENTS TO THE AC TRAIN ROLLING STOCK ONBOARD PROTECTION SYSTEM USING POTENTIAL SIMULATION SOFTWARE. THE OBJECTIVES OF THE PROJECT ARE: 1. TO DESIGN THE THEORETICAL MODELLING OF AN AC ROLLING STOCK ONBOARD PROTECTION SYSTEMS WITHOUT FAULT AND WITH FAULT. 2. TO DESIGN THE SIMULATION MODELLING OF AN AC ROLLING STOCK ONBOARD PROTECTION SYSTEMS WITHOUT FAULT AND WITH FAULT. 3. TO ASSESS THE IMPACT OF FAULT ON THE AC ROLLING STOCK ONBOARD PROTECTION SYSTEMS AT DIFFERENT LEVEL OF FAULT"	INDUSTRY BASED	BEEI_T08
9	ADLAN BIN ALI	BEEI	Assessment on Onbord Adaptive Protection Systems within DC Train Operation	DYNAMIC FAULT EVENTS ON DC TRAIN ROLLING STOCK HAS INTRODUCED NEW CHALLENGES FROM THE PROTECTION SYSTEM'S PERSPECTIVES IN TERMS OF RELIABILITY, SENSITIVITY AND OPERABILITY. THIS PROJECT IS INTENDED TO ASSESS THE IMPACT OF VARIOUS FAULT EVENTS TO THE DC TRAIN ROLLING STOCK ONBOARD PROTECTION SYSTEM USING POTENTIAL SIMULATION SOFTWARE. THE OBJECTIVES OF THE PROJECT ARE: 1. TO DESIGN THE THEORETICAL MODELLING OF AN DC ROLLING STOCK ONBOARD PROTECTION SYSTEMS WITHOUT FAULT AND WITH FAULT. 2. TO DESIGN THE SIMULATION MODELLING OF AN DC ROLLING STOCK ONBOARD PROTECTION SYSTEMS WITHOUT FAULT AND WITH FAULT. 3. TO ASSESS THE IMPACT OF FAULT ON THE DC ROLLING STOCK ONBOARD PROTECTION SYSTEMS AT DIFFERENT LEVEL OF FAULT"	INDUSTRY BASED	BEEI_T09
10	AHMAD IDIL BIN ABDUL RAHMAN	BEEI	DEVELOPMENT OF IOT BASED DISTURBANCE IDENTIFICATION FOR POWER QUALITY MONITORING	The aim of this project is to develop a power quality monitoring system using Remote Terminal Unit (RUT) model integrate with IOT. Student will develop algorithm for disturbance identification and related hardware configuration for IOT based monitoring.	INDUSTRY BASED	BEEI_T10
11	AHMAD IDIL BIN ABDUL RAHMAN	BEEI	DEVELOPMENT OF AN IOT-BASED INTEGRATED PHOTOVOLTAIC WITH SMART BACKUP POWER SOURCE	The aim of this project is to design and build a smart solar system that capable to provide electrical power supply in case of power disruption. Student will integrates the hardware component related to solar panel system with certain electrical appliances for backup reason.	INDUSTRY BASED	BEEI_T11
12	AHMAD ZUBIR BIN JAMIL	BEEI	Development of IoT Based Smart Energy Meter	High energy consumption by our household appliances is quite bothering and each month we make every possible effort to reduce the electricity bill. Not just that, in the quest to understand and monitor the power usages, we keep checking electricity meters installed in our home/offices. With the help from the Internet of Things, we can easily monitor power consumption using a smart energy meter	INDUSTRY BASED	BEEI_T12
13	ARMAN HADI BIN AZAHAR	BEEI	Development of robotic hand for electrical installation purpose	Electrical installation one of the high risk task. In order to reduce human involvement in high risk task/job, a development robotic hand is propose for the task/job. The robotic hand will be attach with pressure sensor and controlled by using a glove with flexible sensor.	INDUSTRY BASED	BEEI_T13
14	ARMAN HADI BIN AZAHAR	BEEI	Development of solar street light intensity and power usage management.	In order to reduce the power usage from TNB source, the implementation of LED street light is applied to replace the current street light type. LED street light is proposed to be integrated with solar energy storage and power usage control based on the minimum light intensity needed. It will be monitor by using an apps.	INDUSTRY BASED	BEEI_T14

15	ARMAN HADI BIN AZAHAR	BEEI	Development of street wind turbine for light street and traffic light.	The movement of vehicle on the road will produce wind along the road. The The produced wind can be converted to the energy by using the wind turbine. The different wind turbine shape will be analyse based on the optimum/maximum energy stored. The wind turbine will be monitor via developed apps.	INDUSTRY BASED	BEEI_T15
16	ASRI BIN DIN	BEEI	Classification of Surface Degradation based on Leakage Current Harmonics Content of 6-year Field-Aged Polymer Insulator using Support Vector Machine.	Student require to process the ready data of leakage current harmonics content such as % Total Harmonic Distortion (%THD) and % Total non-Harmonic Distortion (%TnHD) as electrical features that need to be used in the machine learning test (MLT) using Support Vector Machine (SVM). The results of performance measure that gather from the MLT will be analyzed to determine the consistency performance measure to indicate the same or different class of insulator surface degradation. The class of surface degradation will be determined by comparing with the criteria for the determination of hydrophobicity class (HC) in the IEC TS 62073 Edition 2.0 2016: Guidance on the measurement of hydrophobicity of insulator surfaces.	INDUSTRY BASED	BEEI_T16
17	ASRI BIN DIN	BEEI	Classification of Surface Degradation based on Leakage Current Magnitude of 6-year Field-Aged Polymer Insulator using Support Vector Machine.	Student requires to process the ready data of leakage current magnitude as electrical feature that need to be used in the machine learning test (MLT) using Support Vector Machine (SVM). The results of performance measure that gather from the MLT will be analyzed to determine the consistency performance measure to indicate the same or different class of insulator surface degradation. The class of surface degradation will be determined by comparing with the criteria for the determination of hydrophobicity class (HC) in the IEC TS 62073 Edition 2.0 2016: Guidance on the measurement of hydrophobicity of insulator surfaces.	INDUSTRY BASED	BEEI_T17
18	ASRI BIN DIN	BEEI	Classification of Surface Degradation based on Leakage Current Energy of 6-year Field-Aged Polymer Insulator using Support Vector Machine.	Student requires to process the ready data of leakage current energy that extracted through the 2-dimensional mean of Spectrogram as electrical feature that need to be used in the machine learning test (MLT) using Support Vector Machine (SVM). The results of performance measure that gather from the MLT will be analyzed to determine the consistency performance measure to indicate the same or different class of insulator surface degradation. The class of surface degradation will be determined by comparing with the criteria for the determination of hydrophobicity class (HC) in the IEC TS 62073 Edition 2.0 2016: Guidance on the measurement of hydrophobicity of insulator surfaces.	INDUSTRY BASED	BEEI_T18
19	ASRI BIN DIN	BEEI	Classification of Surface Degradation based on Leakage Current Harmonics Content of 18-year Field-Aged Polymer Insulator using Support Vector Machine.	Student require to process the ready data of leakage current harmonics content such as % Total Harmonic Distortion (%THD) and % Total non-Harmonic Distortion (%TnHD) as electrical features that need to be used in the machine learning test (MLT) using Support Vector Machine (SVM). The results of performance measure that gather from the MLT will be analyzed to determine the consistency performance measure to indicate the same or different class of insulator surface degradation. The class of surface degradation will be determined by comparing with the criteria for the determination of hydrophobicity class (HC) in the IEC TS 62073 Edition 2.0 2016: Guidance on the measurement of hydrophobicity of insulator surfaces.	INDUSTRY BASED	BEEI_T19
20	ASRI BIN DIN	BEEI	Classification of Surface Degradation based on Leakage Current Magnitude of 18-year Field-Aged Polymer Insulator using Support Vector Machine.	Student requires to process the ready data of leakage current magnitude as electrical feature that need to be used in the machine learning test (MLT) using Support Vector Machine (SVM). The results of performance measure that gather from the MLT will be analyzed to determine the consistency performance measure to indicate the same or different class of insulator surface degradation. The class of surface degradation will be determined by comparing with the criteria for the determination of hydrophobicity class (HC) in the IEC TS 62073 Edition 2.0 2016: Guidance on the measurement of hydrophobicity of insulator surfaces.	INDUSTRY BASED	BEEI_T20
21	CHE WAN MOHD FAIZAL BIN CHE WAN MOHD ZALANI	BEEI	Development of pico hydroelectric system for aquarium lighting purpose	Hydroelectric is one of the practical renewable energy in Malaysia. Pico hydro generally is a term used for hydroelectric power generator under 5kW. These generators have proven to be useful in small or remote communities that require only a small amount of electricity and mostly more cost saving. For this project, pico hydroelectric can be used to generate small amount of load such as for lighting purpose. In this project, the pico hydroelectric system is applied to generate supply for aquarium lighting to save electricity usage. The system will change kinetic energy to electrical energy to light up led strips which used as lighting for the aquarium. The objectives of this project are to design and develop a pico hydroelectric system for aquarium lighting purpose, to analyse the reliability and performance of pico hydroelectric system on small lighting load, and to test the functionality of the prototype development. The development of pico hydroelectric system for aquarium lighting will be involved of software and hardware such as turbine, switch, dc motor, battery charger, controller, converter etc.	INDUSTRY BASED	BEEI_T21
22	CHE WAN MOHD FAIZAL BIN CHE WAN MOHD ZALANI	BEEI	Monitoring and Protection on three phase motor by using GSM Modem	Overheating occurs when load temperature rises above a safe level during operation. Supply voltage distortion, impaired cooling capacity and unbalanced supply voltages are all the causes of motor overheating. Insulation failure, electrical fire and are the problem from overheating. This project is designed to prevent three phase motors from become overheating and single phasing. This project will used LCD screen to show motor's temperature and LED are used to indicate which phase are currently running. GSM modem is used in this circuit by sending message to the consumer by their smartphone if any abnormal condition occurs and then de-energize the contactor which disconnect the motor from electrical supply. Microcontroller, LM35 temperature sensor, buzzer, and digital converter also used in this project.	INDUSTRY BASED	BEEI_T22
23	CHE WAN MOHD FAIZAL BIN CHE WAN MOHD ZALANI	BEEI	Investigation of faulty capacitor in symmetrical shunt capacitor bank via unbalanced current	Shunt capacitor bank is the high voltage equipment used in power transmission system for voltage improvement purpose. The faulty of capacitor in shunt capacitor bank is one of the common problems which cause the shunt capacitor bank failed to operate and trigger the unbalance current in shunt capacitor bank system. This project focus on investigation and analysis of capacitor faulty in symmetrical shunt capacitor bank by studying the pattern or result from unbalance current in shunt capacitor bank. The modelling of the project will be involved of suitable programming or simulation software etc.	INDUSTRY BASED	BEEI_T23

No	Name	Dept	Title	Description	Category	Code
24	DR KHAIRUL ANWAR BIN IBRAHIM	BEEI	Development of an system wide energy losses model and web based monitoring system for UTeM's distribution network.	One of the key issue faced by UTeM is high cost of electricity, which also include energy losses due to inevitable physics of transporting the energy, mainly I2R losses in cables and transformer losses. At this moment, there is not information on how much and location of these losses occurring in the feeders and cables in UTeM's network. Thus, this project aim to gather energy consumption information from the existing IoT devices , model the energy losses calculation and create a real time energy losses monitoring system using a dashboard software, such as Microsoft PowerBI, Google Analytics etc. This dashboard enable users and management to monitor and can be used for strategic planning of reducing energy losses in power equipments in UTeM. The losses calculation model is based on simple energy balance method, where the losses is calculated based on the difference between the total energy input at the main substation and the energy measured at each buildings (by IoT devices).	PRACTICE ORIENTED	BEEI_T24
25	DR KHAIRUL ANWAR BIN IBRAHIM	BEEI	Development of an interactive power system model simulation using Microsoft Excel spreadsheet to facilitate teaching and learning of power system courses.	Power system simulation (e.g. load flow, fault analysis) are part of mandatory topics which all electrical engineering and technology undergradauate program in FTKEE. Traditionally, to improve conceptual understanding of these analysis method, the students are asked to analyze the power flows in a small bus system using hand-calculation in their take home assignment and exams etc. Study shows that, the use of simulation software such as, Matlab, PSS/E, PowerWorld, Digsilent, PSCAD, ETAP, EMTP et etc can expedite to achieve the final solutions. These programs are expensive, highly sophisticated and requires several hours of training. Therefore, this project aims to develop a power system simulation program using only readily and widely available spreadsheet software, namely Microsoft Excel. A spreadsheet approach offers a more transparent platform for learning fundamentals at a formative stage. This spreadsheet approach has pedagogical advantages since students are relieved from the burden of learning new software. Ease of implementation; widespread availability of spreadsheets; convenient tracking and displaying of numerical results; transparency of results that are often obscured by specialized power system analysis programs, are among the advantage of using spreadsheet program.	PRACTICE ORIENTED	BEEI_T25
26	DR KHAIRUL ANWAR BIN IBRAHIM	BEEI	Development of a prototype energy saving device for efficient usage of room lighting using a simple motion sensor and controller system	Energy conservation is the effort made to reduce the consumption of energy by using less of an energy service. In UTeM;s office, one of the major consumption of energy after central cooling (HVAC) is lighting. From personal observation, there are many situation where lighting energy are wasted, ie.g its turned on when therels no need for it to be turned on. As an example, many instances we found where the lecture or lecturer;s room are lit but there are no occupants inside. Unused electrical energy means wasting energy cost as well increasing the CO2 emission from fossil fuel generation. Therefore, this project aims to reduce the instances of wasted energy by introducing an energy saving method by means of autmating the turning on/off of lighting based on occupancy of the room. The concept is , when a person entering to the monitored area, sensors activates and sense the person and send signals to a controller which will decide to turn on the lightning. Once the person leaves, the lighting will be either dimmed for a while or turned off to save energy. This project might use some electronic circuits and controller system.	PRACTICE ORIENTED	BEEI_T26
27	DR KHAIRUL ANWAR BIN IBRAHIM	BEEI	Development of UTeM's power system distribution model to analyze energy flow and losses using an open source load flow software	Disstribution system planning is an essential part of enssuring that the system developed are able to cater for the projected load as well as provide adequate protection system. This planning normally require the planner to provide information data on the loading, and location of the load, including its expected energy flow, losses, power quality. However, the actual loading of the buildings may change over time and it is important for the management of the buildings to identify the current loading of the building in order to identify whether the equipment (such as feeders, transformers etc) has reached its maximum loading limit. UTeM has been operational since 2005 and based from information from development office, there were no information of such study has been conducted. Therefore , the aim of this project is to develop a simulation model of the UTeM;s campus and to simulate the power flow flowing through each feeder and transformer, as well as voltage level. This project require a load flow program such as Digsilent or open source type, such as Panda Power. The outocme of this project is a complete power profile of the network in uTeM, the loading of each feeders as well as estimated energy losses.	PRACTICE ORIENTED	BEEI_T27
28	DR KHAIRUL ANWAR BIN IBRAHIM	BEEI	A study on optimal energy loss mitigation strategy in UTeM's medium voltage network based on load flow results	One of the key issue faced by UTeM is high cost of electricity, which also include energy losses due to inevitable physics of transporting the energy, mainly I2R losses in cables and transformer losses. Therefore, it is imperative for UTeM;s management to identify the severity of the losses so that preventive/corrective and mitigation action can be properly planned. However, there are numerous way to reduce losses and not all action is suitable for all scenario as it requires, not only technical consideration, bit as well as cost and how much return of investment (ROI) it can bring. Therefore, this project aims at identifying several suitable strategies for loss mitigation and making comparision in order to propose which one is more suitable/effective/economical. Studens are require to use a load flow software to model and simulate UteM;s network and to perform several case scenario in ordet to find the most optimum approach to reduce losses.	INDUSTRY BASED	BEEI_T28
29	DR. ALIZA BINTI CHE AMRAN	BEEI	DEVELOPMENT OF SMART CLAMP METER FOR MONITORING ENERGY CONSUMPTION	In this project, the clamp meter is redesigned to integrate it with an Arduino/ESP32 microcontroller to monitor the energy consumption via online based on the IoT concept. If this working concept is proven, this prototype will have a good potential for commercialization in Malaysia. The measured data can be observed, collected and analysed using predictive analysis and advanced method to significant data in the form of reports, graphs and charts. These data are important for monitoring and troubleshooting purposes in the industries. Student has to be able to develop one and run the experiments at site with real machines/motors to observe its ability to capture current trend. One (1) BEEI student will focus on data collection and data analysis and one (1) BEEA student will focus on the online application. Both responsible for ONE hardware development and will work on common platform.	INDUSTRY BASED	BEEI_T29
30	DR. MOHD BADRIL BIN NOR SHAH	BEEI	The development of detection and data logging system based on IoT application for voltage sag and voltage swell	Voltage sags and swells are the most common disturbances in power system. It is usually caused by short circuit, sudden changes of load, loosen connection and heater/motor starting. Most electronic equipments are sensitive to voltage sags and swell, which may results in faulty electronic components or sudden reboot of the system, subsequently may interrupt the whole operation of the equipment. Identifying the root of cause of voltage sags and swells is very difficult especially when the sags or swell is occured intermittently. To help the technician or engineer to identify the source of voltage sags or swell, a device that can detect voltage sags or swell for single phase 240V power distribution system is developed by using Arduino-based circuit which is connected to the internet. The device will log the time and period of event when the sags or swell is detected, and store the data at a cloud platform. The web interface also will be developed to show the data to the user.	PRACTICE ORIENTED	BEEI_T30
31	DR. MOHD BADRIL BIN NOR SHAH	BEEI	Design and Development of Variable Power Supply based on Buck-boost converter using sliding mode technique	Most of electronic equipment operates in range 1.5V to 24V and it always be powered from batteries. However, batteries have specific voltage value to deliver power for equipment, thus making it less flexible. For some cases, an adjustable power supply is needed for various reason, for example, e.g a repair technician uses an adjustable power supply to troubleshoot a faulty component. Most universal power supplies that are available at market are designed by using step-down transformer, rectifier, and filter circuit. Thus, a desired voltage output at a constant value cannot be produced under different load due to open loop control configuration. To overcome this limitation, a variable power supply device is designed based on buck-boost converter circuit. The device will be equipped with closed loop control of sliding mode control (SMC) algorithm to enable constant output voltage under different load. SMC is used in this project since it can control the output voltage under various load conditions by using the same controller gain. The device will be developed by combination of Arduino microcontroller, buck-boost converter circuit, seven segment display and potentiometer, where the input of this device will be taken from 12VDC source.	PRACTICE ORIENTED	BEEI_T31
32	DR. MUHAMMAD SHARIL BIN YAHAYA	BEEI	Development of Transformer Health Index Computation Based on Oil Analysis Data using Visual Basic Application.	Student require to calculate the transformer Health Index (HI) based on oil analysis data. The HI computed will be presented using Graphical User Interface (GUI).	Practice-oriented	BEEI_T32

33	DR. MUHAMMAD SHARIL BIN YAHAYA	BEEI	Assessment of Electric Motors Condition Using Vibrations Analysis	Student is require to collect a vibration data for electrical motor using an appropriate tool. The data will be analyzed and the relationship to the condition of the electrical motor need to be discussed based on the standard.	Practice-oriented	BEEI_T33
34	DR. MUHAMMAD SHARIL BIN YAHAYA	BEEI	DEVELOPMENT OF POWER CONSUMPTION NOTIFICATION SYSTEM FOR RESIDENTIAL DISTRIBUTION BOX USING ARDUINO	Student is required to measure the current in each of final circuit in the residential distribution box. The current measured is used to notify the consumer the power consumption based on specific range of using Arduino.	INDUSTRY BASED	BEEI_T34
35	DR. MUHAMMAD SHARIL BIN YAHAYA	BEEI	Development of Condition Index for Engineering Asset using Scoring and Ranking Techniques	Student is required to development and propose a condition index for engineering asset. The index will be formulated based on parameters that effect the lifetime of the equipment.	Practice-Oriented	BEEI_T35
36	HALYANI BINTI MOHD YASSIM	BEEI	Design and Development of a Smart Street Lighting System with Fault Detection using IoT	There are difficulties related to the maintenance of this street lighting system. The lighting network operator does not know when a certain lamp need to be repaired until the complaints lodged. Currently, people make a report on broken lamps through phone. The objectives of this project are to design and develop a smart street lighting system with fault detection using IoT to reduce the time delay between the lamp is broken and it is repaired.	INDUSTRY BASED	BEEI_T36
37	IR. DR. MOHD FARRIZ BIN HJ. MD BASAR	BEEI	Development of electric trishaw using DC motor	The main aim of this project is to develop an electric rickshaw, identifying weaknesses in the current cycle rickshaw, developing a design solution to address problems found, and exploring the possibility of utilizing solar power. Through research and testing, must cover design issues, concerns with health and safety, comfort, and ergonomics. All problems must be addressed by implementing design upgrades. The testing of the current cycle rickshaw identified the power and energy required to implement an electric drive system, where a DC motor and a battery are used in conjunction with a pedal-assist system to provide a range of up to 10 km. A conceptual prototype will be developed to prove the successful application of a pedal-assist system, which will be established as a viable option for design. The design will be critically evaluated and the relevant issues will be discussed.	Practice-oriented	BEEI_T37
38	IR. DR. MOHD FARRIZ BIN HJ. MD BASAR	BEEI	Development of an effective electrical motor learning kit with a non-complex design for STEM application.	Development of an effective electrical motor learning kit with a non-complex design for STEM application. Need a way for students to explicitly learn how to engage in engineering design practices to solve problems? Have them build their own simple electric motors using wire and magnets. Extend learning from electromagnets to motors with this hands-on project set designed for the whole class. Students explore the effects of altering the coils in the motor, wire thickness, and the effects of using different sizes, shapes, strengths, and types of magnets as they are guided through the engineering design process. This unit is complete with four experiments which culminate in a design competition. Great for introducing guided inquiry-based learning, systematic problem solving, and engineering design practices. Kits include instructor's manuals with lesson plans, background information, reproducible stepwise student protocols, and guided worksheets.	Practice-oriented	BEEI_T38
39	IR. DR. MOHD FARRIZ BIN HJ. MD BASAR	BEEI	Development of a non-complex weaving machine for rice packaging using a low-cost automated system	The packaging industry has advanced leaps and bounds over the few years. A low-cost automated packing machine can be used by small enterprises which would help reduce their cost of plant. This low-cost automated machine uses simple pneumatic, mechanical and electric systems. In this project, one such low-cost pouch filling machine will be developed. The process flow will be described in detail. Various processes involved in the pouch packaging are neatly aligned and properly timed to get an optimum production rate. An automated system, which takes feedback from sensors and accordingly controls the manipulators will be introduced in this project. Detailed cost comparison will be presented.	INDUSTRY BASED	BEEI_T39
40	MASLAN BIN ZAINON	BEEI	Development of a Microcontroller-based Electricity Consumption and Billing System with Load Control using GSM	The project consists of a power meter reader system with a GSM interface. It provides a more efficient way for consumers to obtain periodically power meter readings for their electricity consumption and bills, whereby both electricity company, as well as the users, will receive their power meter readings (kWh) via SMS. Users may also control the system using SMS. The meter is interfaced to a microcontroller 8051 family whereby its readings are processed by the microcontroller and displayed on an LCD Screen. This data is sent via SMS through a GSM module/modem interfaced to the microcontroller. The GSM module/modem also has an SMS receiving capability. On receiving a particular user request, it sends the required signal to the microcontroller in order to do the counting for the required operation. It can activate and deactivate loads as desired.	INDUSTRY BASED	BEEI_T40

41	MAZREE BIN IBRAHIM	BEEI	Design and Development of monitoring and protection system of a three phase induction motor	There is vast range of AC induction motors in the existing market. An AC motor has many characteristics, because of the many different applications which they are used. Protection is vital in all motors, yet there are numerous issues influencing the decision of protection relying upon the kind of motor and the sort of load to which it is associated autonomously. The common problems faced by these induction motors which cause it to fail are over heating of motors during the supply of high voltage, heavy duty cycle, phase reversal problems, poor grounding environment, installation and manufacturing factors and many more. With increasing of demand in the market for better reliability, the field of fault findings in induction motor is picking up its significance. If these faults are not rectified, it may end up in a large revenue loss and also pose threat to reliability and safety of operation. When the three phase induction motor supply with higher voltage than the rated value, it begins to overheat. When supply voltage is less than voltage drop across the resistance of the induction motor, a variable resistance is used to protect the motor from this fault [2]. Where in three phase the voltage is 380V to 440V but for single phase it is 240V. Due to the low voltage, motor is unable to start. When there is extra current being sent to the motor, it would cause a condition called over current. It will overheat the induction motor [2]. The three phase induction motor would work fine and the life span of the motor can be increased by avoiding these faults.	INDUSTRY BASED	BEEI_T41
42	MOHD HATTA BIN JOPRI	BEEI	The Impact of Electric Vehicle Charging Characteristic on Power Quality Issues using Matlab	The Electric Vehicles (EVs)) will go mainstream compare to internal combustion engine vehicles as the EVs offer high energy efficient, quieter, and lower carbon emissions. In this project, an analysis of the potential impact of the EVs charging characteristic on power quality (PQ) issue. EV chargers are non-linear load and it can inject the harmonics components such as excessive harmonic currents into power systems. Therefore, it is critical to break down the impact of EV charging characteristic on power network harmonic current and then to take a few measures for mitigation of the design of the electric vehicle interface devices, harmonic filters due to secure better power quality. A time-domain analysis of signal processing namely spectrogram is employ in this analysis, as this technique combining the merit of both domains and showing the relationship of time, frequency, and amplitude directly of the power quality signals especially for harmonic disturbances. The modelling of EV charges is perform using Matlab, while using IEEE 519 standard, the total harmonic distortion (THD) and total non harmonic distortion (TnHD) are considered in the analysis due to analyse the harmonic components. OBJECTIVE 1. To analyse several current modelling of electric vehicles (PEV). 2. To develop measurement approach of power quality measurement based on IEEE standard. 3. To analyse the impact of EVin terms of harmonic and interharmonic distortion to the power system network.	Practice-Oriented	BEEI_T42
43	MOHD HATTA BIN JOPRI	BEEI	A Diagnostic Analytics of Harmonic Source Signature Recognition by Using Periodogram	A diagnostic analytics of harmonic source signature recognition of rectifier and inverter-based load in the distribution system with single-point measurement at the point of common coupling by utilizing Periodogram. Signature recognition pattern is used to distinguish the harmonic sources accurately by obtaining the distribution of harmonic and interharmonic components and the harmonic contribution changes. This is achieved by using the significant signature recognition of harmonic producing load obtained from analysing the harmonic contribution changes. Equipment/Software 1.Data logger for voltage & current signals 2.ADC/DAQ card 3.Matlab	Practice-oriented	BEEI_T43
44	MOHD HATTA BIN JOPRI	BEEI	An Identification of Multiple Harmonic Sources in a Distribution System	The identification of multiple harmonic sources (MHS) is vital to identify the root causes and the mitigation technique for a harmonic disturbance. This project introduces an identification technique of MHS in a power distribution system by using a time-frequency distribution (TFD) analysis known as a spectrogram. The spectrogram has advantages in term of its accuracy, a less complex algorithm, and use of low memory size compared to previous methods such as probabilistic and harmonic power flow direction. The identification of MHS is based on the significant relationship of spectral impedances, which are the fundamental impedance (Z1) and harmonic impedance (Zh) that estimate the time-frequency representation (TFR). To verify the performance of the proposed method, an IEEE test feeder with several different harmonic producing loads is simulated. Equipment/Software 1.Data logger for voltage & current signals 2.ADC/DAQ card 3.Matlab	PRACTICE ORIENTED	BEEI_T44
45	MOHD HATTA BIN JOPRI	BEEI	Development of fast high accuracy analyzer based on rule-based classifers for identifying harmonic distortion	A fast and accurate technique is introduced for the analysis of the contribution. Based on a rule-based classifier and the threshold settings that referred to the IEEE Standard 1159 2009, the analysis of the harmonic and interharmonic contribution of non-linear load are carried out successfully. Moreover, the impact of contribution is measured using total harmonic distortion (THD) and total non-harmonic distortion (TnHD). Objective: 1.To identify and analyse type of non-linear linear loads that contribute dominant harmonic distortion in the distribution system. 2.To develop fast analysis of harmonic distortion analysis and cost effective method for embedded system. 3.To develop real-time analysis of harmonic distortion. Equipment/Software 1.Data logger for voltage & current signals 2.ADC/DAQ card 3.Matlab	PRACTICE ORIENTED	BEEI_T45
46	MUSTAFA BIN MANAP	BEEI	A development of BLDC Speed Control Using PWM for Hybrid Vehicles	In this project, student shall learn what PWM, or pulse width modulation is and how it used to control the speed of a BLDC motor. The harmful gases produced from the vehicles create problems to our future society. Also the cost for petroleum fuels and natural gases are increasing rapidly. The availability of such products is depleting and will be extinct in future. The requirement of vehicles which efficiently uses the electricity is necessary. This project deals with the hybrid vehicle in which a Brushless DC(BLDC) motor is incorporated aas the drive train of the vehicles. The controlling of BLDC motor is done by a Motor Control Unit(MCU) in which the motor rotates based on current commutation. OBJECTIVE 1. To identify type of present BLDC speed control for Hybrid Vehicle application 2. To analyse characteristic of present BLDC speed control 3. To develop efficient BLDC speed control for Hybrid Vehicle application Equipment/Software 1.Matlab	PRACTICE ORIENTED	BEEI_T46
47	MUSTAFA BIN MANAP	BEEI	DESIGN of Three-Phase Inverter Voltage Control for Photovoltaic Application using Matlab	The project addresses the design and control of three phase inverters. Such inverters are used to produce three-phase sinusoidal voltages and currents from a DC source. They are critical for injecting power from renewable energy sources into the grid. This is especially true since many of these sources of energy are DC sources especially for solar photovoltaic as the energy need to be stored in DC batteries because they are intermittent. Thus, it is necessary to identify and analyse present techniques of Three-Phase Inverter Voltage Control due to identify the most efficient controller in PV application. Objective: 1.To identify type of design and control of three-phase inverter in PV application. 2.To analyse the present techniques of three-phase inverter in PV application. 3.To identify the most efficient technique for three-phase inverter voltage control for PV application. Equipment/Software 1.Matlab	PRACTICE ORIENTED	BEEI_T47

48	MUSTAFA BIN MANAP	BEEI	Design the Three-Phase Asynchronous Machine starter for Tower Crane	The project focused on the three phase controller sfor asynchronous machine for tower crane application. The starting period of induction motor is characterized with high starting current and the bus on which the motor is feeding from experiences voltage dip, this causes some problems to loads connected to that particular bus. Different techniques are used to either reduce the motor in-rush starting current or the bus voltage dip or both which included current and torque surges during motor start up.. Therefore, for high risk application such as tower crane, the selection of motor starter for is crucial. OBJECTIVE 1. To identify type of present three-Phase Asynchronous Machine starter for Tower Crane 2. To analyse characteristic of present three-Phase Asynchronous Machine starter. Equipment/Software 1.Matlab	INDUSTRY BASED	BEEI_T48
49	NURUL ASHIKIN BINTI MOHD RAIS	BEEI	Design on A Hydro Water Turbine for Low Head and Low Flow Water Resources	This project is focus on development of water reaction turbine for condition of low head that below 5m with low water flow to generate electricity below than 5kw.	PRACTICE ORIENTED	BEEI_T49
50	NURUL ASHIKIN BINTI MOHD RAIS	BEEI	Development of Smart Industrial Power Controller Using PLC	This project is based on controlling the electrical appliances in the house using PLC. This system will connect to an apps in the smartphone to control on and off all the electrical appliances in the house.	PRACTICE ORIENTED	BEEI_T50
51	NURUL ASHIKIN BINTI MOHD RAIS	BEEI	Development of Water Reaction Turbine for Hydropower System	Develop a unique and high efficiency mini hydro system. This mini hydro is capable of producing electricity using only a small source of water with a capacity of less than 5kw.	PRACTICE ORIENTED	BEEI_T51
52	NURUL ASHIKIN BINTI MOHD RAIS	BEEI	Development of Smart Water Irrigation System with Iot Controlling Based	To develop an irrigation system in a small scale that can be apply at residential area by using arduino system. In addition, this system can be control by networking system for example using telegram. This system will be install in telegram so that we can monitor and control the soil moisture. This project will be use moisture sensor.	INDUSTRY BASED	BEEI_T52
53	NURUL ASHIKIN BINTI MOHD RAIS	BEEI	Designing on A Hydro Water Turbine for Low Head and Low Flow Water Resources	This project is focus on development of water reaction turbine for condition of low head that below 5m with low water flow to generate electricity below than 5kw.	PRACTICE ORIENTED	BEEI_T53
54	NURUL ASHIKIN BINTI MOHD RAIS	BEEI	Development of Water Reaction Turbine for Hydropower System	Develop a unique and high efficiency mini hydro system. This mini hydro is capable of producing electricity using only a small source of water with a capacity of less than 5kw.	PRACTICE ORIENTED	BEEI_T54
55	SHAHRUDIN BIN ZAKARIA	BEEI	Development of the Use of Wasted Energy Such Invisible Light in an Automated Manufacturing Factory	To save on energy consumption in certain sectors of the industry. Most manufacturing machines produce also unused energy, it is known as heat, vibration and others. To set preparations need to be done, in terms of equipment model, training, warnings, safety, etc (industry 1).	INDUSTRY BASED	BEEI_T55

56	SHAHRUDIN BIN ZAKARIA	BEEI	Development of the Use of Wasted Energy Such Invisible Light in an Automated Manufacturing Factory	To save on energy consumption in certain sectors of the industry. Most manufacturing machines produce also unused energy, it is known as heat, vibration and others. To set preparations need to be done, in terms of equipment model, training, warnings, safety, etc (industry 2).	INDUSTRY BASED	BEEI_T56
57	SHAHRUDIN BIN ZAKARIA	BEEI	Development of the Use of Wasted Energy Such Invisible Light in an Automated Manufacturing Factory	To save on energy consumption in certain sectors of the industry. Most manufacturing machines produce also unused energy, it is known as heat, vibration and others. To set preparations need to be done, in terms of equipment model, training, warnings, safety, etc (industry 3).	INDUSTRY BASED	BEEI_T57
58	SYAHRUL HISHAM BIN MOHAMAD @ ABD RAHMAN	BEEI	Design a two stage interleaved dc-dc converter for ripple reduction.	This project emphasize the design of the DC-DC converter system using a dual stage interleaved topology. within the design the student are required to developed the gate circuit and controller using microcontroller. The student should be proficient in programming language and circuit design. The student will be focusing on simulation and hardware.	PRACTICE ORIENTED	BEEI_T58
59	SYAHRUL HISHAM BIN MOHAMAD @ ABD RAHMAN	BEEI	DESIGN A PLANAR ELECTROMAGNETIC SENSOR IN DETECTING THE QUALITY OF OIL TRANSFORMER	This project involving on study on implementing planar sensor in order to check the quality of oil within the transformer. The student are required to develop a planar sensor. The student should have good skill in developing PCB and programming.	PRACTICE ORIENTED	BEEI_T59
60	SYAHRUL HISHAM BIN MOHAMAD @ ABD RAHMAN	BEEI	Power Quality Assessment for Harmonics	This project will emphasize on power quality study of the system using power quality techniques. Student should have proficient knowledge on MATLAB. Student will design the appropriate power assessment techniques.	PRACTICE ORIENTED	BEEI_T60
61	SYAHRUL HISHAM BIN MOHAMAD @ ABD RAHMAN	BEEI	Boost converter for stand-alone photovoltaic power supply	Designing and simulating photovoltaic solar home system utilizing a DC-DC converter with specific specification. The solar output DC voltage is used as the input of the DC-DC boost converter which then stepped up to higher voltage level to suit the inverter input requirement.	PRACTICE ORIENTED	BEEI_T61
62	TS. DR. ZIKRI ABADI BIN BAHARUDIN	BEEI	Investigation the property of the distribution power source for duo direct current voltage	Another problematic issue for LDS in previous FYP was regarding on the power for supplying the lightning sensors. Based on some preliminary troubleshooting actioned were found that the power supply distributed for all sensors associated with the noise that probably generated by the switching action from Traco- TSR 12450. The purpose of Traco power is to separate +/- Vcc power source from single battery, 12 V 120AH. Then the Vcc were used to supply all the sensors. Therefore, this project is aim to investigate the property of power supply for the sensor then the next stage is to define solution for this problem. Therefore, some modification in the power disptribution section needs to be done. This project requires two students for analysing, constructing and evaluating the performance of the sensors system.	PRACTICE ORIENTED	BEEI_T62
63	TS. DR. ZIKRI ABADI BIN BAHARUDIN	BEEI	Synthesize the distribution power source for the sensors of Lightning Detection System	Another problematic issue for LDS in previous FYP was regarding on the power for supplying the lightning sensors. Based on some preliminary troubleshooting actioned were found that the power supply distributed for all sensors associated with the noise that probably generated by the switching action from Traco- TSR 12450. The purpose of Traco power is to separate +/- Vcc power source from single battery, 12 V 120AH. Then the Vcc were used to supply all the sensors. Therefore, this project is aim to investigate the property of power supply for the sensor then the next stage is to define solution for this problem. Therefore, some modification in the power disptribution section needs to be done. This project requires two students for analysing, constructing and evaluating the performance of the sensors system.	PRACTICE ORIENTED	BEEI_T63
64	TS. DR. ZIKRI ABADI BIN BAHARUDIN	BEEI	Investigation of Very High Frequency to Ultra High Frequency component in cloud-to-ground lightning flash	Up-to-date, the investigation of the frequency component of lightning ground flash under wideband range, from VHF to UHF was very scanty and "become mistery". It is extremely important to know the profile of lightning frequency component under that particular wideband range. Through this valueable knowledge, one can know either the transmission line (under wideband range) being associated with the lightning component or the lightning component is just induce any appratus that leads to harmful condition. A student is required to construct a tunning circuit in the range of VHF to UHF band. Next, he/she has to record electromagentic field generated by the lightning and observe the content of interest frequency to be detected. Once the signature of the frequency content exist in the recording system, then one can plan the strategy for protecting any sense devices	PRACTICE ORIENTED	BEEI_T64

65	ZAIHASRAF BIN ZAKARIA	BEEI	Development of an small hydro power generation system using spriral blades concept.	The project scopes were to design, construct model, analyse, and implementtation of small power generator through water flow. The design objective is to build out a useful, effective, convenience, reliable, environment friendly and safe to use hydropower generator. The hydropower plant from this project was an efficient, portable and able to function in many different kind of flow to generate electricity. The testing for this new design was carried out to meet the objective of the design.	PRACTICE ORIENTED	BEEI_T65
66	ZAIHASRAF BIN ZAKARIA	BEEI	Investigation of solar panel efficiency performance through water flow cooling system	The purpose of the project is to investigate the effect of water flow temperature on the performance of solar panel. Solar panel cooling system play a big role in maintaining the lifespan and the efficiency of the solar panel. Presently the researchers develop the solar panel which can withstand high temperature under hot sun using water cooling system which more effective. By using the water flow system on the solar panel, it can help to maintain the temperature and increases the lifetime of the solar panel. As well-known the solar panel consists of photovoltaic cells that connected by bus wire which will break when if the temperature too hot. Progressively, water flow on solar panel system is process of maintaining the panel and increases the efficiency of power producing under hot sun. Several condition will be include in this investigatiion in maintaining the temperature of water flow. In include the implemetation of cooling fan with different speed, the usage of different cooled water temperature and also bi-facial water flow system.	PRACTICE ORIENTED	BEEI_T66
67	ZAIHASRAF BIN ZAKARIA	BEEI	Development of an energy saving departmental store system using effective power consumption system	This project will explore the possibilities of enhancing the user comfort and operational cost of smart departmental store providing range of methods for maximum utilization of resources. The investigation include the utility-based departmental store that can detect human interventions in every aisle and automatic control system that make adjustments based on conditions such as occupancy, daylight availability assurance as well as ensuring considerable energy saving. Moreover, the wide array of products and services of departmental store require greater emphasis on maintenance of temperature and humidity and confirming the protection and contamination of the products. Thus, the features of stabilizing temperature with the aid of varied sensors helps to monitor the betterment of the entire environment. The buildings which are designed currently do not use building control strategy that may incorporate occupant level comfort as well as meeting operation goals in an efficient manner. Hence, this project propose an intelligent lighting control strategy aided with maintenance of external factors by humidity and temperature and PIR motion sensors and Graphical User Interface (GUI) all of which help significantly reducing energy usage and operational cost, whereas maximizing daylight harvest and user comfort.	PRACTICE ORIENTED	BEEI_T67
68	ZAIHASRAF BIN ZAKARIA	BEEI	Performance assesment via compative study of a human powered and smart greenhouse system	This project is to design a smart greenhouse that employ less human power and to provide higher efficiency. In this system, parameters such as air temperature, air humidity, soil temperature and soil moisture are measure by sensors. Then the analysis of the observe parameter will control some mechanical appliances such as ventilation, heating and irrigation are provided according to the pre-defined rules. Such automation helps us reduce the amount of human power for irrigation and ventilation. This project proposes to have two greenhouses with the same characteristics where one is managed by the smart system, while the other is traditionally manage that use human power for all operations. The performance of both system will then investigate for example such as crop growth period that affect the harvesting yields amount.	PRACTICE ORIENTED	BEEI_T68
69	ZAIHASRAF BIN ZAKARIA	BEEI	Development of an automatic low power consumption street lights system via Arduino.	This project is to development an automated street light system that can reduce the power consumption. The Smart street light will glow with high intensity when there are vehicles on the road otherwise the lights will remain dim. It will implement an automatic control of streetlights as a result of which power is saved to an extent. The Smart street light provides a solution for energy saving which is achieved by sensing an approaching vehicle using the IR sensors and then switching ON a block of street lights ahead of the vehicle with high intensity. As the vehicle passes by, the trailing lights turn dim automatically. Thus, we save a lot of energy. So when there are no vehicles on the highway, then all the lights will remain dim or switch off.	PRACTICE ORIENTED	BEEI_T69
70	ZULKIFLI BIN IBRAHIM	BEEI	Analysis of transformer winding fault location via lightning impulse	Transformer winding may damage due to lightning strike. There many reasons of such damage, one of which is due to inter-turn insulation breakdown. With reference to the typical lightning impulse signal (~ 1.2/50) , any distortion to the signal could provides significant information on the possible location of the insulation failure/damage. Matlab/Simulink will be use as the study tool.	INDUSTRY BASED	BEEI_T70
71	ZULKIFLI BIN IBRAHIM	BEEI	Investigation of No-load loss calculation for power transformer with different core joint using finite element software	Transformer no load loss contributes less than 10% of the total losses of transformer. Even though, the no load loss is small, but it affects the transformer prolong capital investment. Due to this scenario, in this work, investigations on the core joint type are vital to see if there any possibility to reduce stray flux (due to air gap) that could reduce the transformer no load (core losses). Ansys Maxwell finite element based software will be the calculation tool.	INDUSTRY BASED	BEEI_T71
72	ZULKIFLI BIN IBRAHIM	BEEI	Basic insulation level (BIL) analysis for transformer winding with and without interleave disc and magnetic shield ring	In order to increase the integrity of the winding insulation when expose to the lightning strike is by installing shield ring at the top of the winding. Alternatively, interleave disc configuration can be adopted. However, this type of disc is very time consuming to construct. This work is focus on the possibility of replacing shield ring or interleave disc by any other form of winding disc arrangement such as increase the inter-turn insulation. Finite element based software is the suggested tool for this study.	PRACTICE ORIENTED	BEEI_T72
73	ZULKIFLI BIN IBRAHIM	BEEI	Investigation of short circuit force on transformer winding by different copper strand size and tensile strength using matlab/Simulink.	Ability to withstand short circuit is one of the vital parameters in power transformer design. Transformer winding is designed and arranged in such a way that it is capable to withstand huge axial and radial forces due to rise in magnetic flux as result from short circuit event. This research is focus on the winding short circuit force calculation with different size of copper strand and axial spacer. Matlab/Simulink software will be used to model the transformer winding and the short circuit waveform.	PRACTICE ORIENTED	BEEI_T73